

Certificate of
Conformity & EC
Declaration of
Conformity

EC Declaration of Conformity

In accordance with BS EN ISO/IEC 17050-1:2004

We: **Blue Manta International**
5 Kirkton Avenue
Pitmedden Road Industrial estate
Dyce
Aberdeen

Declare that:

Equipment: Electrical Container
Classification: Group II Category 3 G IIB T3
Serial number: BM-C-1453

Is in accordance with the following Directives:

94/9/EC	Conforms with the Essential Health and Safety Requirements of the Equipment in Explosive Atmospheres (ATEX) Directive.
2004/108/EC	Conforms with the Electromagnetic Compatibility Regulations 2006.
2006/42/EC	Conforms to the Essential Safety Requirements of the Machinery Directive

And has been designed and manufactured to the relevant parts of the following harmonised standards:

EN 13463-1: 2001	Non – electrical equipment for use in potentially explosive atmospheres Part 1: Basic methods and requirements.
EN 13463-5: 2003	Non-electrical equipment intended for use in potentially explosive atmospheres. Protection by constructional safety 'c'
EN 15198: 2007	Methodology for risk assessment of non-electrical equipment and components for intended use in potentially explosive atmospheres.
EN 7671: 2008	Requirements for electrical installations. IET Wiring Regulations.
EN 60079-0: 2006	Explosive atmospheres – Part 0: Equipment – General requirements.
EN 60079-1: 2007	Explosive atmospheres. Equipment protection by flameproof enclosures "d"
EN 60079-2: 2007	Explosive atmospheres. Equipment protection by pressurized enclosure "p"
EN 60079-5: 2007	Explosive atmospheres. Equipment protection by powder filling "q"
EN 60079-6: 2007	Explosive atmospheres. Equipment protected by oil immersion "o"
EN 60079-7: 2007	Explosive atmospheres. Equipment protection by increased safety "e"
EN 60079-11: 2007	Explosive atmospheres. Equipment protection by intrinsic safety "i"
EN 60079-14: 2008	Explosive atmospheres. Electrical installations design, selection and erection
EN 60079-17: 2007	Explosive atmospheres. Electrical installations inspection and maintenance
EN 60079-18	Explosive atmospheres. Equipment protection by encapsulation "m"
EN 60079-19	Explosive atmospheres. Equipment repair, overhaul and reclamation

And is compliance with the following additional standards:

DNV 2.7-1: 2006	Standard for Certification of Offshore Containers 2006
Lloyds LRCCS: 2010	Lloyds Register EMEA Container Certification Scheme 2010
EN 12079-1: 2006	Offshore Container and Associated Lifting Sets
EN 60079-14	Explosive atmospheres. Electrical installations design, selection and erection
EN 60079-17	Explosive atmospheres. Electrical installations inspection and maintenance



I hereby declare that the equipment named above has been manufactured and tested and found to comply with the relevant sections of the above referenced directives and standards.
Workshop activities should be assessed to comply with the above.

Signature:
(Responsible Person)

A handwritten signature in black ink, appearing to read "M. Ritchie".

Name: Mark Ritchie

Position: Base Manager

Date: 04/05/2023

Engineer Report

CERTIFICATE OF CONFORMITY

DATE : 28TH APRIL 2023

CUSTOMER : BLUE MANTA

CONTACT NAME : F.BARCLAY

CUSTOMER REF : BM-C-1453

CUSTOMER P/O : 42425

SULZER PROJECT : P0002852

Rotating Equipment Services
Aberdeen Service Centre
Sulzer Electro Mechanical
Services (UK) Ltd
Castle Street,
Castlepark Industrial Estate
Ellon
AB41 9RF
Tel +44 (0) 1224 427 200
www.sulzer.com

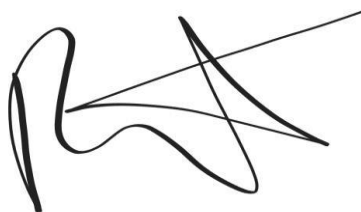
With reference to your above electrical apparatus, we confirm that all materials supplied and/or installed conform to the requirements of the "ATEX" directive 94/9/EC where appropriate to the directive and that they also meet with the appropriate manufacturers standards and specifications. We also declare that the customer's specifications have been correctly interpreted and met as per the above purchase order/reference.

We also confirm that the above item/s has/have been installed, tested and inspected, in accordance with B.S. 7671:2008, I.E.E. Wiring Regulations (18th Edition) and/or I.E.E. recommendations for the electrical and electronic equipment of mobile and fixed offshore installations (where applicable) and/or, where applicable the relevant parts of BS EN 60079-0/1/2/5/6/7/11/18 and BS EN 60079-14 code of practice for Selection and Installation of Equipment for Equipment Hazardous Areas, BS EN 60079-17 Recommendations for Inspection of Electrical Installations in Hazardous Areas & BS EN 60079-19 code of practice for "Ex" Repairs

All wiring and electrical equipment, except: - (electronic and extra low voltage wiring or equipment not applicable) was tested for insulation resistance, at a test of 250V or 500V or 1000V D.C. where applicable. Circuits less than 2 Mega Ohms were repaired or replaced. All control, power and earth conductors were checked for continuity and resistance values of ohms per metre as per manufacturer's test certificates or B.S. 7671.

The unit has been functionally tested or operated as far as possible with the Customers requirements and relevant workshop Procedures.

For Sulzer Electro Mechanical Services (UK) Ltd



Robert Stuart
Field Service Manager



SULZER CONFIDENTIAL

COMPANY : BLUE MANTA
ATTENTION : F.BARCLAY
CUSTOMER REF : BM-C-1453
SULZER PROJECT : P0002852

ELECTRICAL INSPECTION SHEET				012	CABLE TEST RESULTS			
PLANT IDENT NO				PAGE 1				
Cable ID	Type	Cores	Core Size mm ²	Colour	Insulation Resistance (M-Ohms)		Continuity (Ohms)	Length (metres)
					Core to Core	Core to Earth		
1	BRAID	3	2.5	BLACK	>1000	>1000	0.1	20
2	BRAID	3	2.5	BLACK	>1000	>1000	0.1	1.5
3	BRAID	3	2.5	BLACK	>1000	>1000	0.1	0.5
4	BRAID	3	2.5	BLACK	>1000	>1000	0.1	3
5	BRAID	3	2.5	BLACK	>1000	>1000	0.1	8
6	BRAID	3	2.5	BLACK	>1000	>1000	0.2	4
INSPECTED BY (PRINT): S.CUNLIFFE								
SIGN/CHECKED: R.STUART					DATE: 28/04/23			

Customer	BLUE MANTA	
Sulzer Project No.	P0002852	
Plant ID Ref	BM-C-1453	
Electrical Inspection Sheet	044-01	

ITEM DETAILS																		
Equipment description		PLUG							Voltage			130						
Manufacturer		EATON							Current			16						
Serial Number		2502							Frequency (Hz)			50/60						
Type Number		GHG5117304 R0001							Wattage			-						
Frame		-							RPM			-						
Certification Authority		BVS							IP Rating			66						
Certification Number		17 ATEX E053X							Zone of Use			1						
CLASS/GAS GROUPS AND TEMPERATURE CLASSIFICATION (IF APPLICABLE)																		
ELECTRICAL PROTECTION CONCEPT		d	e	m			n			i			o	p			q	s
				a	b	c	A	R	C	a	b	c		x	y	z		
Class/Gas Groups		IIA			IIB				IIB+H2				IIC			II		
Temp Rating		T1		T2			T3			T4			T5			T6		

Grade of Inspection; V = Visual, C = Close, D = Detailed Result of Inspection; U = Unsatisfactory, S = Satisfactory		Grade	Result
1	There are no unauthorised modifications	D	S
2	Apparatus is free from corrosion or physical damage	D	S
3	Apparatus is adequately protected against corrosion, the weather, vibration and other adverse factors and that aluminum paint has not been supplied	D	S
4	Electrical insulation is clean and dry.	D	S
5	All enclosures are securely supported, so that no weight is taken by cables or conduit connections	D	S
6	There is no obvious damage to cables, cable sheaths, reducers or cable glands and that cables are correctly identified	D	S
7	Check gland and stoppers are complete and tight. NOTE: Glands/stoppers to be installed to a minimum of five full threads, having an axial length of not less than 8mm fully engaged (EExd only)	D	S
8	Check bolts are all complete, tight and are correct type supplied by equipment manufacturer	D	S
9	Check enclosures, glasses and glass/metal seals are satisfactory. Check cement for erosion or softening		
10	Check earthing connections, including any supplementary bonding are satisfactory and of sufficient cross section area. Earth loop impedance / resistance is satisfactory. NOTE: Faces of separate earth conductors must be clean and the point of contact on the apparatus must be free from paint, dirt, rust or other corrosion and the securing bolt fully tightened to ensure minimum contact resistance.	D	S
11	Motor fans and couplings are not rubbing on cowls/guards		
12	Check electrical protection and fuses are satisfactory		
13	Check there are no solid obstructions or obstacles within of the flange or opening. 25mm for IIA, 30mm for IIB and 40mm for IIC gas groups.		
14	Check operating handles and push buttons are free in operation		
15	Flame arrestors, where used, are present and satisfactory		
16	Apparatus and cables carry the correct circuit identification. NOTE: Positively identify apparatus with circuit to ensure correct isolation		
17	Apparatus is appropriate to area classification	D	S
18	Surface temperature class is correct	D	S
19	Apparatus sub-group is correct	D	S
20	Circuit and/or apparatus documentation is appropriate to area classification	D	S
21	Apparatus and cables installed is that specified in the documentation	D	S
22	Installation is clearly labeled	D	S

23	Safety barrier units, relays and other IS energy limiting devices are of the approved type, installed in accordance with the certification requirements and securely earthed were required		
24	Cable screens are earthed in accordance with the documentation.		
25	IS earth connection installed correctly, and segregated from main earth or at one point only (refer to documentation)		
26	Point to point connections are correct		
27	Separation is maintained between IS and non-IS circuits within enclosures		
28	There is no undue accumulation of dust or dirt. NOTE: Accumulations reduce heat dissipation resulting in higher than permitted surface temperatures		
29	Guards, where used, are present and correctly located	D	S
30	Check glands are correct type and compatible with the enclosure to avoid electrolyte corrosion		
31	Where MICC cables are used, check that EX (d) gland and EX (e) polypropylene seal cap and one piece PTFE headed sleeves have been employed		
32	Stopper boxes and cable boxes are correctly filled and that there is no leakage of compound		
33	Check condition of gaskets utilised for weather proofing where they form part of certified enclosure	D	S
34	Electrical connections are tight and electrical clearances are satisfactory	D	S
35	Lamp rating and type are correct		
36	Automatic electrical protection devices are set correctly and operate within permitted limits. (Auto reset devices not allowed in Zone 1)		
37	Special conditions of use (if applicable) are complied with.	D	S
38	Check all machined faces/flange gaps are free from corrosion and dirt and are not filed, scored, abraded or painted. NOTE: Only non-corrosive cleaning fluids to be used to clean flange		
39	Dimension of flange gap not to exceed 0.1mm (0.004 inches) at all points		
40	Flanges thinly coated with Chemodex copper grease or Molypaul PBC. If aluminum flanges, MS4 silicon or BP CPC4Z must be used		
41	There is no deterioration of encapsulating materials		
42	Hermetically sealed devices are undamaged		
43	Enclosed break devices are undamaged		
44	Have the correct termination accessories been used?		
45	Have the correct terminals been fitted? (approved terminals are stamped to indicate Ex 'e' or Ex 'n' approval)	D	S
46	Has only one wire/bootlace per terminal clamp been adhered to?	D	S
47	Have steps been taken to ensure that the conductors are not cleated together in a manner which would increase the temperature of an individual conductor?		
48	Are all unused cores terminated into spare terminals?	D	S
49	Are all unused terminal screws tightened down?	D	S
50	Are all the terminal moldings intact and free from cracks or breakages	D	S
51	Protective gas inlet temperature is below maximum specified		
52	Ducts, pipes and enclosures are in good condition		
53	Protective gas is substantially free from contaminants		
54	Protective gas pressure and flow is adequate		
55	Pre-energising purge period is adequate		
56	Pressure and/flow indicators, alarms and interlocks function correctly		
57	Check legibility of Certification Label		

58	Carry out Final Inspection and Security of Panels and Fixtures before Dispatch of Unit; ensure all bolts are intact and correctly tightened.	Checked By	S.CUNLIFFE
		Date	28.04.23

Inspected By (Print Name)	S.CUNLIFFE	Date	28/04/23
Checked By (Print Name)	R.STUART		
In accordance with current BS EN 60079-17 Standard			

Customer	BLUE MANTA	
Sulzer Project No.	P0002852	
Plant ID Ref	BM-C-1453	
Electrical Inspection Sheet	044-02	

ITEM DETAILS																	
Equipment description	J-BOX HOOK UP								Voltage		690						
Manufacturer	HAWKE								Current		17						
Serial Number	M/120080/23								Frequency (Hz)		-						
Type Number	PL612								Wattage		4.1						
Frame	-								RPM		-						
Certification Authority	BASEEFA								IP Rating		66						
Certification Number	06 ATEX 0117X								Zone of Use		1						
CLASS/GAS GROUPS AND TEMPERATURE CLASSIFICATION (IF APPLICABLE)																	
ELECTRICAL PROTECTION CONCEPT	d	e	m			n			i			o	p			q	s
			a	b	c	A	R	C	a	b	c		x	y	z		
Class/Gas Groups	IIA			IIB			IIB+H2			IIC			II				
Temp Rating	T1		T2		T3		T4		T5		T6						

Grade of Inspection; V = Visual, C = Close, D = Detailed Result of Inspection; U = Unsatisfactory, S = Satisfactory		Grade	Result
1	There are no unauthorised modifications	D	S
2	Apparatus is free from corrosion or physical damage	D	S
3	Apparatus is adequately protected against corrosion, the weather, vibration and other adverse factors and that aluminum paint has not been supplied	D	S
4	Electrical insulation is clean and dry.	D	S
5	All enclosures are securely supported, so that no weight is taken by cables or conduit connections	D	S
6	There is no obvious damage to cables, cable sheaths, reducers or cable glands and that cables are correctly identified	D	S
7	Check gland and stoppers are complete and tight. NOTE: Glands/stoppers to be installed to a minimum of five full threads, having an axial length of not less than 8mm fully engaged (EExd only)	D	S
8	Check bolts are all complete, tight and are correct type supplied by equipment manufacturer	D	S
9	Check enclosures, glasses and glass/metal seals are satisfactory. Check cement for erosion or softening		
10	Check earthing connections, including any supplementary bonding are satisfactory and of sufficient cross section area. Earth loop impedance / resistance is satisfactory. NOTE: Faces of separate earth conductors must be clean and the point of contact on the apparatus must be free from paint, dirt, rust or other corrosion and the securing bolt fully tightened to ensure minimum contact resistance.	D	S
11	Motor fans and couplings are not rubbing on cowls/guards		
12	Check electrical protection and fuses are satisfactory		
13	Check there are no solid obstructions or obstacles within of the flange or opening. 25mm for IIA, 30mm for IIB and 40mm for IIC gas groups.		
14	Check operating handles and push buttons are free in operation		
15	Flame arrestors, where used, are present and satisfactory		
16	Apparatus and cables carry the correct circuit identification. NOTE: Positively identify apparatus with circuit to ensure correct isolation	D	S
17	Apparatus is appropriate to area classification	D	S
18	Surface temperature class is correct	D	S
19	Apparatus sub-group is correct		
20	Circuit and/or apparatus documentation is appropriate to area classification	D	S
21	Apparatus and cables installed is that specified in the documentation	D	S
22	Installation is clearly labeled	D	S

23	Safety barrier units, relays and other IS energy limiting devices are of the approved type, installed in accordance with the certification requirements and securely earthed were required		
24	Cable screens are earthed in accordance with the documentation.		
25	IS earth connection installed correctly, and segregated from main earth or at one point only (refer to documentation)		
26	Point to point connections are correct		
27	Separation is maintained between IS and non-IS circuits within enclosures		
28	There is no undue accumulation of dust or dirt. NOTE: Accumulations reduce heat dissipation resulting in higher than permitted surface temperatures	D	S
29	Guards, where used, are present and correctly located		
30	Check glands are correct type and compatible with the enclosure to avoid electrolyte corrosion	D	S
31	Where MICC cables are used, check that EX (d) gland and EX (e) polypropylene seal cap and one piece PTFE headed sleeves have been employed		
32	Stopper boxes and cable boxes are correctly filled and that there is no leakage of compound		
33	Check condition of gaskets utilised for weather proofing where they form part of certified enclosure	D	S
34	Electrical connections are tight and electrical clearances are satisfactory	D	S
35	Lamp rating and type are correct		
36	Automatic electrical protection devices are set correctly and operate within permitted limits. (Auto reset devices not allowed in Zone 1)		
37	Special conditions of use (if applicable) are complied with.	D	S
38	Check all machined faces/flange gaps are free from corrosion and dirt and are not filed, scored, abraded or painted. NOTE: Only non-corrosive cleaning fluids to be used to clean flange		
39	Dimension of flange gap not to exceed 0.1mm (0.004 inches) at all points		
40	Flanges thinly coated with Chemodex copper grease or Molypaul PBC. If aluminum flanges, MS4 silicon or BP CPC4Z must be used		
41	There is no deterioration of encapsulating materials		
42	Hermetically sealed devices are undamaged		
43	Enclosed break devices are undamaged		
44	Have the correct termination accessories been used?	D	S
45	Have the correct terminals been fitted? (approved terminals are stamped to indicate Ex 'e' or Ex 'n' approval)	D	S
46	Has only one wire/bootlace per terminal clamp been adhered to?	D	S
47	Have steps been taken to ensure that the conductors are not cleated together in a manner which would increase the temperature of an individual conductor?	D	S
48	Are all unused cores terminated into spare terminals?		
49	Are all unused terminal screws tightened down?	D	S
50	Are all the terminal moldings intact and free from cracks or breakages	D	S
51	Protective gas inlet temperature is below maximum specified		
52	Ducts, pipes and enclosures are in good condition		
53	Protective gas is substantially free from contaminants		
54	Protective gas pressure and flow is adequate		
55	Pre-energising purge period is adequate		
56	Pressure and/flow indicators, alarms and interlocks function correctly		
57	Check legibility of Certification Label	D	S

58	Carry out Final Inspection and Security of Panels and Fixtures before Dispatch of Unit; ensure all bolts are intact and correctly tightened.	Checked By	S.CUNLIFFE
		Date	28.04.23

Inspected By (Print Name)	S.CUNLIFFE	Date	28/04/23
Checked By (Print Name)	R.STUART		
In accordance with current BS EN 60079-17 Standard			

Customer	BLUE MANTA	
Sulzer Project No.	P0002852	
Plant ID Ref	BM-C-1453	
Electrical Inspection Sheet	044-03	

ITEM DETAILS																		
Equipment description		DISTRIBUTION BOX							Voltage			690						
Manufacturer		MCI							Current			-						
Serial Number		2022 MCI 27216204							Frequency (Hz)			-						
Type Number		EJB12A							Wattage			-						
Frame		-							RPM			-						
Certification Authority		IECEX							IP Rating			65						
Certification Number		SIR 15-0088X							Zone of Use									
CLASS/GAS GROUPS AND TEMPERATURE CLASSIFICATION (IF APPLICABLE)																		
ELECTRICAL PROTECTION CONCEPT		d	e	m			n			i			o	p			q	s
				a	b	c	A	R	C	a	b	c		x	y	z		
Class/Gas Groups		IIA			IIB				IIB+H2				IIC			II		
Temp Rating		T1		T2			T3			T4			T5			T6		

Grade of Inspection; V = Visual, C = Close, D = Detailed Result of Inspection; U = Unsatisfactory, S = Satisfactory												Grade	Result
1	There are no unauthorised modifications											D	S
2	Apparatus is free from corrosion or physical damage											D	S
3	Apparatus is adequately protected against corrosion, the weather, vibration and other adverse factors and that aluminum paint has not been supplied											D	S
4	Electrical insulation is clean and dry.											D	S
5	All enclosures are securely supported, so that no weight is taken by cables or conduit connections											D	S
6	There is no obvious damage to cables, cable sheaths, reducers or cable glands and that cables are correctly identified											D	S
7	Check gland and stoppers are complete and tight. NOTE: Glands/stoppers to be installed to a minimum of five full threads, having an axial length of not less than 8mm fully engaged (EEExd only)											D	S
8	Check bolts are all complete, tight and are correct type supplied by equipment manufacturer											D	S
9	Check enclosures, glasses and glass/metal seals are satisfactory. Check cement for erosion or softening											D	S
10	Check earthing connections, including any supplementary bonding are satisfactory and of sufficient cross section area. Earth loop impedance / resistance is satisfactory. NOTE: Faces of separate earth conductors must be clean and the point of contact on the apparatus must be free from paint, dirt, rust or other corrosion and the securing bolt fully tightened to ensure minimum contact resistance.											D	S
11	Motor fans and couplings are not rubbing on cowls/guards												
12	Check electrical protection and fuses are satisfactory											D	S
13	Check there are no solid obstructions or obstacles within of the flange or opening. 25mm for IIA, 30mm for IIB and 40mm for IIC gas groups.											D	S
14	Check operating handles and push buttons are free in operation												
15	Flame arrestors, where used, are present and satisfactory												
16	Apparatus and cables carry the correct circuit identification. NOTE: Positively identify apparatus with circuit to ensure correct isolation											D	S
17	Apparatus is appropriate to area classification											D	S
18	Surface temperature class is correct											D	S
19	Apparatus sub-group is correct											D	S
20	Circuit and/or apparatus documentation is appropriate to area classification											D	S
21	Apparatus and cables installed is that specified in the documentation											D	S
22	Installation is clearly labeled											D	S

23	Safety barrier units, relays and other IS energy limiting devices are of the approved type, installed in accordance with the certification requirements and securely earthed were required		
24	Cable screens are earthed in accordance with the documentation.		
25	IS earth connection installed correctly, and segregated from main earth or at one point only (refer to documentation)		
26	Point to point connections are correct		
27	Separation is maintained between IS and non-IS circuits within enclosures		
28	There is no undue accumulation of dust or dirt. NOTE: Accumulations reduce heat dissipation resulting in higher than permitted surface temperatures	D	S
29	Guards, where used, are present and correctly located		
30	Check glands are correct type and compatible with the enclosure to avoid electrolyte corrosion	D	S
31	Where MICC cables are used, check that EX (d) gland and EX (e) polypropylene seal cap and one piece PTFE headed sleeves have been employed		
32	Stopper boxes and cable boxes are correctly filled and that there is no leakage of compound		
33	Check condition of gaskets utilised for weather proofing where they form part of certified enclosure		
34	Electrical connections are tight and electrical clearances are satisfactory	D	S
35	Lamp rating and type are correct		
36	Automatic electrical protection devices are set correctly and operate within permitted limits. (Auto reset devices not allowed in Zone 1)		
37	Special conditions of use (if applicable) are complied with.	D	S
38	Check all machined faces/flange gaps are free from corrosion and dirt and are not filed, scored, abraded or painted. NOTE: Only non-corrosive cleaning fluids to be used to clean flange	D	S
39	Dimension of flange gap not to exceed 0.1mm (0.004 inches) at all points	D	S
40	Flanges thinly coated with Chemodex copper grease or Molypaul PBC. If aluminum flanges, MS4 silicon or BP CPC4Z must be used	D	S
41	There is no deterioration of encapsulating materials		
42	Hermetically sealed devices are undamaged		
43	Enclosed break devices are undamaged		
44	Have the correct termination accessories been used?	D	S
45	Have the correct terminals been fitted? (approved terminals are stamped to indicate Ex 'e' or Ex 'n' approval)	D	S
46	Has only one wire/bootlace per terminal clamp been adhered to?	D	S
47	Have steps been taken to ensure that the conductors are not cleated together in a manner which would increase the temperature of an individual conductor?		
48	Are all unused cores terminated into spare terminals?		
49	Are all unused terminal screws tightened down?	D	S
50	Are all the terminal moldings intact and free from cracks or breakages	D	S
51	Protective gas inlet temperature is below maximum specified		
52	Ducts, pipes and enclosures are in good condition		
53	Protective gas is substantially free from contaminants		
54	Protective gas pressure and flow is adequate		
55	Pre-energising purge period is adequate		
56	Pressure and/flow indicators, alarms and interlocks function correctly		
57	Check legibility of Certification Label	D	S

58	Carry out Final Inspection and Security of Panels and Fixtures before Dispatch of Unit; ensure all bolts are intact and correctly tightened.	Checked By	S.CUNLIFFE
		Date	28.04.23

Inspected By (Print Name)	S.CUNLIFFE	Date	28/04/23
Checked By (Print Name)	R.STUART		
In accordance with current BS EN 60079-17 Standard			

Customer	BLUE MANTA	
Sulzer Project No.	P0002852	
Plant ID Ref	BM-C-1453	
Electrical Inspection Sheet	044-04	

ITEM DETAILS																		
Equipment description		SOCKET						Voltage			130							
Manufacturer		CEAG						Current			16A							
Serial Number		1052						Frequency (Hz)			-							
Type Number		GHG5114304 R0002						Wattage			-							
Frame		-						RPM			-							
Certification Authority		PTB						IP Rating			66							
Certification Number		99 ATEX 1039						Zone of Use			1							
CLASS/GAS GROUPS AND TEMPERATURE CLASSIFICATION (IF APPLICABLE)																		
ELECTRICAL PROTECTION CONCEPT		d	e	m			n			i			o	p			q	s
				a	b	c	A	R	C	a	b	c		x	y	z		
Class/Gas Groups		IIA			IIB			IIB+H2			IIC			II				
Temp Rating		T1		T2		T3		T4		T5		T6						

Grade of Inspection; V = Visual, C = Close, D = Detailed Result of Inspection; U = Unsatisfactory, S = Satisfactory		Grade	Result
1	There are no unauthorised modifications	D	S
2	Apparatus is free from corrosion or physical damage	D	S
3	Apparatus is adequately protected against corrosion, the weather, vibration and other adverse factors and that aluminum paint has not been supplied	D	S
4	Electrical insulation is clean and dry.	D	S
5	All enclosures are securely supported, so that no weight is taken by cables or conduit connections	D	S
6	There is no obvious damage to cables, cable sheaths, reducers or cable glands and that cables are correctly identified	D	S
7	Check gland and stoppers are complete and tight. NOTE: Glands/stoppers to be installed to a minimum of five full threads, having an axial length of not less than 8mm fully engaged (EExd only)	D	S
8	Check bolts are all complete, tight and are correct type supplied by equipment manufacturer	D	S
9	Check enclosures, glasses and glass/metal seals are satisfactory. Check cement for erosion or softening		
10	Check earthing connections, including any supplementary bonding are satisfactory and of sufficient cross section area. Earth loop impedance / resistance is satisfactory. NOTE: Faces of separate earth conductors must be clean and the point of contact on the apparatus must be free from paint, dirt, rust or other corrosion and the securing bolt fully tightened to ensure minimum contact resistance.	D	S
11	Motor fans and couplings are not rubbing on cowls/guards		
12	Check electrical protection and fuses are satisfactory		
13	Check there are no solid obstructions or obstacles within of the flange or opening. 25mm for IIA, 30mm for IIB and 40mm for IIC gas groups.		
14	Check operating handles and push buttons are free in operation	D	S
15	Flame arrestors, where used, are present and satisfactory		
16	Apparatus and cables carry the correct circuit identification. NOTE: Positively identify apparatus with circuit to ensure correct isolation	D	S
17	Apparatus is appropriate to area classification	D	S
18	Surface temperature class is correct	D	S
19	Apparatus sub-group is correct	D	S
20	Circuit and/or apparatus documentation is appropriate to area classification	D	S
21	Apparatus and cables installed is that specified in the documentation	D	S
22	Installation is clearly labeled	D	S

23	Safety barrier units, relays and other IS energy limiting devices are of the approved type, installed in accordance with the certification requirements and securely earthed were required		
24	Cable screens are earthed in accordance with the documentation.		
25	IS earth connection installed correctly, and segregated from main earth or at one point only (refer to documentation)		
26	Point to point connections are correct		
27	Separation is maintained between IS and non-IS circuits within enclosures		
28	There is no undue accumulation of dust or dirt. NOTE: Accumulations reduce heat dissipation resulting in higher than permitted surface temperatures	D	S
29	Guards, where used, are present and correctly located		
30	Check glands are correct type and compatible with the enclosure to avoid electrolyte corrosion	D	S
31	Where MICC cables are used, check that EX (d) gland and EX (e) polypropylene seal cap and one piece PTFE headed sleeves have been employed		
32	Stopper boxes and cable boxes are correctly filled and that there is no leakage of compound		
33	Check condition of gaskets utilised for weather proofing where they form part of certified enclosure	D	S
34	Electrical connections are tight and electrical clearances are satisfactory	D	S
35	Lamp rating and type are correct		
36	Automatic electrical protection devices are set correctly and operate within permitted limits. (Auto reset devices not allowed in Zone 1)		
37	Special conditions of use (if applicable) are complied with.		
38	Check all machined faces/flange gaps are free from corrosion and dirt and are not filed, scored, abraded or painted. NOTE: Only non-corrosive cleaning fluids to be used to clean flange		
39	Dimension of flange gap not to exceed 0.1mm (0.004 inches) at all points		
40	Flanges thinly coated with Chemodex copper grease or Molypaul PBC. If aluminum flanges, MS4 silicon or BP CPC4Z must be used		
41	There is no deterioration of encapsulating materials		
42	Hermetically sealed devices are undamaged		
43	Enclosed break devices are undamaged		
44	Have the correct termination accessories been used?	D	S
45	Have the correct terminals been fitted? (approved terminals are stamped to indicate Ex 'e' or Ex 'n' approval)		
46	Has only one wire/bootlace per terminal clamp been adhered to?	D	S
47	Have steps been taken to ensure that the conductors are not cleated together in a manner which would increase the temperature of an individual conductor?		
48	Are all unused cores terminated into spare terminals?		
49	Are all unused terminal screws tightened down?	D	S
50	Are all the terminal moldings intact and free from cracks or breakages	D	S
51	Protective gas inlet temperature is below maximum specified		
52	Ducts, pipes and enclosures are in good condition		
53	Protective gas is substantially free from contaminants		
54	Protective gas pressure and flow is adequate		
55	Pre-energising purge period is adequate		
56	Pressure and/flow indicators, alarms and interlocks function correctly		
57	Check legibility of Certification Label	D	S

58	Carry out Final Inspection and Security of Panels and Fixtures before Dispatch of Unit; ensure all bolts are intact and correctly tightened.	Checked By	S.CUNLIFFE
		Date	28.04.23

Inspected By (Print Name)	S.CUNLIFFE	Date	28/04/23
Checked By (Print Name)	R.STUART		
In accordance with current BS EN 60079-17 Standard			

Customer	BLUE MANTA	
Sulzer Project No.	P0002852	
Plant ID Ref	BM-C-1453	
Electrical Inspection Sheet	044-05	

ITEM DETAILS																	
Equipment description	HEATER PLUG								Voltage			400V					
Manufacturer	EATON								Current			16A					
Serial Number	BVC16.4497								Frequency (Hz)			-					
Type Number	GHG5117304 R001								Wattage			-					
Frame	-								RPM			-					
Certification Authority	BVS								IP Rating			66					
Certification Number	17 ATEX E 053X								Zone of Use			1					
CLASS/GAS GROUPS AND TEMPERATURE CLASSIFICATION (IF APPLICABLE)																	
ELECTRICAL PROTECTION CONCEPT	d	e	m			n			i			o	p			q	s
			a	b	c	A	R	C	a	b	c		x	y	z		
Class/Gas Groups	IIA			IIB				IIB+H2				IIC			II		
Temp Rating	T1		T2			T3			T4			T5			T6		

Grade of Inspection; V = Visual, C = Close, D = Detailed Result of Inspection; U = Unsatisfactory, S = Satisfactory												Grade	Result
1	There are no unauthorised modifications											D	S
2	Apparatus is free from corrosion or physical damage											D	S
3	Apparatus is adequately protected against corrosion, the weather, vibration and other adverse factors and that aluminum paint has not been supplied											D	S
4	Electrical insulation is clean and dry.											D	S
5	All enclosures are securely supported, so that no weight is taken by cables or conduit connections												
6	There is no obvious damage to cables, cable sheaths, reducers or cable glands and that cables are correctly identified												
7	Check gland and stoppers are complete and tight. NOTE: Glands/stoppers to be installed to a minimum of five full threads, having an axial length of not less than 8mm fully engaged (EExd only)												
8	Check bolts are all complete, tight and are correct type supplied by equipment manufacturer												
9	Check enclosures, glasses and glass/metal seals are satisfactory. Check cement for erosion or softening												
10	Check earthing connections, including any supplementary bonding are satisfactory and of sufficient cross section area. Earth loop impedance / resistance is satisfactory. NOTE: Faces of separate earth conductors must be clean and the point of contact on the apparatus must be free from paint, dirt, rust or other corrosion and the securing bolt fully tightened to ensure minimum contact resistance.											D	S
11	Motor fans and couplings are not rubbing on cowls/guards												
12	Check electrical protection and fuses are satisfactory												
13	Check there are no solid obstructions or obstacles within of the flange or opening. 25mm for IIA, 30mm for IIB and 40mm for IIC gas groups.												
14	Check operating handles and push buttons are free in operation												
15	Flame arrestors, where used, are present and satisfactory												
16	Apparatus and cables carry the correct circuit identification. NOTE: Positively identify apparatus with circuit to ensure correct isolation											D	S
17	Apparatus is appropriate to area classification											D	S
18	Surface temperature class is correct											D	S
19	Apparatus sub-group is correct											D	S
20	Circuit and/or apparatus documentation is appropriate to area classification											D	S
21	Apparatus and cables installed is that specified in the documentation											D	S
22	Installation is clearly labeled											D	S

23	Safety barrier units, relays and other IS energy limiting devices are of the approved type, installed in accordance with the certification requirements and securely earthed were required		
24	Cable screens are earthed in accordance with the documentation.		
25	IS earth connection installed correctly, and segregated from main earth or at one point only (refer to documentation)		
26	Point to point connections are correct		
27	Separation is maintained between IS and non-IS circuits within enclosures		
28	There is no undue accumulation of dust or dirt. NOTE: Accumulations reduce heat dissipation resulting in higher than permitted surface temperatures	D	S
29	Guards, where used, are present and correctly located		
30	Check glands are correct type and compatible with the enclosure to avoid electrolyte corrosion		
31	Where MICC cables are used, check that EX (d) gland and EX (e) polypropylene seal cap and one piece PTFE headed sleeves have been employed		
32	Stopper boxes and cable boxes are correctly filled and that there is no leakage of compound		
33	Check condition of gaskets utilised for weather proofing where they form part of certified enclosure	D	S
34	Electrical connections are tight and electrical clearances are satisfactory	D	S
35	Lamp rating and type are correct		
36	Automatic electrical protection devices are set correctly and operate within permitted limits. (Auto reset devices not allowed in Zone 1)		
37	Special conditions of use (if applicable) are complied with.	D	S
38	Check all machined faces/flange gaps are free from corrosion and dirt and are not filed, scored, abraded or painted. NOTE: Only non-corrosive cleaning fluids to be used to clean flange		
39	Dimension of flange gap not to exceed 0.1mm (0.004 inches) at all points		
40	Flanges thinly coated with Chemodex copper grease or Molypaul PBC. If aluminum flanges, MS4 silicon or BP CPC4Z must be used		
41	There is no deterioration of encapsulating materials		
42	Hermetically sealed devices are undamaged		
43	Enclosed break devices are undamaged		
44	Have the correct termination accessories been used?	D	S
45	Have the correct terminals been fitted? (approved terminals are stamped to indicate Ex 'e' or Ex 'n' approval)		
46	Has only one wire/bootlace per terminal clamp been adhered to?	D	S
47	Have steps been taken to ensure that the conductors are not cleated together in a manner which would increase the temperature of an individual conductor?		
48	Are all unused cores terminated into spare terminals?		
49	Are all unused terminal screws tightened down?		
50	Are all the terminal moldings intact and free from cracks or breakages	D	S
51	Protective gas inlet temperature is below maximum specified		
52	Ducts, pipes and enclosures are in good condition		
53	Protective gas is substantially free from contaminants		
54	Protective gas pressure and flow is adequate		
55	Pre-energising purge period is adequate		
56	Pressure and/flow indicators, alarms and interlocks function correctly		
57	Check legibility of Certification Label	D	S

58	Carry out Final Inspection and Security of Panels and Fixtures before Dispatch of Unit; ensure all bolts are intact and correctly tightened.	Checked By	S.CUNLIFFE
		Date	28.04.23

Inspected By (Print Name)	S.CUNLIFFE	Date	28/04/23
Checked By (Print Name)	R.STUART		
In accordance with current BS EN 60079-17 Standard			

Customer	BLUE MANTA	
Sulzer Project No.	P0002852	
Plant ID Ref	BM-C-1453	
Electrical Inspection Sheet	044-06	

ITEM DETAILS																	
Equipment description	HEATER								Voltage			110V					
Manufacturer	EX HEAT								Current			9.09					
Serial Number	182584N								Frequency (Hz)			-					
Type Number	FAW 1000								Wattage			1000					
Frame	-								RPM			-					
Certification Authority	LCIE								IP Rating			-					
Certification Number	00 ATEX 6013X								Zone of Use								
CLASS/GAS GROUPS AND TEMPERATURE CLASSIFICATION (IF APPLICABLE)																	
ELECTRICAL PROTECTION CONCEPT	d	e	m			n			i			o	p			q	s
			a	b	c	A	R	C	a	b	c		x	y	z		
Class/Gas Groups	IIA			IIB				IIB+H2				IIC			II		
Temp Rating	T1		T2			T3			T4		T5			T6			

Grade of Inspection; V = Visual, C = Close, D = Detailed Result of Inspection; U = Unsatisfactory, S = Satisfactory		Grade	Result
1	There are no unauthorised modifications	D	S
2	Apparatus is free from corrosion or physical damage	D	S
3	Apparatus is adequately protected against corrosion, the weather, vibration and other adverse factors and that aluminum paint has not been supplied	D	S
4	Electrical insulation is clean and dry.	D	S
5	All enclosures are securely supported, so that no weight is taken by cables or conduit connections	D	S
6	There is no obvious damage to cables, cable sheaths, reducers or cable glands and that cables are correctly identified	D	S
7	Check gland and stoppers are complete and tight. NOTE: Glands/stoppers to be installed to a minimum of five full threads, having an axial length of not less than 8mm fully engaged (EExd only)	D	S
8	Check bolts are all complete, tight and are correct type supplied by equipment manufacturer	D	S
9	Check enclosures, glasses and glass/metal seals are satisfactory. Check cement for erosion or softening		
10	Check earthing connections, including any supplementary bonding are satisfactory and of sufficient cross section area. Earth loop impedance / resistance is satisfactory. NOTE: Faces of separate earth conductors must be clean and the point of contact on the apparatus must be free from paint, dirt, rust or other corrosion and the securing bolt fully tightened to ensure minimum contact resistance.	D	S
11	Motor fans and couplings are not rubbing on cowls/guards		
12	Check electrical protection and fuses are satisfactory		
13	Check there are no solid obstructions or obstacles within of the flange or opening. 25mm for IIA, 30mm for IIB and 40mm for IIC gas groups.		
14	Check operating handles and push buttons are free in operation		
15	Flame arrestors, where used, are present and satisfactory		
16	Apparatus and cables carry the correct circuit identification. NOTE: Positively identify apparatus with circuit to ensure correct isolation	D	S
17	Apparatus is appropriate to area classification	D	S
18	Surface temperature class is correct	D	S
19	Apparatus sub-group is correct		
20	Circuit and/or apparatus documentation is appropriate to area classification	D	S
21	Apparatus and cables installed is that specified in the documentation	D	S
22	Installation is clearly labeled	D	S

23	Safety barrier units, relays and other IS energy limiting devices are of the approved type, installed in accordance with the certification requirements and securely earthed were required		
24	Cable screens are earthed in accordance with the documentation.		
25	IS earth connection installed correctly, and segregated from main earth or at one point only (refer to documentation)		
26	Point to point connections are correct		
27	Separation is maintained between IS and non-IS circuits within enclosures		
28	There is no undue accumulation of dust or dirt. NOTE: Accumulations reduce heat dissipation resulting in higher than permitted surface temperatures	D	S
29	Guards, where used, are present and correctly located	D	S
30	Check glands are correct type and compatible with the enclosure to avoid electrolyte corrosion	D	S
31	Where MICC cables are used, check that EX (d) gland and EX (e) polypropylene seal cap and one piece PTFE headed sleeves have been employed		
32	Stopper boxes and cable boxes are correctly filled and that there is no leakage of compound		
33	Check condition of gaskets utilised for weather proofing where they form part of certified enclosure	D	S
34	Electrical connections are tight and electrical clearances are satisfactory	D	S
35	Lamp rating and type are correct		
36	Automatic electrical protection devices are set correctly and operate within permitted limits. (Auto reset devices not allowed in Zone 1)		
37	Special conditions of use (if applicable) are complied with.	D	S
38	Check all machined faces/flange gaps are free from corrosion and dirt and are not filed, scored, abraded or painted. NOTE: Only non-corrosive cleaning fluids to be used to clean flange		
39	Dimension of flange gap not to exceed 0.1mm (0.004 inches) at all points		
40	Flanges thinly coated with Chemodex copper grease or Molypaul PBC. If aluminum flanges, MS4 silicon or BP CPC4Z must be used		
41	There is no deterioration of encapsulating materials		
42	Hermetically sealed devices are undamaged		
43	Enclosed break devices are undamaged		
44	Have the correct termination accessories been used?	D	S
45	Have the correct terminals been fitted? (approved terminals are stamped to indicate Ex 'e' or Ex 'n' approval)	D	S
46	Has only one wire/bootlace per terminal clamp been adhered to?	D	S
47	Have steps been taken to ensure that the conductors are not cleated together in a manner which would increase the temperature of an individual conductor?		
48	Are all unused cores terminated into spare terminals?		
49	Are all unused terminal screws tightened down?	D	S
50	Are all the terminal moldings intact and free from cracks or breakages	D	S
51	Protective gas inlet temperature is below maximum specified		
52	Ducts, pipes and enclosures are in good condition		
53	Protective gas is substantially free from contaminants		
54	Protective gas pressure and flow is adequate		
55	Pre-energising purge period is adequate		
56	Pressure and/flow indicators, alarms and interlocks function correctly		
57	Check legibility of Certification Label	D	S

58	Carry out Final Inspection and Security of Panels and Fixtures before Dispatch of Unit; ensure all bolts are intact and correctly tightened.	Checked By	S.CUNLIFFE
		Date	28.04.23

Inspected By (Print Name)	S.CUNLIFFE	Date	28/04/23
Checked By (Print Name)	R.STUART		
In accordance with current BS EN 60079-17 Standard			

Customer	BLUE MANTA	
Sulzer Project No.	P0002852	
Plant ID Ref	BM-C-1453	
Electrical Inspection Sheet	044-07	

ITEM DETAILS																		
Equipment description		LIGHT SWITCH							Voltage		250							
Manufacturer		EATON							Current		16A							
Serial Number		FBRT 2212							Frequency (Hz)		-							
Type Number		GHG2732000 R003							Wattage		-							
Frame		-							RPM		-							
Certification Authority		PTB							IP Rating		66							
Certification Number		98 ATEX 3121							Zone of Use		1							
CLASS/GAS GROUPS AND TEMPERATURE CLASSIFICATION (IF APPLICABLE)																		
ELECTRICAL PROTECTION CONCEPT		d	e	m			n			i			o	p			q	s
				a	b	c	A	R	C	a	b	c		x	y	z		
Class/Gas Groups		IIA			IIB			IIB+H2			IIC			II				
Temp Rating		T1		T2		T3		T4		T5		T6						

Grade of Inspection; V = Visual, C = Close, D = Detailed Result of Inspection; U = Unsatisfactory, S = Satisfactory												Grade	Result
1	There are no unauthorised modifications											D	S
2	Apparatus is free from corrosion or physical damage											D	S
3	Apparatus is adequately protected against corrosion, the weather, vibration and other adverse factors and that aluminum paint has not been supplied											D	S
4	Electrical insulation is clean and dry.											D	S
5	All enclosures are securely supported, so that no weight is taken by cables or conduit connections											D	S
6	There is no obvious damage to cables, cable sheaths, reducers or cable glands and that cables are correctly identified											D	S
7	Check gland and stoppers are complete and tight. NOTE: Glands/stoppers to be installed to a minimum of five full threads, having an axial length of not less than 8mm fully engaged (EExd only)											D	S
8	Check bolts are all complete, tight and are correct type supplied by equipment manufacturer											D	S
9	Check enclosures, glasses and glass/metal seals are satisfactory. Check cement for erosion or softening												
10	Check earthing connections, including any supplementary bonding are satisfactory and of sufficient cross section area. Earth loop impedance / resistance is satisfactory. NOTE: Faces of separate earth conductors must be clean and the point of contact on the apparatus must be free from paint, dirt, rust or other corrosion and the securing bolt fully tightened to ensure minimum contact resistance.											D	S
11	Motor fans and couplings are not rubbing on cowls/guards												
12	Check electrical protection and fuses are satisfactory												
13	Check there are no solid obstructions or obstacles within of the flange or opening. 25mm for IIA, 30mm for IIB and 40mm for IIC gas groups.												
14	Check operating handles and push buttons are free in operation											D	S
15	Flame arrestors, where used, are present and satisfactory												
16	Apparatus and cables carry the correct circuit identification. NOTE: Positively identify apparatus with circuit to ensure correct isolation											D	S
17	Apparatus is appropriate to area classification											D	S
18	Surface temperature class is correct											D	S
19	Apparatus sub-group is correct											D	S
20	Circuit and/or apparatus documentation is appropriate to area classification											D	S
21	Apparatus and cables installed is that specified in the documentation											D	S
22	Installation is clearly labeled											D	S

23	Safety barrier units, relays and other IS energy limiting devices are of the approved type, installed in accordance with the certification requirements and securely earthed were required		
24	Cable screens are earthed in accordance with the documentation.		
25	IS earth connection installed correctly, and segregated from main earth or at one point only (refer to documentation)		
26	Point to point connections are correct		
27	Separation is maintained between IS and non-IS circuits within enclosures		
28	There is no undue accumulation of dust or dirt. NOTE: Accumulations reduce heat dissipation resulting in higher than permitted surface temperatures	D	S
29	Guards, where used, are present and correctly located		
30	Check glands are correct type and compatible with the enclosure to avoid electrolyte corrosion	D	S
31	Where MICC cables are used, check that EX (d) gland and EX (e) polypropylene seal cap and one piece PTFE headed sleeves have been employed		
32	Stopper boxes and cable boxes are correctly filled and that there is no leakage of compound		
33	Check condition of gaskets utilised for weather proofing where they form part of certified enclosure	D	S
34	Electrical connections are tight and electrical clearances are satisfactory	D	S
35	Lamp rating and type are correct		
36	Automatic electrical protection devices are set correctly and operate within permitted limits. (Auto reset devices not allowed in Zone 1)		
37	Special conditions of use (if applicable) are complied with.		
38	Check all machined faces/flange gaps are free from corrosion and dirt and are not filed, scored, abraded or painted. NOTE: Only non-corrosive cleaning fluids to be used to clean flange		
39	Dimension of flange gap not to exceed 0.1mm (0.004 inches) at all points		
40	Flanges thinly coated with Chemodex copper grease or Molypaul PBC. If aluminum flanges, MS4 silicon or BP CPC4Z must be used		
41	There is no deterioration of encapsulating materials	D	S
42	Hermetically sealed devices are undamaged		
43	Enclosed break devices are undamaged		
44	Have the correct termination accessories been used?	D	S
45	Have the correct terminals been fitted? (approved terminals are stamped to indicate Ex 'e' or Ex 'n' approval)		
46	Has only one wire/bootlace per terminal clamp been adhered to?	D	S
47	Have steps been taken to ensure that the conductors are not cleated together in a manner which would increase the temperature of an individual conductor?		
48	Are all unused cores terminated into spare terminals?		
49	Are all unused terminal screws tightened down?		
50	Are all the terminal moldings intact and free from cracks or breakages	D	S
51	Protective gas inlet temperature is below maximum specified		
52	Ducts, pipes and enclosures are in good condition		
53	Protective gas is substantially free from contaminants		
54	Protective gas pressure and flow is adequate		
55	Pre-energising purge period is adequate		
56	Pressure and/flow indicators, alarms and interlocks function correctly		
57	Check legibility of Certification Label	D	S

58	Carry out Final Inspection and Security of Panels and Fixtures before Dispatch of Unit; ensure all bolts are intact and correctly tightened.	Checked By	S.CUNLIFFE
		Date	28.04.23

Inspected By (Print Name)	S.CUNLIFFE	Date	28/04/23
Checked By (Print Name)	R.STUART		
In accordance with current BS EN 60079-17 Standard			

Customer	BLUE MANTA	
Sulzer Project No.	P0002852	
Plant ID Ref	BM-C-1453	
Electrical Inspection Sheet	044-08	

ITEM DETAILS																	
Equipment description	LIGHT 4FT								Voltage			254					
Manufacturer	EATON								Current			-					
Serial Number	0175747 D3								Frequency (Hz)			-					
Type Number	-								Wattage			-					
Frame	-								RPM			-					
Certification Authority	BVS								IP Rating			66/67					
Certification Number	09 ATEX E034								Zone of Use								
CLASS/GAS GROUPS AND TEMPERATURE CLASSIFICATION (IF APPLICABLE)																	
ELECTRICAL PROTECTION CONCEPT	<u>d</u>	<u>e</u>	m			n			i			o	p			q	s
			a	<u>b</u>	c	A	R	C	a	b	c		x	y	z		
Class/Gas Groups	IIA			IIB				IIB+H2				IIC			II		
Temp Rating	T1		T2			T3			T4			T5			T6		

Grade of Inspection; V = Visual, C = Close, D = Detailed Result of Inspection; U = Unsatisfactory, S = Satisfactory		Grade	Result
1	There are no unauthorised modifications	D	S
2	Apparatus is free from corrosion or physical damage	D	S
3	Apparatus is adequately protected against corrosion, the weather, vibration and other adverse factors and that aluminum paint has not been supplied	D	S
4	Electrical insulation is clean and dry.	D	S
5	All enclosures are securely supported, so that no weight is taken by cables or conduit connections	D	S
6	There is no obvious damage to cables, cable sheaths, reducers or cable glands and that cables are correctly identified	D	S
7	Check gland and stoppers are complete and tight. NOTE: Glands/stoppers to be installed to a minimum of five full threads, having an axial length of not less than 8mm fully engaged (EExd only)	D	S
8	Check bolts are all complete, tight and are correct type supplied by equipment manufacturer		
9	Check enclosures, glasses and glass/metal seals are satisfactory. Check cement for erosion or softening		
10	Check earthing connections, including any supplementary bonding are satisfactory and of sufficient cross section area. Earth loop impedance / resistance is satisfactory. NOTE: Faces of separate earth conductors must be clean and the point of contact on the apparatus must be free from paint, dirt, rust or other corrosion and the securing bolt fully tightened to ensure minimum contact resistance.	D	S
11	Motor fans and couplings are not rubbing on cowls/guards		
12	Check electrical protection and fuses are satisfactory		
13	Check there are no solid obstructions or obstacles within of the flange or opening. 25mm for IIA, 30mm for IIB and 40mm for IIC gas groups.		
14	Check operating handles and push buttons are free in operation		
15	Flame arrestors, where used, are present and satisfactory		
16	Apparatus and cables carry the correct circuit identification. NOTE: Positively identify apparatus with circuit to ensure correct isolation	D	S
17	Apparatus is appropriate to area classification	D	S
18	Surface temperature class is correct	D	S
19	Apparatus sub-group is correct	D	S
20	Circuit and/or apparatus documentation is appropriate to area classification	D	S
21	Apparatus and cables installed is that specified in the documentation	D	S
22	Installation is clearly labeled	D	S

23	Safety barrier units, relays and other IS energy limiting devices are of the approved type, installed in accordance with the certification requirements and securely earthed were required		
24	Cable screens are earthed in accordance with the documentation.		
25	IS earth connection installed correctly, and segregated from main earth or at one point only (refer to documentation)		
26	Point to point connections are correct		
27	Separation is maintained between IS and non-IS circuits within enclosures		
28	There is no undue accumulation of dust or dirt. NOTE: Accumulations reduce heat dissipation resulting in higher than permitted surface temperatures	D	S
29	Guards, where used, are present and correctly located		
30	Check glands are correct type and compatible with the enclosure to avoid electrolyte corrosion	D	S
31	Where MICC cables are used, check that EX (d) gland and EX (e) polypropylene seal cap and one piece PTFE headed sleeves have been employed		
32	Stopper boxes and cable boxes are correctly filled and that there is no leakage of compound		
33	Check condition of gaskets utilised for weather proofing where they form part of certified enclosure		
34	Electrical connections are tight and electrical clearances are satisfactory	D	S
35	Lamp rating and type are correct	D	S
36	Automatic electrical protection devices are set correctly and operate within permitted limits. (Auto reset devices not allowed in Zone 1)		
37	Special conditions of use (if applicable) are complied with.		
38	Check all machined faces/flange gaps are free from corrosion and dirt and are not filed, scored, abraded or painted. NOTE: Only non-corrosive cleaning fluids to be used to clean flange		
39	Dimension of flange gap not to exceed 0.1mm (0.004 inches) at all points		
40	Flanges thinly coated with Chemodex copper grease or Molypaul PBC. If aluminum flanges, MS4 silicon or BP CPC4Z must be used		
41	There is no deterioration of encapsulating materials		
42	Hermetically sealed devices are undamaged		
43	Enclosed break devices are undamaged		
44	Have the correct termination accessories been used?	D	S
45	Have the correct terminals been fitted? (approved terminals are stamped to indicate Ex 'e' or Ex 'n' approval)		
46	Has only one wire/bootlace per terminal clamp been adhered to?	D	S
47	Have steps been taken to ensure that the conductors are not cleated together in a manner which would increase the temperature of an individual conductor?		
48	Are all unused cores terminated into spare terminals?		
49	Are all unused terminal screws tightened down?	D	S
50	Are all the terminal moldings intact and free from cracks or breakages	D	S
51	Protective gas inlet temperature is below maximum specified		
52	Ducts, pipes and enclosures are in good condition		
53	Protective gas is substantially free from contaminants		
54	Protective gas pressure and flow is adequate		
55	Pre-energising purge period is adequate		
56	Pressure and/flow indicators, alarms and interlocks function correctly		
57	Check legibility of Certification Label	D	S

58	Carry out Final Inspection and Security of Panels and Fixtures before Dispatch of Unit; ensure all bolts are intact and correctly tightened.	Checked By	S.CUNLIFFE
		Date	28.04.23

Inspected By (Print Name)	S.CUNLIFFE	Date	28/04/23
Checked By (Print Name)	R.STUART		
In accordance with current BS EN 60079-17 Standard			

Cable Certificates



Stabilimento e Uffici: S.S. Cassilea, Km 78.600 - 03013 FERENTINO (FR)
Tel. 0775.271494 r.a. - Fax 0775.271489 - e-mail: cci@cableservice.it
N. Mec.: MI 253993 - P.IVA 11807440158 - C.F. 01871520505 - Cap. Soc. € 624.000 i. u.
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Sede Legale: Strada Provinciale 117 - 20010 Bernate Ticino (MI)

**AGÊNCIA COM SISTEMA
DE GESTÃO
CERTIFICADO DA ISO 9001**

N° 35341

AB161691

INSPECTOR

Cable Glands



EC - TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

- 3 EC - Type Examination Certificate Number: **Baseefa06ATEX0056X**
- 4 Equipment or Protective System: **A Range of Cable Glands with Compression Type Seals**
- 5 Manufacturer: **Hawke International**
- 6 Address: **Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**
- 7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- 8 Baseefa (2001) Ltd., Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in confidential Report No. **GB/BAS/ExTR 06.0011/00**
- 9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN60079-0: 2004, EN60079-1: 2004, EN60079-7: 2003 + Amendment 1, IEC61241-0: 2004, IEC61241-1: 2004
except in respect of those requirements listed at item 18 of the Schedule.
- 10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- 11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
- 12 The marking of the equipment or protective system shall include the following :

 **II 2GD Ex d IIC Ex e II Ex tD A21 IP66 (- 60°C ≤ ta ≤ + 80°C [or +100°C see Special Conditions])**

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0500**

Project File No. **04/0381**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa (2001) Ltd
Registered in England No. 4305578 at the above address

R S SINCLAIR

DIRECTOR
On behalf of
Baseefa (2001) Ltd.



13

Schedule

14

Certificate Number Baseefa06ATEX0056X

15

Description of Equipment or Protective System

Each of the following gland types may be manufactured in brass, stainless steel or aluminium and may be supplied with agreed alternative entry thread forms.

Variant 0.1 TYPE 501/421 CABLE GLAND

The Type 501/421 Cable Gland is intended for use with an effectively filled and circular unarmoured cable and comprises the following components :-

- a. An entry component, in the size range Os to J (M16 to M100)
- b. A compressible sealing ring
- c. A compression spigot
- d. A back nut
- e. An optional earth continuity device for use with metallic sheathed cables

Variant 0.1.1 Type 501/421 Size 2K Variant

The Type 501/421 'Size 2K' gland comprises the following components only :-

- a. A dedicated entry component (M16)
- b. A compressible sealing ring
- c. A nylon skid washer
- d. A threaded compression spigot

Variant 0.2 TYPE 501/423 CABLE GLAND

The Type 501/423 Cable Gland is intended for use with an effectively filled and circular unarmoured cable and comprises the following components :-

- a. An entry component, in the size range Os to J (M16 to M100)
- b. Two compressible sealing rings
- c. Two compression spigots
- d. A middle nut
- e. A back nut
- f. An optional earth continuity device for use with metallic sheathed cables

Variant 0.3 TYPE 501/453 RAC CABLE GLAND

The Type 501/453 RAC Cable Gland is intended for use with an effectively filled and circular armoured or braided cable and comprises the following components :-

- a. An entry component, in the size range Os to F (M16 to M75)
- b. A compressible sealing ring
- c. A combined compression spigot and armour clamping cone
- d. A reversible armour clamping ring
- e. A middle nut
- f. An outer seal assembly (sleeve seal and support ring)
- g. A back nut
- h. An optional earth continuity device for use with metallic inner sheathed cables

Variant 0.4 TYPE 501/453 CABLE GLAND

The Type 501/453 Cable Gland is intended for use with an effectively filled and circular armoured or braided cable and comprises the following components :-

- a. An entry component, in the size range Os to J (M16 to M100)
- b. A compressible sealing ring
- c. A combined compression spigot and armour clamping cone
- d. A dedicated armour, or braid, clamping ring
- e. A middle nut
- f. An outer seal assembly (sleeve seal and support ring [Os-F] or compression ring [G-J])
- g. A back nut
- h. An optional earth continuity device for use with metallic inner sheathed cables

Variant 0.5 TYPE PSG 553 RAC CABLE GLAND

The Type PSG 553 RAC Cable Gland is intended for use with a circular armoured or braided cable of unspecified construction, and comprises the following components :-

- a. An entry component, in the size range A to C (M20 to M32)
- b. A compressible seal, punched to accept a number of individual conductors
- c. A combined compression spigot and armour clamping cone
- d. A reversible armour clamping ring
- e. A middle nut
- f. An outer seal assembly (sleeve seal and support ring)
- g. A back nut

Variant 0.6 TYPE PSG 553 CABLE GLAND

The Type PSG 553 Cable Gland is intended for use with a circular armoured or braided cable of unspecified construction, and comprises the following components :-

- a. An entry component, in the size range A to C (M20 to M32)
- b. A compressible seal, punched to accept a number of individual conductors
- c. A combined compression spigot and armour clamping cone
- d. A dedicated armour, or braid, clamping ring
- e. A middle nut
- f. An outer seal assembly (sleeve seal and support ring)
- g. A back nut

Variant 0.7 TYPE 501/414 CONDUIT STOPPING GLAND

The Type 501/414 Conduit Stopping Gland is intended for use with an effectively filled and circular unarmoured cable enclosed within a conduit and comprises the following components :-

- a. An entry component, in the size range A to F (M20 to M75)
- b. A compressible sealing ring
- c. A compression assembly comprising a compression spigot with a female thread at the rear and integral back nut

Variant 0.8 TYPE SB474 CONDUIT STOPPING GLAND

The Type SB474 Conduit Stopping Gland is intended for use with a number of circular conductors enclosed within a conduit and comprises the following components :-

- a. An entry component, in the size range A to C (M20 to M32)
- b. A compressible seal, punched to accept a number of individual conductors
- c. A compression assembly comprising a compression spigot with a female thread at the rear and integral back nut

Variant 0.9 TYPE 501/452 RAC CABLE GLAND

The Type 501/452 RAC Cable Gland is intended for use with an effectively filled and circular armoured or braided cable and comprises the following components :-

- a. An entry component, in the size range Os to F (M16 to M75)
- b. A compressible sealing ring
- c. A combined compression spigot and armour clamping cone
- d. A reversible armour clamping ring
- e. A back nut
- f. An optional earth continuity device for use with metallic inner sheathed cables

16 Report Number

Baseefa Certification Report GB/BAS/ExTR 06.0011/00

17 Special Conditions for Safe Use

1. These glands are suitable for use within an operating temperature range of -60°C to +80°C, or +100°C for the gland types not using the iris type outer seal assembly.
2. When the gland is used for increased safety or dust protection, the entry thread shall be suitably sealed (in accordance with IEC 60079-14) to maintain the ingress protection rating of the associated enclosure
3. Glands for use with conduit, unarmoured or braided cables are only suitable for fixed installations, the cable for which must be effectively clamped to prevent pulling and twisting.

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Issue	Date	Description
501/421	F	26/11/04	G. A., Type 501/421 Cable Gland
501/421 (G to J)	F	26/11/04	G. A., Type 501/421 Cable Gland (Oversize)
501/423	F	26/11/04	G. A., Type 501/423 Cable Gland
501/423 (G to J)	F	26/11/04	G. A., Type 501/423 Cable Gland (Oversize)
501/453 RAC	F	26/11/04	G. A., Type 501/453 RAC Cable Gland
501/453 Dedicated	F	26/11/04	G. A., Type 501/453 Cable Gland
501/453 Dedicated (G to J)	F	26/11/04	G. A., Type 501/453 Cable Gland (Oversize)
PSG 553 RAC	D	03/10/05	G. A., Type PSG 553 RAC Cable Gland
PSG 553 Dedicated	D	03/10/05	G. A., Type PSG 553 Cable Gland



Number	Issue	Date	Description
501/414	F	26/11/05	G. A., Type 501/414 Conduit Stopper Gland
SB 474	F	03/10/05	G. A., Type SB474 Conduit Stopper Box
501/452 RAC	F	26/11/04	G. A., Type 501/452 RAC Cable Gland

These drawings are common to BAS IECEx 05.0013X and are controlled on and held with GB/BAS/ExTR 06.0011/00



SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa06ATEX0056X/1**
- 4 Equipment or Protective System: **A Range of Cable Glands with Compression Type Seals**
- 5 Manufacturer: **Hawke International**
- 6 Address: **Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**
- 7 This supplementary certificate extends EC - Type Examination Certificate No. **Baseefa06ATEX0056X** to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

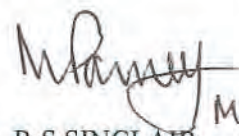
Baseefa Customer Reference No. 0500

Project File No. 07/0054

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa (2001) Ltd
Registered in England No. 4305578 at the above address


R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.

13

Schedule

14

Certificate Number Baseefa06ATEX0056X/1

15

Description of the variation to the Equipment or Protective System

Variation 1.1

To allow the use of an alternative entry component and rear compression nut on the Type 501/421 Cable Gland intended for use with an effectively filled and circular unarmoured cable and comprises the following components:

- a. An alternative entry component, in the size range Os to F (M16 to M75)
- b. A compressible sealing ring
- c. A compression spigot
- d. An alternative rear compression nut in size range Os to F
- e. An optional earth continuity device for use with metallic sheathed cables.

The alternative rear compression nut can be readily interchanged with the existing certified components.

Variation 1.2

To allow the use of an alternative entry component, body nut and rear compression nut on the Type 501/423 Cable Gland intended for use with an effectively filled and circular unarmoured cable and comprises the following components:

- a. An alternative entry component, in the size range Os to F (M16 to M75)
- b. Two compressible sealing rings
- c. Two compression spigots
- d. An alternative body nut in size range Os to F
- e. An alternative rear compression nut in size range Os to F
- f. An optional earth continuity device for use with metallic sheathed cables.

The alternative body nut and rear compression nut can be readily interchanged with the existing certified components.

Variation 1.3

To allow the use of an alternative entry component, and alternative compression spigot (body) and integral rear compression nut on the Type 501/414 Conduit Stopping Gland intended for use with an effectively filled and circular unarmoured cable enclosed within a conduit and comprises the following components:

- a. An alternative entry component, in the size range O to F (M16 to M75)
- b. A compressible sealing ring
- c. An alternative compression assembly comprising a compression spigot with a female thread at the rear (body) and integral alternative rear compression nut.

The alternative compression spigot and integral rear compression nut can be readily interchanged with the existing certified components.

Variation 1.4

To allow the use of an alternative entry component, and alternative compression spigot and integral rear compression nut on the Type SB474 Conduit Stopping Gland is intended for use with a number of circular conductors enclosed within a conduit and comprises the following components:

- a. An alternative entry component, in the size range A to C (M20 to M32)
- b. A compressible seal, punched to accept a number of individual conductors



- c. An alternative compression assembly comprising a compression spigot with a female thread at the rear (body) and integral back nut.

The alternative compression spigot (body) and integral rear compression nut can be readily interchanged with the existing certified components.

16 Report Number

Baseefa Certification Report IECEx GB/BAS/ExTR 07.0021/00

17 Special Conditions for Safe Use

None additional to those listed previously

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Issue	Date	Description
501/421	G	22/01/07	G. A., Type 501/421 Cable Gland
501/423	G	22/01/07	G. A., Type 501/423 Cable Gland
501/414	G	22/01/07	G. A., Type 501/414 Conduit Stopper Gland
SB474	G	22/01/07	G. A., Type SB474 Conduit Stopper Box

These Drawings Rare common to IECEx BAS 06.0013X and are held with that certificate



SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa06ATEX0056X/2**
- 4 Equipment or Protective System: **A Range of Cable Glands with Compression Type Seals**
- 5 Manufacturer: **Hawke International**
- 6 Address: **Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**
- 7 This supplementary certificate extends EC – Type Examination Certificate No. **Baseefa06ATEX0056X** to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0500**

Project File No. **07/0285**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa (2001) Ltd
Registered in England No. 4305578 at the above address

R S SINCLAIR

DIRECTOR

On behalf of

Baseefa (2001) Ltd.

Re-issued 19th February 2007 to replace original



13

Schedule

14

Certificate Number Baseefa06ATEX0056X/2

15 Description of the variation to the Equipment or Protective System

Variation 2.1

To allow the introduction of a Type 8430-501/453 J M100 cable gland for use with an effectively filled and circular armoured or braided cable and comprising the following components.

- a. An entry component
- b. A compressible sealing ring
- c. A compression spigot
- d. A middle nut
- e. A backnut and rear seal arrangement.

16 Report Number

IECEX GB/BAS/ExTR 07.0057/00

17 Special Conditions for Safe Use

This gland may only be used for fixed cable installations of Group II equipment. The user shall ensure that the cable is effectively clamped to prevent pulling and twisting.

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Issue	Date	Description
8430-501/453 Sheets 1 & 2	A	23/3/07	G. A., Type 8430-501/453 Cable Gland

These drawings are common to and held with IECEX BAS 06.0013X.



SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa06ATEX0056X/3**
- 4 Equipment or Protective System: **A Range of Cable Glands with Compression Seals**
- 5 Manufacturer: **Hawke International**
- 6 Address: **Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**
- 7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa06ATEX0056X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

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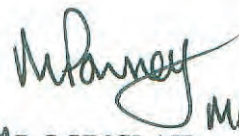
Baseefa Customer Reference No. 0500

Project File No. 07/0770

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Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.


R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa06ATEX0056X/3

15

Description of the variation to the Equipment or Protective System

Variation 3.1

TYPE 501/421 CABLE GLAND

To allow the use of a modified entry component 3080 and rear compression nut 3077 on the Type 501/421 2K Cable Gland intended for use with an effectively filled and circular unarmoured cable.

Variation 3.2

TYPE 501/453 DEDICATED and PSG 553 DEDICATED GLANDS Sizes O to F

To allow the introduction of alternative dedicated armour clamping rings 3259 and 3260 together with the use of alternative middle nut 3257 and entry component 3250.

Variation 3.3

TYPE 501/453 RAC and PSG 553 RAC GLANDS

To allow the use of a modified 3041 RAC clamping ring on the gland sizes Os/O and A, also to allow the use of the alternative middle nut 3257 and entry component 3250 on glands sizes Os to F.

Variation 3.4

TYPE 501/452 RAC CABLE GLAND

To allow the use of a modified 3041 RAC clamping ring on the gland sizes Os/O and A, also to allow the use of the alternative back nut 3258 and entry component 3250 on glands sizes Os to F.

16

Report Number

Baseefa Certification Report GB/BAS/ExTR008.0173/00

17

Special Conditions for Safe Use

None additional to those listed previously

18

Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19

Drawings and Documents

Number	Issue	Date	Description
PSG 553 Dedicated	G	14/09/07	G A Type PSG 553 Dedicated Cable Gland
501/453 Dedicated	G	04/07/08	G A Type 501/453 Dedicated Gland
PSG 553	G	14/09/07	G A Type PSG 553 RAC Cable Gland
501/453 RAC	G	14/09/07	G A Type 501/453 RAC Cable Gland
501/452 RAC	G	14/09/07	G A Type 501/452 RAC Cable Gland

These drawings are common to IECEx BAS 06.0013X and are held with that certificate



1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: Baseefa06ATEX0056X/4

4 Equipment or Protective System: A Range of Cable Glands with Compression Seals

5 Manufacturer: Hawke International

6 Address: Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa06ATEX0056X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

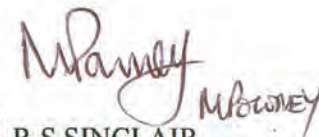
Baseefa Customer Reference No. 0500

Project File No. 09/0174

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Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.


R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa06ATEX0056X/4

15

Description of the variation to the Equipment or Protective System

Variation 4.1

To introduce an alternative iris type back seal either singly or in conjunction with a reversible clamping ring (RAC) to the gland type 501/453 Oversize Dedicated gland for sizes G, H and J.

Alternative parts, iris back seal only.

- a) 3034 Back nut
- b) 3035 Back nut seal
- c) 3036 Back nut clamp
- d) 3272 Middle nut

Alternative parts, iris back seal in conjunction an RAC ring.

- a) 3047 Spigot
- b) 3055 Middle nut
- c) 3041 RAC ring
- d) 3034 Back Nut
- e) 3035 Back nut seal
- f) 3036 Back nut clamp

16 Report Number

Baseefa Certification Report GB/BAS/ExTR 09.0165/00 held with IECEx BAS 06.0013X

17 Special Conditions for Safe Use

None additional to those listed previously

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Issue	Date	Description
501/453 Oversize	G	29/05/09	G. A., Type 501/453 Oversize Clamping Gland

This drawing is common to, and held with, IECEx BAS 06.0013X



SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa06ATEX0056X/5**
- 4 Equipment or Protective System: **A Range of Cable Glands with Compression Seals**
- 5 Manufacturer: **Hawke International (A Division of Hubbell Limited)**
- 6 Address: **Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**
- 7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa06ATEX0056X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0500**

Project File No. **09/0338 and 10/0100**

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa

Re-issued 26th August 2011 to correct standards



13 **Schedule**

14 **Certificate Number Baseefa06ATEX0056X/5**

15 **Description of the variation to the Equipment or Protective System**

Variation 5.1

To allow an increase in the upper service temperature of the glands to 100°C except for the PSG gland types together with the introduction of an alternative backnut seal assembly. In addition the glands are considered to comply with the following standards and may be marked accordingly.

EN 60079-0: 2009, EN 60079-1: 2007 EN 60079-7: 2007, and EN 60079-31: 2009

16 **Report Number**

Baseefa Certification Report GB/BAS/ExTR 10.0287/00 held with IECEx BAS 06.0013X

17 **Special Conditions for Safe Use**

None additional to those listed previously

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Issue	Date	Description
501/421	H	30/06/10	General Arrangement Unarmoured 501/421 Gland
501/421 G to J	G	30/06/10	General Arrangement Unarmoured 501/421 Oversize Gland
501/423	H	30/06/10	General Arrangement 501/423 Gland
501/423 G to J	G	30/06/10	General Arrangement 501/423 Oversize Gland
501/453RAC	H	30/06/10	General arrangement 501/453 RAC Gland
501/452RAC	H	30/06/10	General Arrangement 501/452 RAC Gland
501/453 Dedicated	H	05/07/10	General arrangement 501/453 Dedicated Gland
501/453 Oversized	H	30/06/10	General Arrangement of 501/453 Oversized Armour Clamping Glands
SB474	H	30/06/10	General Arrangement SB 474 Gland
501/414	H	30/06/10	General Arrangement 501/414 Conduit Stopper Box Compression Seal
PSG553 Dedicated	H	30/06/10	General arrangement PSG 553 Gland
PSG553 RAC	H	07/07/10	General arrangement PSG 553 RAC Gland

These drawings are common to and are held with IECEx BAS 06.0013X



SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

- 3 Supplementary EC - Type Examination Certificate Number: Baseefa06ATEX0056X/6
- 4 Equipment or Protective System: A Range of Cable Glands with Compression Seals
- 5 Manufacturer: Hawke International (Division of Hubbell Limited)
- 6 Address: Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA
- 7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa06ATEX0056X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. 0500

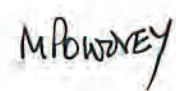
Project File No. 11/0741 and 11/0943

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.


R S SINCLAIR
DIRECTOR
On behalf of
Baseefa





13

Schedule

14

Certificate Number Baseefa06ATEX0056X/6

15 Description of the variation to the Equipment or Protective System

Variation 6.1

To allow the replacement of the 7° armour clamping components with 5° armour clamping components on gland sizes Os, O and A.

Variations 6.2

The introduction of a range of non reversible dedicated armour clamping rings in this form the RAC stamping is followed by DED and W, X, Y or Z to indicate the type of armour that may be fitted.

Variations 6.3

To allow the introduction of a rear clamping mechanism, to prevent pulling and twisting of the cable, to the 501/421 gland size B, in this form the gland is designated as a 501/421R

16 Report Number

Baseefa Certification Report GB/BAS/ExTR 11.0274/00 held with IECEx BAS 06.0013X

17 Special Conditions for Safe Use

For variations 6.1 and 6.2 no additional Special Conditions for Safe Use apply other than those listed previously.

For variation 6.3 the Special Conditions for Safe Use are limited to the following:

1. These glands are suitable for use within an operating temperature range of -60°C to +100°C
2. When the gland is used for increased safety or dust protection, the entry thread is to be suitably sealed, in accordance with IEC 60079-14, to maintain the ingress protection rating of the associated enclosure

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

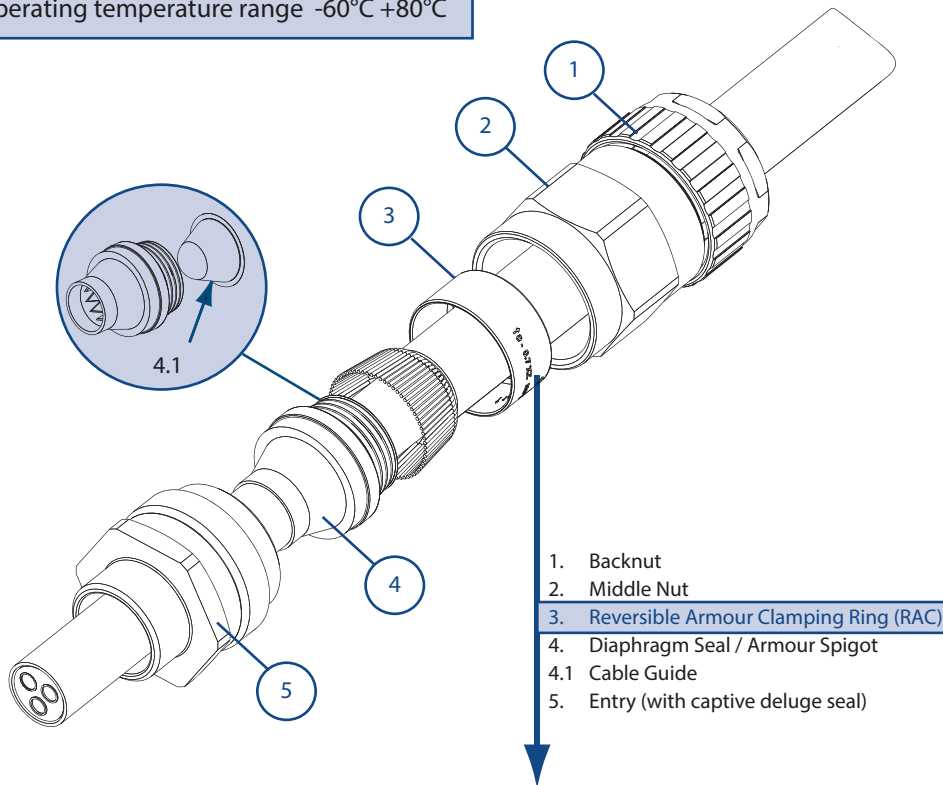
19 Drawings and Documents

Number	Issue	Date	Description
501/421R	A	01/02/12	General Arrangement of Type 421R Gland
501/421	J	16/08/11	General Arrangement of Type 421 Gland
501/453RAC	J	16/08/11	General arrangement 501/453 RAC Gland
501/453DED	J	16/08/11	General arrangement 501/453 DED Gland
501/452RAC	J	16/08/11	General Arrangement 501/452 RAC Gland
501/414	J	16/08/11	General arrangement 501/414 Stopper Box
501/423	J	16/08/11	General arrangement 501/423 Gland
SB 474	J	16/08/11	General arrangement SB 474 Gland
PSG553 RAC	J	16/08/11	General arrangement PSG 553 RAC Gland
PSG553 DED	J	16/08/11	General arrangement PSG 553 DED Gland

These drawings are common to, and held with, IECEx BAS 06.0013X

Assembly Instructions for cable gland:
501/453/UNIV
Exd IIC Gb / Exe IIC Gb / ExnR IIC Gc / Extb IIIC Db

Operating temperature range -60°C +80°C

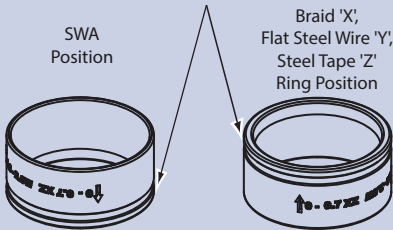


Certification Details

Gland Type: 501/453/UNIV
Exd IIC Gb / Exe IIC Gb / ExnR IIC Gc / Extb IIIC Db
Baseefa06ATEX0057X II 2 / 3GD IP66 CE
IECEX BAS06.0014X
CEPEL 01.0063X
EAC TC RU C-GB.1505.B.00750
c CSA us No: 1015065
Class 1 Zone 1 AExd IIC, AExe II, Zone 21 AExtd
Class 1 Div 2 ABCD, Class II Div 2 Groups EFG, Class III
CNE12.3452X

Reversible Armour Clamping Ring (RAC)

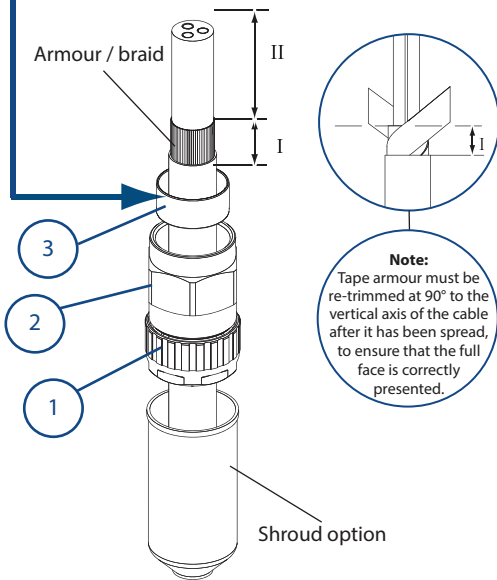
General identification ring orientation for:



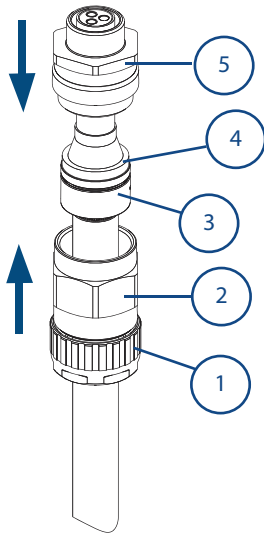
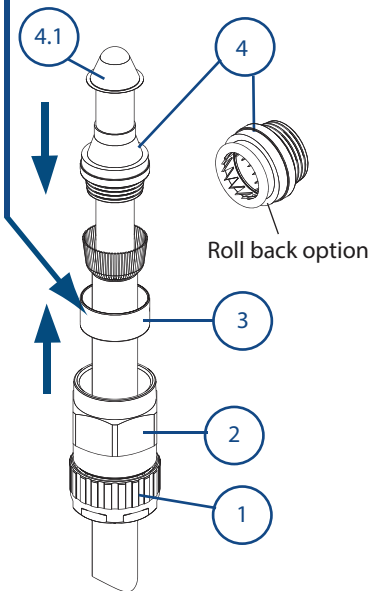
IMPORTANT: The arrowhead indicating the correct armour thickness or type should point towards the equipment

Note: Cable acceptance sizes are marked on the diaphragm seal, clamping ring and backnut.

Cable Preparation



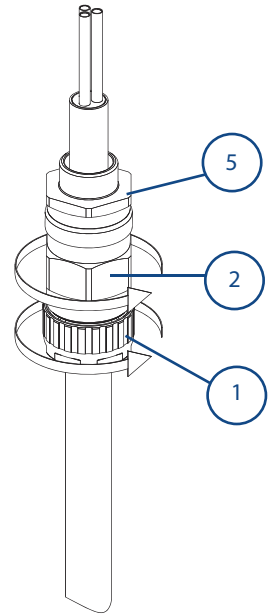
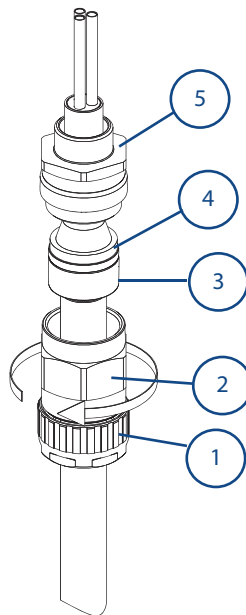
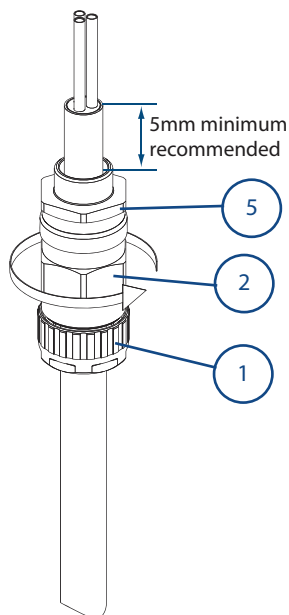
Gland Preparation



A
Strip cable to suit equipment as shown above and expose the armour / braid 'I'.
'I' = 20mm for cable gland sizes Os to C
'I' = 25mm for cable gland sizes C2 to F
'II' = to suit equipment.
If required, fit shroud

B
Push the cable through the diaphragm seal / armour spigot ④. Pre-fitted cable guide ④.1 can now be discarded. The diaphragm seal can be rolled back to ease assembly if required. Spread armour / braid over the diaphragm seal / armour spigot ④ until the end of the armour / braid is up against the shoulder of the armour cone. Position the armour clamping ring ③.

C
Place the entry ⑤ and position over the diaphragm seal / armour spigot ④. Move the sub-assembly ① and ② up to meet the entry ⑤.



D

Hold the entry ⑤ in position with a spanner / wrench to prevent rotation. Hand tighten the middle nut ② to the entry ⑤ and turn a further 1/2 to 3/4 of a turn with a spanner / wrench.

IMPORTANT: Support the cable to prevent it from twisting. To ease wiring inside the enclosure, it may be beneficial to strip the inner sheath of the cable as shown above.

E

Unscrew the middle nut ② and visually inspect that the armour / braid has been successfully clamped between the diaphragm seal / armour spigot ④ and the armour clamping ring ③. If armour / braid not clamped, repeat assembly.

F

Reassemble middle nut ② onto the entry component ⑤. Tighten up the middle nut ② until hand tight, then using a wrench / spanner, turn the nut through 1/4 turn. Tighten the backnut ① to form a seal around the cable, then tighten a further full turn using a wrench / spanner. Ensure that the middle nut ② does not rotate when tightening the backnut ①.

Note: The deluge seal on this gland locates on assembly and requires no further action. Locate shroud over cable gland, if applicable.

CABLE GLAND SELECTION TABLE

Cable Gland Selection Table												
Size Ref.	Entry Thread Size		Cable Acceptance Details						Compressed Length	Maximum Length	Hexagon Dimensions	
			Inner Sheath		Outer Sheath		Armour Braid					
	Metric	NPT	Min.	Max.	Min.	Max.	Orientation 1	Orientation 2			Across Flats	Across Corners
Os	M20 [•]	½"	3.5	8.1	5.5	12.0	0.8/1.25	0/0.8	61.6	72.8	24.0	26.5
O	M20 [•]	½"	6.5	11.4	9.5	16.0	0.8/1.25	0/0.8	61.6	72.8	24.0	26.5
A	M20	½" - ¾"	8.4	14.3	12.5	20.5	0.8/1.25	0/0.8	63.0	74.2	30.0	32.5
B	M25	¾" - 1"	11.1	19.7	16.9	26.0	1.25/1.6	0/0.7	69.9	79.7	36.0	39.5
C	M32	1" - 1¼"	17.6	26.5	22.0	33.0	1.6/2.0	0/0.7	73.2	83.7	46.0	50.5
C2	M40	1¼" - 1½"	23.1	32.5	28.0	41.0	1.6/2.0	0/0.7	77.9	90.6	55.0	60.6
D	M50	1½" - 2"	28.9	44.4/42.3	36.0	52.6	1.8/2.5	0/1.0	93.5	112.6	65.0	70.8
E	M63	2" - 2½"	39.9	56.3/54.3	46.0	65.3	1.8/2.5	0/1.0	94.0	110.2	80.0	88.0
F	M75	2½" - 3"	50.5	65.3/68.2	57.0	78.0	1.8/2.5	0/1.0	103.0	119.7	95.0	104.0

* Sizes Os and O are available with an M16 thread size. If M16 entry is used on O size cable glands the maximum cable inner sheath diameter is limited to 10.9mm.

ACCESSORIES:

Before cable gland assembly or stripping of the cable gland assembly, consideration should be given to any cable gland accessories that may be required, such as: -

- Shroud, to offer additional corrosion protection.
- Locknut, to secure cable glands into position.
- Sealing washer, to offer additional ingress protection of the enclosure at the cable gland entry.
- Earthtag, to provide an external armour / braid bonding point.
- Serrated washer, to dampen any vibrations that may loosen the locknut or cable gland assembly.

SCHEDULE OF LIMITATIONS - Baseefa ATEX / IECEx:

1. The cable glands when used with braided cable types are only suitable for use with fixed apparatus, the cable for which must be effectively clamped and cleated elsewhere.
2. This cable gland has an operating temperature range of -60°C to +80°C.
3. A seal must be formed between the equipment and the cable gland to maintain the appropriate degree of protection against ingress of dust, solid objects and water.

NOTES - c CSA us:

1. The cable used must have extruded sealing (solid polymeric) completely surrounding the "core" (insulation and conductor), allowing for no holes or ventilation through the inner jacket or along the cores.
2. The 501/4** series cable gland connectors, when used in Class 1 Division 2 Classified areas, are not suitable to be interfaced with an explosion proof enclosure containing arcing and sparking devices, unless installed in conjunction with an approved explosion proof sealing fitting.
3. These glands are suitable for use with Certified Marine Shipboard armoured / unarmoured cables constructed to CSA Standard 245 and IEEE45 / IEC 600092-353 Standards, or certified equivalent), for use on Shipboards and Offshore Rigs / Platforms.
4. Must comply with Canadian Electrical Code and National Electric Code requirements for threaded entries.
5. For Exe applications, a sealing washer or thread sealant may be required between the enclosure and the gland to maintain the IP rating of the enclosure.
6. When used with unarmoured or braided cables the glands are only suitable for use with fixed apparatus and the cable must be effectively clamped and cleated elsewhere.
7. This cable gland may only be installed when temperature is above -5°C. After completion of the installation, the assembly is then suitable for -60°C to +80°C.

Declaration of Conformity in accordance with European Directive 94/9/EC

Manufacturer: Hawke International

Address: Oxford Street West, Ashton-under-Lyne, OL7 0NA, United Kingdom.

Equipment Type: Range of Group II Universal Cable Glands type: 501/453/UNIV

Directive 94/9/EC ATEX

Provisions of the Directive fulfilled by the Equipment: Group II Category 2/3GD Exe IIC Gb, Exd IIC Gb, Extb IIIC Db, ExnR IIC Gc – IP66

Notified Body for EC-Type Examination: Baseefa 1180 Buxton UK

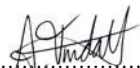
EC-type Examination Certificate: Baseefa06ATEX0057X, ExnR covered on Baseefa 09ATEX0233X

Notified Body for production: SGS-Baseefa 1180 Buxton UK

Harmonized Standards used:

EN 60079-0:2012, EN60079-1:2014, EN60079-7:2007, EN60079-15:2010, EN60079-31:2010.

On behalf of the above named company, I declare that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms with all technical and regulatory requirements of the above listed directives.



A. Tindall
Technical Manager



EC - TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

- 1
- 2
- 3 EC - Type Examination Certificate Number: **Baseefa06ATEX0057X**
- 4 Equipment or Protective System: **Type 501/453UNIV Cable Glands**
- 5 Manufacturer: **Hawke International**
- 6 Address: **Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**
- 7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- 8 Baseefa (2001) Ltd., Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in confidential Report No. **GB/BAS/ExTR 06.0012/00**
- 9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN60079-0: 2004, EN60079-1: 2004, EN60079-7: 2003 + Amendment 1, IEC61241-0: 2004, IEC61241-1: 2004
except in respect of those requirements listed at item 18 of the Schedule.
- 10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- 11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
- 12 The marking of the equipment or protective system shall include the following :

Ex II 2GD Ex d IIC Ex e II Ex tD A21 IP66 (- 60°C ≤ ta ≤ + 80°C)

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0500**

Project File No. **04/0382**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa (2001) Ltd
Registered in England No. 4305578 at the above address

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.



13

Schedule

14

Certificate Number Baseefa06ATEX0057X

15 Description of Equipment or Protective System

The Type 501/453 Universal Cable Gland may be manufactured in brass, stainless steel or aluminium and is intended for use with an effectively filled and circular armoured or braided cable and comprises the following components:

- a. An entry component, in the size range Os to F (M16 to M75)
- b. A combined silicone inner seal, polymer support ring and metallic armour clamping cone.
- c. A reversible armour clamping ring.
- d. A middle nut.
- e. An outer seal assembly (sleeve seal and support ring).
- f. A back nut.
- g. An optional earth continuity device for use with metallic inner sheathed cables

These glands may be supplied with specified alternative entry thread forms

16 Report Number

Baseefa Certification Report GB/BAS/ExTR 06.0012/00

17 Special Conditions for Safe Use

1. These glands are suitable for use within an operating temperature range of -60°C to +80°C.
2. When the gland is used for increased safety or dust protection, the entry thread shall be suitably sealed to maintain the ingress protection rating of the associated enclosure
3. Glands for use with braided cables are only suitable for fixed installations, the cable for which must be effectively clamped to prevent pulling and twisting

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Issue	Date	Description
501/453 UNIV	F	26/11/04	G. A., Type 501/453 Universal Cable Gland

This drawing are common to BAS IECEx 05.0014X and is controlled on and held with GB/BAS/ExTR 06.0012/00



SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa06ATEX0057X/1**
- 4 Equipment or Protective System: **Type 501/453UNIV Cable Glands**
- 5 Manufacturer: **Hawke International, A Division of Hubbell Limited**
- 6 Address: **Oxford Street West, Ashton-under-Lyne, Lancashire OL7 0NA**
- 7 This supplementary certificate extends EC – Type Examination Certificate No. **Baseefa06ATEX0057X** to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

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Baseefa Customer Reference No. **0500**

Project File No. **08/0234**

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Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.


R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



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Schedule

14

Certificate Number Baseefa06ATEX0057X/1

15 Description of the variation to the Equipment or Protective System

Variation 1.1

The introduction an alternative diaphragm assembly.

16 Report Number

Baseefa Confidential Report No. UK/BAS/04/0259/03

17 Special Conditions for Safe Use

None additional to those listed previously

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Issue	Date	Description
501/453 UNIV	G	14/09/07	General Arrangement, Type 501/453 Universal Cable Gland

This drawing is common to, and held with, IECEx BAS 06.0014X



SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa06ATEX0057X/2**
- 4 Equipment or Protective System: **Type 501/453 UNIV Cable Gland**
- 5 Manufacturer: **Hawke International**
- 6 Address: **Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**
- 7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa06ATEX0057X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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Baseefa Customer Reference No. 0500

Project File No. 07/0769

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Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
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PP R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13 **Schedule**

14 **Certificate Number Baseefa06ATEX0057X/2**

15 **Description of the variation to the Equipment or Protective System**

Variation 2.1

To allow the use of a modified entry component 3256 and an alternative middle nut 3257 on glands sizes Os to F, and a modified 3041 RAC clamping ring on the gland sizes Os/O and A.

16 **Report Number**

Baseefa Certification Report GB/BAS/ExTR008.0172/00

17 **Special Conditions for Safe Use**

None additional to those listed previously

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Issue	Date	Description
501/453 UNIV	G	14/09/07	G.A of 501/453 Universal Cable Gland

This drawing is common to IECEx BAS 06.0014X and is held with that certificate



1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3** Supplementary EC - Type Examination Certificate Number: **Baseefa06ATEX0057X/3**
- 4** Equipment or Protective System: **501/453 Universal Cable Gland**
- 5** Manufacturer: **HAWKE International**
- 6** Address: **Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**
- 7** This supplementary certificate extends EC – Type Examination Certificate No. Baseefa06ATEX0057X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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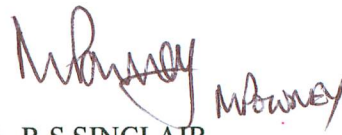
Baseefa Customer Reference No. **0500**

Project File No. **09/0174**

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Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
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Registered in England No. 4305578. Registered address as above.


R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



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Schedule

14

Certificate Number Baseefa06ATEX0057X/3

15

Description of the variation to the Equipment or Protective System

Variation 1.1

To record changes in the sealing sizes of the Os size cable gland

16

Report Number

Baseefa Certification Report GB/BAS/Ex ExTR09/0164/00 held with IECEx BAS 06.0014X.

17

Special Conditions for Safe Use

None additional to those listed previously

18

Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19

Drawings and Documents

Number	Issue	Date	Description
501/453 UNIV	H	12/08/09	G.A. 501/453 Universal Cable Gland

This drawing is common to IECEx BAS 06.0014X and Baseefa09ATEX0233X and is held with the former.



1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: Baseefa06ATEX0057X/4

4 Equipment or Protective System: 501/453 Universal Cable Gland

5 Manufacturer: Hawke International (A Division of Hubbell Limited)

6 Address: Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa06ATEX0057X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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Baseefa Customer Reference No. 0500

Project File No. 09/0882

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Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa

Re-issued to replace original



13

Schedule

14

Certificate Number Baseefa06ATEX0057X/4

15 **Description of the variation to the Equipment or Protective System**

Variant 4.1

To confirm that the equipment covered by this certificate has been reviewed against the requirements of EN 60079-1: 2007 in respect of the differences from the standards to which this certificate was issued; none of these differences affect this equipment.

16 **Report Number**

Baseefa Certification Report GB/BAS/ExTR09.0247/00

17 **Special Conditions for Safe Use**

None additional to those listed previously

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Issue	Date	Description
501/453 UNIV	J	10/12/09	501/453 Universal Gland - GA Drawing

The above drawing is common to, and held with, IECEx BAS 06.0014X



1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: Baseefa06ATEX0057X/5

4 Equipment or Protective System: 501/453 Universal Cable Gland

5 Manufacturer: Hawke International (A Division of Hubbell Limited)

6 Address: Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa06ATEX0057X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0500**

Project File No. **09/0338 and 10/0100**

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa

re-issued 26th August to correct standards



13

Schedule

14

Certificate Number Baseefa06ATEX0057X/5

15 Description of the variation to the Equipment or Protective System

Variant 5.1

To allow the introduction of an alternative backnut seal assembly. In addition the glands are considered to comply with the following standards and may be marked accordingly.

EN 60079-0: 2009, EN 60079-1: 2007, EN 60079-7: 2007, and EN 60079-31: 2009.

16 Report Number

Baseefa Certification Report GB/BAS/ExTR10.0287/00 held with IECEx BAS06.0013X

17 Special Conditions for Safe Use

None additional to those listed previously

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Issue	Date	Description
501/453 UNIV	K	30/06/10	501/453 Universal Gland - GA Drawing

The above drawing is common to IECEx BAS 06.0014X and Baseefa09ATEX0233X and held with IECEx BAS 06.0014X



1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3** Supplementary EC - Type Examination Certificate Number: **Baseefa06ATEX0057X/6**
- 4** Equipment or Protective System: **501/453 Universal Cable Gland**
- 5** Manufacturer: **Hawke International (A Division of Hubbell Limited)**
- 6** Address: **Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**
- 7** This supplementary certificate extends EC – Type Examination Certificate No. Baseefa06ATEX0057X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0500**

Project File No. **11/0622**

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.



R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa06ATEX0057X/6

15 Description of the variation to the Equipment or Protective System

Variant 6.1

To allow the introduction of an alternative dedicated armour clamping ring for braid screens or steel wire armour in place of the reversible armour clamping ring currently fitted.

In this form the glands would be stamped 501/453 'UNIV' 'X' or 'W' etc. depending on the type of ring fitted.

16 Report Number

Baseefa Certification Report GB/BAS/ExTR11.0199/00 held with IECEx BAS 06.0014X.

17 Special Conditions for Safe Use

None additional to those listed previously

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Issue	Date	Description
501/453 UNIV	L	16/08/11	501/453 Universal Gland - GA Drawing

The above drawing is common to IECEx BAS 06.0014X and Baseefa09ATEX0233X and is held with IECEx BAS 06.0014X



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: **Baseefa06ATEX0057X/7**

4 Equipment or Protective System: **501/453 Universal Cable Gland**

5 Manufacturer: **Hawke International (A Division of Hubbell Limited)**

6 Address: **Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa06ATEX0057X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0500**

Project File No. **11/0741 and 11/0943**

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
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pp R S SINCLAIR MPOWNEY
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa06ATEX0057X/7

15 Description of the variation to the Equipment or Protective System

Variation 7.1

To allow the replacement of the 7° armour clamping components with 5° armour clamping components on gland sizes Os, O and A.

Variation 7.2

The introduction of a range of dedicated reversible armour clamping rings in this form the UNIV stamping will be followed by DED and W, X, Y or Z to indicate the type of armour that may be fitted

16 Report Number

Baseefa Certification Report GB/BAS/ExTR 11.0274/00 held with IECEx BAS06.0013X

17 Special Conditions for Safe Use

None additional to those listed previously

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Issue	Date	Description
501/453 UNIV and DED	M	16/08/11	General arrangement 501/453 Universal Gland and Dedicated version

This drawing is common to IECEx BAS 06.0014X and Baseefa09ATEX233X and is with the former.

1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: **Baseefa06ATEX0057X/8**

4 Equipment or Protective System: **501/453 Universal Cable Glands**

5 Manufacturer: **Hawke International (A Division of Hubbell Limited)
(A Member of the Hubbell Group of Companies)**

6 Address: **Oxford Street West, Ashton-Under-Lyne, Lancashire, OL7 0NA**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa06ATEX0057X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 Item 9 of the original Certificate is replaced by "Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012 EN 60079-1:2014 EN 60079-7:2007 EN 60079-31:2014

except in respect of those requirements listed at item 18 of the Schedule."

9 The marking of the equipment has not changed from the original Certificate.

This certificate shall be held with the original certificate.

Baseefa Customer Reference No. **0500**

Project File No. **14/0889**

This document is issued by the Company subject to its General Conditions for Certification Services accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and the Supplementary Terms and Conditions accessible at <http://www.baseefa.com/terms-and-conditions.asp>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. It does not necessarily indicate that the equipment may be used in particular industries or circumstances. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, schedule included, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Baseefa Limited

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ

Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601

e-mail info@baseefa.com web site www.baseefa.com

Registered in England No. 4305578.

Registered address: Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN

PP M. Sinclair
R S SINCLAIR

GENERAL MANAGER

On behalf of SGS Baseefa Limited

13

Schedule

14

Certificate Number Baseefa06ATEX0057X/8

15

Description of the variation to the Equipment or Protective System

Variation 8.1

The 501/453 Universal glands as listed on the certificate are considered to comply with the latest standards: EN 60079-0:2012, EN 60079-1:2014, EN 60079-7:2007 and EN 60079-31:2014.

16

Report Number

SGS Baseefa Report Number GB/BAS/ExTR14.0367/00 held with IECEx BAS 06.0013X.

17

Specific Conditions of Use

None additional to those listed previously

18

Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19

Drawings and Documents

None



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx BAS 06.0013X issue No.: 9

Status: **Current**

Date of Issue: **2015-01-07** Page 1 of 4

Applicant: **Hawke International**
A Division of Hubbell Ltd.
A member of the Hubbell Group of Companies
Oxford Street West, Ashton-under-Lyne
Lancashire, OL7 0NA
United Kingdom

Certificate history:

Issue No. 9 (2015-1-7)
Issue No. 8 (2013-10-22)
Issue No. 7 (2012-11-2)
Issue No. 6 (2012-3-14)
Issue No. 5 (2011-6-21)
Issue No. 4 (2009-9-17)
Issue No. 3 (2008-10-1)
Issue No. 2 (2007-4-26)

Electrical Apparatus: **A Range of Compression Type Cable Glands,**
Optional accessory:

Type of Protection: **Ex d, Ex e, Ex tb**

Marking: **Ex d IIC Ex e IIC Gb**
Ex tb IIIC Db IP66
(- 60°C ≤ta ≤+ 100°C) see schedule

Approved for issue on behalf of the IECEx Certification Body: R S Sinclair

Position: General Manager

Signature:
(for printed version)

Date:


20/1/15

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

SGS Baseefa Limited
Rockhead Business Park
Staden Lane
Buxton
Derbyshire
SK17 9RZ
United Kingdom





IECEx Certificate of Conformity

Certificate No.: IECEx BAS 06.0013X

Date of Issue: 2015-01-07

Issue No.: 9

Page 2 of 4

Manufacturer: **Hawke International**
A Division of Hubbell Ltd.
A member of the Hubbell Group of Companies
Oxford Street West
Ashton-under-Lyne
Lancashire
OL7 0NA
United Kingdom

Additional Manufacturing location
(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2014-06 Edition: 7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2013 Edition: 2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

GB/BAS/ExTR06.0011/00
GB/BAS/ExTR10.0287/00
GB/BAS/ExTR13.0242/00

GB/BAS/ExTR08.0173/00
GB/BAS/ExTR11.0274/00
GB/BAS/ExTR14.0367/00

GB/BAS/ExTR09.0165/00
GB/BAS/ExTR12.0144/00

Quality Assessment Report:

GB/BAS/QAR06.0061/04



IECEx Certificate of Conformity

Certificate No.: IECEx BAS 06.0013X

Date of Issue: 2015-01-07

Issue No.: 9

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

A range of compression type cable glands manufactured in brass, stainless steel or aluminium. The glands may be supplied with metric or specified non-metric equivalent thread forms. These glands are intended for use with effectively filled circular cables. The cable type and/or cable protection/retention method is specific to each gland type designation – see annex for detail.

CONDITIONS OF CERTIFICATION: YES as shown below:

1. Except for PSG glands, all glands are suitable for use within an operating temperature range of -60°C to +100°C. The PSG range of glands are limited to an operating temperature range of -60°C to +80°C.
2. When the glands are used for increased safety or dust protection the entry thread shall be suitably sealed (in accordance with IEC 60079-14) to maintain the ingress protection rating of the associated enclosure.
3. Except for the 501/421R glands, all glands for use with conduit, unarmoured or braided cables are only suitable for fixed installations, the cable for which must be effectively clamped to prevent pulling and twisting.
4. The type 8430-501/453 J M100 gland as per variation 2.1 may only be used for fixed cable installations of group II equipment. The user shall ensure that the cable is effectively clamped to prevent pulling and twisting.
5. When used in accordance with variation 8.1 the types 501/421 and 501/423 cable glands, with the exception of the type 501/421R, are only suitable for fixed applications and the cable must be effectively clamped and cleated to prevent pulling and twisting. The type 501/421/R has an integral clamping arrangement which precludes the requirement of this specific condition of use.
6. When used in accordance with variation 8.2 the types 501/453 RAC cable glands are only suitable for fixed applications and the cable must be effectively clamped and cleated to prevent pulling and twisting.



IECEx Certificate of Conformity

Certificate No.: IECEx BAS 06.0013X

Date of Issue: 2015-01-07

Issue No.: 9

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Variation 9.1

The range of glands with compression seals as listed on the certificate are considered to comply with the latest editions of the standards IEC 60079-0:2011 Edition 6, IEC 60079-1:2014 Edition 7, IEC 60079-7:2006 Edition 4 and IEC 60079-31:2013 Edition 2 together with clarification of the Specific Conditions for Safe Use.

ExTR: GB/BAS/ExTR14.0367/00

File Reference: 14/0889

Each of the following gland types may be manufactured in brass, stainless steel or aluminium and may be supplied with specified alternative entry thread forms.

Variant 0.1 TYPE 501/421 CABLE GLAND

The Type 501/421 Cable Gland is intended for use with an effectively filled and circular unarmoured cable and comprises the following components :-

- a. An entry component, in the size range Os to J (M16 to M100)
- b. A compressible sealing ring
- c. A compression spigot
- d. A back nut
- e. An optional earth continuity device for use with metallic sheathed cables

Variant 0.1.1 Type 501/421 Size 2K Variant

The Type 501/421 'Size 2K' gland comprises the following components only :-

- a. A dedicated entry component (M16)
- b. A compressible sealing ring
- c. A nylon skid washer
- d. A threaded compression spigot

Variant 0.2 TYPE 501/423 CABLE GLAND

The Type 501/423 Cable Gland is intended for use with an effectively filled and circular unarmoured cable and comprises the following components :-

- a. An entry component, in the size range Os to J (M16 to M100)
- b. Two compressible sealing rings
- c. Two compression spigots
- d. A middle nut
- e. A back nut
- f. An optional earth continuity device for use with metallic sheathed cables

Variant 0.3 TYPE 501/453 RAC CABLE GLAND

The Type 501/453 RAC Cable Gland is intended for use with an effectively filled and circular armoured or braided cable and comprises the following components :-

- a. An entry component, in the size range Os to F (M16 to M75)
- b. A compressible sealing ring
- c. A combined compression spigot and armour clamping cone
- d. A reversible armour clamping ring
- e. A middle nut
- f. An outer seal assembly (sleeve seal and support ring)
- g. A back nut
- h. An optional earth continuity device for use with metallic inner sheathed cables

Variant 0.4 TYPE 501/453 CABLE GLAND

The Type 501/453 Cable Gland is intended for use with an effectively filled and circular armoured or braided cable and comprises the following components :-

- a. An entry component, in the size range Os to J (M16 to M100)
- b. A compressible sealing ring
- c. A combined compression spigot and armour clamping cone
- d. A dedicated armour, or braid, clamping ring
- e. A middle nut
- f. An outer seal assembly (sleeve seal and support ring [Os-F] or compression ring [G-J])
- g. A back nut
- h. An optional earth continuity device for use with metallic inner sheathed cables

Variant 0.5 TYPE PSG 553 RAC CABLE GLAND

The Type PSG 553 RAC Cable Gland is intended for use with a circular armoured or braided cable of unspecified construction, and comprises the following components :-

- a. An entry component, in the size range A to C (M20 to M32)
- b. A compressible seal, punched to accept a number of individual conductors
- c. A combined compression spigot and armour clamping cone
- d. A reversible armour clamping ring
- e. A middle nut
- f. An outer seal assembly (sleeve seal and support ring)
- g. A back nut

Variant 0.6 TYPE PSG 553 CABLE GLAND

The Type PSG 553 Cable Gland is intended for use with a circular armoured or braided cable of unspecified construction, and comprises the following components :-

- a. An entry component, in the size range A to C (M20 to M32)
- b. A compressible seal, punched to accept a number of individual conductors
- c. A combined compression spigot and armour clamping cone
- d. A dedicated armour, or braid, clamping ring
- e. A middle nut
- f. An outer seal assembly (sleeve seal and support ring)
- g. A back nut

Variant 0.7 TYPE 501/414 CONDUIT STOPPING GLAND

The Type 501/414 Conduit Stopping Gland is intended for use with an effectively filled and circular unarmoured cable enclosed within a conduit and comprises the following components :-

- a. An entry component, in the size range A to F (M20 to M75)
- b. A compressible sealing ring
- c. A compression assembly comprising a compression spigot with a female thread at the rear and integral back nut

Variant 0.8 TYPE SB474 CONDUIT STOPPING GLAND

The Type SB474 Conduit Stopping Gland is intended for use with a number of circular conductors enclosed within a conduit and comprises the following components :-

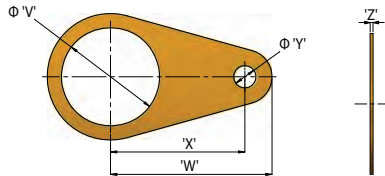
- a. An entry component, in the size range A to C (M20 to M32)
- b. A compressible seal, punched to accept a number of individual conductors
- c. A compression assembly comprising a compression spigot with a female thread at the rear and integral back nut

Variant 0.9 TYPE 501/452 RAC CABLE GLAND

The Type 501/452 RAC Cable Gland is intended for use with an effectively filled and circular armoured or braided cable and comprises the following components :-

- a. An entry component, in the size range Os to F (M16 to M75)
- b. A compressible sealing ring
- c. A combined compression spigot and armour clamping cone
- d. A reversible armour clamping ring
- e. A back nut
- f. An optional earth continuity device for use with metallic inner sheathed cables

Earth Tags



SELECTION TABLE

Metric Gland Size 'V'	'Y'	'W'	'X'	'Z'
M20	7.0	39.6	33.1	1.6
M25	10.5	45.5	36.5	1.6
M32	12.2	52.0	40.9	1.6
M40	13.6	59.6	44.2	1.6
M50	13.5	78.9	58.1	1.6
M63	13.5	87.6	66.8	1.6
M75	13.5	93.7	72.9	1.6
M80	14.0	128.0	104.0	3.0
M90	14.0	128.0	104.0	3.0
M100	14.0	128.0	104.0	3.0

All dimensions in millimetres.

Application

- Provides an earth bond attachment for a cable gland.

Features

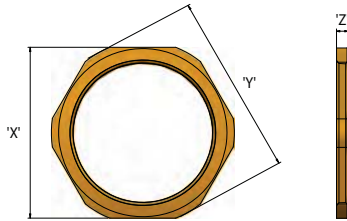
- Manufactured in Brass (standard).
- Stainless Steel earthtags are available, but dimensions may differ slightly to those stated in the selection table. Please contact Hawke Technical Sales for details.

Ordering Information

Format for ordering is as follows:

Type	Size / Thread
Earthtag	M25

Locknut



SELECTION TABLE

Metric x 1.5mm Pitch				NPT			
Metric Gland Size	Across Flats 'X'	Across Corners 'Y'	'Z'	NPT * Gland Size	Across Flats 'X'	Across Corners 'Y'	'Z'
M16	19.0	21.9	3.2	-	-	-	-
M20	24.0	26.9	4.0	½"	30.0	33.6	4.7
M20	24.0	26.9	4.0	¾"	30.0	33.6	4.7
M25	30.0	33.6	4.0	1"	36.0	40.3	6.4
M32	46.0	53.1	4.0	1¼"	46.0	53.1	6.4
M40	46.0	53.1	4.8	1½"	55.0	61.6	6.4
M50	65.0	72.8	4.7	2"	65.0	72.8	6.4
M63	80.0	89.6	6.4	2½"	80.0	89.6	6.4
M75	95.0	107.0	6.4	3"	95.0	107.0	6.4
M80 ¹	106.4	119.2	10.0	3½"	127.0	143.0	9.0
M90 ¹	106.4	119.2	10.0	3½"	127.0	143.0	9.0
M100 ¹	127.0	142.2	10.0	4"	139.7	158.0	9.0

All dimensions in millimetres (except * where dimensions are in inches).

Application

- Secures a cable gland in position at the equipment.

Features

- Heavy duty locknuts manufactured in Brass (standard).
- Stainless Steel locknuts are available, but dimensions may differ slightly to those stated in the selection table. Please contact Hawke Technical department for details.

Ordering Information

Format for ordering is as follows:

Type	Size / Thread
Locknut	M25

Light Fitting & Light Switch Certificates Manual/Heater

Explosionsgeschützte Leuchten
Serie: eLLK 92, eLLS 08, eLLM 92

Explosion protected light fittings
Series: eLLK 92, eLLS 08, eLLM 92

Luminaires pour atmosphères explosives
Série: eLLK 92, eLLS 08, eLLM 92

3 2216 000 165 (N)



Betriebsanleitung
Operating instructions
Mode d'emploi

COOPER Crouse-Hinds

CZ: "Tento návod k použití ať můžete vyžádat ve svém mateřském jazyce u příslušného zastoupení společnosti Cooper Crouse-Hinds/CEAG ve vaší zemi."

DK: "Montagevejledningen kan oversættes til andre EU-sprog og rekvireres hos Denes Cooper Crouse-Hinds/CEAG leverandør."

E: "En caso necesario podrá solicitar de su representante Cooper Crouse-Hinds/CEAG estas instrucciones de servicio en otro idioma de la Unión Europea."

EST: "Seda kasutusjuhendi oma riigikeeles võite küsida oma riigi asuvas osakonnasest Cooper Crouse-Hinds/CEAG esindusest."

FIN: "Tarvittaessa tämän käyttöohjeen käännös on saatavissa toisella EU:n kielellä Teidän Cooper Crouse-Hinds/CEAG -edustajaltanne."

GR: "Εάν χρειάζεστε, μετά από την οδηγία των χωρών ως ατ άλλης γλώσσας της ΕΕ, μπορεί να ζητήσετε από τον Αντιπρόσωπο της Cooper Crouse-Hinds/CEAG."

H: "A kezelési útmutatót az adott ország nyelvén a Cooper Crouse-Hinds/CEAG cég helyi képviselőitől igényelheti meg."

I: "Se desiderate la traduzione del manuale operativo in un'altra lingua della Comunità Europea potete richiederla al vostro rappresentante Cooper Crouse-Hinds/CEAG."

LT: "Šios naudojimo instrukcijos, išverstos į Jūsų gimtąją kalbą, galite pareikšti atskirai prie "Cooper Crouse-Hinds/CEAG" atstovybės savo šalyje."

LV: "Šo ekspluatācijas instrukciju valsts valodā varat pieprasīt jūsu valsts atbildīgajā Cooper Crouse-Hinds/CEAG pārstāvniecībā."

M: "Jistghu jiltohu dan il-maniwal fil-lingwa nazzjonali tagħhom mingħand ir-rappreżentant ta' Cooper Crouse-Hinds/CEAG f'pajjiżhom."

NL: "Indien noodzakelijk kan de vertaling van deze gebruiksinstructie in een andere EU-taal worden opgevraagd bij Uw Cooper Crouse-Hinds/CEAG - vertegenwoordiging."

P: "Se for necessária a tradução destas instruções de operação para outro idioma da União Europeia, pode solicitá-la junto do seu representante Cooper Crouse-Hinds/CEAG."

PL: "Niniejsze instrukcje obsługi w odpowiedniej wersji językowej można zamówić w przedstawicielstwie firmy Cooper Crouse-Hinds/CEAG na dany kraj."

S: "En översättning av denna montage- och skötselinstruktion till annat EU-språk kan vid behov beställas från Er Cooper Crouse-Hinds/CEAG-representant."

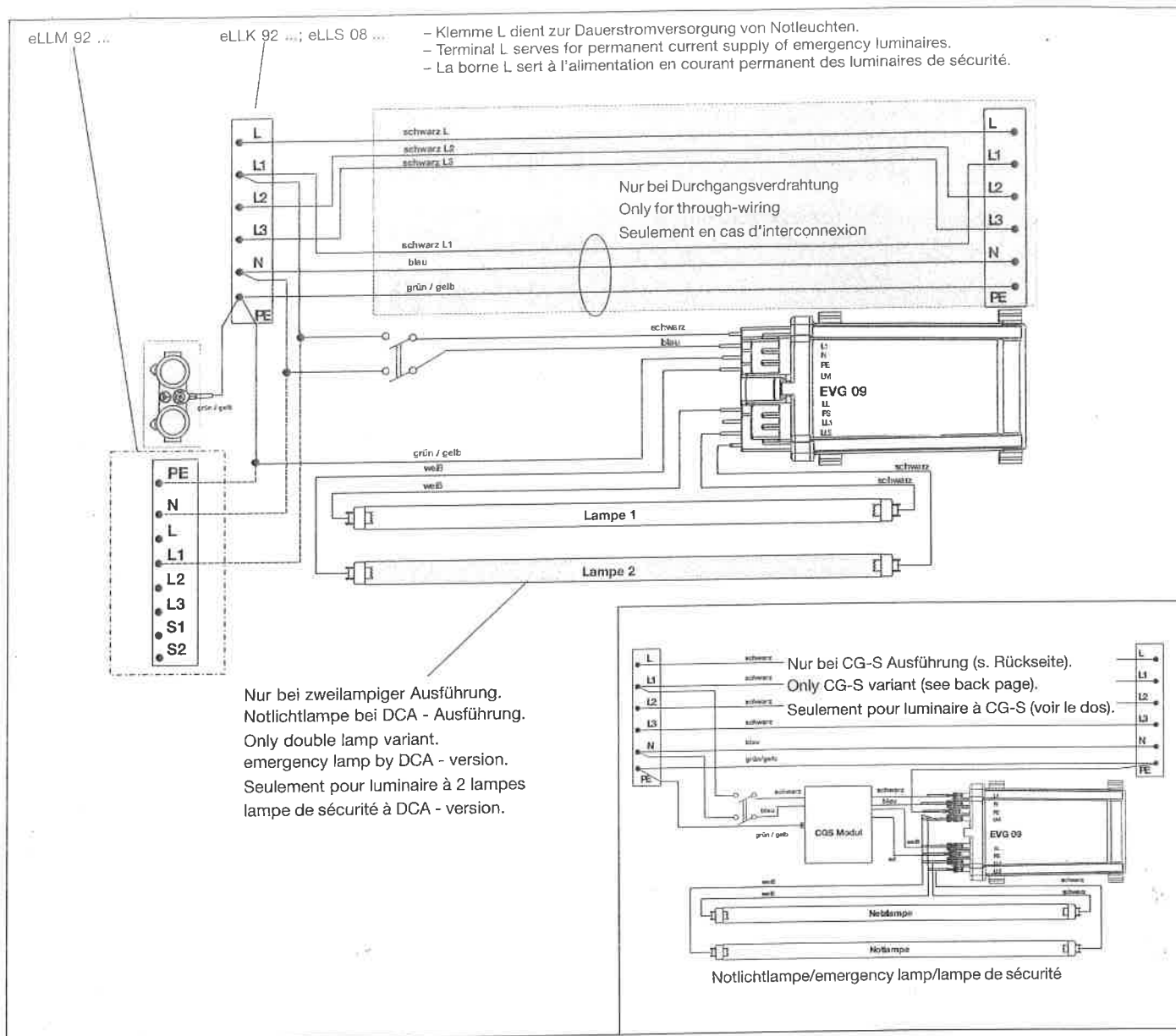
SK: "Tento návod na obsluhu Vám vo Vašom rodnom jazyku poskytne zastupiteľ spoločnosti Cooper Crouse-Hinds/CEAG vo Vašej krajine."

SLO: "Navodila za uporabo v Vašem jeziku lahko zahtevate pri pristojnem zastopništvu podjetja Cooper Crouse-Hinds/CEAG v Vaši državi."

COOPER Crouse-Hinds GmbH

Neuer Weg - Nord 49
D 69412 Eberbach / Germany
Fone +49 (0) 6271/806 - 500
Fax +49 (0) 6271/806 - 476
Internet: <http://www.CEAG.de>
E-Mail: sales.cch.de@cooperindustries.com

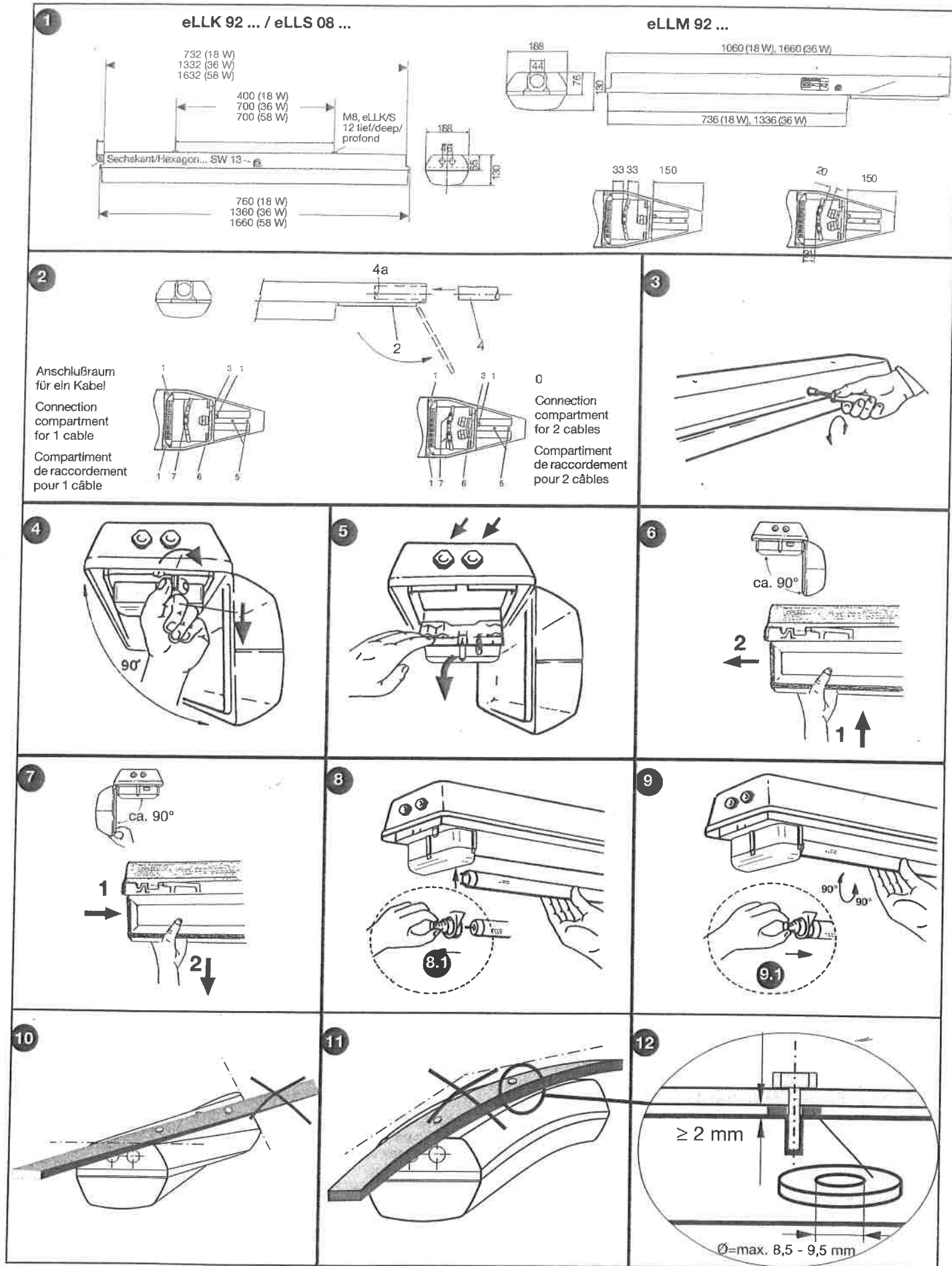
eLLK/M 92... ; eLLS 08...(18W, 36W, 58W)



Elektrische Daten/Electrical data/Caractéristiques électriques:

Ausführung/Version/Modèle		2x18W	1x36W	2x36W	1x58W	2x58W
Bemessungsspannung AC /rated voltage range AC/ Gamme des tensions CA	1) 1)	110-254 V	110-254 V	110-254 V	220-254 V	220-254 V
CG-S Ausführung/CG-S version AC /CG-S version CA	1)	220-254 V	-	220-254 V	-	220-254 V
DCA Ausführung/DCA version/DCA version	1)	110-254 V	-	110-254 V	-	-
Bemessungsfrequenz/rated frequency Gamme des fréquences		50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz	50-60 Hz
Bemessungsspannung DC /rated voltage DC/ Gamme des tensions CC	1) 1)	110-250 V	110-250 V	110-250 V	195-250 V	195-250 V
CG-S Ausführung/CG-S version AC /CG-S version CA	1)	195-250 V	-	195-250 V	-	195-250 V
DCA Ausführung/DCA version/DCA version	1)	195-250 V	-	195-250 V	-	-
Bemessungsstrom in/A bei: 110V AC/DC		0,38	0,38	0,70	0,55	-
Rated current/A at: 127V AC/DC		0,32	0,32	0,61	0,48	-
Courant nom. en A avec: 196V AC/DC						0,61
230V AC/DC		0,18	0,18	0,34	0,27	0,53
254V AC/DC		0,16	0,16	0,31	0,25	0,48

1) zulässige Toleranzen gemäß IEC/EN 60079-0/max. permissible tolerances accd. IEC/EN 60079-0/Tolerances admissibles selon IEC/EN 60079-0: ± 10 %



1. Sicherheitshinweise:



Zielgruppe:

Elektrofachkräfte und unterwiesene Personen.

- Die Leuchte darf nicht in den Zonen 0 und 20 eingesetzt werden!
- Das Betriebsmittel darf nicht bei Staubablagerungen übermäßiger Dicke (gem. EN 60079-31) betrieben werden.
- Die auf der Leuchte angegebenen technischen Daten sind zu beachten!
- Umbauten oder Veränderungen an der Leuchte sind nicht zulässig!
- Die Leuchte ist bestimmungsgemäß in unbeschädigtem und einwandfreiem Zustand zu betreiben!
- Als Ersatz dürfen nur Originalteile von Cooper Crouse-Hinds (CCH)/CEAG verwendet werden!
- Reparaturen, die den Explosionsschutz betreffen, dürfen nur von CCH/CEAG oder einer qualifizierten „Elektrofachkraft“ durchgeführt werden!
- Lassen Sie diese Betriebsanleitung während des Betriebes nicht in der Leuchte!

Beachten Sie die nationalen Unfallverhütungs- und Sicherheitsvorschriften und die nachfolgenden Sicherheitshinweise, die in dieser Betriebsanleitung mit einem () gekennzeichnet sind!

2. Technische Daten

EG-Baumusterprüfbescheinigung: BVS 09 ATEX E 034
Kennzeichnung nach 94/9/EG und Norm:
eLLK/M; eLLS; DCA  II 2 G Ex d e IIC T4 Gb
eLLK CGS  II 2 G Ex d e mb IIC T4 Gb
 II 2 D Ex tb IIC T80°C Db IP66
IEC Ex Prüfbescheinigung: IEC Ex BVS 09 .0033
Kennzeichnung nach IEC Ex:
eLLK/M; eLLS; DCA Ex d e IIC T4 Gb
eLLK CGS Ex d e mb IIC T4 Gb
Ex tb IIC T80°C Db IP66

Schutzklasse EN 61140: I
Schutzart nach EN 60529: IP66
zulässige Umgebungstemperatur ¹⁾
eLL 92 ... U_N>220 V -25 °C bis +55 °C
eLL 92 ...2 U_N<220 V -25 °C bis +50 °C
eLL 92 2x58 W -25 °C bis +40 °C
Lagertemperatur in der Originalverpackung: -25 °C bis +60 °C
Klemmvermögen Anschlußklemme 2x je Klemme: einadrig mehradrig
min.: 1,5 mm² 1,5 mm²
max.: 6,0 mm² 6,0 mm²
Leiterquerschnitt bei Durchgangsverdrahtung: 2,5 mm² für max. 16 A
Ex e-Kabel- und Leitungseinführung
Standardausführung: M25x1,5 für Leitungen
Ø 8 bis 17 mm
M20x1,5 Gewinde
Metall:
Prüfdrehmoment für Ex-e-Kabel- und Leitungseinführung M25x1,5: 5,0 Nm
Prüfdrehmoment für Druck-schraube: 3,5 Nm
(für Abdichtung Leitung oder Verschlussstopfen)

¹⁾ Intensive Sonneneinstrahlung in Regionen mit hohen Umgebungstemperaturen kann im Leuchteninneren zu unzulässig hohen Erwärmungen führen. Eine Reduzierung der Lebensdauer des EVGs kann eine Folge hiervon sein. Zur Vermeidung sollten in diesen Regionen tagsüber die Leuchten über einen Lichtsensor geschaltet werden.

3. Normenkonformität

Diese Leuchte ist zum Einsatz in explosionsgefährdeten Bereichen der Zone 1, 2, 21 und 22 gemäß EN 60079-10, EN 60079-14 und EN 60079-31 geeignet.
Die Mastleuchte eLLM92 ist nur in der Variante mit Kunststoffleuchtengehäuse erhältlich.
Das eingebaute EVG erfüllt die Anforderungen der IEC 60079-7 -4 Ausgabe (EOL) und den Anforderungen der IEC 61347-2-3 (§17.2 und §17.3).
Die Leuchte wurde entsprechend dem Stand der Technik und gemäß DIN EN ISO 9001:2000 und IEC 80079-34:2011 entwickelt, gefertigt und geprüft.
Die Leuchte entspricht den aufgeführten Normen in der Konformitätserklärung.

4. Installation

 Halten Sie die nationalen Bestimmungen für das Errichten und Betreiben von explosionsschutzgeschützten elektrischen Betriebsmitteln ein und wenden Sie den Stand der Technik an!
Transport und Lagerung der Leuchte ist nur in Originalverpackung und angegebener Lage gestattet!

4.1 Montage:

siehe Bild 1
 Achten sie auf die plane Anbringung der Leuchte zur Sicherstellung der Schutzart, siehe Bild 10-12! Beachten Sie beim Befestigen des Montagezubehörs an der Leuchte die max. Gewindetiefe der Montagebohrung von 12 mm! Verwenden Sie keine zu langen Schrauben!
 Achtung!
Zeigt der Lichtaustritt nach oben, sind zusätzliche Schutzmaßnahmen gegen dauerhafte Wasseransammlungen im Bereich der Wannendichtung zu treffen.

Hinweis:

Bei Montage der Leuchte mit Neigung um die Längsachse (z.B.: Geländer-Montage), wird empfohlen die Abdeckung des Zentralverschlusses gegen die Version mit der Ident-Nr. 22216904000 zu tauschen.

Montagezubehör:

siehe CCH/CEAG-Katalog.

4.2 Öffnen und Schließen der Leuchte

- Den Zentralverschluß mit Steckschlüssel (Schlüsselweite SW 13) um 90° bis zur Raststellung drehen und Schutzwanne abklappen, siehe Bild 3.

Achtung:

Bei Verwendung von ungeeignetem Werkzeug ist ein kraftschlüssiges Drehen des Zentralverschlusses nicht gewährleistet. Dieser wird dadurch beschädigt.

- Schutzwanne ein- und ausbauen, siehe Bild 6 und 7.
- Die Schutzwanne ist wahlweise beidseitig scharnierbar.
- Schutzwanne zum Verschließen der Leuchte fest an das Leuchtengehäuse andrücken und den Zentralverschluß um 90° drehen.

4.3 Netzanschluss

Zum Öffnen des Anschlußraumes grünen Drehgriff in Pfeilrichtung bis zum Anschlag drehen, dann ziehen und die Klappe abklappen, siehe Bild 4 und 5.

Für den Netzanschluss Leitungen mit Kupferadern verwenden.

- Führen Sie die Leitung durch die Ex-Kabel- und Leitungseinführung ein, siehe Bild 5. Verwenden Sie für Leitungen von 8 bis 12 mm beide Dichtungseinsätze, von 12 bis 17 mm nur den äußeren Dichtungseinsatz.
- Achten Sie auf korrekten Sitz des verbleibenden Dichtungseinsatzes in der Verschraubung.
- Klemmen Sie die Leitungen an den Anschlußklemmen PE, N, L1, (L, L2, L3) gemäß Klemmenbezeichnung an (siehe Schaltplan, Seite 2).
- Bei Einfachbelegung der Klemmen kein Umbiegen (Schlaufe) der Adern notwendig! Ziehen Sie auch nicht benutzte Klemmen an!
- Bei Verwendung von mehr- oder feindrähtigen Anschlussleitungen sind die Aderenden mit geeigneten Adernendhülsen oder Kabelschuhen zu versehen.

Achtung:

 Bei nicht benutzten Kabel- und Leitungseinführungen ist die Schutzscheibe zu entfernen und durch einen Verschlussstopfen (Drehmoment 3,5 Nm) zu verschließen.

Beim Verschließen mit einem Verschlussstopfen stets beide Dichtungseinsätze verwenden!

Bei Metallgewinden sind die gelben Schutzkappen der nicht benutzten Einführungen zu entfernen und durch bescheinigte Ex-Verschlussstopfen (min. IP 65) zu verschließen!

4.3.1 Installation eLLM 92 ...

Die Montage und Installation der Mastleuchte erfolgt in folgender Reihenfolge:

- Lösen Sie die drei Kreuzschlitzschrauben im Deckel des Mastanschlußraumes, siehe Bild 2, Pos.1.
- Anschlußraum öffnen, indem Sie den Deckel abklappen, siehe Bild 2, Pos. 2.
- Verriegelungsbügel des Kabel- und Leitungseinführungsstutzens bis zum Anschlag hochziehen und Abdeckplatte abnehmen, siehe Bild 2, Pos. 3.
- Kabel- und Leitungseinführungstutzen aus den Führungsnuten im Anschlußraum entnehmen.
- Mastrohr oder das Rohr des Wandarmes von jeweils (Ø 42 mm (Bild 2, Pos. 4) bis zum Anschlag in die Öffnung der Mastleuchte einführen, siehe Bild 2, Pos. 4a.
- Leuchte ausrichten und die vormontierten Spezialschrauben M6 anziehen, Drehmoment 3,0 Nm, siehe Bild 2, Pos. 5.
- Die Leitung durch das Rohr einführen und auf die entsprechende Länge abisolieren.
- Die Leitung durch die Ex-Kabel- und Leitungseinführung (KLE) einführen und mit der Druckschraube der KLE die Leitung anziehen (Drehmoment 3,5 Nm).

- Den kompletten Träger (mit eingeführter Leitung) in die Führungsnuten der Mastleuchte einsetzen, siehe Bild 2, Pos. 6.
- Den Träger mit dem Verriegelungsbügel verschließen, siehe Bild 2, Pos. 3.
- Die Leitung in die Zugentlastung legen und anziehen, siehe Bild 2, Pos. 7.
- Dann die Leitung entsprechend der Klemmenbezeichnung anschließen.

4.4 Einsetzen der Lampe

Beachten Sie die Sicherheitshinweise der Lampenhersteller!

⚠ Verwenden Sie nur solche Lampen, die für diese Leuchten zugelassen sind, siehe technische Daten und Typenschild! T12-Lampen (Ø 38 mm) werden von der EOL-Schaltung als fehlerhaft erkannt und abgeschaltet!

Leuchten mit T12-Lampen (Ø 38 mm) sind mechanisch geschützt zu installieren und entsprechend gekennzeichnet.

4.4.1 Einstiftsockellampe (Fa6)

Lampe erst auf der einen Seite in die Fassung stecken. Danach die gegenüberliegende Fassung etwas nach außen ziehen und die Lampe einstecken, siehe Bild 8.1 und 9.1.

4.4.2 Zweistiftsockellampe (G13)

Lampe in beide Fassungen bis zum Anschlag einstecken, siehe Bild 8, so daß an jeder Seite der Lampe beide Stifte im Eingriff der Fassung sind.

Danach die Lampe um 90° in Raststellung drehen, siehe Bild 9, wobei die grüne Fläche in der Fassung sichtbar wird. Die Lampe ist nun gegen Herausfallen gesichert.

5. Inbetriebnahme

Überprüfen Sie vor der Inbetriebnahme die korrekte Funktion und Installation der Leuchte in Übereinstimmung mit dieser Betriebsanleitung und anderen zutreffenden Bestimmungen!

Führen Sie Isolationsmessungen nur zwischen PE und Außenleiter L1 (L, L2, L3) sowie zwischen PE und N durch!

- **Messspannung: max. 1kV DC**

- **Messstrom: max. 10 mA**

Danach ist die Leuchte zu verschließen. Bei der Mastleuchte (eLLM 92...) ist der Anschlußraum durch die vorher entfernte Abdeckplatte wieder abzudecken.

Hierzu Verriegelungsbügel des Kabel- und Leitungseinführungsstützens hochziehen (Bild 2, Pos. 3) und die Abdeckplatte sowie den Kabel- und Leitungseinführungsstützen mit dem Verriegelungsbügel festklemmen. Mit den drei Keuzschlitzschrauben den Deckel des Anschlußraumes wieder verschließen.

6. Instandhaltung

⚠ Halten Sie die für die Instandhaltung, Wartung und Prüfung von explosionsgeschützten Betriebsmitteln geltenden Bestimmungen z.B. EN/IEC 60079-17 ein!

6.1 Wartung:

Im Rahmen der Wartung sind vor allem die Teile, von denen die Zündschutzart abhängt, zu prüfen z.B.:

- Gehäuse und Schutzwannen auf Risse und Beschädigungen.
 - Dichtungen auf Beschädigungen.
 - Klemmen und Verschlussstopfen auf festen Sitz.
 - Wegen der Gefahr elektrostatischer Aufladung darf die Leuchte nur mit einem feuchten, nicht fasernden Tuch oder Schwamm gereinigt werden!
- Benutzen Sie dazu nur übliche Haushalts-spülmittel in Verdünnung mit Wasser! Die Wassertemperatur darf maximal 50°C betragen.
- Spülen Sie anschließend mit klarem Wasser nach, da sonst Spannungsrisse in der Schutzwanne entstehen können!

6.2 Lampenwechsel

- Beachten Sie für den Lampenwechsel die Wechselintervalle gemäß Vorgabe der Lampenhersteller!
- Ein Lampenwechsel kann ohne Freischalten vom Netz durchgeführt werden, da die Fassungen beim Öffnen der Schutzwanne durch einen allpoligen Trennschalter spannungsfrei geschaltet werden. Beachten Sie jedoch, dass nationale Vorschriften oder lokale Anwendungsrichtlinien hiervon abweichend sein können!

7 Instandsetzung

Vor dem Austausch oder der Demontage von Einzelteilen ist folgendes zu beachten:

⚠ Schalten Sie das Betriebsmittel vor dem Öffnen oder vor Instandhaltungsarbeiten erst spannungsfrei!

Verwenden Sie nur zugelassene CCH/CEAG Originalersatzteile (siehe CCH/CEAG Ersatzteilliste)!

Programmänderungen und -ergänzungen sind vorbehalten.

Bei der Entsorgung nationale Abfallbeseitigungsvorschriften beachten! Die Kunststoffmaterialien sind mit Materialkennzeichnungen versehen.

1. Safety instructions



For skilled electricians and instructed personnel in accordance with national legislation, including the relevant standards and, where applicable, in acc. with IEC 60079-17 on electrical apparatus for explosive atmospheres.

- The light fitting must not be operated in zone 0 and 20 hazardous areas!
- The light fitting must not be used while excessive deposit of dust (accd. IEC/EN 60079-31) exist.
- The technical data indicated on the light fitting are to be observed!
- Changes of the design and modifications to the light fitting are not permitted!
- The light fitting shall be operated as intended and only in undamaged and perfect condition!
- Only genuine Cooper Crouse-Hinds (CCH)/CEAG spare parts may be used for replacement!
- Repairs that affect the explosion protection (see national standard), may only be carried out by CCH/CEAG or a qualified "electrician"!
- Do not keep these operating instructions inside the light fitting during operation!

The national safety rules and regulations for prevention of accidents and the following safety instructions which are marked with an (⚠) in these operating instruction, will have to be observed!

2. Technical data

EC type examination certificate:	BVS 09 ATEX E 034
Category of application:	eLLK/M; eLLS; DCA
eLLK CGS	Ex II 2 G Ex d e IIC T4 Gb
	Ex II 2 G Ex d e mb IIC T4 Gb
	Ex II 2 D Ex tb IIC T80°C Db IP66
IECEX Certification of Conformity:	IECEX BVS 09.0033
Type of protection IEC Ex:	Ex d e IIC T4 Gb
eLLK/M; eLLS; DCA	Ex d e mb IIC T4 Gb
eLLK CGS	Ex tb IIC T80°C Db IP66

Insulation class	
accd. to EN 60 598:	I
Degree of protection	
accd. to en 60529	IP66
Permissible ambient temperatures ¹⁾	
eLL 92 ... U _N >220 V	-25 °C to +55 °C
eLL 92 ... U _N <220 V	-25 °C to +50 °C
eLL 92 2x58 W	-25 °C to +40 °C
storage temperature in original packing:	-25 °C to +60 °C
Supply terminal clamping capacity	
2 x per terminal:	single-wire multi-wire
min.	1.5 mm ² 1.5 mm ²
max.	6.0 mm ² 6.0 mm ²
Conductor cross-section with through-wiring:	2.5 mm ² for max. 16 A
Ex-e cable entry standard version:	M25x1.5 for cable Ø (8 to 17 mm)
metal thread:	M20x1.5
Test torque for cable entry	
M 25 x 1.5 Ex-e:	5.0 Nm
Test torque for pressure screw:	3.5 Nm (for sealing off the cable or the blanking plug)

¹⁾ Intensive sun radiation in areas of high ambient temperatures may cause inadmissible temperature rise inside of the luminaire. This may result a decrease in lifetime of the electronic ballast (EVG). Therefore those luminaires should be switched off during daytime by a photocell control.

3. Conformity with standards

The light fitting is suitable for use in zone 1, 21, 2 and 22 hazardous areas acc. to IEC/EN 60079-10, IEC/EN 60079-14 and IEC/EN 60079-31.

The built-in EVG fulfills the requirements of the draft IEC 60079-7 Ed. 4 (EOL) and the IEC 61347-2-3 (§17.2 and §17.3).

It has been designed, manufactured and tested according to the state of the art and according to DIN EN ISO 9001: 2000 and IEC 80079-34:2011.

The light fitting is conform to the standards specified in the EC-Declaration of conformity.

4. Installation

⚠ The respective national regulations as well as the general rules of engineering which apply to the installation and operation of explosion protected apparatus will have to be observed! Transport and storage of the luminaire is permitted in original packing and specified position only!

4.1 Mounting

see fig. 1

⚠ The integrity of the fitting may be compromised if the fixing centres are not correctly aligned, see fig. 10-12. When fixing the mounting accessories onto the light fitting, observe the max. depth of thread of 12 mm!

Do not use too long screws!

⚠ Installing the light output upwards additional protection has to be assembled to avoid permanent water accumulations at the protective bowl gasket area.

⚠ Mind:

For handrail mounting (e.g. mounted at 45°) we recommend replacing the existing cover of the locking bolt with the version part no 22216904000.

Accessories for mounting:

See CCH/CEAG catalogue.

4.2 Opening and closing the light fitting

- Turn the central locking device with a box spanner (opening of the spanner SW 13) through 90° to its lock-in position and fold down the protective bowl, see fig. 3.

⚠ Caution :

If unsuitable tools are used, a strong tightening of the central locking system is not guaranteed and it will be damaged.

- Fit in and remove the protective bowl acc. to fig. 6 and 7.
- The protective bowl can, at option, be hinged on either side.
- To close the light fitting, press the protective bowl tightly onto the luminaire housing and turn the central locking device through 90°.

4.3 Mains connection

To open the connection box, turn the green handle to its stop in the direction of arrow, then pull it and fold down the flap, see fig. 4 and 5.

For power connection, use cables with copper conductor.

- Introduce the cable through the Ex cable entry, see fig. 5. Use both sealing inserts for cables from 8 to 12 mm, and the outer sealing insert only for cables from 12 to 17 mm. Pay attention to the proper fit of the remaining sealing insert in the cable gland.
- Connect the conductors to the terminals PE, N, L1, (L, L2, L3) in accordance with the terminal marking (see wiring diagram, page 2. With single connection of the terminal no bending (loop) of the conductor required! Also tighten vacant terminals!
- When using multi- or fine-wire connection cables, the wire ends must be provided with wire end sleeves or cable lugs.

Attention

⚠ In case of unused cable entries, remove their protective cover and close the entries with a blanking plug (torque of 3.5 Nm). When closing the gland with a blanking plug, always use both sealing inserts!

When metal cable entries are used, the yellow protective caps of the unused entries are to be removed and the entries to be closed with certified Ex blanking plugs!

4.3.1 Installation of the eLLM 92 ...

The pole mounted light fitting is mounted and installed in the following order:

- Unscrew the three recessed head screws in the cover of the pole connecting compartment, see fig. 2, item 1.
- Open the connecting compartment by folding down the cover, see fig. 2, item 2.
- Pull the stay shackle of the cable entry socket up to its stop and take off the cover plate, see fig. 2, item 3.
- Remove the cable entry sockets from the guiding grooves in the connecting compartment.
- Then the pole mounting tube or the tube of the wall socket of 42 mm Ø each (fig. 2, item 4) is pushed home into the opening of the light fitting, see fig. 2, item 4a.
- Adjust the light fitting and screw down the preassembled M 6 special screws, applying a torque of 3.0 Nm, see fig. 2, item 5.
- Introduce the cable through the tube and strip the insulation to the required length.
- Introduce the cable through the Ex cable entry (KLE) and tighten it down with the pressure screw of the cable entry (3.5 Nm torque).
- The complete support (with the cable being introduced) is put into the guiding grooves of the pole mounted light fitting, see fig. 2, item 6.
- Lock the support with the stay shackle, see fig. 2, item 3.
- Insert the cable into the pull-relief and tighten it down, see fig. 2, item 7.
- Then connect the cable in accordance with the terminal marking.

4.4 Fitting the lamps

⚠ Observe the safety instructions of the lamp manufacturer!

⚠ Only use such lamps that have been certified for these light fittings, see technical data and type label!
T12-lamps (Ø 38 mm) will be detected as faulty and will be cut off by the EOL-circuit.

4.4.1 Single-pin lamp (Fa6)

First insert one side of the lamp into the lampholder. Then pull the opposite lampholder slightly outwards and insert the lamp, see fig. 8.1 and 9.1.

4.4.2 Bi-pin lamp (G13)

The lamp is to be inserted to its stop into both holders, see fig. 8, so that both pins on either side of the lamp engage in the holder.

Then turn the lamp through 90° to its lock-in position, see fig. 9, the green surface in the holder getting visible. Now the lamp is secured against falling out.

5. Taking into operation

Prior to operation, check the light fitting for its proper functioning and installation in compliance with these operating instructions and other applicable regulations!

Only carry out insulation measurements between PE and the external conductor L1 (L, L2, L3) as well as between PE and N.

- **measuring voltage: max. 1 kV DC**
- **measuring current: max. 10 mA**

Then the luminaire will have to be closed. The terminal compartment of the pole mounted light fitting (eLLM92..) is again to be covered with the cover plate that was previously removed. To that effect, pull up the stay shackle of the cable entry socket (fig. 2, item 3) and clamp down the cover plate and the cable entry socket with the stay shackle. Again screw down the cover of the terminal compartment with the three recessed head screws.

6. Maintenance

⚠ Observe the national regulations applicable to the maintenance, servicing and test of apparatus for explosive atmospheres e.g IEC 60079-17 as well as the general rules of engineering!

6.1 Servicing

When servicing, in particular those components that affect the explosion protection, will have to be checked, e. g.:

- Housing and protective bowl for any cracks or damages.
- Gaskets for their perfect condition.
- Terminals and blanking plugs for their firm fit.
- Because of the risk of an electrostatic charge, the light fitting shall only be cleaned with a damp, non-fibrous cloth or sponge! Only use customary household washing-up liquid diluted in water!
The water temperature may be max. 50°C. After that, rinse with clear water to prevent the risk of tension cracks in the protective bowl!

6.2 Lamp replacement

- Lamp replacement: Keep replacement intervals as specified by the lamp manufacturer!
- Lamp replacement can be done without cut off the luminaire from mains supply, because an all pole switch will isolate the lampholders while opening the protective bowl.
Notice: Observe national standards or directions for use which can be divergent to this!

7 Repair

⚠ Prior to replacing or removing any components, observe the following: Cut the apparatus off the voltage before opening it or carrying out repairs! Only use certified genuine CCH/CEAG spare parts! (See CCH/CEAG spare parts list). Subject to alteration or supplement of this product series.

⚠ Regarding waste disposal, observe the relevant national regulations! The plastic materials are marked with material identifications.

1. Consignes de sécurité



Pour le personnel électricien qualifié et le personnel instruit suivant la réglementation légale, y compris les normes respectives ainsi que, le cas échéant, CEI 60079-17 pour appareils électriques utilisables en atmosphère explosive.

- Il n'est pas permis d'utiliser le luminaire dans la zone 0 et 20.
- L'appareil ne doit pas être mis en marche lorsque l'épaisseur du dépôt de poussière est trop importante (CEI 60079-31).
- Les caractéristiques techniques indiquées sur le luminaire doivent être respectées!
- Il n'est pas permis de transformer ou de modifier le luminaire!
- Le luminaire ne doit être exploité que pour la fonction qui lui est dévolue et qu'en état intact et parfait!
- Seules des pièces de rechange d'origine Cooper Crouse-Hinds (CCH)/CEAG doivent être employées pour le remplacement!
- Des réparations qui portent sur la protection contre l'explosion, ne doivent être exécutées que par CCH/CEAG ou par un «électricien» qualifié!
- Ce mode d'emploi ne doit pas être laissé dans le luminaire pendant son exploitation!

Veuillez respecter les prescriptions nationales de sécurité et de prévoyance contre les accidents ainsi que les consignes de sécurité qui sont marquées d'un (⚠) dans ce mode d'emploi!

2. Caractéristiques techniques

Certificat d'essai CE du modèle type: BVS 09 ATEX E 034
Domaine d'application eLLK/M; eLLS; DCA
eLLK CGS

⚠ II 2 G Ex d e IIC T4 Gb
⚠ II 2 G Ex d e mb IIC T4 Gb
⚠ II 2 D Ex tb IIC T80°C Db IP66

Certificat d'essai IEC Ex du modèle type: IECEx BVS 09.0033
Domaine d'application IEC Ex: eLLK/M; eLLS; DCA
eLLK CGS

Ex d e IIC T4 Gb
Ex d e mb IIC T4 Gb
Ex tb IIC T80°C Db IP66

Classe d'isolation selon EN 60 598: I
Indice de protection selon EN/CEI 60529: IP 66
Température ambiante ¹⁾
eLL. 92 ... U_N>220 V -25 °C à +55 °C
eLL. 92 ... U_N<220 V -25 °C à +50 °C
eLL. 92 2x58 W -25 °C à +40 °C
Température de stockage dans l'emballage original: -25 °C à +60 °C
Capacité de serrage des bornes.
2 x par borne: unifilaire multifilaire
min. 1,5 mm² 1,5 mm²
max. 6,0 mm² 6,0 mm²
Section transversale du conducteur en cas d'interconnexion: 2,5 mm² pour 16 A au maxi
Entrée de câble Ex-e: modèle standard
M25x1,5 pour câbles d'un modèle standard d'un Ø de 8 à 17 mm
Couple d'essai pour l'entrée de câble Ex-e M25 x 1,5: 5,0 Nm
Couple d'essai pour la vis de pression: 3,5 Nm (pour étancher le câble ou le bouchon de fermeture)

¹⁾ Le rayonnement solaire intense dans des régions à température ambiante élevée peut provoquer à l'intérieur du luminaire un échauffement extensif. Ceci peut impliquer une réduction de durée de vie considérable. Pour pallier à cela, il est préconisé d'utiliser un interrupteur photoélectrique.

3. Conformité avec les normes

Ce luminaire convient à l'utilisation dans les zones 1, 2, 21 et 22 d'une atmosphère explosive selon CEI/EN 60079-10, CEI/EN 60079-14 et CEI 60079-31.

Le EVG intégré remplit les conditions du CEI 60079-7 ED. d'ébauche 4 (EOL) et le CEI 61347-2-3 (§17.2 et §17.3).

Il a été conçu, construit et testé selon l'état actuel de la technique et selon DIN EN ISO 9001:2000 et IEC 80079-34:2011.

Ce luminaire sont conformes aux normes reprises dans la déclaration de conformité.

4. Installation

⚠ Lors de l'installation et de l'exploitation des appareils électriques pour atmosphère explosive, les règlements nationaux ainsi que les règles de la technique généralement reconnues doivent être respectés!

Le transport et le stockage ne sont permis que dans l'emballage original et dans la position spécifiée!
Lors du montage à 45° des luminaires (ex. montage terrain), il est recommandé de remplacer le couvercle du verrou central par la version portant le n° d'identification 22216904000.

Dimensions de fixation:

voir fig. 1

⚠ L'intégrité de l'ajustage de précision peut être compromise si les centres de réparation ne sont pas correctement alignés, voir fig. 10-12. Respecter lors de la fixation des accessoires de montage au luminaire que les trous de fixation doivent avoir une profondeur du pas de 12 mm au maxi.

⚠ Si le luminaire est installé avec la vasque vers le haut, des précautions devront être prises pour éviter l'accumulation d'eau au niveau du joint de la vasque.

Remarque :

Si le luminaire est monté incliné par rapport à l'axe longitudinal (par ex. : montage sur une rampe), il est recommandé de remplacer le couvercle du verrou central par la version portant la référence 22216904000.

Ne pas utiliser de vis trop longues!

Accessoires pour le montage:

voir le catalogue CCH/CEAG.

4.2 Ouverture et fermeture du luminaire

- Tourner le verrou central avec la clé à douille (ouverture de clé SW 13) de 90° dans sa position de crantage et rabattre la vasque de protection, voir fig. 3.

⚠ Attention :

En cas d'utilisation d'outillage inapproprié, la liaison par adhérence lors du serrage du verrou central n'est pas garantie. Ceci provoque l'endommagement du verrou.

- Monter et démonter la vasque de protection suivant fig. 6 et 7.
- La vasque de protection est pourvue d'une charnière des deux côtés ce qui permet de la suspendre de chaque côté.
- Pour fermer le luminaire, presser la vasque de protection contre le boîtier du luminaire et tourner le verrou central de 90°.

4.3 Branchement sur secteur

Afin d'ouvrir la boîte de connexion, tourner la poignée verte jusqu'à sa butée, puis la tirer et rabattre la trappe, voir fig. 4 et 5.

Utiliser câbles avec conducteur en cuivre pour connexion au réseau.

- Introduire le câble par l'entrée de câble Ex e, voir fig. 5. Utiliser les deux joints d'étanchéité pour les câbles de 8 à 12 mm, et le joint extérieur seul pour les câbles de 12 à 17 mm.

Veiller au propre logement du joint d'étanchéité qui demeure dans la presse-étoupe.

- Connecter les câbles aux bornes PE, N, L1, (L, L2, L3) suivant le repérage des bornes (voir schéma des connexions sur page 2).

En cas d'occupation simple de la borne, il n'est pas nécessaire de replier le conducteur (boucle!) Serrer aussi les bornes non utilisées!

- En cas d'utilisation de câbles de raccordement à plusieurs fils ou à fil fin, les extrémités des fils sont à pourvoir d'embouts ou de cosses.

Attention

⚠ En cas d'entrées de câble non utilisées, leur disque protecteur doit être enlevé, et l'entrée doit être fermée avec un bouchon de fermeture (couple de 3,5 Nm). En fermant par un bouchon de fermeture, toujours utiliser les deux joints d'étanchéité!

En cas d'entrées de câble métalliques, enlever les obturateurs protecteurs jaunes des entrées non utilisées et les fermer avec des bouchons de fermeture Ex certifiés!

4.3.1 Installation eLLM 92 ..

Le montage et l'installation du luminaire pour fixation sur mât se fait dans l'ordre suivant:

- Dévisser les trois vis à fentes en croix dans le couvercle du compartiment de raccordement du poteau, voir fig. 2, pos. 1.
- Ouvrir le compartiment de raccordement en rabattant le couvercle, voir fig. 2, pos. 2.
- Lever l'étrier de verrouillage de la tubulure d'entrée de câble jusqu'à sa butée et enlever la plaque de recouvrement, voir fig. 2, pos. 3.
- Sortir la tubulure d'entrée de câble des rainures de guidage dans le compartiment de raccordement.
- Introduire le tube du poteau ou de la console d'un diamètre de 42 mm chacun (fig. 2, pos. 4) jusqu'à la butée dans l'orifice du luminaire, voir fig. 2, pos. 4a.

- Ajuster le luminaire et serrer à fond les vis spéciales M6 montées au préalable avec un couple de 3,0 Nm, voir fig. 2, pos. 5.
- Puis introduire le câble par le tube et le dénuder de la longueur requise.
- Introduire le câble par l'entrée de câble Ex (KLE) et le serrer à fond au moyen de la vis de pression de l'entrée de câble (couple de 3,5 Nm).
- Puis le support complet (avec le câble mis en place) est posé dans les rainures de guidage du luminaire pour fixation sur mât, voir fig. 2, pos. 6.
- Verrouiller le support au moyen de l'étrier de verrouillage, voir fig. 2, pos. 3.
- Poser le câble dans la décharge de traction et le serrer à fond, voir fig. 2, pos. 7.
- Puis raccorder à vis le câble suivant le repérage des bornes.

4.4 Mise en place de la lampe

⚠ Respectez les consignes de sécurité par le fabricant de lampes!
N'utiliser que des lampes homologuées pour ces luminaires, voir Caractéristiques techniques et plaque signalétique!
Les lampes T12 (Ø 38 millimètres) sera détecté en tant que défectueux et découpé par l'EOL-circuit.

4.4.1 Lampe monobroche (Fa6)

Introduire la lampe d'un côté dans la douille. Puis tirer un peu vers l'extérieur la douille opposée et introduire la lampe, voir fig. 8.1 et 9.1.

4.4.2 Lampe double broche (G13)

Introduire la lampe jusqu'à sa butée dans les deux douilles selon fig. 8, de manière que les deux broches de chaque côté de la lampe soient prises par la douille.

Puis tourner la lampe de 90° en position de crantage selon fig. 9. Une surface verte dans la douille deviendra alors visible. Maintenant la lampe est protégée de tomber du luminaire.

5. Mise en service

Avant la mise en service des luminaires, il faut vérifier s'ils sont branchés et fonctionnent en conformité avec ce mode d'emploi et avec d'autres règlements y applicables!

Des mesurages d'isolation ne doivent être effectués qu'entre PE et le conducteur extérieur L1 (L, L2, L3) ainsi qu'entre PE et N!
 - **tension de mesurage: 1 kV CC au maxi**
 - **courant de mesurage: 10 mA a maxi**

Puis fermer le luminaire. Le compartiment de raccordement du luminaire pour fixation sur mât (eLLM92..) doit être recouvert de la plaque de recouvrement qui fut enlevé auparavant. Pour cela, lever l'étrier de verrouillage de la tubulure d'entrée de câble (fig. 2, pos. 3) et verrouiller la plaque de recouvrement ainsi que la tubulure d'entrée de câble avec l'étrier de verrouillage. Puis refermer le couvercle du compartiment de raccordement avec les trois vis à fentes en croix. Remplacement de la lampe: Respecer les intervalles de remplacement selon L'indication du fabricant de lampes!

6. Entretien

⚠ En ce qui concerne l'entretien, le test et la réparation des appareils électriques pour atmosphère explosive, les règlements nationaux y applicables par exemple CEI 60079-17 ainsi que les règles de la technique généralement reconnues devront être respectés!

6.1 Entretien

Lors de l'entretien surtout les composants dont lesquels dépend le mode de protection contre l'explosion, doivent être vérifié, par ex.:

- Le boîtier et la vasque de protection présentent-ils des fissures ou des signes d'avarie?
- Les joints d'échantéité sont-ils efficaces?
- Les bouchons d'obturation et les bornes sont-ils bien serrés?
- Vu le risque d'une charge électrostatique, le luminaire ne doit être nettoyé qu'avec un chiffon humide et non fibreux ou qu'avec une éponge!

Utiliser uniquement un détergent ménager dilué avec de l'eau! La température de l'eau ne doit pas dépasser 50°C au maxi. Rincer ensuite à l'eau claire afin d'éviter que n'apparaissent des fissures dues à la contrainte exercée sur la vasque de protection!

6.2 Remplacement de lampe

- Considérez les changements de lampe pour le changement de lampe : Considérez les intervalles de vidange conformément à la norme des fabricants de lampe !
- Un changement de lampe peut être mis en oeuvre sans déconnecter du réseau, puisque les versions sont enclenchées sans tension en l'ouverture du baquet de protection par un sectionneur allpoligen. Considérez toutefois que des dispositions nationales ou des directives d'application locales peuvent être divergentes!

7 Réparation

⚠ Avant de remplacer ou d'enlever des composants, il faut observer le suivant: Mettre l'appareil hors tension avant de l'ouvrir ou de le réparer! N'utiliser que des pièces de rechange approuvées d'origine CCH/CEAG!

(Voir liste des pièces de rechange CCH/CEAG)

Sous réserve de modification ou de supplément de cette série de produits. Quant à l'enlèvement des déchets, veuillez respecter les règlements nationaux respectifs!

Wir / We / Nous

**Cooper Crouse-Hinds GmbH
Neuer Weg-Nord 49
D-69412 Eberbach**

erklären in alleiniger Verantwortung, dass das Produkt
hereby declare in our sole responsibility, that the product
déclarons de notre seule responsabilité, que le produit

**Leuchte mit Leuchtstofflampen
Luminaire with fluorescent lamps
Luminaire avec lampes fluorescentes**

II 2 G / II 2 D

eLL * ** ** ** *

den folgenden EU-Richtlinien, den entsprechenden harmonisierten Normen, und weiteren normativen Dokumenten entspricht.
complies with the following EU directives, their corresponding harmonised standards, and other normative documents.
correspond aux directives européennes suivantes, à leurs normes harmonisées, et aux autres documents normatifs suivants.

**Bestimmungen der Richtlinie
Terms of the directive
Prescription de la directive**

**Titel und / oder Nr. sowie Ausgabedatum der Norm.
Title and / or no. and date of issue of the standard.
Titre et / ou no. ainsi que date d'émission des normes.**

94/9/EG: Geräte und Schutzsysteme zur bestimmungs-
gemäßen Verwendung in explosionsgefährdeten
Bereichen.
94/9/EC: Equipment and protective systems intended for
use in potentially explosive atmospheres.
94/9/CE: Appareils et systèmes de protection destinés à
être utilisés en atmosphères explosibles.

EN 60 079-0: 2009
EN 60 079-1: 2007
EN 60 079-7: 2007
EN 60 079-11: 2007
EN 60 079-18: 2009
EN 60 079-31: 2009

2004/108 EG: Elektromagnetische Verträglichkeit
2004/108 EC: Electromagnetic compatibility
2004/108 CE: Compatibilité électromagnétique

EN 60 598-1: 2008 + A11: 2009
EN 60 598-2-22: 1999 + A1 : 2003 + A2 : 2008
EN 60 529: 1991 + A1: 2000

2000/55/EG Energieeffizienzanforderungen an Vorschaltgeräte
für Leuchtstofflampen
2000/55/EC Energy efficiency requirements for ballasts for
ballasts for fluorescent lighting
2000/55/CE établissant des exigences de rendement
énergétique applicables aux ballasts pour
l'éclairage fluorescent

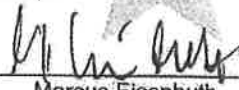
EN 61 547: 2009
EN 55 015: 2006 + A1: 2007 + A2: 2009
EN 61 000-3-2: 2006 + A1: 2009 + A2: 2009
EN 61 000-6-2: 2005
EN 61 000-6-3: 2007 + A1: 2011

2000 / 55 / EC Annex 1 Category 1
2 x 18 W / 16 W Class A 3
1 x 36 W / 32 W Class A 2
2 x 36 W / 32 W Class A 2
1 x 58 W / 50 W Class A 3
2 x 58 W / 50 W Class A 2

Eberbach, den 17.09.2012

Ort und Datum
Place and date
Lieu et date


I.V. R. Becker
Leiter Qualitätswesen
Head of quality department
Chef du dépt. qualité


Marcus Eisenhuth
Geschäftsführer
Managing Director
Président-directeur général

⁽¹⁾ Benannte Stelle (EG-Baumusterprüfbescheinigung)
Notified body of the certification
Organe notifié et compétent

DEKRA EXAM GmbH (0158)
Dinnendahlstraße 9
D-44809 Bochum

BVS 11 ATEX ZQS/E332 ⁽²⁾

⁽²⁾ Benannte Stelle (Qualitätssicherung Produktion)
Notified body to quality evaluation
Organe d'attestation de conformité

DEKRA EXAM GmbH (0158)
Dinnendahlstraße 9
D-44809 Bochum

Für den sicheren Betrieb des Betriebsmittels sind die Angaben der zugehörigen Betriebsanleitung zu beachten.
For the safe use of this apparatus, the information given in the accompanying operating instructions must be followed.
Afin d'assurer le bon fonctionnement de nos appareils, prière de respecter les directives du mode d'emploi correspondant à ceux-ci.

Installation der Leuchte mit DCA-Modul

Leuchten mit einem eingebauten EVG mit DCA-Modul können an ein CEAG Notlichtversorgungssystem angeschlossen werden.
Im DC-Betrieb wird eine Lampe abgeschaltet, die zweite Lampe (grün Markierung am Fassungssträger) leuchtet weiter.

Installation der Leuchte mit CG-S-Modul

Das CG-S Modul überwacht und meldet an das angeschlossene CEAG Notlichtversorgungssystem die Funktion der Leuchtstofflampe.
Im DC-Betrieb wird eine Lampe abgeschaltet, die zweite Lampe (grün Markierung am Fassungssträger) leuchtet weiter.

Mit dem CG-S-Überwachungsmodul mit Codierschalter für max. 20 Adressen kann die CG-S Leuchte als einzelüberwachte Notleuchte an CEAG Notlichtversorgungssystemen betrieben werden. Hierbei kann der Betreiber die Schaltungsart frei programmieren. So können an einem Endstromkreis bis zu 20 Leuchten in unterschiedlichen Schaltungsarten betrieben werden.
Weitere Informationen zu den Schaltungsarten entnehmen sie den technischen Unterlagen der verwendeten Notlichtversorgungsgeräte.

Adressierung

Vor Inbetriebnahme der Leuchte muß die individuelle Leuchtenadressierung eingestellt werden. Hierzu ist mit einem geeigneten Schraubendreher die gewünschte Adresse (1 - 20) am Adressschalter einzustellen (Pfeil auf Zahl, Bild A). Soll die Leuchte nicht überwacht werden, ist immer die Stellung 0/0 einzustellen (Siehe Tabelle B).

Zulässige Anschlussleistung nicht überschreiten!

Zulässige Leuchtenanzahl je Abgangstromkreis:

2-lampig	eLLK/S 92018/18	eLLK/S 92036/36	eLLK/S 92058/58
Anschluss an CEAG			
SKU 2x3 A CG-S	16	9	6
SKU 1x6 A CG-S	20	17	11
SKU 4x1 A CG	5	3	2
SKU 2x3 A CG	12	9	6
SKU 1x6 A CG	18	17	11

Installation of luminaries with DCA module

Luminaires with an EVG built in to the DCA module can be connected to a CEAG emergency supply system. In DC mode, one luminaire will be turned off while the other continues to shine (green markings on the luminaire holder).

Installation of luminaires with CG-S module

The CG-S module monitors and indicates to the connected CEAG emergency supply system the operation of the supply unit circuit and the function of the luminaire.

In DC mode, one luminaire will be turned off while the other continues to shine (green markings on the luminaire holder).

The CG-S module allows single monitoring of these luminaires in CEAG emergency lighting systems. The switching mode (maintained/non-maintained and switched emergency luminaires) is freely programmable and mixed operation up to 20 addresses in a single circuit is possible.

For further information to the switching mode please refer to the relevant instruction manual of the emergency power supply unit.

Addressing

Before fitting the cover, the addressing of the individual luminaires is to be carried out. The desired address (1 - 20) is set on the address switch by means of a suitable screw driver (Arrowhead to No., fig. A). If the luminaire should not be monitored the code 0/0 has to be selected (see table B).

Do not exceed the permissible power output!

Max. no. of luminaires to each output circuit

2-lamps	eLLK/S 92018/18	eLLK/S 92036/36	eLLK/S 92058/58
Connection to CEAG			
SKU 2x3 A CG-S	16	9	6
SKU 1x6 A CG-S	20	17	11
SKU 4x1 A CG	5	3	2
SKU 2x3 A CG	12	9	6
SKU 1x6 A CG	18	17	11

Installation de la lampe avec le module DCA

Les lampes équipées d'un module EVG avec module DCA peuvent être connectées au système d'alimentation d'éclairage de secours CEAG. En mode DC, une des lampes est mise hors-tension alors que l'autre continue à briller.

(marquage vert sur le support de lampe).

Installation de la lampe avec le module CG-S

Le module CG-S surveille et signale au système d'alimentation de l'éclairage de secours CEAG raccordé, le fonctionnement de la lampe fluorescente compacte.

En mode DC, une des lampes est mise hors-tension alors que l'autre continue à briller.

(marquage vert sur le support de lampe). Dans le CC-opération une lampe est mise hors circuit, brille plus encore la deuxième lampe (marquage rouge à la douille).

Avec le module de surveillance CG-S équipé d'un commutateur de codage pour un maximum de 20 adresses, la lampe exploitée comme lampe de secours unique contrôlée, reliée aux systèmes d'alimentation d'éclairage de secours CEAG.

L'exploitant peut dans ce cas, programmer librement le mode de commutation. Ainsi, jusqu'à 20 afficheurs peuvent être exploités avec différents modes de commutation dans un circuit électrique terminal.

Pour de plus amples informations au mode de commutation référez-vous s'il vous plaît au manuel d'instruction approprié de l'unité d'approvisionnement d'alimentation de secours.

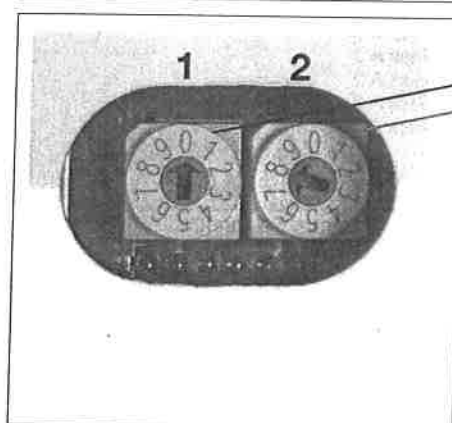
Adressage

L'adressage individuel des afficheurs doit être effectué avant le montage du couvercle du panneau de l'afficheur. Pour cela, procédez au réglage de l'adresse souhaitée (1 - 20) au commutateur d'adresses à l'aide d'un tournevis approprié. (flèche face aux nombres, fig. A). Si l'afficheur ne doit pas être surveillé, régler toujours la position sur 0/0 (B).

Ne dépassez pas la puissance de raccordement admissible de l'onduleur.

Nombre de lampes admissible par circuit de départ :

2-lampes	eLLK/S 92018/18	eLLK/S 92036/36	eLLK/S 92058/58
Raccordement à CEAG			
SKU 2x3 A CG-S	16	9	6
SKU 1x6 A CG-S	20	17	11
SKU 4x1 A CG	5	3	2
SKU 2x3 A CG	12	9	6
SKU 1x6 A CG	18	17	11



A Adressierung/Addressing/Adressage

Adressschalter 1/ Address switch 1/ Position de l'interrupteur 1	Adressschalter 2/ Address switch 2/ Position de l'interrupteur 2	Leuchtenadresse/ Luminaire address/ Adresse de luminaire
0	0	Überwachung aus/ Monitoring off/ aucune surveillance
0	1	1
0	2	2
...	...	...
1	0	10
1	1	11
...	...	...
...	...	...
2	0	20
2	1	nicht zulässig not permissible/ pas possible
...	...	...
9	9	nicht zulässig/ not permissible/ pas possible

B Adressierung/Addressing/Adressage

Cooper Crouse-Hinds GmbH

Neuer Weg-Nord 49
D-69412 Eberbach
Phone +49 (0) 6271/806-500
Fax +49 (0) 6271/806-476
Internet: www.ceag.de
E-Mail: sales.cch.de@cooperindustries.com



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx BKI 07.0036	Issue No: 2	Certificate history:
Status:	Current	Page 1 of 4	Issue No. 2 (2012-03-08) Issue No. 1 (2011-09-19) Issue No. 0 (2007-10-02)
Date of Issue:	2012-03-08		
Applicant:	Cooper Crouse Hinds GmbH previously CEAG Sicherheitstechnik GmbH Neuer Weg Nord 49 D-69412 Eberbach, Germany Germany		
Electrical Apparatus:	Installation switch		
Optional accessory:	Type GHG 273R....		
Type of Protection:	General requirements, Flameproof enclosures, Increased safety, Dust explosion protection		
Marking:	Ex ed IIC T6 Tamb see 4. Point Ex tD A21 IP66 T 67 °C		

Approved for issue on behalf of the IECEx
Certification Body:

János FEJES

Position:

managing director

Signature:
(for printed version)

Date:

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3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

Testing Station for Explosion Proof Equipment
H 1037 BUDAPEST
MIKOVINY S.u. 2-4
Hungary





IECEx Certificate of Conformity

Certificate No: IECEx BKI 07.0036

Issue No: 2

Date of Issue: 2012-03-08

Page 2 of 4

Manufacturer: **Cooper Crouse-Hinds GmbH**
Neuer Weg Nord 49
D-69412 Eberbach, Germany
Germany

Additional Manufacturing
location(s):

S.C. Cooper Industries Romania S.R.L
ARAD, Zona Industrial NV, str III, no. 12
Romania
Romania

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2004 Edition:4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-1 : 2003 Edition: 5	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure 'd'
IEC 60079-7 : 2001 Edition:3	Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e'
IEC 61241-0 : 2004 Edition:1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition:1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[HU/BKI/ExTR07.0035/00](#)

Quality Assessment Report:

[DE/BVS/QAR11.0006/01](#)

[DE/BVS/QAR11.0009/00](#)

[HU/BKI/QAR06.0005/01](#)



IECEx Certificate of Conformity

Certificate No: IECEx BKI 07.0036

Issue No: 2

Date of Issue: 2012-03-08

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The installation switch type GHG 273R.... serves as a current switch for light, load and control circuits.

It is connected via terminals integrated in the socket. If this type is made from a material of surface resistance of $\geq 1 \text{ G}\Omega$, it will carry a warning note.

See details in Addendum to IECEx BKI 07.0036.

CONDITIONS OF CERTIFICATION: NO



IECEX Certificate of Conformity

Certificate No: IECEx BKI 07.0036

Issue No: 2

Date of Issue: 2012-03-08

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

New manufacturing location:

S.C. Cooper Industries Romania S.R.L, Romania

Annex:

[Addendum to IECEx BKI 07.0036.pdf](#)



ADDENDUM TO IECEx CERTIFICATE OF CONFORMITY

IECEx BKI 07.0036

Page 1 of 2

1. Description

The installation switch type GHG 273R.... serves as a current switch for light, load and control circuits. It is connected via terminals integrated in the socket. If this type is made from a material of surface resistance of $\geq 1 \text{ G}\Omega$, it will carry a warning note.

2. Type assortment

GHG 273....R....

Legend of the signs from left to right

1._, 2._, 3._	Code for manufacturer
4._, 5._	Code for apparatus group
6._	Code for enclosure material 3 = plastic made of non-combustible material
7._	Type of switch 1 = cut-out, one pole 2 = cut-out, two pole 3 = pushbutton, one pole 4 = pushbutton, two pole 5 = series switch 6 = changeover switch 7 = one-pole, double switch 8 = one-pole, double pushbutton
8._, 9._, 10._, 11._, 12._, 13._, 14._, 15._	No influence on the explosion protection

3. General parameters

Rated voltage U_e ... up to 250 V

Rated current I_e ... max 16 A

In accordance with the relevant provisions, rated values other than those stated above are permissible if the marking and breaking capacity is complied with; they have been specified by the manufacturer as a function of the mode of operation, utilization, category, etc.

At a rated thermal current I_{th} ... 16 A

for use in areas of temperature class T6

Rated cross section ... max. $2 \times 4 \text{ mm}^2$ solid lead
 $2 \times 2,5 \text{ mm}^2$ flexible lead

4. Ambient temperature

When used in areas exposed to gas, vapours, fog:

Ambient temperature range, when connecting $1,5 \text{ mm}^2$ conductors $-55 \text{ }^\circ\text{C} \leq T_{amb} \leq +40 \text{ }^\circ\text{C}$

Ambient temperature range, when connecting $2,5 \text{ mm}^2$ conductors $-55 \text{ }^\circ\text{C} \leq T_{amb} \leq +55 \text{ }^\circ\text{C}$

When used in areas exposed to flammable dust:

Ambient temperature range, when connecting $1,5 \text{ mm}^2$ conductors $-20 \text{ }^\circ\text{C} \leq T_{amb} \leq +40 \text{ }^\circ\text{C}$

Ambient temperature range, when connecting $2,5 \text{ mm}^2$ conductors $-20 \text{ }^\circ\text{C} \leq T_{amb} \leq +55 \text{ }^\circ\text{C}$

4.1 Temperature class T6

4.2 Surface temperature T 67 °C

5. Ingress protection IP66 to IEC 60529



ADDENDUM TO IECEx CERTIFICATE OF CONFORMITY
IECEx BKI 07.0036

Page 2 of 2

Drawing

Description	No. 4171	3 pages	1998.01.21.
Annex to description	No 4171	3 pages	1998.01.21.
Drawing No.	GHG 27-4-4262		1998.01.21.
	GHG 27-1-4264		1998.01.21.
Test Report	PTB Ex 98-30008	3 pages	1998.10.15.
1. Supplement Descriptive documents			
Description to 1. Supplement		1 page	2000.09.06.
Test Report	BVS PP 00.2046 EG	7 pages	2000.09.15.
Test Report	PTB Ex 00-30082	4 pages	2000.10.18.
Description	No. 4170 to built in switch	4 pages	1998.01.21.
Annex to description	No. 4170	1 page	1998.01.21.
Drawing	No GHG 27-3-4263		1998.01.21.
Table of Gaps		1 page	1998.01.21.
Test Report	PTB 98-18148	3 pages	1998.10.15.



(1) EC-TYPE-EXAMINATION CERTIFICATE (Translation)

(2) Equipment and Protective Systems Intended for Use in
Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

PTB 00 ATEX 3121



(4) Equipment: Trompet- shaped cable glands of types GHG 960 19..R....

(5) Manufacturer: CEAG Sicherheitstechnik GmbH

(6) Address: Neuer Weg Nord 49, D-69412 Eberbach

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report PTB Ex 00-30060.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50 014:1997 EN 50 019:1994

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

(12) The marking of the equipment shall include the following:

II 2 G EEx e II

Zertifizierungsstelle Explosionsschutz

Braunschweig, July 21, 2000

By order:

Dr.-Ing. U. Ege
Regierungssekretär

sheet 1/3

SCHEDULE

(13)

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 3121**

(15) Description of equipment

The cable entry of types GHG 960 1949 R.... and GHG 960 1950 R.... made of polyamide serves to introduce non-permanently laid cables into electrical equipment of the type of protection increased safety "e". The cable entry consists of an intermediate gland, a trumpet-shaped gland, a strain relief device with two screws and sealing ring. An accessory part is a closing device for M-type glands.

Technical data

Nominal size	to be used for cable and conduit diameters	
M 20 x 1,5	from 8,0 mm	to 13,0 mm
M 25 x 1,5	from 11,0 mm	to 16,0 mm
M 32 x 1,5	from 15,0 mm	to 20,0 mm
M 40 x 1,5	from 19,0 mm	to 27,0 mm
M 50 x 1,5	from 28,0 mm	to 34,0 mm
M 63 x 1,5	from 38,0 mm	to 46,0 mm

Range of temperature of use, normal when sealing rings made of nitrile rubber NBR are used:

-40 °C to +85 °C

Range of temperature of use, extended when sealing rings made of Evoprene Super are used:

-50 °C to +80 °C

Suitable for equipment of equipment group II, with a degree of mechanical hazard:

high

Minimum wall thicknesses when fitted into equipment:

3,5 mm (plastic material); 1,0 mm (metal)

Protection against contact, foreign matter and water:

at least IP 54 acc. to EN 60 529:1991

Note

The closing device for M-type glands for closing unused holes is to be fitted into the intermediate gland; then the trumpet-shaped gland is to be tightened to guarantee compliance with the minimum type of protection.

The blue-coloured clip is to be used for intrinsically safe circuits only.

The Ex cable entries are suitable for a range of the temperature of use extending from -40 °C to +85 °C. Suitability for the extended range, i.e. from -50 °C to +80 °C, is indicated by special marking.

The maximum thermal load of the cables introduced is to be taken into account.

(16) Test report PTB Ex 00-30060

(17) Special conditions for safe use

not applicable

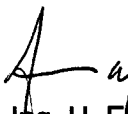
(18) Essential health and safety requirements

The degree of protection - at least IP 54 according to EN 60529:1991 - will be guaranteed only by adequate selection of cable and conduit entries, of the sealings tested and by proper installation of the cable and conduit entries into the electrical apparatus.

Zertifizierungsstelle Explosionsschutz

Braunschweig, July 21, 2000

By order:


Dr.-Ing. U. Engel
Regierungssekretär



1st SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 3121

(Translation)

Equipment: Trumpet-shaped cable gland, type GHG 960 19.. R....

Marking:  II 2 G EEx e II

Manufacturer: Cooper Crouse-Hinds GmbH
formerly: CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49,
69412 Eberbach, Germany

Description of supplements and modifications

Standard applied in addition: EN 50281-1-1:1998

The nominal sizes M32x1.5, M40x1.5, M50x1.5 and M63x1.5 of the trumpet-shaped cable gland, type GHG 960 19.. R...., may also be employed in areas in which a potentially explosive atmosphere as a mixture of dust and air can occasionally form.

The marking for these nominal sizes thus changes to read:

 II 2 G/D EEx e II IP 66

The operating temperatures of these nominal sizes is expanded to - 55 °C + 85 °C, provided a suitable sealing ring is used.

Since the company name has changed, the trumpet-shaped cable gland, type GHG 960 19.. R...., is provided with the new name COOPER Crouse-Hinds GmbH.

Notes for manufacturing and operation

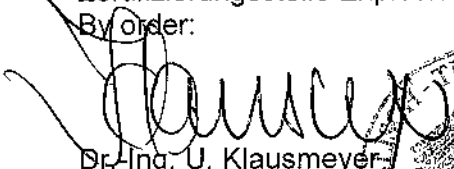
The notes for manufacturing and operation equally apply to this supplement.

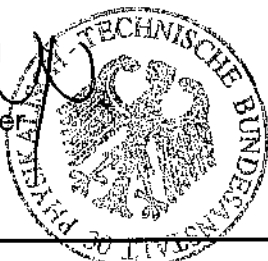
Test report: PTB Ex 04-14028

Zertifizierungsstelle Explosionsschutz

Braunschweig, February 9, 2004

By order:


Dr.-Ing. U. Klausmeyer
Regierungsdirektor



Sheet 1/1

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

2nd SUPPLEMENT
according to Directive 94/9/EC Annex III.6
to EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 3121
(Translation)

Equipment: Trumpet-shaped cable gland, type GHG 960 19.. R....

Marking:  II 2 G EEx e II  II 2 D IP 66

Manufacturer: Cooper Crouse-Hinds GmbH (vormals CEAG Sicherheitstechnik GmbH)

Address: Neuer Weg Nord 49, 69412 Eberbach, Germany

Description of supplements and modifications

The nominal sizes M20 to M63 of the trumpet-shaped cable gland, type GHG 960 19.. R...., may also be employed in areas in which a potentially explosive atmosphere as a mixture of dust and air can occasionally form.

The marking for use in areas with inflammable dust changes to read:

 II 2 D IP 6X

The operating temperatures of all nominal sizes is expanded to - 55 °C + 85 °C, provided a suitable sealing ring is used.

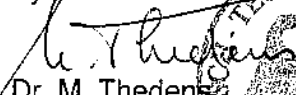
Applied standards

EN 50281-1-1:1998

Test report: PTB Ex 05-15121

Zertifizierungsstelle Explosionsschutz

By order:


Dr. M. Thedens



Braunschweig, April 28, 2005

Sheet 1/1

Physikalisch-Technische Bundesanstalt • Postfach 33 45 • 38023 Braunschweig

Cooper-Crouse Hinds GmbH
z. Hd. Frau Frankhauser

Neuer Weg Nord 49
69412 Eberbach

Ihr Zeichen:
Ihre Nachricht vom: 29.11.2007
Unser Zeichen:
Unsere Nachricht vom:

Bearbeitet von: Dr. Monika Schumann
Telefondurchwahl: +49 (0) 531-592-3515
Telefaxdurchwahl: +49 (0) 531-592-3505
E-Mail: Monika.Schumann@ptb.de

Datum: 14. Januar 2008

**Normengenerationsänderung nach EN 60079-0 ff, EN 6124-0 ff
Trompetenverschraubung Typ / trumpet-shaped cable gland, type GHG 960 19.. R....,
PTB 00 ATEX 3121**

Sehr geehrte Frau Frankhauser,
es bestehen keine sicherheitstechnischen Bedenken,
die Trompetenverschraubung Typ GHG 960 19.. R.... mit folgenden Kennzeichnungen zu versehen:

 II 2 G Ex e II

 II 2 D Ex tD A21 IP66

Wir bitten Sie, diese Änderungen bei zukünftigen Ergänzungen mit aufzunehmen.

Translation

there are no safety-related objections from PTB to mark
the trumpet-shaped cable gland, type GHG 960 19.. R.... as follows

 II 2 G Ex e II

 II 2 D Ex tD A21 IP66

We would like to ask you to include this change into the next supplement.

Mit freundlichen Grüßen
Im Auftrag

Schumann

Dr. Schumann
Regierungsrätin

Wir / We / Nous**Cooper Crouse-Hinds GmbH**
Neuer Weg-Nord 49
D-69412 Eberbach

erklären in alleiniger Verantwortung, dass das Produkt
hereby declare in our sole responsibility, that the product
déclarons de notre seule responsabilité, que le produit

Leuchte mit Leuchtstofflampen
Luminaire with fluorescent lamps
Luminaire avec lampes fluorescentes

 **II 2 G /  II 2 D****eLL* ** ***/** ***

den folgenden EU-Richtlinien, den entsprechenden harmonisierten Normen, und weiteren normativen Dokumenten entspricht.
complies with the following EU directives, their corresponding harmonised standards, and other normative documents.
correspond aux directives européennes suivantes, à leurs normes harmonisées, et aux autres documents normatifs suivants.

Bestimmungen der Richtlinie
Terms of the directive
Prescription de la directive

Titel und / oder Nr. sowie Ausgabedatum der Norm.
Title and / or no. and date of issue of the standard.
Titre et / ou no. ainsi que date d'émission des normes.

94/9/EG: Geräte und Schutzsysteme zur bestimmungs-
gemäßen Verwendung in explosionsgefährdeten
Bereichen.

94/9/EC: Equipment and protective systems intended for
use in potentially explosive atmospheres.

94/9/CE: Appareils et systèmes de protection destinés à
être utilisés en atmosphères explosibles.

EN 60 079-0: 2009
EN 60 079-1: 2007
EN 60 079-7: 2007
EN 60 079-11: 2007
EN 60 079-18: 2009
EN 60 079-31: 2009

EN 60 598-1: 2008 + A11: 2009
EN 60 598-2-22: 1999 + A1 : 2003 + A2 : 2008
EN 60 529: 1991 + A1: 2000

2004/108 EG: Elektromagnetische Verträglichkeit
2004/108 EC: *Electromagnetic compatibility*
2004/108 CE: *Compatibilité électromagnétique*

EN 61 547: 2009
EN 55 015: 2006 + A1: 2007 + A2: 2009
EN 61 000-3-2: 2006 + A1: 2009 + A2: 2009
EN 61 000-6-2: 2005
EN 61 000-6-3: 2007 + A1: 2011

2000/55/EG Energieeffizienzanforderungen an Vorschaltgeräte
für Leuchtstofflampen

2000/55/EC Energy efficiency requirements for ballasts for
ballasts for fluorescent lighting

2000/55/CE *établissant des exigences de rendement*
énergétique applicables aux ballasts pour
l'éclairage fluorescent

2000 / 55 / EC Annex 1 Category 1
2 x 18 W / 16 W Class A 3
1 x 36 W / 32 W Class A 2
2 x 36 W / 32 W Class A 2
1 x 58 W / 50 W Class A 3
2 x 58 W / 50 W Class A 2

17.09.2012

Datum
date
date

Die Original-Konformitätserklärung ist dem Produkt beigelegt !
The original declaration of conformity is supplied in the packing with the product !
La déclaration originale de conformité sera fournie avec le produit !

⁽¹⁾ Benannte Stelle (EG-Baumusterprüfbescheinigung)
Notified body of the certification
Organe notifié et compétent

DEKRA EXAM GmbH (0158)
Dinnendahlstraße 9
D-44809 Bochum

Benannte Stelle (Qualitätssicherung Produktion)
Notified body to quality evaluation
Organe d'attestation de conformité

DEKRA EXAM GmbH (0158)
Dinnendahlstraße 9
D-44809 Bochum

Für den sicheren Betrieb des Betriebsmittels sind die Angaben der zugehörigen Betriebsanleitung zu beachten.
For the safe use of this apparatus, the information given in the accompanying operating instructions must be followed.
Afin d'assurer le bon fonctionnement de nos appareils, prière de respecter les directives du mode d'emploi correspondant à ceux-ci.



Translation

(1) EC-Type Examination Certificate

(2) - Directive 94/9/EC -
Equipment and protective systems intended for use
in potentially explosive atmospheres

(3) **BVS 09 ATEX E 034**

(4) **Equipment:** Fluorescent lighting fixture type eLL* * * * *

(5) **Manufacturer:** Cooper Crouse-Hinds GmbH (formerly CEAG)

(6) **Address:** 69412 Eberbach, Germany

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this type examination certificate.

(8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the test and assessment report BVS PP 09.2044 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0:2006	General requirements
EN 60079-1:2004	Flameproof Enclosure
EN 60079-7:2007	Increased Safety
EN 61241-0:2006	General requirements
EN 61241-1:2004	Protection by Enclosure

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate

(12) The marking of the equipment shall include the following:



II 2G Ex de IIC T4

II 2D Ex tD A21 IP66 T80°C

DEKRA EXAM GmbH

Bochum, dated 6th April 2009

Signed: Simanski

Certification body

Signed: Dr. Wittler

Special services unit

(13)

Appendix to

(14)

EC-Type Examination Certificate

BVS 09 ATEX E 034

(15) 15.1 Subject and type

Fluorescent lighting fixture type eLL* * * * *

None	: Standard
ZB	: suitable for emergency power supply
18	: 1x 18W
18/18	: 2x 18W
36	: 1x 36W
36/36	: 2x 36W
58	: 1x 58W
58/58	: 2x 58W
0	: bi-pin lamp cap type G13
3	: one-pin lamp cap type FA6
08	: stainless steel enclosure
92	: plastic enclosure or pole mounting
K	: plastic enclosure
M	: pole mounted light with plastic enclosure
S	: stainless steel enclosure

15.2 Description

The fluorescent lighting fixture type eLL* * * * * is an explosion-protected electrical apparatus that accommodates single or twin fluorescent luminaires with either lamp cap FA6 (one-pin) or lamp cap G13 (bi-pin).

Only separately certified EVGs, either one single, one double or two single, are used as electronic ballast (cf. PTB 05 ATEX 2018 U).

The luminaires may be replaced inside the potentially explosive atmosphere if the fluorescent lighting fixture is equipped with a separately certified light switch (cf. PTB 00 ATEX 1105 U) which disconnects the light at all poles or if the voltage of the lighting fixture is set to zero before changing the luminaire. The variant without a light switch contains a relevant warning on the outside of the enclosure.

The lighting fixtures that are equipped with a luminaire size T12 (38mm diameter) are exclusively used with mechanical protection.

The enclosure of the fixture consists of either glass-mat reinforced polyester or of stainless steel; the light-permitting diffuser is made of polycarbonate.

15.3 Parameters

15.3 Electrical data

One-pin lamp cap type FA6

Type of luminaire	Type of electronic ballast	Nominal voltage	Frequency
eLL * ** 318/18	1x EVG 05 218	110V – 254V AC 195V – 250V DC	47Hz – 63Hz
eLL * ** 318/18	1x EVG 05 217	110V – 254V AC 110V – 127V DC	47Hz – 63Hz
eLL * ** 336/36	1x EVG 05 236	110V – 254V AC 110V – 250V DC	47Hz – 63Hz
eLL * ** 336	1x EVG 05 136	110V – 254V AC 110V – 250V DC	47Hz – 63Hz
eLL * ** 336/36	2x EVG 05 136	110V – 254V AC 110V – 250V DC	47Hz – 63Hz
eLL * ** 358/58	1x EVG 05 258	220V – 254V AC 195V – 250V DC	47Hz – 63Hz
eLL * ** 358	1x EVG 05 158	110V – 254V AC 110V – 250V DC	47Hz – 63Hz
eLL * ** 358/58	2x EVG 05 158	110V – 254V AC 110V – 250V DC	47Hz – 63Hz
eLL * ** 336/36 ZB	2x EVG 05 136	110V – 254V AC 110V – 250V DC	47Hz – 63Hz
eLL * ** 358/58 ZB	2x EVG 05 158	110V – 254V AC 110V – 250V DC	47Hz – 63Hz

Bi-pin lamp cap type G13

Type of luminaire	Type of electronic ballast	Nominal voltage	Frequency
eLL * ** 018/18	1x EVG 05 218	110V – 254V AC 195V – 250V DC	47Hz – 63Hz
eLL * ** 018/18	1x EVG 05 217	110V – 254V AC 110V – 127V DC	47Hz – 63Hz
eLL * ** 036/36	1x EVG 05 236	110V – 254V AC 110V – 250V DC	47Hz – 63Hz
eLL * ** 036	1x EVG 05 136	110V – 254V AC 110V – 250V DC	47Hz – 63Hz
eLL * ** 036/36	2x EVG 05 136	110V – 254V AC 110V – 250V DC	47Hz – 63Hz
eLL * ** 058/58	1x EVG 05 258	220V – 254V AC 195V – 250V DC	47Hz – 63Hz
eLL * ** 058	1x EVG 05 158	110V – 254V AC 110V – 250V DC	47Hz – 63Hz
eLL * ** 058/58	2x EVG 05 158	110V – 254V AC 110V – 250V DC	47Hz – 63Hz
eLL * ** 036/36 ZB	2x EVG 05 136	110V – 254V AC 110V – 250V DC	47Hz – 63Hz

eLL * ** 058/58 ZB	2x EVG 05 158	110V – 254V AC 110V – 250V DC	47Hz – 63Hz
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15.4 Thermal data

Ambient temperature range if $U < 220V$

$-25^{\circ}C \leq T_a \leq +50^{\circ}C$

Ambient temperature range if $U \geq 220V$

$-25^{\circ}C \leq T_a \leq +55^{\circ}C$

(16) Test and assessment report

BVS PP 09.2044 EG as of 06.04.2009

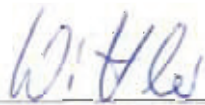
(17) Special conditions for safe use

None

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 27.04.2009
BVS-Kr/Ld/Ar A 20090147

DEKRA EXAM GmbH



Certification body



Special services unit



Translation

1st Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate BVS 09 ATEX E 034

Equipment: Fluorescent lighting fixture type eLL* ** ***/** *

Manufacturer: Cooper Crouse-Hinds GmbH

Address: 69412 Eberbach, Germany

Description

The lighting fixture type eLL* ** ***/** CG-S is equipped with a separately certified CG-S module (cf. PTB 04 ATEX 2110 U), which can be connected to the central battery system (ZBS) of CEAG.

The lighting fixture type eLL* ** ***/** NIB is provided with an emergency light device which consists of one or two separately certified EVGs (EVG 05... or EVG 09...) in conjunction with the supply unit VE 97..., and/or the power supply / emergency light unit VE/EVG 05..., as well as a battery box type eBK02 or eBS09 (BVS 09 ATEX E 044 X) with an inserted battery of type 2710-3 (BVS 09 ATEX E 042 U).

The luminaires type eLL* ** ***/** can be modified according to the descriptive documents as mentioned in the pertinent test and assessment report.

Subject and type

Fluorescent lighting fixture type eLL* ** ***/** *

	None	: Standard
	ZB	: suitable for emergency power supply (central battery)
	CG-S	: Monitoring module
	NIB	: intelligent single battery system
	18	: 1x 18W
	18/18	: 2x 18W
	36	: 1x 36W
	36/36	: 2x 36W
	58	: 1x 58W
	58/58	: 2x 58W
	0	: bi-pin lamp cap type G13
	3	: one-pin lamp cap type FA6
	08	: stainless steel enclosure
	92	: plastic enclosure or pole mounting
	K	: plastic enclosure
	M	: pole mounted light with plastic enclosure
	S	: stainless steel enclosure

Electrical data

One-pin lamp cap type FA6

Type of luminaire	Type of electronic ballast	Nominal voltage	Frequency
eLL* ** 318/18	1x EVG 05 218 resp. 1x EVG 09 218	110V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 318/18	1x EVG 05 217 resp. 1x EVG 09 217	110V – 254V AC 110V – 127V DC	50Hz – 60Hz
eLL* ** 336/36	1x EVG 05 236 resp. 1x EVG 09 236	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 336	1x EVG 05 136 resp. 1x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 336/36	2x EVG 05 136 resp. 2x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 358/58	1x EVG 05 258 resp. 1x EVG 09 258	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 358	1x EVG 05 158 resp. 1x EVG 09 158	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 358/58	2x EVG 05 158 resp. 2x EVG 09 158	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 336/36 ZB	2x EVG 05 136 resp. 2x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 358/58 ZB	2x EVG 05 158 resp. 2x EVG 09 158	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 318/18 NIB	1x VE/EVG 05 218 resp. 1x VE/EVG 09 218	220V – 254V AC 110V – 127V AC	50Hz – 60Hz
eLL* ** 336 NIB	1x VE 97 236 + 1x EVG 05 136 resp. 1x EVG 09 136	220V – 254V AC 110V – 127V AC	50Hz – 60Hz
eLL* ** 336/36 NIB	1x VE 97 236 + 1x EVG 05 236 resp. 1x EVG 09 236	220V – 254V AC 110V – 127V AC	50Hz – 60Hz

Bi-pin lamp cap type G13

Type of luminaire	Type of electronic ballast	Nominal voltage	Frequency
eLL* ** 018/18	1x EVG 05 218 resp. 1x EVG 09 218	110V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 018/18	1x EVG 05 217 resp. 1x EVG 09 217	110V – 254V AC 110V – 127V DC	50Hz – 60Hz
eLL* ** 036/36	1x EVG 05 236 resp. 1x EVG 09 236	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 036	1x EVG 05 136 resp. 1x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 036/36	2x EVG 05 136 resp. 2x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz

eLL* ** 058/58	1x EVG 05 258 resp. 1x EVG 09 258	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 058	1x EVG 05 158 resp. 1x EVG 09 158	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 058/58	2x EVG 05 158 resp. 2x EVG 09 158	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 036/36 ZB	2x EVG 05 136 resp. 2x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 058/58 ZB	2x EVG 05 158 resp. 2x EVG 09 158	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 018/18 NIB	1x VE/EVG 05 218	220V – 254V AC 110V – 127V AC	50Hz – 60Hz
eLL* ** 036/36 NIB	1x VE 97 236 + 1x EVG 05 236 resp. 1x EVG 09 236	220V – 254V AC 110V – 127V AC	50Hz – 60Hz
eLL* ** 036 NIB	1x VE 97 236 + 1x EVG 05 136 resp. 1x EVG 09 136	220V – 254V AC 110V – 127V AC	50Hz – 60Hz
eLL* ** 018/18 CG-S	1x EVG 05 218 resp. 1x EVG 09 218 +CG-S Modul	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 036/36 CG-S	1x EVG 05 236 resp. 1x EVG 09 236 +CG-S Modul	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 058/58 CG-S	1x EVG 05 258 resp. 1x EVG 09 258 +CG-S Modul	220V – 254V AC 195V – 250V DC	50Hz – 60Hz

Thermal data

Ambient temperature range if $U < 220V$

$-25^{\circ}C \leq T_a \leq +50^{\circ}C$

Ambient temperature range if $U \geq 220V$

$-25^{\circ}C \leq T_a \leq +55^{\circ}C$

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 60079-0:2006	General requirements
EN 60079-1:2007	Flameproof Enclosure
EN 60079-7:2007	Increased Safety
EN 60079-11:2007	Intrinsic safety
EN 60079-18:2004	Encapsulation
EN 61241-0:2006	General requirements
EN 61241-1:2004	Protection by Enclosure

The marking of the equipment shall include the following:

II 2G Ex de IIC T4 for types without addition; CG-S and ZB
 **II 2G Ex de mb ib IIC T4** for type NIB
II 2D Ex tD A21 IP66 T80°C

Special conditions for safe use

Still not relevant

Test and assessment report

BVS PP 09.2044 EG as of 23.09.2009

DEKRA EXAM GmbH

Bochum, dated 23. September 2009

Signed: Simanski

Certification body

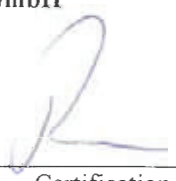
Signed: Dr. Eickhoff

Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 14.10.2009
BVS-Kr/Ld/Ar E 1567/09

DEKRA EXAM GmbH



Certification body



Special services unit

Translation

(1) 2. Supplement to the EC-Type Examination Certificate

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC Supplement accordant with Annex III number 6
- (3) No. of EC-Type Examination Certificate: **BVS 09 ATEX E 034**
- (4) Equipment: **Flourescent lighting fixture type eLL . 92 ... / ..**
- (5) Manufacturer: **Cooper Crouse-Hinds GmbH**
- (6) Address: **69412 Eberbach, Germany**
- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.
- (8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive. The examination and test results are recorded in the test and assessment report BVS PP 09.2044 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:
- | | |
|------------------|--------------------------|
| EN 60079-0:2006 | General requirements |
| EN 60079-1:2007 | Flameproof enclosure 'd' |
| EN 60079-7:2007 | Increased safety 'e' |
| EN 60079-11:2007 | Intrinsic safety 'i' |
| EN 60079-18:2009 | Encapsulation 'm' |
| EN 61241-0:2006 | General requirements |
| EN 61241-1:2004 | Protection by enclosures |
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.
- (11) This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment shall include the following:



II 2G Ex de IIC T4 (Type without option; CG-S; ZB; DCA)

II 2G Ex de mb ib IIC T4 (type NIB)

II 2D Ex tD A21 IP66 T80°C

DEKRA EXAM GmbH
Bochum, dated 14.02.2012

Signed: Simanski

Certification body

Signed: Dr. Wittler

Special services unit

- (13) Appendix to
- (14) **2. Supplement to the EC-Type Examination Certificate
BVS 09 ATEX E 034**
- (15) 15.1 Subject and type

Fluorescent lighting fixture

type eLL* ** ***/** *

None	: Standard
ZB	: suitable for emergency power supply (central battery)
CG-S	: Monitoring module
NIB	: intelligent single battery system
DCA	: DC - Disconnection
18	: 1x 18W
18/18	: 2x 18W
36	: 1x 36W
36/36	: 2x 36W
58	: 1x 58W
58/58	: 2x 58W
0	: bi-pin lamp cap type G13
3	: one-pin lamp cap type FA6
08	: type coding of stainless steel enclosure
92	: type coding of plastic enclosure or pole mounting
K	: plastic enclosure
M	: pole mounted light with plastic enclosure
S	: stainless steel enclosure

15.2 Description

The fluorescent lighting fixture type eLL* ** ***/** * is an explosion-protected electrical apparatus that accommodates single or twin fluorescent luminaires with either lamp cap FA6 (one-pin) or lamp cap G13 (bi-pin).

Only separately certified EVGs, either one single, one double or two single, are used as electronic ballast, such as: EVG 05... (PTB 05 ATEX 2018 U), EVG 09... (BVS 09 ATEX E 054 U), VE/EVG 05 (BVS 09 ATEX E 043 U) or VE 97... (BVS 09 ATEX E 043 U).

The luminaires may be replaced inside the potentially explosive atmosphere if the fluorescent lighting fixture is equipped with a separately certified light switch (cf. PTB 00 ATEX 1105 U or PTB 98 ATEX 1033 U) which disconnects the light at all poles or if the voltage of the lighting fixture is set to zero before changing the luminaire. The variant without a light switch contains a relevant warning on the outside of the enclosure.

The lighting fixtures that are equipped with a luminaire size T12 (38mm diameter) are exclusively used with mechanical protection.

The enclosure of the fixture consists of either glass-mat reinforced polyester or of stainless steel; the light-permitting diffuser is made of polycarbonate.

The lighting fixture type eLL* ** ***/** * ZB is intended to be connected to a central battery system or emergency power supply. If the light operates on twin luminaires, each luminaire is supplied by a separate circuit via its own electronic ballast.

The lighting fixture type eLL* ** ***/** * CG-S is equipped with a separately certified CG-S module (PTB 04 ATEX 2110 U), which can be connected to the central battery system (ZBS) of CEAG.

The lighting fixture type eLL* ** ***/** * NIB is provided with an emergency light device which consists of one or two separately certified EVGs (EVG 05... or EVG 09...) in conjunction with the supply unit VE 97..., and/or the power supply / emergency light unit VE/EVG 05..., as well as a battery box type eBK02 or eBS09 (BVS 09 ATEX E 044 X) with an inserted battery of type 2710-3 (BVS 09 ATEX E 042 U).

The reason of the supplement is the modification of the used ballast (in acc. to the table in clause 15.3).

15.3 Parameters

15.3.1 Electrical data

One-pin lamp cap type FA6

Type of luminaire	Type of electronic ballast	Nominal voltage	Frequency
eLL* ** 318/18	1x EVG 09 218	110V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 336	1x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 336/36	1x EVG 09 236 bzw. 2x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 358	1x EVG 09 158	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 358/58	1x EVG 09 258 bzw. 2x EVG 09 158	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 336/36 ZB	2x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 358/58 ZB	2x EVG 09 158	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 318/18 NIB	1x VE/EVG 05 218 bzw. 2 x VE/EVG 05218-1	220V – 254V AC 110V – 127V AC	50Hz – 60Hz
eLL* ** 336 NIB	1x VE 97 236 + 1x EVG 09 136	220V – 254V AC 110V – 127V AC	50Hz – 60Hz
eLL* ** 336/36 NIB	1x VE 97 236 + 1x EVG 09 236	220V – 254V AC 110V – 127V AC	50Hz – 60Hz

Bi-pin lamp cap type G13

Type of luminaire	Type of electronic ballast	Nominal voltage	Frequency
eLL* ** 018/18	1x EVG 05 218 bzw. 1x EVG 09 218	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 036	1x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 036/36	1x EVG 09 236 bzw. 2x EVG 09 136	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 058	1x EVG 09 158	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 058/58	1x EVG 09 258 bzw. 2x EVG 09 158	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 036/36 ZB	2x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 058/58 ZB	2x EVG 09 158	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 018/18 NIB	1x VE/EVG 05 218 bzw. 1x VE/EVG 05218-1	220V – 254V AC 110V – 127V AC	50Hz – 60Hz
eLL* ** 036/36 NIB	1x VE 97 236 + 1x EVG 09 236	220V – 254V AC 110V – 127V AC	50Hz – 60Hz
eLL* ** 036 NIB	1x VE 97 236 + 1x EVG 09 136	220V – 254V AC 110V – 127V AC	50Hz – 60Hz
eLL* ** 018/18 CG-S	1x EVG 09 218 +CG-S Modul	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 036/36 CG-S	1x EVG 09 236 +CG-S Modul	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 058/58 CG-S	1x EVG 09 258 +CG-S Modul	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 018/18 DCA	1x EVG 09218 DCA Version	110V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 036/36 DCA	1x EVG 09236 DCA Version	110V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 058/58 DCA	1x EVG 09258 DCA Version	110V – 254V AC 195V – 250V DC	50Hz – 60Hz

15.3.2 Thermal data

Type eLL* ** */**

Ambient temperature range if $U < 220V$

$-25^{\circ}C \leq T_a \leq +50^{\circ}C$

Ambient temperature range if $U \geq 220V$

$-25^{\circ}C \leq T_a \leq +55^{\circ}C$

Type eLL* ** */** NIB

Ambient temperature range if $U < 220V$

$-25^{\circ}C \leq T_a \leq +50^{\circ}C$

Type eLL* ** 058/58

Ambient temperature range if $U < 220V$

$-25^{\circ}C \leq T_a \leq +40^{\circ}C$

(16) Test and Assessment Report

(16) Test and Assessment Report

BVS PP 09.2044 EG as of 14.02.2012

(17) Special conditions for safe use Installation instructions

17.1 Special conditions to be listed in EC Type Certificate

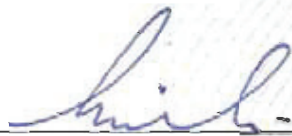
Still not relevant

17.2 Additional conditions

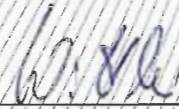
The lighting fixtures that contain luminaires of 38 mm diameter can only be used in special conditions (mechanically protected mounting of the fixture) and are marked accordingly. In areas with excess condensation of paint spray or dirt a protective foil type "SLIME", manufactured by 3M, may be used which can be wiped off and rinsed. However, such lighting fixtures may not be installed and operated in hazardous areas with combustible dust.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
44809 Bochum, 14.02.2012
BVS-Yil/Sch A 20110067



Certification body



Special services unit

Translation

(1) 3. Supplement to the EC-Type Examination Certificate

- (2) Equipment and protective systems intended for use
in potentially explosive atmospheres - Directive 94/9/EC
Supplement accordant with Annex III number 6
- (3) No. of EC-Type Examination Certificate: **BVS 09 ATEX E 034**
- (4) Equipment: **Leuchtstofflampe type eLL* ** ***/** ***
- (5) Manufacturer: **Cooper Crouse-Hinds GmbH**
- (6) Address: **Neuer Weg Nord 49, 69412 Eberbach, Germany**
- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.
- (8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive. The examination and test results are recorded in the test and assessment report BVS PP 09.2044 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:
EN 60079-0:2009 General requirements
EN 60079-1:2007 Druckfeste Kapselung „d“
EN 60079-7:2007 Erhöhte Sicherheit „e“
EN 60079-11:2007 Intrinsic safety „i“
EN 60079-18:2009 Encapsulation „m“
EN 60079-31:2009 Schutz durch Gehäuse „t“
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.
- (11) This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment shall include the following:
II 2G Ex de IIC T4 Gb Type without option; CG-S; ZB; DCA
 **II 2G Ex de mb ib IIC T4 Gb** Type NIB
II 2D Ex tb IIIC T80 °C Db IP66

DEKRA EXAM GmbH
Bochum, dated 29. August 2012

Signed: Simanski

Certification body

Signed: Hauke

Special services unit

- (13) Appendix to
- (14) **3. Supplement to the EC-Type Examination Certificate
BVS 09 ATEX E 034**
- (15) **15.1 Subject and type**

Fluorescent lighting fixture type eLL*¹⁾ **²⁾ ***³⁾ / ***⁴⁾ *⁵⁾

- 1) K : plastic enclosure
M : pole mounted light with plastic enclosure
S : stainless steel enclosure
- 2) 08 : type coding of stainless steel enclosure
92 : type coding of plastic enclosure or pole mounting
- 3) 0 : bi-pin lamp cap type G13
3 : one-pin lamp cap type FA6
- 4) 18/18 : 2x 18W
36 : 1x 36W
36/36 : 2x 36W
58 : 1x 58W
58/58 : 2x 58W
- 5) None : Standard
ZB : suitable for emergency power supply (central battery)
CG-S : Monitoring module
NIB : intelligent single battery system
DCA : DC - Disconnection

15.2 Description

The fluorescent lighting fixture type eLL* ** ***/** * is an explosion-protected electrical apparatus that accommodates single or twin fluorescent luminaires with either lamp cap FA6 (one-pin) or lamp cap G13 (bi-pin).

Only separately certified EVGs, either one single, one double or two single, are used as electronic ballast, such as: EVG 05... (PTB 05 ATEX 2018 U), EVG 09... (BVS 09 ATEX E 054 U), VE/EVG 05 (BVS 09 ATEX E 043 U) or VE 97... (BVS 09 ATEX E 043 U).

The luminaires may be replaced inside the potentially explosive atmosphere if the fluorescent lighting fixture is equipped with a separately certified light switch (cf. PTB 00 ATEX 1105 U or PTB 98 ATEX 1033 U) which disconnects the light at all poles or if the voltage of the lighting fixture is set to zero before changing the luminaire. The variant without a light switch contains a relevant warning on the outside of the enclosure.

The lighting fixtures that are equipped with a luminaire size T12 (38 mm diameter) are exclusively used with mechanical protection.

The enclosure of the fixture consists of either glass-mat reinforced polyester or of stainless steel; the light-permitting diffuser is made of polycarbonate.

The lighting fixture type eLL* ** ***/** ZB is intended to be connected to a central battery system or emergency power supply. If the light operates on twin luminaires, each luminaire is supplied by a separate circuit via its own electronic ballast.

The lighting fixture type eLL* ** ***/** CG-S is equipped with a separately certified CG-S module (PTB 04 ATEX 2110 U), which can be connected to the central battery system (ZBS) of CEAG.

The lighting fixture type eLL* ** ***/** NIB is provided with an emergency light device which consists of one or two separately certified EVGs (EVG 05... or EVG 09...) in conjunction with the supply unit VE 97..., and/or the power supply / emergency light unit VE/EVG 05..., as well as a battery box type eBK02 or eBS09 (BVS 09 ATEX E 044 X) with an inserted battery of type 2710-3 (BVS 09 ATEX E 042 U).

The reason of the supplement is the updating to the standards EN 60079-0:2009 and EN 60079-31:2009, also the integration of the preceding revision reports into the test report:

- 1) The optional uses of a reducer from M25 to M20 thread incl. O-Ring.
- 2) The luminaires 18 W and 16 W can be manufactured with a glued foil (LEE-Filter 768, EGG YOLK Yellow) at the inside of protective hull.
- 3) The luminaire can be manufactured with a ferrite core between the electronic ballast e.g. supply unit and the terminal block to fulfil the EMV requirements.
- 4) The material of the locking rod has been changed into Durethan BKV 30 H3.0.

15.3 Parameters

15.3.1 Electrical data

One-pin lamp cap type FA6

Type of luminaire	Type of electronic ballast	Nominal voltage	Frequency
eLL* ** 318/18	1x EVG 09 218	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 336	1x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 336/36	1x EVG 09 236 bzw. - resp. 2x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 358	1x EVG 09 158	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 358/58	1x EVG 09 258 bzw. - resp. 2x EVG 09 158	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 336/36 ZB	2x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 358/58 ZB	2x EVG 09 158	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 318/18 NIB	1x VE/EVG 05 218 bzw. - resp. 2x VE/EVG 05218-1	220V – 254V AC 110V – 127V AC	50Hz – 60Hz
eLL* ** 336 NIB	1x VE 97 236 + 1x EVG 09 136	220V – 254V AC 110V – 127V AC	50Hz – 60Hz
eLL* ** 336/36 NIB	1x VE 97 236 + 1x EVG 09 236	220V – 254V AC 110V – 127V AC	50Hz – 60Hz

Bi-pin lamp cap type G13

Type of luminaire	Type of electronic ballast	Nominal voltage	Frequency
eLL* ** 018/18	1x EVG 09 218	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 036	1x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 036/36	1x EVG 09 236 bzw. - resp. 2x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 058	1x EVG 09 158	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 058/58	1x EVG 09 258 bzw. - resp. 2x EVG 09 158	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 036/36 ZB	2x EVG 09 136	110V – 254V AC 110V – 250V DC	50Hz – 60Hz
eLL* ** 058/58 ZB	2x EVG 09 158	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 018/18 NIB	1x VE/EVG 05 218 bzw. - resp. 1x VE/EVG 05218-1	220V – 254V AC 110V – 127V AC	50Hz – 60Hz
eLL* ** 036 NIB	1x VE 97 236 + 1x EVG 09 136	220V – 254V AC 110V – 127V AC	50Hz – 60Hz
eLL* ** 036/36 NIB	1x VE 97 236 + 1x EVG 09 236	220V – 254V AC 110V – 127V AC	50Hz – 60Hz
eLL* ** 018/18 CG-S	1x EVG 09 218 +CG-S Modul	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 036/36 CG-S	1x EVG 09 236 +CG-S Modul	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 058/58 CG-S	1x EVG 09 258 +CG-S Modul	220V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 018/18 DCA	1x EVG 09218 DCA Version	110V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 036/36 DCA	1x EVG 09236 DCA Version	110V – 254V AC 195V – 250V DC	50Hz – 60Hz
eLL* ** 058/58 DCA	1x EVG 09258 DCA Version	110V – 254V AC 195V – 250V DC	50Hz – 60Hz

15.3.2 Thermal data

Type eLL* ** ***/**

Ambient temperature range if $U < 220 \text{ V}$ $-25 \text{ °C} \leq T_a \leq +50 \text{ °C}$

Ambient temperature range if $U \geq 220 \text{ V}$ $-25 \text{ °C} \leq T_a \leq +55 \text{ °C}$

Type eLL* ** ***/** NIB

Ambient temperature range $-25 \text{ °C} \leq T_a \leq +50 \text{ °C}$

Type eLL* ** 058/58

Ambient temperature range $-25 \text{ °C} \leq T_a \leq +40 \text{ °C}$

(16) Test and assessment report

BVS PP 09.2044 EG as of 29.08.2012

(17) Special conditions for safe use

None

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
44809 Bochum, 29. August 2012
BVS-YII/Sp A 20120513



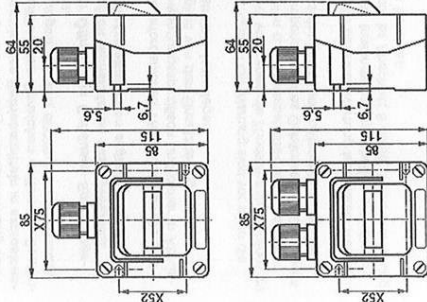
Certification body



Special services unit

1 Technical data

Dimensions in mm



X = Fixing dimensions

Marking acc. to 94/9/EC and directive:	II 2 G Ex de II C T6
EC type examination certificate:	II 2 D Ex ID A21 IP66 T 80° C
Rated voltage:	PTB 98 ATEX 3121
Rated current:	up to 250V; 50/60 Hz
Short circuit back-up fuse:	max. 16 A
Switching capacity	max. 20 A gl.
Switching capacity	230 V / 16 A
Permit. ambient temperature:	230 V / 16 A
Special versions permit dividing temperature ranges:	-20° C up to +40° C (catalogue version)
Permit. storage temperature in original packing:	-40° C bis +80° C
Protection category acc. to EN/IEC 60529:	IP 66 (catalogue version)
Insulation class acc. to EN/IEC 61140:	I - is complied with by the installation switches
Cable entry (catalogue version):	1x M25 or 2x M25 (Ø 8 - 17mm)
Supply terminal:	2x drilling M20
PE - terminal:	4x 1.5 - 2.5 mm²
Test torques:	3.5 Nm
Cap nut of the M25 entry	2.0 Nm
Cover screws	2.5 Nm
Terminals	approx. 0.32 kg
Weight (catalogue version):	

2 Safety instructions

The operations must be carried out by electrical suitably trained in hazardous area with knowledge of increased safety explosion protection IEC 60079-14.

The installation switches are not suitable for Zone 0 and Zone 20 hazardous areas. The temperature class and explosion group marked on the installation switches shall be observed.

Modifications to the installation switches or changes of their design are not permitted. They shall be used for their intended purpose and in perfect and clean condition.

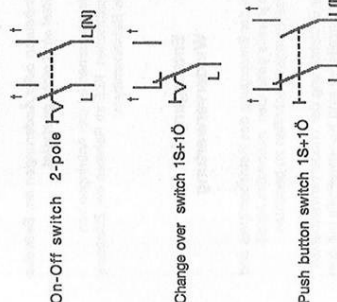
The requirements of the EN 61241-0 and -1 regarding excessive dust deposits and temperature to be considered from the user.

For replacement and repair only genuine CEAG spare parts shall be used. Repairs that affect the explosion protection, may only be carried out by CEAG or a qualified electrician in compliance with the respective national regulations.

Prior to taking the installation switches into operation, they shall be checked in accordance with the instruction as per section 6.

Observe the national safety rules and regulations for prevention of accidents as well as the safety instructions included in these operating instructions and set in italics the same as this text!

Wiring diagrams



The switch function is only realized with closed enclosure cover

5 Use/Properties

The installation switches are designed for switching on and off light circuits in hazardous areas up to 16 A (see technical data). The temperature class, explosion group and permissible ambient temperature, see technical data.

The installation switches can also be used in a "normal industrial area".

The switch rocker is provided with a luminescent label in acc. with § 7 of the Workshop regulations and free from any radioactive additives.

The data as per point 3 and 4 shall be taken into account with the use.

Applications other than described are not permitted without Cooper Crouse-Hinds prior written consent.

For the operation, the instructions stated in section 7 of the operating instructions shall be observed.

The user alone is responsible for the appropriate use of this installation switch in consideration of the basic conditions existing at the plant (see technical data).

6 Installation

For the mounting and operation, the respective national regulations (e. g. BetrSt.V., equipment safety law for Germany) as well as the general rules of engineering shall be observed.

The improper installation and operation of safety switches may result in the invalidation of the guarantee.

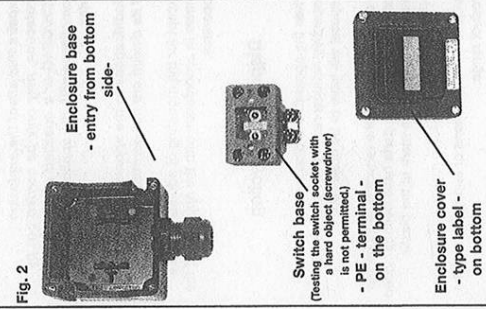
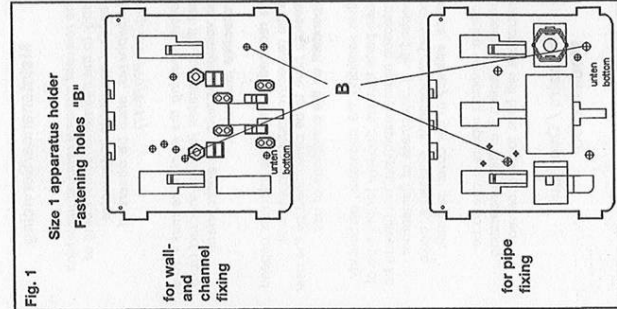
6.1 Mounting

The installation switches can be mounted without opening their enclosure.

In case the switches are mounted directly onto the wall, they may rest evenly only at the respective fastening points. The chosen screw shall match the fastening hole (see dimensional drawing) and it must not damage the hole (e. g. use of a washer). The device shall be fastened diagonally with at least 2 screws.

If the screws are overtightened, the apparatus can be damaged.

When the installation switch is mounted with the cable entries on bottom side, the switch insert and the enclosure cover must be turned through 180° (see fig.2).



The installation switch is suitable for fixing onto CEAG apparatus holders size 1 by means of self-cutting screws (see fig. 1).
The respective mounting instructions shall be observed.

6.2 Opening the device/ Electrical connection
The electrical connection of the device may only be carried out by skilled staff.

Before opening the apparatus, ensure that it has been isolated from the voltage supply, or take appropriate protective measures.

Taking into account the respective regulations, the property bared conductors of the cables shall be connected.

The insulation of the conductors shall reach up to the terminal. The conductor itself shall not be damaged.

If the installation switch is mounted with the cable entries on bottom, point 6.1 and fig. 2 will have to be observed.

After dismantling the switch base in order to facilitate the introduction of cables, such switch base will have to be properly fitted in again prior to the electrical connection.

The connectible min. and max. conductor cross-sections will have to be observed (see technical data).

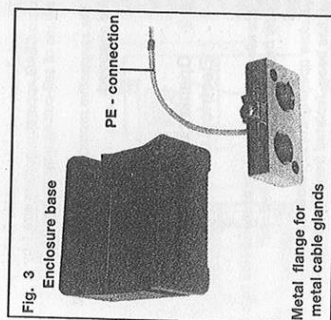
All screws and/or nuts of the supply terminals, also of those remaining vacant, shall be tightened down.

Excessive tightening may affect or damage the connection.

The conductors shall be connected with special care in order to maintain the explosion category.

The supply terminals are designed for the connection of copper conductors.

If multi- or fine-wire connecting cables are used, the wire ends will have to be handled in acc. with the applicable national and international rules (e. g. use of ferrules).



attention shall be paid to the proper fit of the flange plate when mounting them in order to maintain the minimum protection category (see fig. 3).

Flange plates shall be fitted so that the IP protection is maintained. Pay attention to the proper seat of the sealing.

Attention: Metal flanges, metal plates and metal cable glands shall be included in the equipotential earth connection.

Attention: When tightening the cap nut of the metal cable entry (e.g. type ADE, CMDEL), the screwing is to be protected against twisting by means of a suitable tool.

PE conductors fed from outside are to be connected to the PE terminal provided on the flange. The maximum cross-section is 6 mm² category.

* not yet certified for category II D

6.3 Cable entries (KLE); blanking plugs

Generally, only certified cable entries and blanking plugs are permitted for use.

Flexible cables shall be used with trumpet-shaped cable glands or other suitable entries with additional pull-relief.

When using cable entries with a lower IP protection than that which applies to the device (see page 6, technical data), the IP protection of the whole device will be reduced.

The mounting directives applicable to the cable entries used shall be observed.

Unused holes shall be closed with a certified blanking plug in order to establish the minimum protection category.

In case of sealing inserts that are cut out, it shall be ensured that the insert is properly adapted to the cable diameter.

Care has to be taken that when fitting the cable entries, sealing inserts appropriate to the cable diameter are used.

In order to ensure the required minimum protection category, the cable glands are to be tightened down.

Overtightening might impair the protection.

All vacant metric CEAG cable entries shall be closed with the certified CEAG blanking plug for metric cable entries.

6.4 Flange and metal plates *

If flange plates have to be removed in case of installation switches (e.g. for drilling entry holes),

7 Maintenance/Service

The relevant national regulations which apply to the maintenance/service of electrical apparatus in explosive atmospheres, shall be observed (e. g. IEC 60079-17).

Before opening the enclosure make sure that the apparatus is disconnected from the voltage, or take the appropriate protective measures.

The required maintenance intervals depend on the respective application and will therefore have to be determined by the user dependent on the conditions of use.

When servicing the apparatus, particularly those parts that are decisive for the type of protection against explosion, will have to be checked (e. g. intactness of flameproof enclosed components, enclosure, cable glands, efficacy of the cover gaskets).

If during servicing repairs prove to be necessary, section 8 of these operating instructions will have to be observed.

8 Repairs / Overhaul / Modification

Repairs may only be carried out with genuine CCH/CEAG spare parts.

In case of a damaged flameproof enclosure, only its replacement is permitted. In case of doubt, the respective apparatus will have to be returned for repair to CCH/CEAG.

Repairs that affect the explosion protection, may only be carried out by CCH/CEAG or a qualified electrician in compliance with the applicable national rules.

Modifications to the apparatus or changes of its design are not permitted.

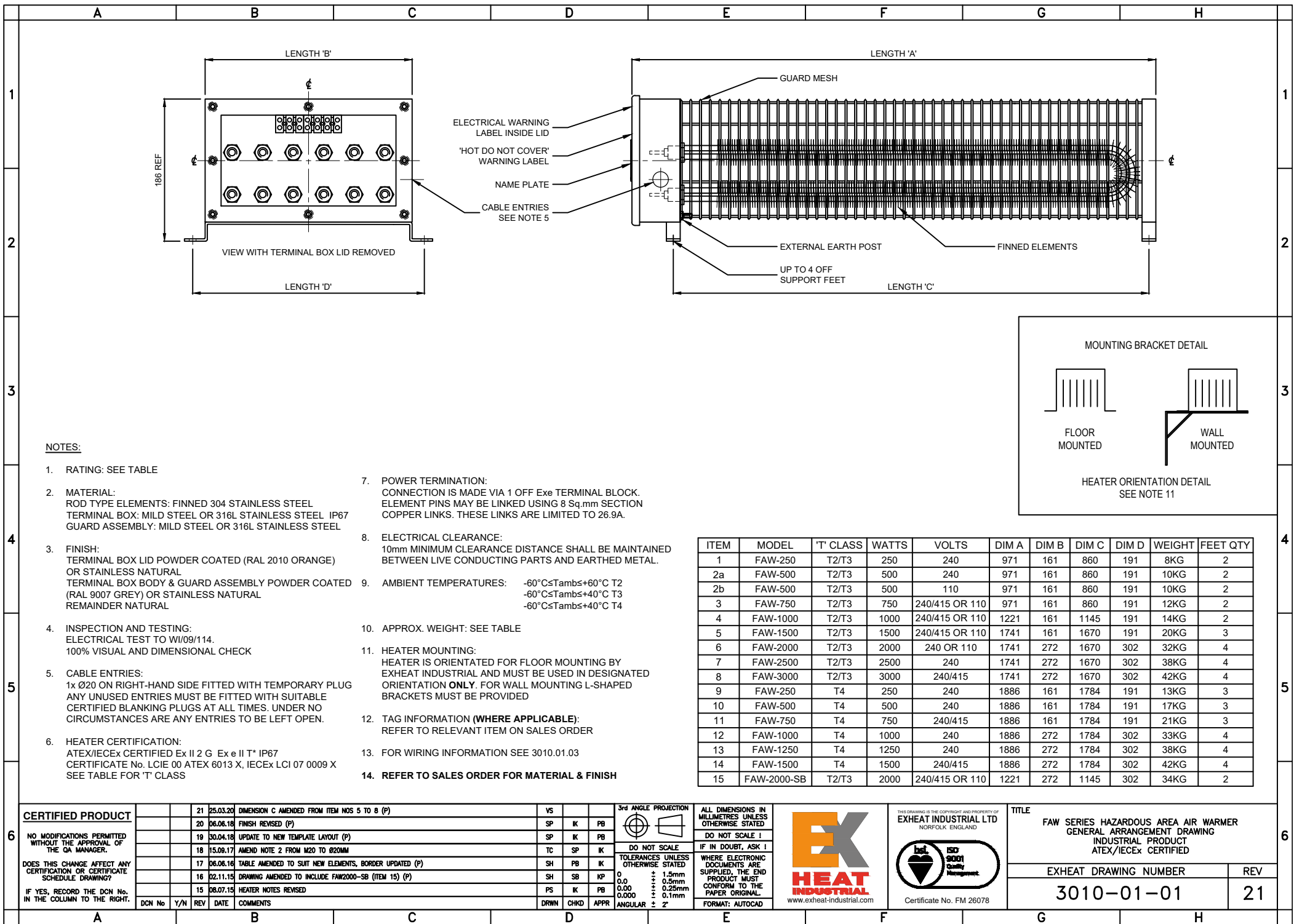
Except for the mounting of additional cable entries in accordance with the approval of the apparatus.

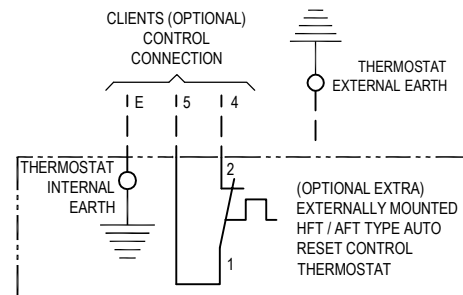
9 Disposal / Recycling

When the apparatus is disposed of, the respective national regulations on waste disposal will have to be observed.

In order to facilitate the recycling of individual components, plastic parts have been provided with the identification mark of the plastic material used.

Subject to modifications or supplement of the product range.

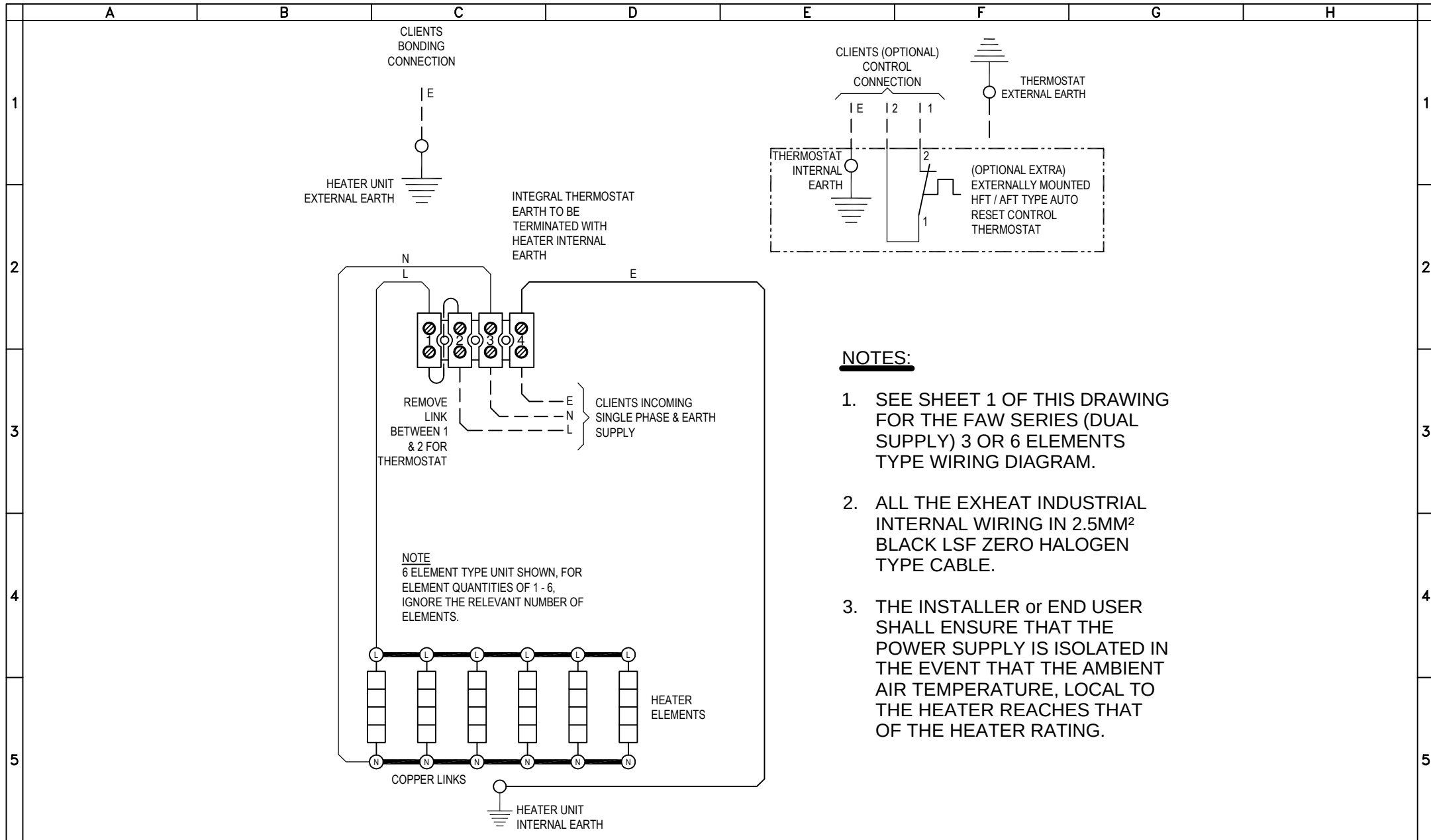




1. SEE SHEET 2 OF THIS DRAWING FOR THE FAW SERIES SINGLE PHASE 3 - 6 ELEMENTS TYPE WIRING DIAGRAM.
2. ALL THE EXHEAT INDUSTRIAL INTERNAL WIRING IN 2.5MM² BLACK LSF ZERO HALOGEN TYPE CABLE.
3. THE INSTALLER or END USER SHALL ENSURE THAT THE POWER SUPPLY IS ISOLATED IN THE EVENT THAT THE AMBIENT AIR TEMPERATURE, LOCAL TO THE HEATER REACHES THAT OF THE HEATER RATING.

SHEET 1 OF 2

CERTIFIED PRODUCT			08	16.12.17	BORDER REVISED TO LATEST TEMPLATE (P)	TC				ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED	 www.exheat-industrial.com	THIS DRAWING IS THE COPYRIGHT AND PROPERTY OF EXHEAT INDUSTRIAL LTD NORFOLK ENGLAND	 Certificate No. FM 26078	TITLE FAW SERIES HAZARDOUS AREA AIR WARMER 1-6 ELEMENT SINGLE PHASE SUPPLY WIRING DIAGRAM	
			07	22.12.14	WIRING ALTERED TO SHOW ALL CABLES	PB	SB	KP		DO NOT SCALE !					
			08	14.12.14	NOTES REVISED. "MM" NOT "MMM" AND AND "TO THE" NOT "THE THE"	PB	SB	KP		DO NOT SCALE !					
			05	17.11.14	DRAWING REVISED FOR STAT LOOP AND NEW TERMINALS	PB	IK	KP		IF IN DOUBT, ASK !					
			04	24.09.14	BORDER UPDATE	SP	IK	KP		WHERE ELECTRONIC DOCUMENTS ARE SUPPLIED, THE END PRODUCT MUST CONFORM TO THE PAPER ORIGINAL. FORMAT: AUTOCAD					
NO MODIFICATIONS PERMITTED WITHOUT THE APPROVAL OF THE QA MANAGER.									TOLERANCES UNLESS OTHERWISE STATED	0.0 ± 1.5mm 0.00 ± 0.5mm 0.00 ± 0.25mm 0.000 ± 0.1mm					
DOES THIS CHANGE AFFECT ANY CERTIFICATION OR CERTIFICATE SCHEDULE DRAWING?									DO NOT SCALE	ANGULAR ± 2°					
IF YES, RECORD THE DCN No. IN THE COLUMN TO THE RIGHT.															
DCN No	Y/N	REV	DATE	COMMENTS	DRWN	CHKD	APPR								



SINGLE PHASE SUPPLY 1-6 ELEMENT WIRING DIAGRAM

NOTES:

1. SEE SHEET 1 OF THIS DRAWING FOR THE FAW SERIES (DUAL SUPPLY) 3 OR 6 ELEMENTS TYPE WIRING DIAGRAM.
2. ALL THE EXHEAT INDUSTRIAL INTERNAL WIRING IN 2.5MM² BLACK LSF ZERO HALOGEN TYPE CABLE.
3. THE INSTALLER or END USER SHALL ENSURE THAT THE POWER SUPPLY IS ISOLATED IN THE EVENT THAT THE AMBIENT AIR TEMPERATURE, LOCAL TO THE HEATER REACHES THAT OF THE HEATER RATING.

SHEET 2 OF 2

6	CERTIFIED PRODUCT		08	06.12.17	BORDER REVISED TO LATEST TEMPLATE (P)	TC			3rd ANGLE PROJECTION DO NOT SCALE TOLERANCES UNLESS OTHERWISE STATED 0 ± 1.5mm 0.0 ± 0.5mm 0.00 ± 0.25mm 0.000 ± 0.1mm ANGULAR ± 2°	ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED DO NOT SCALE ! IF IN DOUBT, ASK ! WHERE ELECTRONIC DOCUMENTS ARE SUPPLIED, THE END PRODUCT MUST CONFORM TO THE PAPER ORIGINAL. FORMAT: AUTOCAD	www.exheat-industrial.com	THIS DRAWING IS THE COPYRIGHT AND PROPERTY OF EXHEAT INDUSTRIAL LTD NORFOLK ENGLAND Certificate No. FM 26078	TITLE FAW SERIES HAZARDOUS AREA AIR WARMER 1-6 ELEMENT SINGLE PHASE SUPPLY WIRING DIAGRAM										
	NO MODIFICATIONS PERMITTED WITHOUT THE APPROVAL OF THE QA MANAGER.		07	22.12.14	WIRING ALTERED TO SHOW ALL CABLES	PB	SB	KP							6								
	DOES THIS CHANGE AFFECT ANY CERTIFICATION OR CERTIFICATE SCHEDULE DRAWING?		06	04.12.14	NOTES REVISED. "MM" NOT "MMN" AND "TO THE" NOT "THE THE"	PB	SB	KP															
			05	17.11.14	DRAWING REVISED FOR STAT LOOP AND NEW TERMINALS	PB	IK	KP															
			04	24.09.14	BORDER UPDATE	SP	IK	KP															
	IF YES, RECORD THE DCN No. IN THE COLUMN TO THE RIGHT.		03	29.08.12	UPLOAD TO SHAREPOINT	PC	KT	IK								DRWN	CHKD	APPR					
			02	08.06.04	SHEET 2 INTRODUCED, BORDER UPDATE	MJP	KC	RW															
			DCN No	Y/N	REV	DATE	COMMENTS																
	A		B		C		D									E		F		G		H	

Electrical Test Record

Test Ref No: WI/09/114

WO041004N / N/A

Customer Name :

Customer ID :

Customer Reference :

Order Date: 18/09/2020

Item/Group	Qty	Description
S99000207	10.00	FAW1000 HAZARDOUS AREA AIR WARMER rated 1KW, on 240/415V, 1/3Ph, 50/60Hz Horizontal Floor/Wall Mounted - refer to drawing 3010-01-01 & 3010-01-03 sht 1 Certification: ATEX / IECEx Certified Ex II 2 G Ex e II T3 Zone 1 & 2 IP67 Certificate Number: LCIE 00 ATEX 6013X IECEx LCI 07 0009X

Element assembly resistance: Phase to Neutral**Stage 1:** 58.1-59.5 Ohms**Stage 3:** n/a Ohms**Stage 2:** n/a Ohms**Stage 4:** n/a Ohms**Insulation resistance (cold):** 5.7->10GΩ

(500V dc test between all live points and earth)

High voltage flash test**Elements:** 2000 Volts **Thermostat & ACH Circuit:** n/a Volts

(HV applied for 1 minute between all live points and earth)

Insulation resistance (after HV test): 5.7->10GΩ

(500V dc test between all live points and earth)

Insulation resistance between stages: n/a M Ohms

(500V dc test between all live points and earth)

Earth bonding resistance: <0.05 Ohms**Thermostat and cutout continuity:** N/A**ACH circuit resistance:** n/a Ohms**Temperature sensor readings:** (RTD/TC/Temperature Transmitter)

n/a

Hydrostatic Test Pressure carried out @: n/a **Bar G for:** n/a **minutes****Vessel Hydrostatic test carried out @:** n/a **Bar G for:** n/a **minutes**

Comments

Test Equipment Used:
Flash Tester EXI271
Digital Multimeter EX174
Earth bonding tester EXI252
Insulation Tester HX0518

Tag Number: n/a

Serial Number: 208963N-208972N

Name : Leigh Pankhurst

Signed:  Date: 18/11/2020

For and On behalf of Exheat Industrial Ltd

Certificate of Conformity**WO044492N / N/A**

Customer Name Exheat Industrial Ltd

Customer ID: N/A

Customer Reference : WO044492N

Order Date: 05/10/2021

Item/Group	Qty	Description
S99000207	10.00	FAW1000 HAZARDOUS AREA AIR WARMER rated 1KW, on 240/415V, 1/3Ph, 50/60Hz Horizontal Floor/Wall Mounted - refer to drawing 3010-01-01 & 3010-01-03 sht 1 Certification: ATEX / IECEx Certified Ex II 2 G Ex e II T3 Zone 1 & 2 IP67 Certificate Number: LCIE 00 ATEX 6013X IECEx LCI 07 0009X

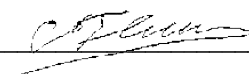
TESTS

1. Resistance check within 7.5% of rated value.
2. High voltage flash test (cold) @ 2000 volts for 1 minute.
3. Insulation resistance (cold) > 999 @ 500 volts D.C.
4. Earth continuity check.
5. Visual and Dimensional Check.
6. Hydrostatic Test Pressure @ N/A Bar G for N/A minutes
7. Heater Pneumatic Pressure Test @ N/A PSI for N/A minutes
8. Vessel Pressure Test @ N/A Bar G for N/A minutes
9. Serial Number: 215256N TO 215265N
10. Tag Number: N/A

"Certified that the equipment / Services detailed hereon have been inspected and tested in accordance with the contract or purchase order and unless noted hereon, conform in all respect to the specifications and drawings relevant thereto."

Name : Chris Green

Signed: _____



Date: 02/12/2021

For and On behalf of Exheat Industrial Ltd

Exheat Industrial Ltd

Thrextton House, Thrextton Road Industrial Estate, Watton, Norfolk, IP25 6NG

Tel: +44 (0)1953 886210, Fax: +44 (0) 1953 883853, email: accounts@exheat.com, web: www.exheat-industrial.com

Electrical Test Record

Test Ref No: WI/09/114

WO044492N / N/A

Customer Name :

Customer ID :

Customer Reference :

Order Date: 05/10/2021

Item/Group	Qty	Description
S99000207	10.00	FAW1000 HAZARDOUS AREA AIR WARMER rated 1KW, on 240/415V, 1/3Ph, 50/60Hz Horizontal Floor/Wall Mounted - refer to drawing 3010-01-01 & 3010-01-03 sht 1 Certification: ATEX / IECEx Certified Ex II 2 G Ex e II T3 Zone 1 & 2 IP67 Certificate Number: LCIE 00 ATEX 6013X IECEx LCI 07 0009X

Element assembly resistance: Phase to Neutral

Stage 1: 57.1 TO 58.7 Ohms

Stage 3: N/A Ohms

Stage 2: N/A Ohms

Stage 4: N/A Ohms

Insulation resistance (cold): 999 M Ohms

(500V dc test between all live points and earth)

High voltage flash test

Elements: 2000 Volts Thermostat & ACH Circuit: N/A Volts

(HV applied for 1 minute between all live points and earth)

Insulation resistance (after HV test): 999 M Ohms

(500V dc test between all live points and earth)

Insulation resistance between stages: N/A M Ohms

(500V dc test between all live points and earth)

Earth bonding resistance: 0.05 Ohms

Thermostat and cutout continuity: N/A

ACH circuit resistance: N/A Ohms

Temperature sensor readings: (RTD/TC/Temperature Transmitter)

N/A

Hydrostatic Test Pressure carried out @: N/A Bar G for: N/A minutes

Vessel Hydrostatic test carried out @: N/A Bar G for: N/A minutes

Comments

Test Equipment Used:

Digital Multimeter EX1159

Insulation tester EX1265

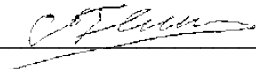
Flash tester HX0001

Earth bonding tester EX1252

Tag Number: N/A

Serial Number: 215256N TO 215265N

Name : Chris Green

Signed:  Date: 02/12/2021

For and On behalf of Exheat Industrial Ltd



INSTALLATION OPERATION AND MAINTENANCE INSTRUCTIONS

FAW, FAW-C & FAW-C-T TYPE AIR WARMERS

FCR & FCR-A TYPE CONVECTORS

STW & STW-T SAFE AREA AIR WARMERS

HFT, AFT & SAT TYPE AIR THERMOSTATS



**Please read these instructions thoroughly before installation and ensure they
are passed on to the end-user**

CONTENTS

1.0	GENERAL	2
2.0	STORAGE	2
3.0	PRE INSTALLATION INSPECTION AND CHECKS	3
4.0	INSTALLATION	3
5.0	ELECTRICAL SUPPLY CONNECTION	4
6.0	EARTH CONNECTION	4
7.0	OPERATION	5
8.0	MAINTENANCE	5
9.0	MARKING	6
10.0	CERTIFICATION	6
 APPENDIX A – WIRING DIAGRAMS		 7
APPENDIX B – HEATER GENERAL ARRANGEMENT DRAWINGS		18
APPENDIX C – ATEX/IECEX HAZARDOUS AREA CERTIFICATES		25



To maintain the equipment warranty and the Hazardous Area Certification, the instructions contained within this manual must be complied with in full.

1.0 GENERAL

- 1.1 All work should be carried out by suitable qualified personnel.
- 1.2 Carefully remove all protective packaging and visually inspect unit for any transit damage.
- 1.3 Heaters must be handled with care and stored in dry conditions.
- 1.4 **CAUTION** – Air warmers over 1m long are HEAVY and must be handled appropriately.
 - 32kg FAW2000
 - 38kg FAW2500
 - 42kg FAW3000
 - up to 34kg FCR2
 - up to 49kg FCR3
- 1.5 Before connection ensure that the supply corresponds with that specified on the rating label.
- 1.6 Ensure that the sizes and types of cables to be used are suitably rated for the load and temperature of the unit.
- 1.7 Each heater must be protected by a suitably rated over current device.
- 1.8 All prevailing rules, regulations and bylaws in force at the time and place of installation must be observed.
- 1.9 The heater should be securely fixed in position and all terminal connections checked for tightness before energising.
- 1.10 Any modification not carried out by Exheat Industrial Ltd will invalidate certification and warranty.
- 1.11 Refer to the relevant code of practice for the equipment:
 - *IEC/EN 60079-14* for selection and installation
 - *IEC/EN 60079-17* for inspection and maintenance of electric apparatus for use in potentially explosive atmospheres.
- 1.12 All electrical testing must be carried out in a non-hazardous area.
- 1.13 Precautions must be taken to prevent damage to machined surfaces and threads of flameproof enclosures.
- 1.14 Ensure that any special conditions for safe use detailed on the Hazardous Area Certification are complied with.

2.0 STORAGE

- 2.1 Store the equipment in an inside location that is dry, clean and well ventilated.
- 2.2 Suitable preservation materials, such as silica gel bags or equivalent, have been placed inside the packaging. Additionally, spare silica gel bags, or equivalent, can be supplied by contacting Exheat Industrial Ltd.
- 2.3 If the equipment is stored beyond 3 months, ensure that preservation materials are replaced.
- 2.4 **CAUTION** – It is the client's responsibility to ensure that, if the terminal enclosure is opened prior to installation, these bags are checked and replaced if necessary. When refitting terminal enclosure lid please ensure the gaskets are not damaged or moved in any way and for the HFT & AFT thermostats please refer to section 5.0 below.
- 2.5 **CAUTION** – The following preservation instructions must be adhered to. Failure to do so could result in the equipment warranty being invalidated:
 - Store the equipment at a temperature within the ambient temperature shown on the nameplate.
 - Ensure that the equipment is not subjected to direct sunlight at ambient temperatures above +30°C.

3.0 PRE INSTALLATION INSPECTION AND CHECKS

3.1 Each heater and thermostat is manufactured to the highest standard with great care and quality materials. All the goods are thoroughly inspected and tested before leaving the manufacturing plant. They must be handled with care during storage and installation. Before the installation starts it is advised that the heater is checked to ensure the insulation resistance reading is above 2MΩ per element at 500 volts dc.

3.1.1 Should the heater fail this test, isolate the power and control circuits (if installed), and follow the steps below:

- Fill the terminal box with silica gel bags, and replace the terminal box lid.
- Leave for 24hrs to draw any moisture out of the heater elements.
- If you have a heated blanket, place this over the heater elements to help with the drying. Heater blankets are available to purchase from www.exheat-industrial.com/contact/enquiry
- If the insulation resistance has not been raised to a sufficient level after 24hrs, repeat the process above with replacement gel bags.
- Should the above not raise the insulation resistance to the required level please contact the technical help on our website. www.exheat-industrial.com/contact/support

3.2 Insulation Resistance (Megger)

3.2.1 The 'Megger' should be applied between the phases and earth. A reading of greater than 2MΩ at 500 volts dc should be recorded. Should the whole heater be below this value each element would need to be checked to ascertain which one was low in resistance.

3.2.2 Use the continuity (Ohms) setting on the elements and check the resistance of each element matches or is approximately equal to the results as per the electrical test certificate that would have been sent with the heater.

4.0 INSTALLATION

4.1 Carefully remove the packaging from each item and check for damage. Immediately report any damage to Exheat Industrial Ltd.

4.2 The heater should be securely fixed in position using the pre-drilled fixing holes, and all terminal connections checked for tightness before energising.

4.3 The appliance must be securely fitted to a wall or floor using only the brackets provided.

4.3 The orientation of the heaters must be strictly adhered to with the feet facing down at all times.

4.4 The installer or end user shall ensure that the unit has free and unrestricted air flow to allow natural convection to occur at all times. **DO NOT COVER** the heater and do not allow anything to rest on or against it. This could lead to dangerous overheating and will invalidate the hazardous area certification.

4.5 At no time is the ambient temperature to be allowed to rise above +40°C (FAW & FAW-C T3 & T4 variants) Or +60°C (T2 variants). This can be achieved by the use of Exheat Industrial Ltd integral (if option available) or separate flameproof air sensing thermostats (HFT & AFT type).

4.6 The STW range may be regulated by an integral or separate industrial air sensing thermostat (SAT type)

5.0 ELECTRICAL SUPPLY CONNECTION

5.1 Refer to wiring diagrams in *APPENDIX A*.

- The cable entries (1 x M20) in the FAW & STW Ranges are positioned to the side of the terminal box.
- The cable entries (1 x M20) in the FCR are positioned on the bottom of the terminal box.
- The cable entries (2 x M20) within the HFT and AFT are pre drilled and pre tapped.

5.2 No additional cable entries are to be made within any of the terminal boxes. Only Exheat Industrial Ltd personnel can facilitate this.

5.3 The cables must enter the FAW, FAW-C, FCR and FCR-A heaters via the terminal box cable entries using Ex e cable glands and IP Washers. The cables glands installed to the HFT & AFT thermostats are to be Ex d rated. All cable glands are to be suitable for the rating and size of the supply cables. For the STW Range heaters please use cable glands suitable for the power supply.

5.4 Before connection ensure that the supply corresponds with that specified on the nameplate label.

5.5 Ensure that the sizes and types of cables to be used are suitably rated for the load and temperature of the unit.

5.6 Each heater must be protected by a suitably rated over current device and earth leakage circuit breaker device. See section 6 below for earthing connection details.

5.7 The cables must enter the heater terminal box via suitably certified cable glands and IP washers (not supplied) and be fitted by a qualified person. Any unused entries should remain plugged with the factory fitted certified Ex d plugs (if installed) or with suitably rated plugs and IP washers.

5.8 The covers of the HFT & AFT terminal boxes are removed after releasing the 3 (AFT) or 4 (HFT) socket head screws in the cover. When re-fitting ensure that the 'O' ring seal is in good condition and correctly located. The main cover mating and spigot faces **MUST** be kept clean and free from any debris at all times.

5.8.1 The covers of the STW and FCR ranges can be removed by the unscrewing of the screws.

5.8.2 The covers of the FAW range can be removed by unscrewing the bolts around the outside of the lids.

5.9 After re-fitting the lids on the HFT and AFT thermostats, the gap between the cover and the body must be checked to ensure that it does not exceed 0.15mm.

5.10 The installer or end user must connect to the Exheat Industrial Ltd supplied terminals within the terminal box - **DO NOT** connect to or disturb factory fitted wiring.

5.11 **WARNING – Silica gel bags must be removed before the heater is energised.**

6.0 EARTH CONNECTION

6.1 **WARNING – these heaters MUST BE EARTHED.**

6.2 The external earth connections for the FAW and FCR ranges are located underneath the protective guard in the same orientation as the elements. The external earth connections on the HFT & AFT ranges are on the lower corner.

6.3 An internal earth connection is provided inside the terminal box.

7.0 OPERATION

- 7.1 Heat is generated by means of electric heating elements. Once energized the air warmers will continue to operate until de-energized by an external (or integral) air thermostat.
- 7.2 To adjust the temperature settings on an integral thermostat (HFT), Remove the lid (as per section 5.0) and rotate the adjustable control knob clockwise to increase the desired set-point or anti-clockwise to reduce the set-point.
- 7.2.1 To adjust the temperature settings on an externally adjustable thermostat (AFT), Remove the lid (as per section 5.0) and rotate the adjuster clockwise (by use of a large flat blade screwdriver) to increase the desired set-point or anti-clockwise to reduce the set-point.
- 7.3 The FAW and FCR ranges are designed to operate in ambient temperatures of up to +40°C (T3 & T4 rated units) and +60°C (T2 rated units) and the user must ensure that this temperature is not exceeded at any time.
- 7.4 The STW air warmer range is designed to operate in ambient temperatures of up to +60°C. Where an integral adjustable thermostat is provided, this senses the ambient air temperature. Rotate the control knob clockwise to increase the set-point or anticlockwise to reduce the set-point.
- 7.5 **CAUTION** – Check that the voltage on the heater nameplate is compatible with the mains supply being used before energising the heater.

8.0 MAINTENANCE

- 8.1 All prevailing site safety regulations shall be adhered to at all times.
- 8.2 Equipment shall be checked regularly for any dust accumulation which must be removed from all surfaces.
- 8.3 Before and whilst any maintenance activity is carried out, it must be ensured that there are no hazardous gases or dusts present.
- 8.4 Equipment is to be fully isolated from the electrical supply before and whilst any work is being carried out.
- 8.5 Any damage or faults should be notified to Exheat Industrial Ltd immediately.
- 8.6 Any replacement parts required must be obtained directly from Exheat Industrial Ltd. The use of any other parts will void any certification and warranty.
- 8.7 Equipment is certified for use in a hazardous area and reference should be made to *IEC/EN 60079-14* for selection and installation.
- 8.7.1 *IEC/EN 60079-17* for inspection and maintenance of electric apparatus for use in potentially explosive atmospheres.

In addition to the following recommendations:

8.7.2 3 Monthly

- Generally inspect the equipment for external damage or leaks.
- Ensure that any spaces between the element fins, remains clear and that the airflow remains unrestricted.

8.7.3 6 Monthly

- Isolate the electrical supply and remove the cover (As section 5.0)
- Internals should be clean and dry.
- Ensure terminals are intact and secure.
- Heating element insulation resistance to be at least 2MΩ. Please refer to section 3.0 for further information
- Refit cover with new gasket or 'O' ring if required (refer to section 5) and re-tighten using only the socket head screws provided.

- Check the flamepath gap on the HFT & AFT Thermostats (As section 5.0)
- Earth continuity must be maintained between all earth points and main structure.

8.7.4 Annually

- Carry out 3 monthly and 6 monthly checks as above.
 - Check for element failure or low insulation resistance, as section 3.0
- 8.8 Only Exheat Industrial Ltd can carry out rod type element replacements in hazardous area heaters, any unauthorised modifications will invalidate the hazardous area certification and any warranty.
- 8.9 If equipment is being left unused for a period greater than 3 months, carry out 6 monthly maintenance before energizing.

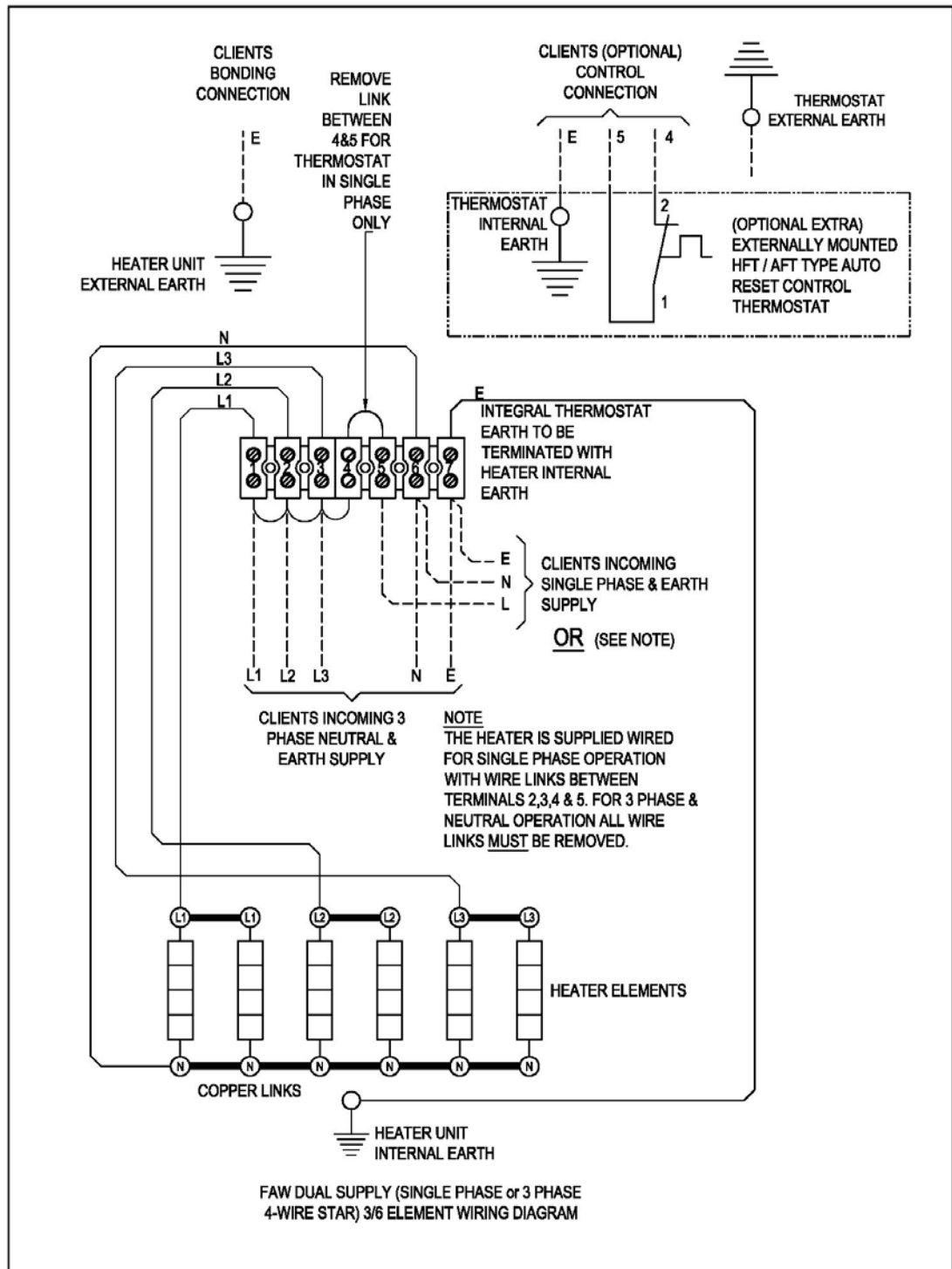
9.0 MARKINGS

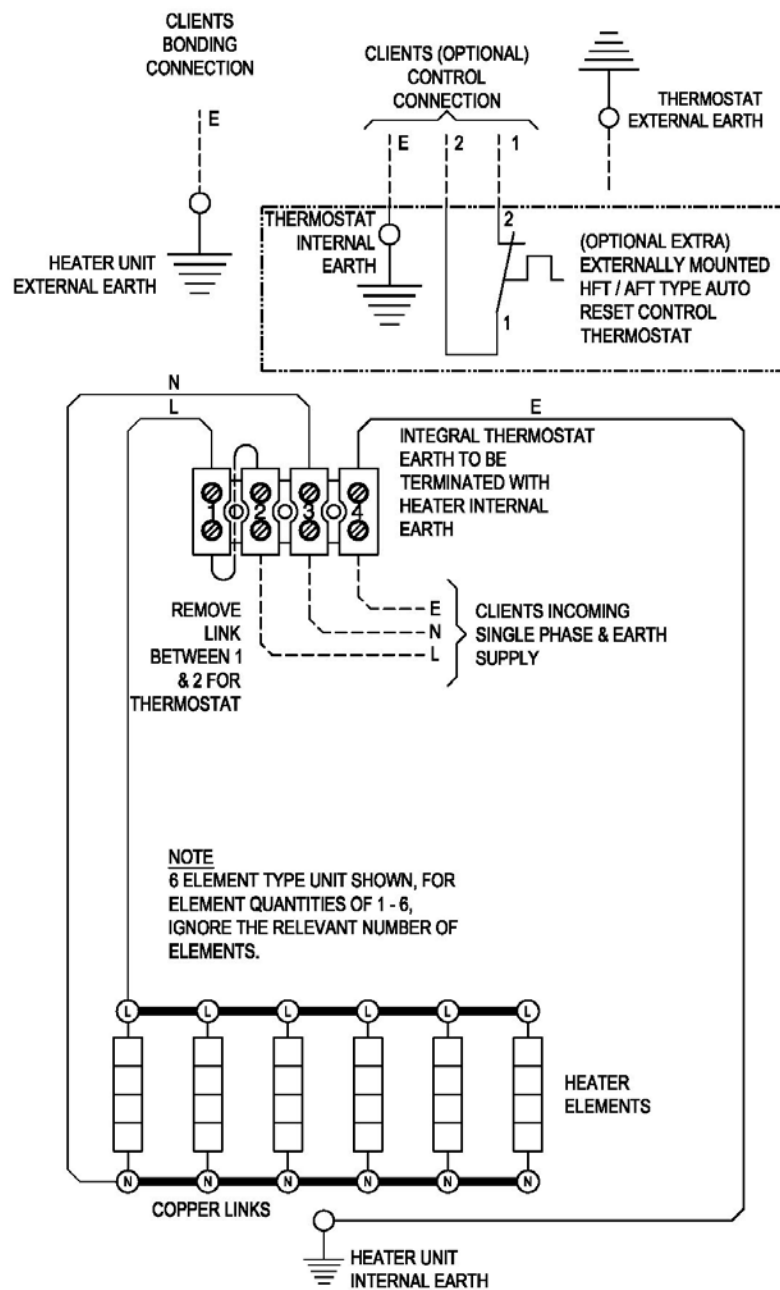
- 9.1 FAW, FAW-C & FCR Range:
 II 2 G
 Ex e IIC T4 to T2 Gb
- 9.2 FAW-C-T and FCR-A (with Integral Thermostat):
 II 2 G
 Ex d e IIC T4 to T2 Gb
- 9.3 HFT Type Thermostat used with Integral Thermostat Option, or Stand Alone type:
 II 2 G
 Ex d IIC T6 Gb
- 9.4 AFT Type Thermostat. (Stand Alone Externally Adjustable):
 II 2 G D
 Ex d IIC T6 Gb
 Ex t IIIC T85°C Db

10.0 CERTIFICATION

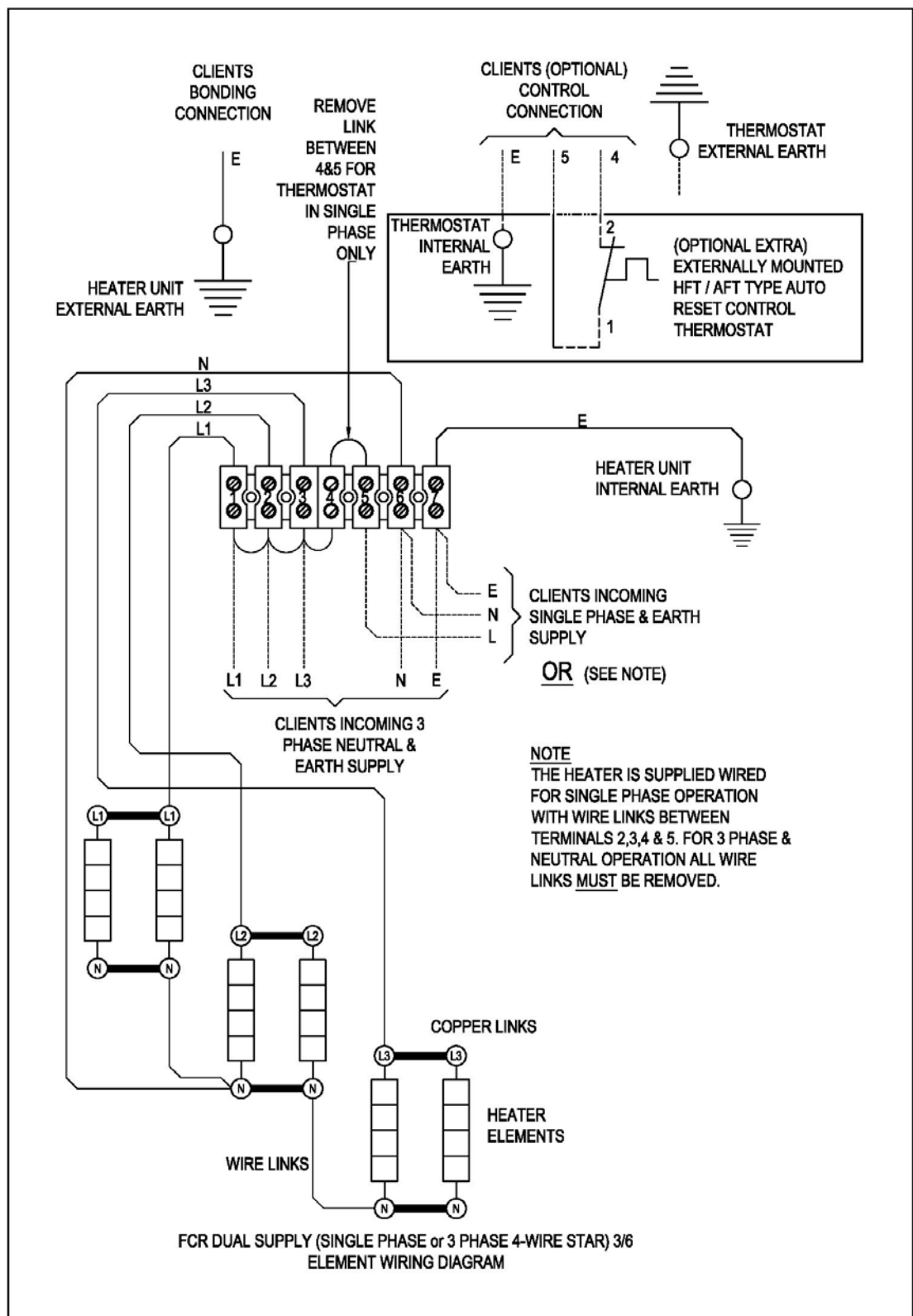
- 10.1 FAW, FAW-C & FCR Ranges
 ATEX: LCIE 00 ATEX 6013 X
 IECEX: IECEX LCI 07 0009 X
- 10.2 HFT Type Thermostat and AFT Type (Externally Adjustable)
 ATEX: LCIE 99 ATEX 6017 X
 IECEX: IECEX LCI 07 0003 X
- 10.3 STW Range Air Warmers
 No Certificates as these are Safe Area Heaters.
- 10.4 SAT40 & SAT60
 No Certificates as these are Safe Area Thermostats.

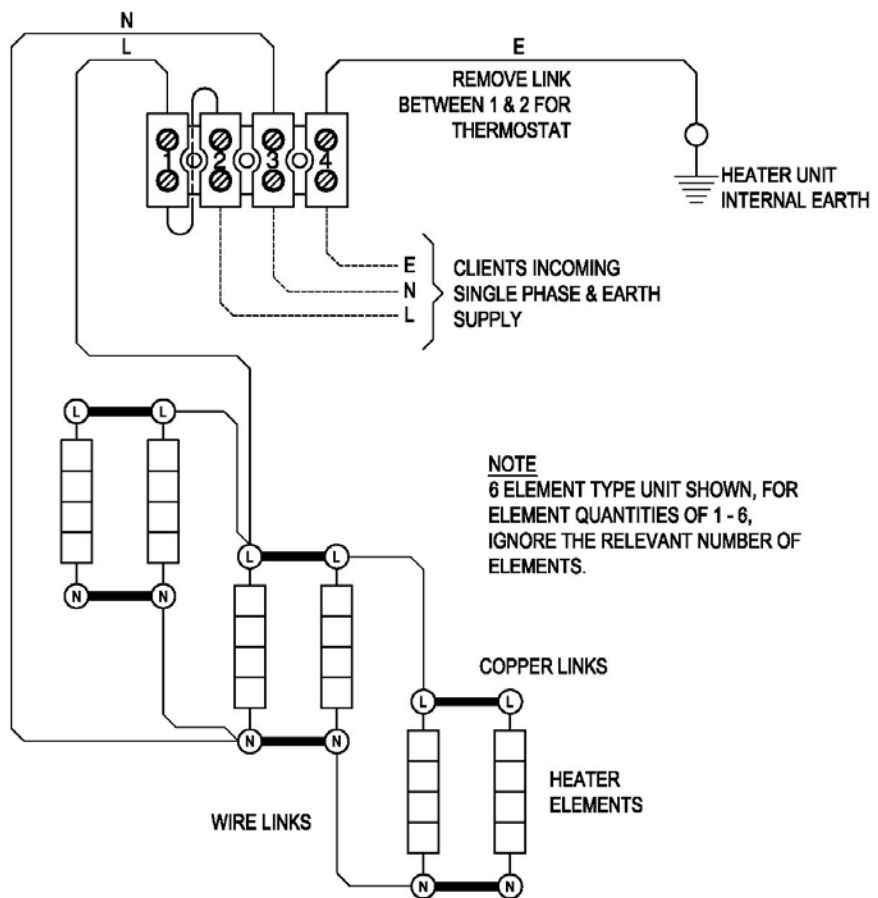
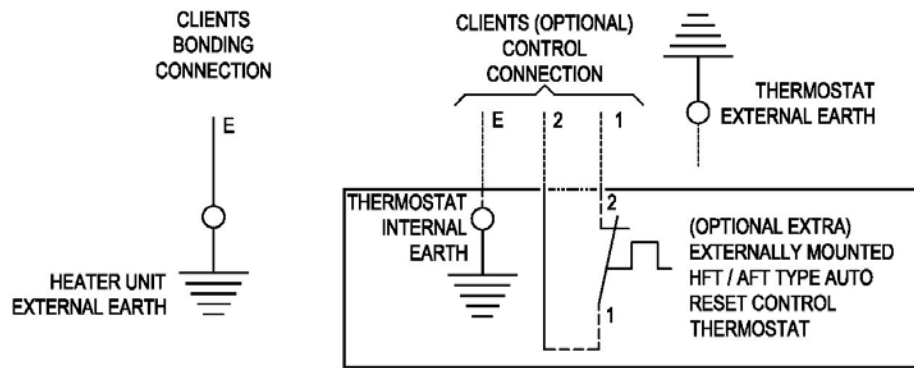
APPENDIX A - WIRING DIAGRAMS





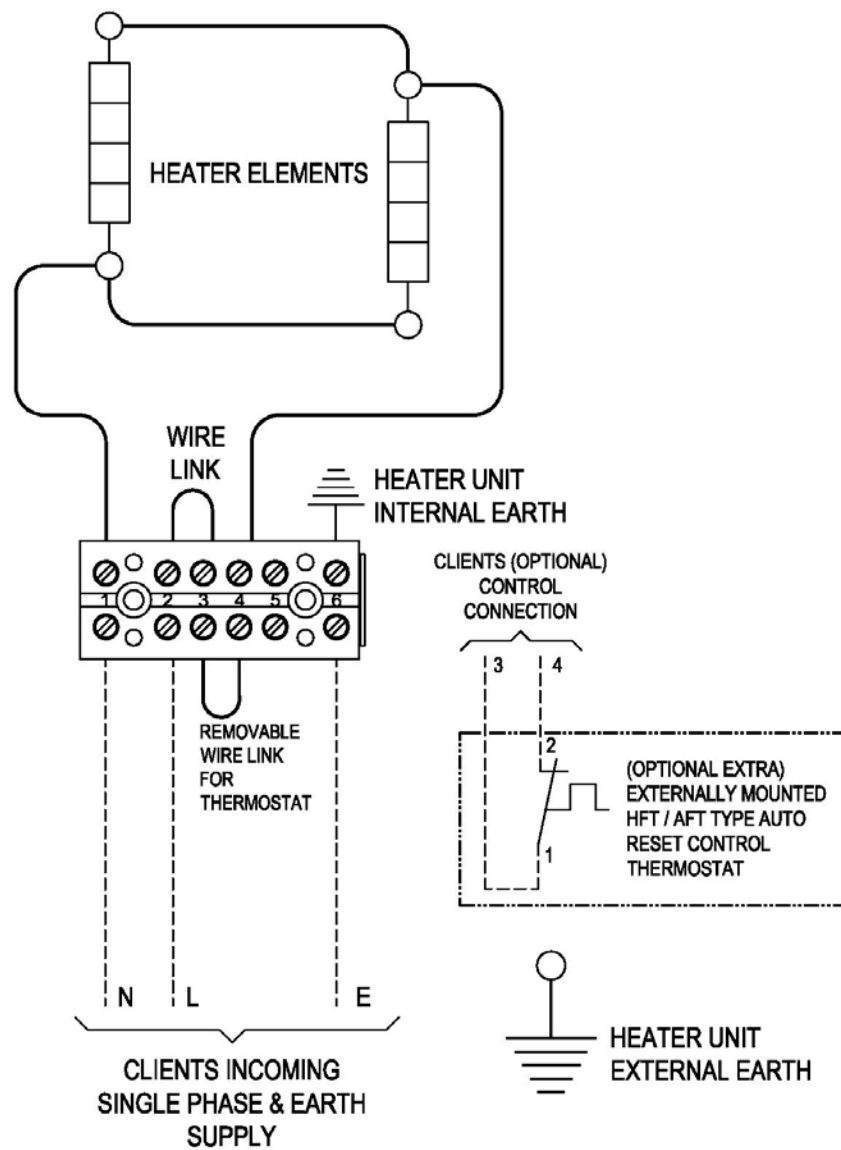
FAW SINGLE PHASE SUPPLY 3 / 6 ELEMENT WIRING DIAGRAM



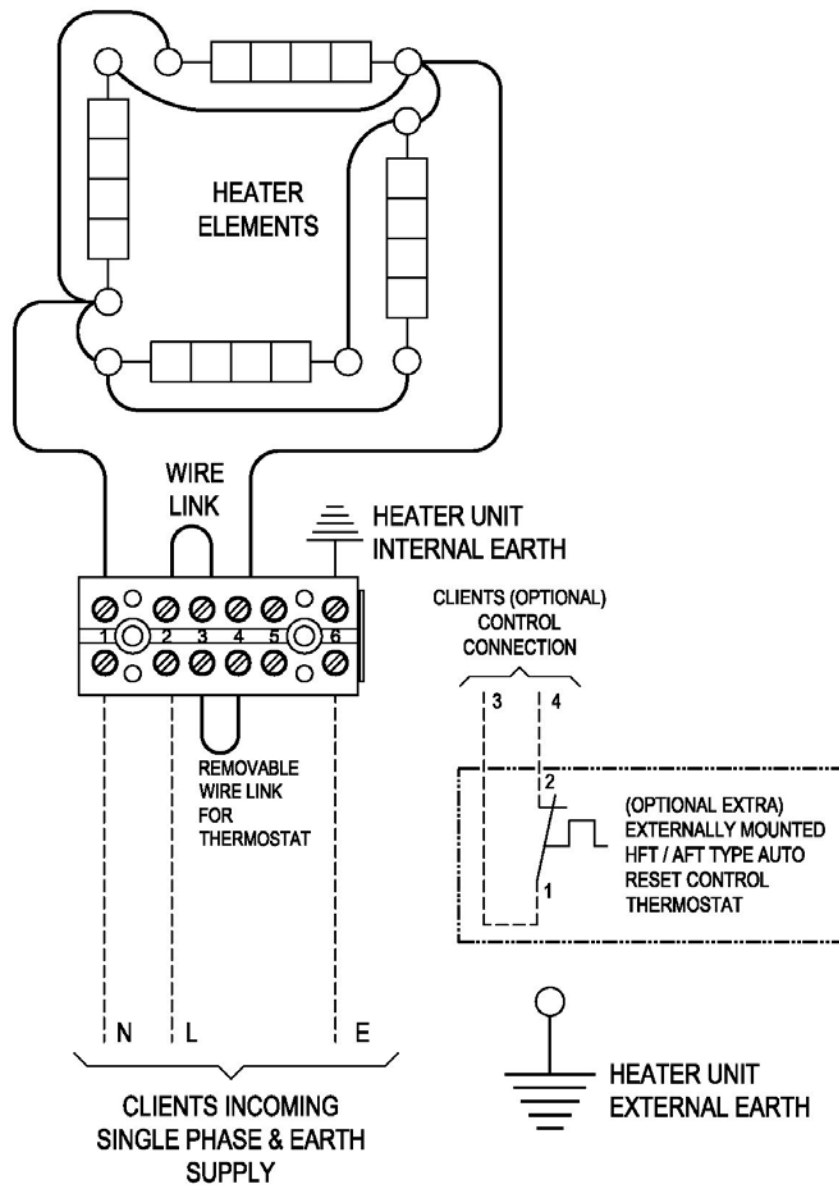


FCR SINGLE PHASE SUPPLY 3 / 6 ELEMENT WIRING DIAGRAM

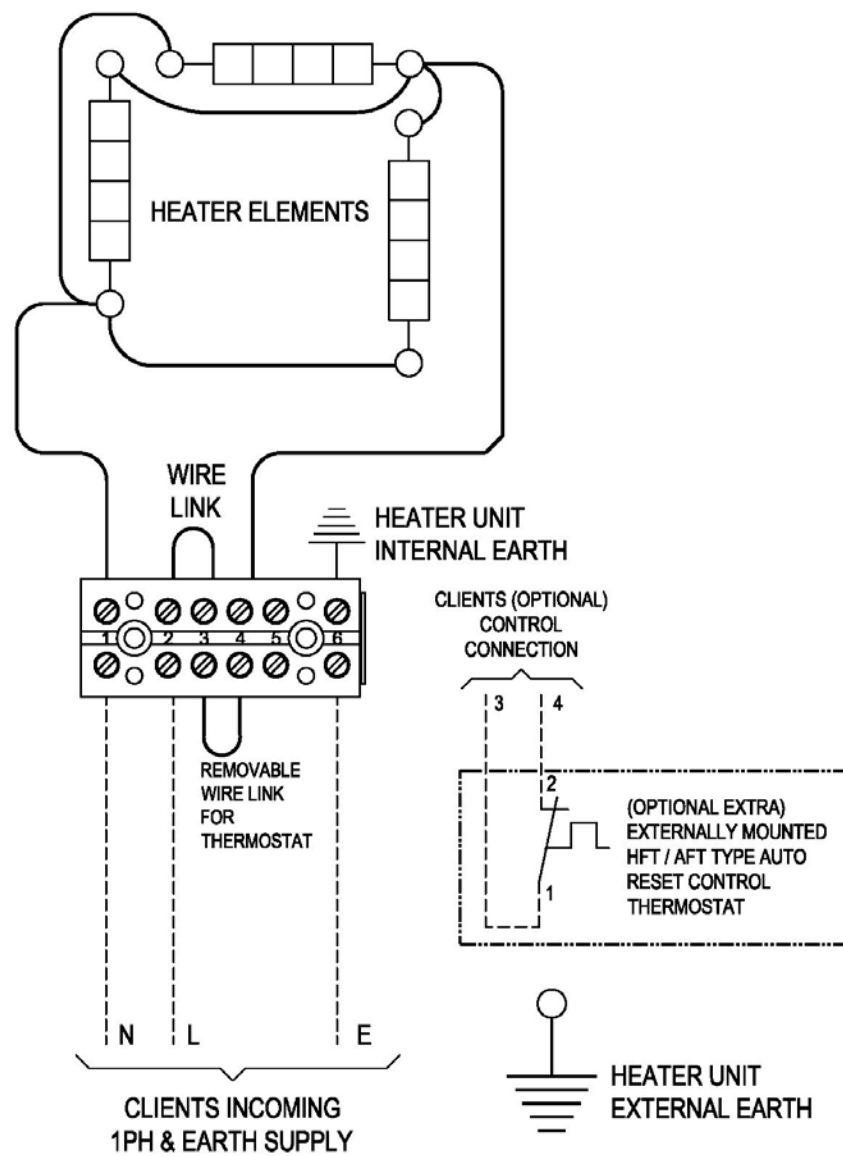
FAW -C250



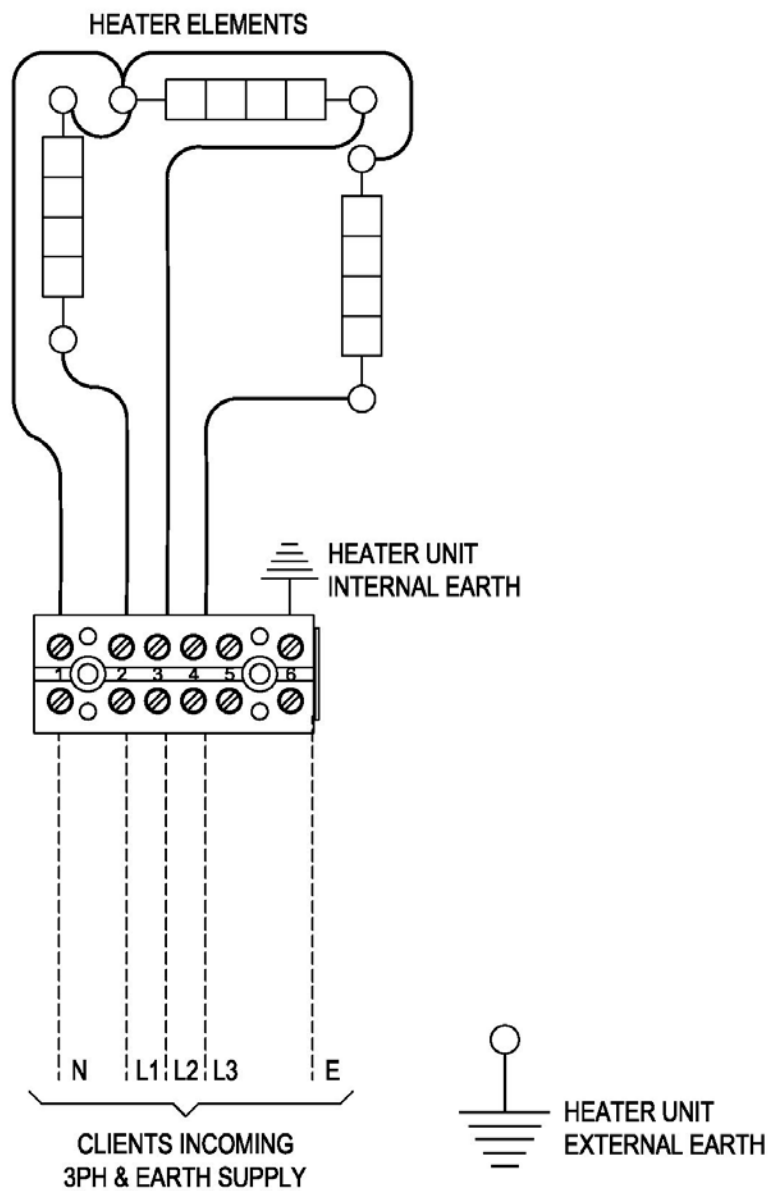
FAW-C500 & FAW-C1000



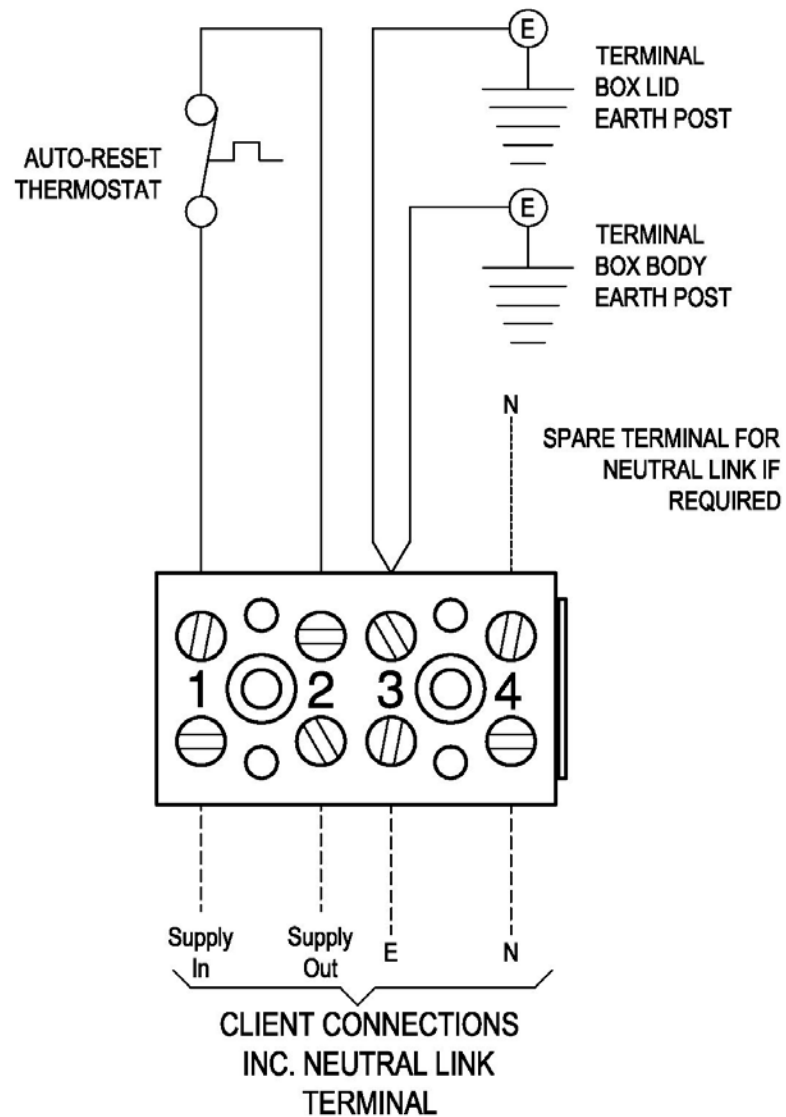
FAW-C750



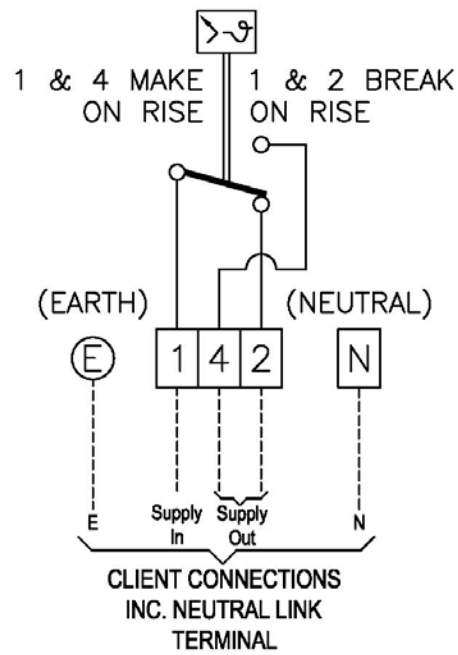
FAW-C750 3 PHASE SUPPLY



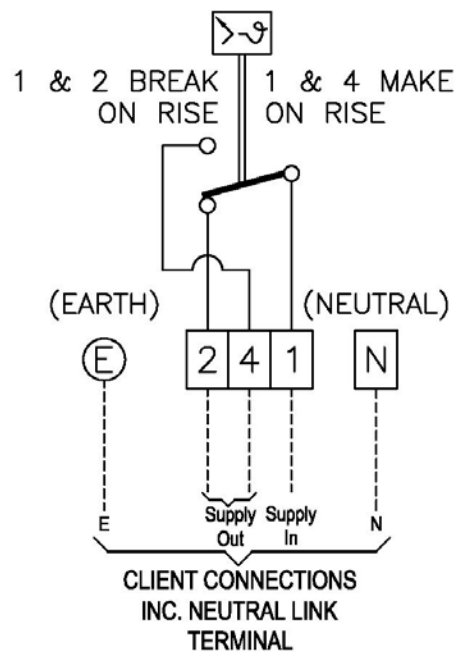
AFT40 & AFT60 THERMOSTAT



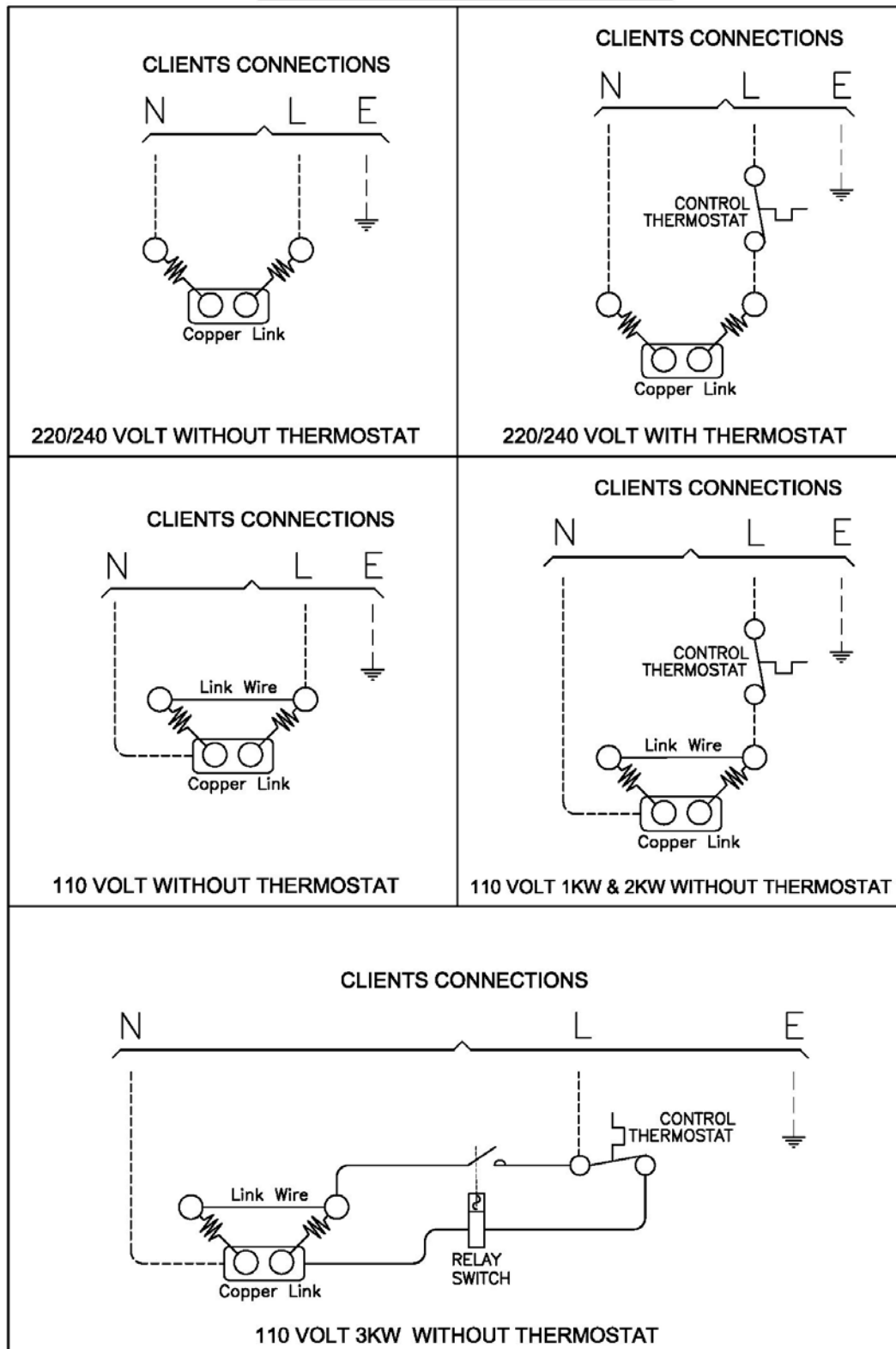
HFT / SAT 40 THERMOSTAT



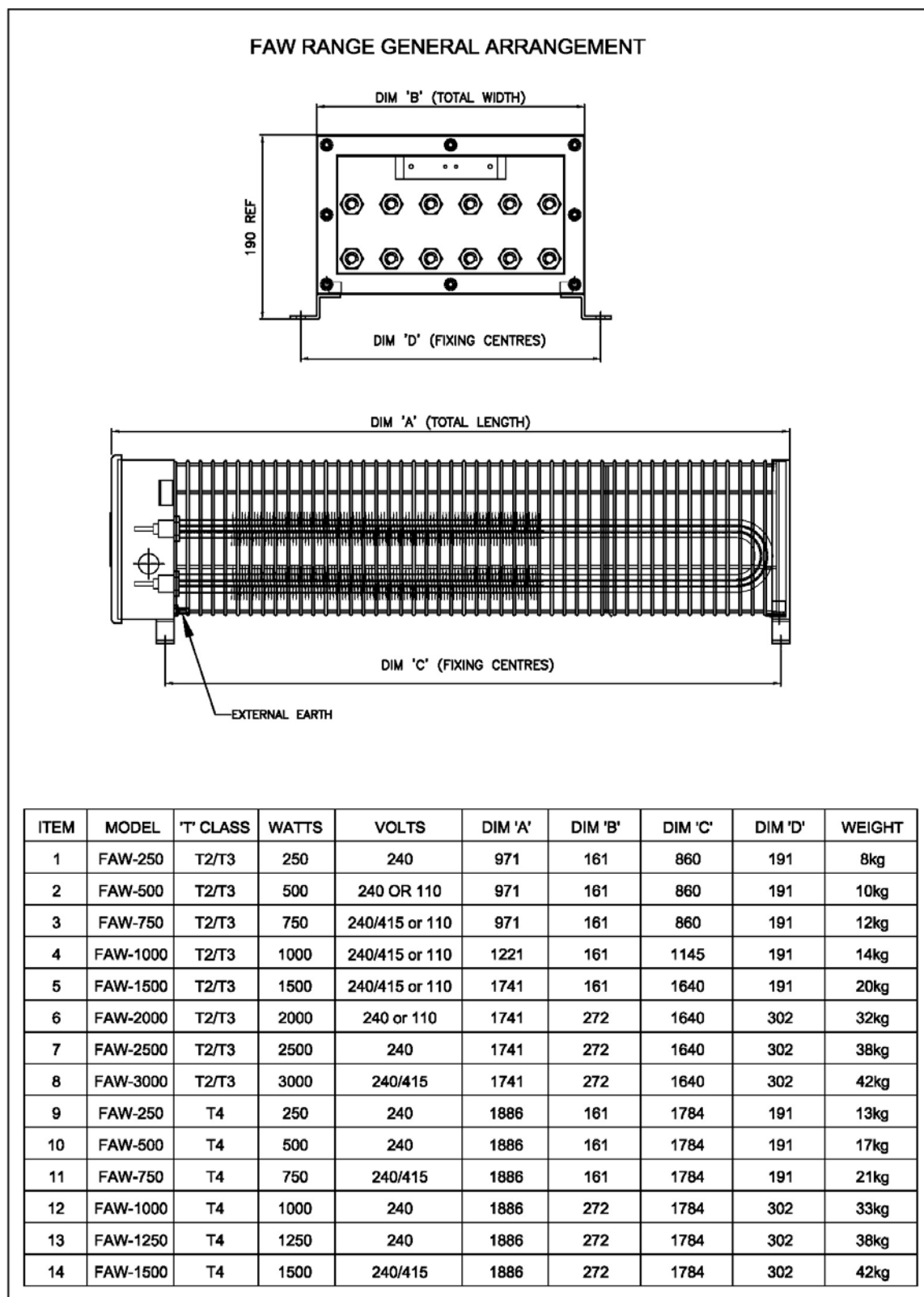
HFT / SAT 60 THERMOSTAT



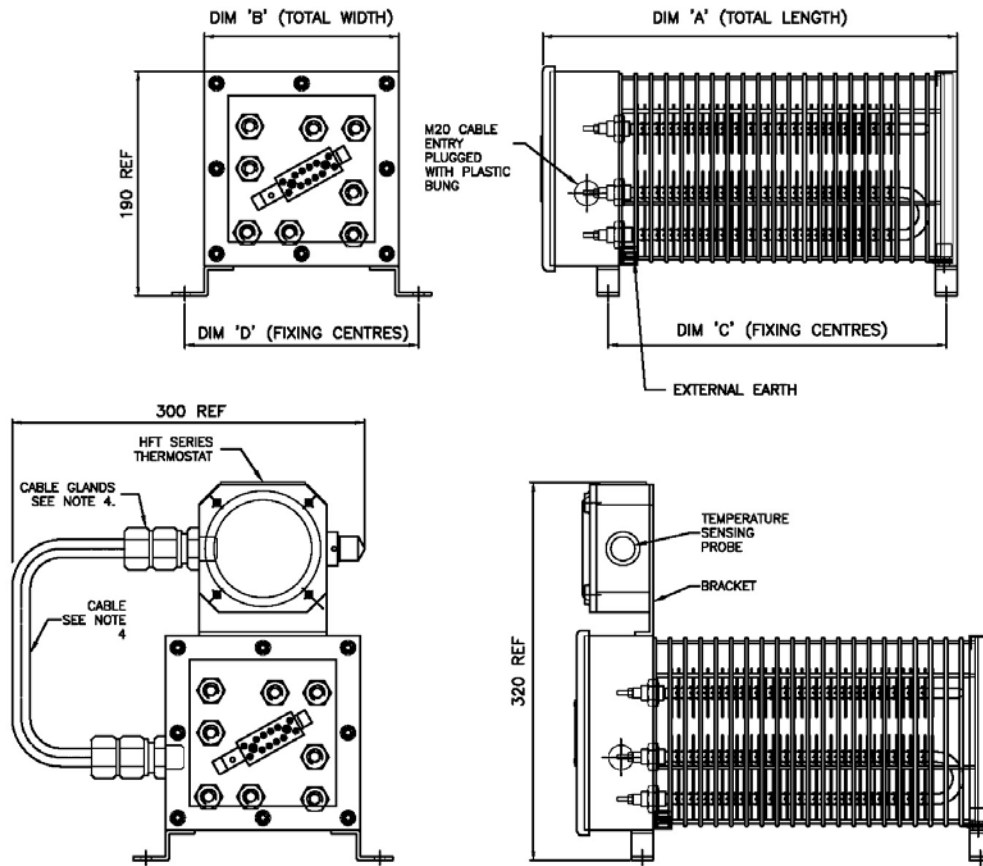
STW WIRING DIAGRAMS



APPENDIX B, HEATER GENERAL ARRANGEMENT DRAWINGS.



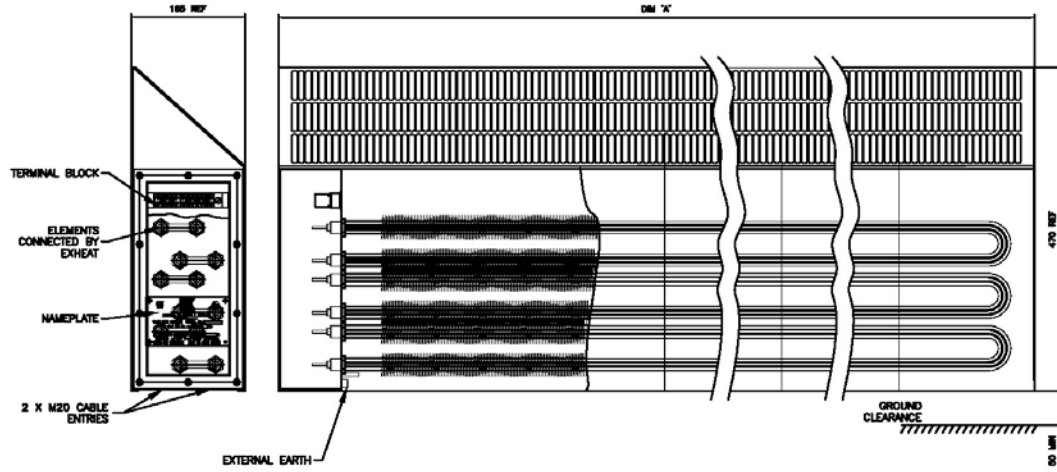
FAW-C & FAW-C-T GENERAL ARRANGEMENT



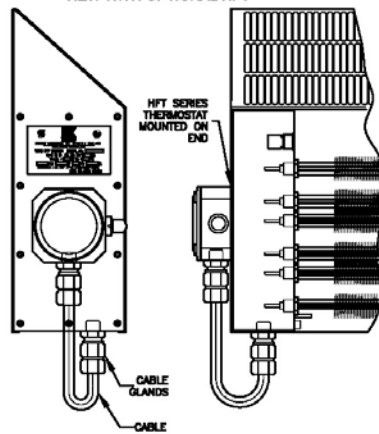
ALL DIMENSIONS OF HEATER AS PER BELOW

ITEM	MODEL	T' CLASS	WATTS	VOLTS	DIM 'A'	DIM 'B'	DIM 'C'	DIM 'D'	WEIGHT
1	FAW-C-250	T2/T3	250	110/240	350	161	282	193	5kg
2	FAW-C-500	T2/T3	500	110/240	350	161	282	193	6kg
3	FAW-C-750	T2/T3	750	110/240	615	161	545	193	8kg
4	FAW-C-1000	T2/T3	1000	110/240	615	161	545	193	9kg
5	FAW-C-250-T	T3	250	110/240	350	161	282	193	7kg
6	FAW-C-500-T	T3	500	110/240	350	161	282	193	8kg
7	FAW-C-750-T	T3	750	110/240	615	161	545	193	10kg
8	FAW-C-1000-T	T3	1000	110/240	615	161	545	193	11kg

FCR GENERAL ARRANGEMENT



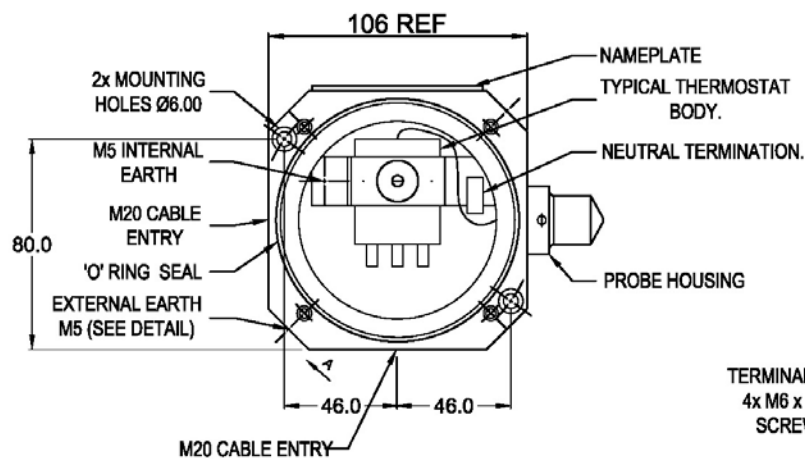
VIEW WITH OPTIONAL HFT



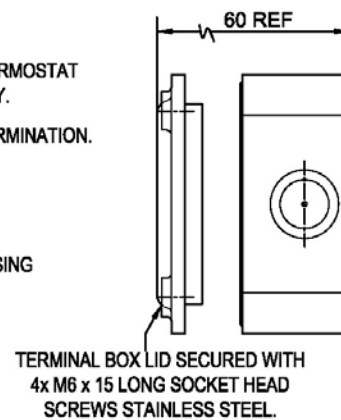
ITEM	MODEL	WATTS	No OF ELEMENTS	VOLTS	WEIGHT	DIM 'A'
1	FCR-1-110	1000	3	110	17kg	1240mm
2	FCR-1-110-A	1000	3	110	17kg	1240mm
3	FCR-1-240	1000	3	240/415	17kg	1240mm
4	FCR-1-240-A	1000	3	240 ONLY	17kg	1240mm
5	FCR-2-110	2000	6	110	32kg	1240mm
6	FCR-2-110-A	2000	6	110	32kg	1240mm
7	FCR-2-240	2000	6	240/415	32kg	1240mm
8	FCR-2-240-A	2000	6	240 ONLY	32kg	1240mm
9	FCR-3-240	3000	6	240/415	47kg	1750mm
10	FCR-3-240-A	3000	6	240 ONLY	47kg	1750mm

HFT TYPE THERMOSTAT GENERAL ARRANGEMENT

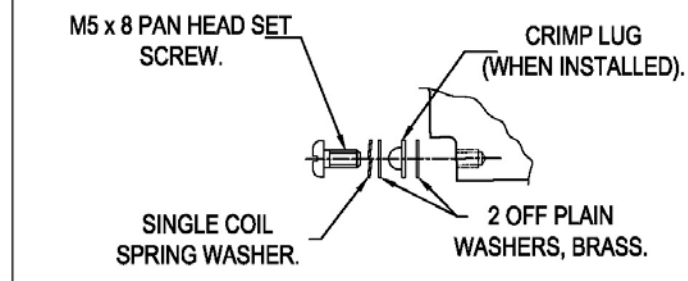
**VIEW WITH TERMINAL BOX
LID REMOVED**



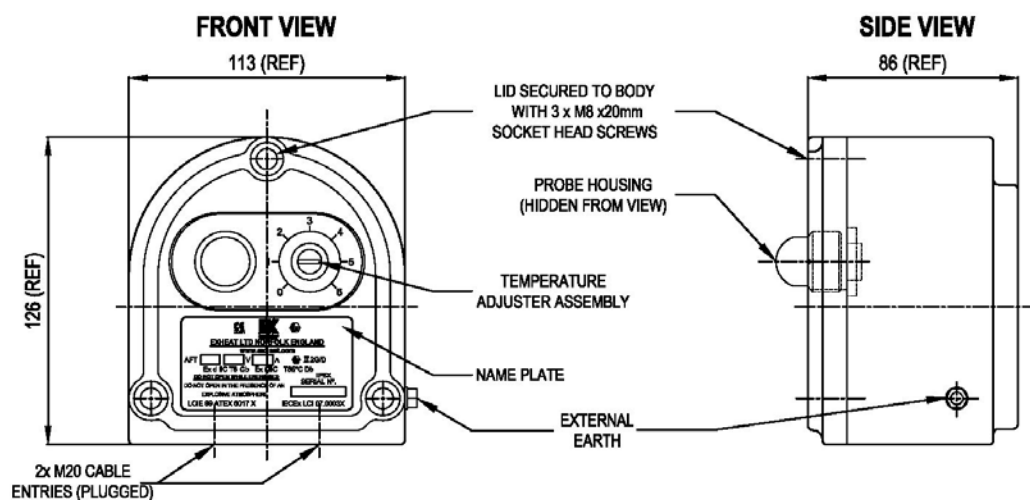
**SIDE VIEW WITH TERMINAL
BOX LID REMOVED**



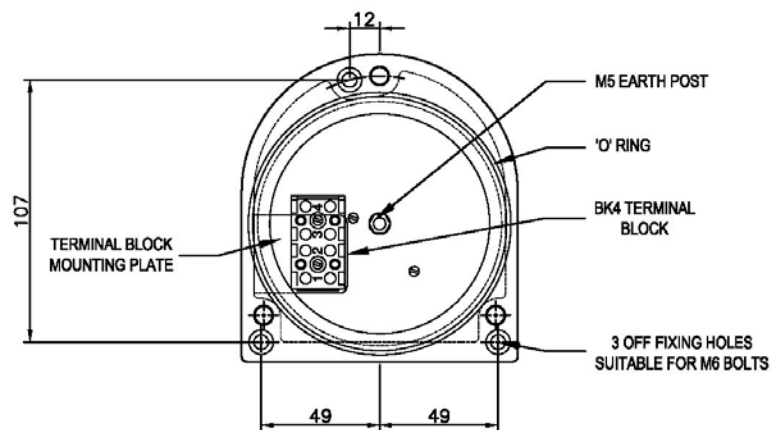
**VIEW IN DIRECTION 'A' SHOWING
EXTERNAL EARTH.**



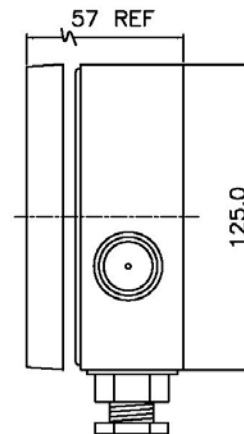
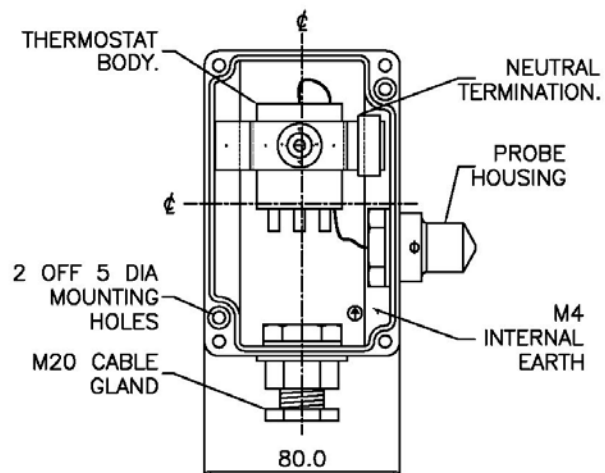
AFT TYPE THERMOSTAT GENERAL ARRANGEMENT



TERMINAL BOX FRONT VIEW (WITH LID REMOVED) SHOWING TERMINAL BLOCK ASSEMBLY AND FIXING HOLES

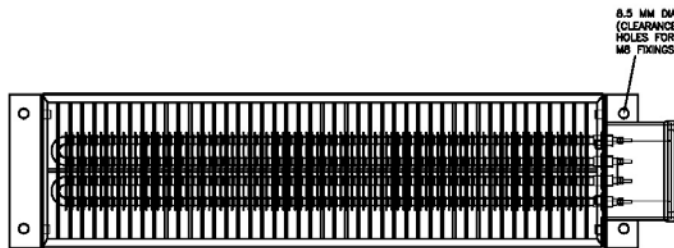


SAT TYPE SAFE AREA THERMOSTAT GENERAL ARRANGEMENT

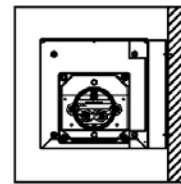


STW & STW-T GENERAL ARRANGEMENT

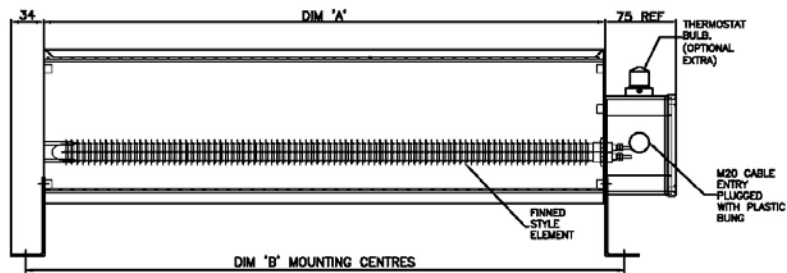
TOP VIEW



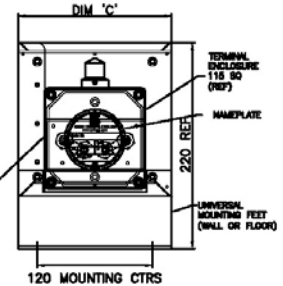
WALL MOUNTED



SIDE VIEW



END VIEW



ITEM	MODEL	WATTS	VOLTS	DIM 'A'	DIM 'B'	DIM 'C'	WEIGHT
1	STW1	1000	110/240	500	540	160	6kg
2	STW2	2000	110/240	1000	1040	160	12kg
3	STW3	3000	240 ONLY	1500	1540	160	18kg
4	STW1T	1000	110/240	500	540	160	6kg
5	STW2T	2000	110/240	1000	1040	160	12kg
6	STW3T	3000	240 ONLY	1500	1540	160	18kg

APPENDIX C, ATEX/IECE_x HAZARDOUS AREA CERTIFICATES.



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx LCI 07.0003X

issue No.: 1

Certificate history:

Issue No. 1 (2008-11-17)
Issue No. 0 (2007-5-11)

Status: **Current**

Date of Issue: 2008-11-17

Page 1 of 4

Applicant: **EXHEAT LIMITED**
Thrextan Road Industrial Estate
Watton, Thetford, Norfolk
IP25 6NG
United Kingdom

Electrical Apparatus: **...FT Flameproof thermostat**
Optional accessory:

Type of Protection: **Flameproof 'd' and Dust 'tD' (AFT model only)**

Marking: **EXHEAT LIMITED**
Type : HFT or AFT
Ex d IIC T6
Ex tD IP6X A21 T85°C (AFT only)
Serial Number
Year of construction
LCI 07.0003 X
WARNING - DO NOT OPEN WHILE ENERGIZED
WARNING - DO NOT OPEN WHEN AN EXPLOSIVE DUST ATMOSPHERE IS PRESENT

Approved for issue on behalf of the IECEx
Certification Body:

Marc GILLAUX

Position:

Certification manager

Signature:
(for printed version)

Date:

21-11-2008

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

Laboratoire Central des Industries Electriques (LCIE)
33 Avenue du General Leclerc
FR-92260 Fontenay-aux-Roses
France





IECEx Certificate of Conformity

Certificate No.: IECEx LCI 07.0003X

Date of Issue: 2008-11-17

Issue No.: 1

Page 2 of 4

Manufacturer: **EXHEAT LIMITED**
Threxton Road Industrial Estate
Watton, Thetford, Norfolk
IP25 6NG
United Kingdom

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-1 : 2003 Edition: 5	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure 'd'
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

FR/LCI/ExTR07.0003/01

Quality Assessment Report:

FR/LCI/QAR06.0005/00



IECEx Certificate of Conformity

Certificate No.: IECEx LCI 07.0003X

Date of Issue: 2008-11-17

Issue No.: 1

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Thermostat contained in a flameproof enclosure with an external air temperature sensing probe contained in a suitable housing. An optional externally adjustable version is included. This equipment is designed to operate in an ambient temperature of -60°C to +60°C.
The enclosure is a flameproof enclosure with a spigot flamepath lid to body joint, made of stainless steel (HFT model) or aluminium (AFT model).
The maximum total capacity of components included is rated to 20A up to 300V. There are 2 models of enclosures. Each model is equipped with a probe housing. One model can be equipped by an optional external adjuster.
HFT model is suitable for a use in gas explosive atmospheres.
AFT model is suitable for a use in gas and dust explosive atmospheres.
Refer to the manufacturer technical documents for complete description.

CONDITIONS OF CERTIFICATION: YES as shown below:

The calorific transfer of sensor shall not transmit, in any case a heating above 80°C, including ambient temperature, to all thermostat part directly in contact with explosive atmosphere.



IECEx Certificate of Conformity

Certificate No.: IECEx LCI 07.0003X

Date of Issue: 2008-11-17

Issue No.: 1

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

- Change of company name : EXHEAT instead of HEATEX
- Compliance for low ambient temperature -60°C.
Tamb : -60°C up to +60°C



1 ATTESTATION D'EXAMEN CE DE TYPE

2 Appareils et systèmes de protection destinés à être utilisés en atmosphères explosibles
Directive 94/9/CE

3 Numéro de l'attestation CE de type
LCIE 99 ATEX 6017 X

4 Appareil ou système de protection

Thermostat antidéflagrant
Type : HFT

5 Demandeur : HEATEX LIMITED

6 Adresse : Threxton Road Industrial Estate
Watton, Thetford, Norfolk, IP25 6NG
UNITED KINGDOM

7 Cet appareil ou système de protection et ses variantes éventuelles acceptées est décrit dans l'annexe de la présente attestation et dans les documents descriptifs cités en annexe.

8 Le LCIE, organisme notifié sous la référence 0081 conformément à l'article 9 de la directive 94/9/CE du Parlement européen et du Conseil du 23 mars 1994, certifie que cet appareil ou système de protection est conforme aux exigences essentielles en ce qui concerne la sécurité et la santé pour la conception et la construction d'appareils et de systèmes de protection destinés à être utilisés en atmosphères explosibles, données dans l'annexe II de la directive. Les vérifications et épreuves figurent dans notre rapport confidentiel N° 11 320 010.

9 Le respect des exigences essentielles en ce qui concerne la sécurité et la santé est assuré par la conformité aux documents suivants :

- EN 50014 (1992)
- EN 50018 (1994)

10 Le signe X lorsqu'il est placé à la suite du numéro de l'attestation, indique que ce matériel ou système de protection est soumis aux conditions spéciales pour une utilisation sûre, mentionnées dans l'annexe de la présente attestation.

11 Cette attestation d'examen CE de type concerne uniquement la conception et la construction de l'appareil ou du système de protection spécifié, conformément à la directive 94/9/CE. Des exigences supplémentaires de cette directive sont applicables pour la fabrication et la fourniture de l'appareil ou du système de protection.

12 Le marquage de l'appareil ou du système de protection devra comporter, entre autres indications utiles, les mentions suivantes :

 II 2 G
EEx d IIC T6

1 EC TYPE EXAMINATION CERTIFICATE

2 Equipment or Protective System Intended for use in Potentially explosive atmospheres
Directive 94/9/CE

3 EC type Examination Certificate number
LCIE 99 ATEX 6017 X

4 Equipment or Protective system

Flameproof Thermostat
Type : HFT

5 Applicant : HEATEX LIMITED

6 Address : Threxton Road Industrial Estate
Watton, Thetford, Norfolk, IP25 6NG
UNITED KINGDOM

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 LCIE, notified body number 0081 in accordance with article 9 of the directive 94/9/CE of the European Parliament and Council of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective system intended for use in potentially explosive atmospheres, given in Annex II to the directive. The examination and test results are recorded in confidential report No 11 320 010.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with :

- EN 50014 (1992)
- EN 50018 (1994)

10 If the sign X is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC Type examination certificate relates only to the design and construction of this specified equipment or protective system in accordance with the Directive 94/9/EC. Further requirements of Directive applies to the manufacture and supply of this equipment or protective system.

12 The marking of the equipment or protective system shall include the following :

 II 2 G
EEx d IIC T6

Fontenay-aux-Roses, le 22 septembre 1999

Le Directeur de l'organisme certificateur
Manager of the certification body

Michel VIEILLEFOSSE
Président et directeur général

Timbre sec/dry seal

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LABORATOIRE CENTRAL DES INDUSTRIES ELECTRIQUES

Société anonyme à Directoire et Conseil de surveillance au capital de 103 592 000 Francs - RCS Nanterre B 408 363 174

Siège social : 33, avenue du Général Leclerc - F 92260 Fontenay-aux-Roses - Tél. : +33 (0)1 40 95 60 60

(A1) ANNEXE

(A2) ATTESTATION D'EXAMEN CE DE TYPE

LCIE 99 ATEX 6017 X

(A4) Description de l'équipement ou du système de protection

Appareil de forme carrée, d'un volume interne libre de 384 cm³ qui contient un thermostat et une sonde de température.

Le marquage sera le suivant :

- HEATEX LTD NORFOLK ENGLAND
- Type : HFT
- N° de fabrication
- Année de fabrication
-  II 2 G
- EEx d IIC T6
- LCIE 99 ATEX 6017 X
- NE PAS OUVRIR SOUS TENSION

Le marquage CE est accompagné du numéro d'identification de l'organisme notifié responsable de la surveillance du système de qualité (0081 pour le LCIE).

(A4) Documents descriptifs

Dossier technique N° 2004.15.01 Rév. 1 du 24.03.1999.
Ce document comprend 6 rubriques (7 pages).

(A5) Conditions spéciales pour une utilisation sûre

Le transfert calorifique de l'élément de mesure ne devra en aucun cas transmettre un échauffement de plus de 80 °C, température ambiante incluse, à toute partie du thermostat susceptible d'être directement en contact avec une atmosphère explosive.

(A6) Exigences essentielles en ce qui concerne la sécurité et la santé

La conception de cet équipement satisfait aux normes européennes EN 50014 et EN 50018 (seconde édition).

Épreuve individuelle

Le matériel est dispensé d'épreuve individuelle.

(A1) SCHEDULE

(A2) EC TYPE EXAMINATION CERTIFICATE

LCIE 99 ATEX 6017 X

(A4) Description of Equipment or Protective System

Apparatus square form, 384 cm³ internal free volume who contain a thermostat and temperature probe.

The marking will be the following :

- HEATEX LTD NORFOLK ENGLAND
- Type : HFT
- Serial number
- Year of construction
-  II 2 G
- EEx d IIC T6
- LCIE 99 ATEX 6017 X
- DO NOT OPEN WHILE ENERGIZED

The CE marking shall be accompanied by the identification number of the notified body responsible for surveillance of the quality system (0081 for the LCIE).

(A4) Descriptive documents :

Technical file N° 2004.15.01 Rev 1 dated 24.03.1999.
This file includes 6 items (7 pages).

(A5) Special conditions for safe use

The calorific transfer of sensor shall not transmit, in any case a heating above 80 °C, including ambient temperature, to all thermostat part directly in contact with explosive atmosphere.

(A6) Essential Health and Safety Requirements

The design of the equipment complies to European Standards EN 50014 and EN 50018 (second edition).

Routine test

The equipment is exempt from individual test.



LCIE

(A1) **ATTESTATION D'EXAMEN CE DE TYPE**
LCIE 99 ATEX 6017X du 22 septembre 1999

AVENANT 99 ATEX 6017X /01

(A2) **DESIGNATION DE L'EQUIPEMENT OU DU**
SYSTEME DE PROTECTION :

Thermostat antidéflagrant
Type : HFT
Construit par : HEATEX LIMITED.

(A3) **OBJET DE L'AVENANT, DESCRIPTION DE**
L'APPAREIL OU DU SYTEME DE PROTECTION :

- Possibilité d'utiliser un boîtier antidéflagrante alternative
équipée d'un thermostat ajustable.

Le marquage de ce nouveau modèle est le suivant :

HEATEX LTD NORFOLK ENGLAND

Type : HFT

n° de fabrication

Année de fabrication

Ex II 2 G/D

EEx d IIC T6

IP6X, T85°C pour D

LCIE 99 ATEX 6017X

NE PAS OUVRIR SOUS TENSION.

Ne pas ouvrir en présence d'atmosphère poussièr.

(A4) **DOCUMENTS DESCRIPTIFS :**

Dossier technique N°2004-15-TF Rev 4 du 13/06/2003

Ce dossier comprend 10 rubriques (11 pages).

(A5) **CONDITIONS SPECIALES POUR UNE UTILISATION**
SURE :

Inchangées.

(A6) **EXIGENCES ESSENTIELLES EN CE QUI**
CONCERNE LA SECURITE ET LA SANTE :

Complétées par :

Conformité à la norme européenne EN 50281-1-1 (1998).

Fontenay-aux-Roses, le 18 septembre 2003

(A1) **EC TYPE EXAMINATION CERTIFICATE**
LCIE 99 ATEX 6017X dated September 22, 1999

VARIATION 99 ATEX 6017X /01

(A2) **NAME OF EQUIPMENT OR PROTECTIVE SYSTEM :**

Flameproof thermostat
Type : HFT
Manufactured by : HEATEX LIMITED.

(A3) **SUBJECT OF THE VARIATION, DESCRIPTION OF**
EQUIPMENT OR PROTECTIVE SYSTEM :

- Optional thermostat adjuster added with an alternative
enclosure.

The marking of this new model is the following :

HEATEX LTD NORFOLK ENGLAND

Type : HFT

Serial number

Year of construction

Ex II 2 G/D

EEx d IIC T6

IP6X, T85°C for D

LCIE 99 ATEX 6017X

DO NOT OPEN WHILE ENERGIZED

Do not open in presence of dust atmosphere.

(A4) **DESCRIPTIVE DOCUMENTS :**

Technical file N°2004-15-TF Rev 5 dated June 13th, 2003

This file includes 10 items (11 pages).

(A5) **SPECIAL CONDITIONS FOR SAFE USE :**

Unchanged.

(A6) **ESSENTIAL HEALTH AND SAFETY REQUI-**
REMENTS :

Supplemented by :

Conformity to the European standard EN 50281-1-1 (1998).

Le Directeur de l'organisme certificateur
Manager of the certification body

Timbre sec/Dry seal

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Page 1/1



LCIE



1 **AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE**

2 **Appareil ou système de protection** destiné à être utilisé en atmosphères explosibles (**Directive 94/9/CE**)

3 Numéro de l'avenant :
LCIE 99 ATEX 6017 X / 02

4 Appareil ou système de protection :
Thermostat antidéflagrant
Type : HFT, AFT

5 Demandeur : **EXHEAT LIMITED**

15 **DESCRIPTION DE L'AVENANT**

- Mise à jour selon les normes EN 60079-0 (2006), EN 60079-1 (2004), EN 61241-0 (2006) et EN 61241-1 (2004)
- Température ambiante minimale : -60°C
- Nouveau type : AFT (gaz et poussières)
- Changement de raison sociale

Les résultats des vérifications et essais figurent dans le rapport confidentiel N° 77475-566018/02.

Paramètres spécifiques du ou des modes de protection concerné(s) :

Inchangés

Le marquage doit être modifié comme suit :

EXHEAT au lieu de HEATEX

HFT : II 2G AFT : II 2GD
Ex d IIC T6 Ex d IIC T6
Ex tD A21 IP6X T85°C

**AVERTISSEMENT – NE PAS OUVRIR SOUS TENSION
NE PAS OUVRIR EN PRÉSENCE D'UNE ATMOSPHÈRE
POUSSIÉREUSE EXPLOSIVE**

16 **DOCUMENTS DESCRIPTIFS**

Dossier de certification 2004-15-TF rév. 03 du 01/08/08.
Ce dossier comprend 15 rubriques (16 pages).

17 **CONDITIONS SPECIALES POUR UNE UTILISATION SURE**

-60°C ≤ Tamb ≤ +60°C

18 **EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**

Conformité aux normes européennes EN 60079-0 (2006), EN 60079-1 (2004), EN 61241-0 (2006) et EN 61241-1 (2004).

19 **VERIFICATIONS ET ESSAIS INDIVIDUELS**

Néant

Fontenay-aux-Roses, le 1^{er} octobre 2008

1 **SUPPLEMENTARY EC TYPE EXAMINATION CERTIFICATE**

2 **Equipment or protective system** intended for use in potentially explosive atmospheres (**Directive 94/9/EC**)

3 Supplementary certificate number :
LCIE 99 ATEX 6017 X / 02

4 Equipment or protective system :
Flameproof Thermostat
Type : HFT, AFT

5 Applicant : **EXHEAT LIMITED**

15 **DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE**

- Normative update according to EN 60079-0 (2006), EN 60079-1 (2004), EN 61241-0 (2006) and EN 61241-1 (2004) standards
- Minimum ambient temperature : -60°C
- New type : AFT (gas and dust)
- Change of company name

The examination and test results are recorded in confidential report N° 77475-566018/02.

Specific parameters of the mode(s) of protection concerned:

Unchanged

The marking shall be modified as follows :

EXHEAT instead of HEATEX

HFT : II 2G AFT : II 2GD
Ex d IIC T6 Ex d IIC T6
Ex tD A21 IP6X T85°C

**WARNING – DO NOT OPEN WHEN ENERGIZED
DO NOT OPEN WHEN AN EXPLOSIVE DUST
ATMOSPHERE IS PRESENT**

16 **DESCRIPTIVE DOCUMENTS**

Certification file 2004-15-TF rev. 03 dated 01/08/08.
This file includes 15 items (16 pages).

17 **SPECIAL CONDITIONS FOR SAFE USE**

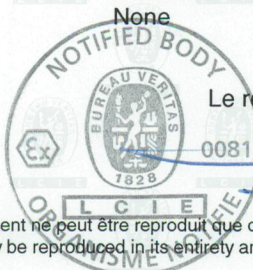
-60°C ≤ Tamb ≤ +60°C

18 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS**

Conformity to the European standards EN 60079-0 (2006), EN 60079-1 (2004), EN 61241-0 (2006) and EN 61241-1 (2004).

19 **ROUTINE VERIFICATIONS AND TESTS**

None



Le responsable de certification ATEX
ATEX certification manager

Marc GILLAUX

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EU DECLARATION OF CONFORMITY

Issued in accordance with the **ATEX Directive 2014/34/EU**

EXHEAT LIMITED

of Threxton Road Industrial Estate, Watton, Norfolk, IP25 6NG, UK.

We declare under our sole responsibility that, in compliance with the above Directive, the product detailed below has been manufactured in conformity with
EC Type Examination Certificate Number LCIE 99 ATEX 6017 X
Issued by LCIE (Notified Body Number 0081)
of 33, Avenue du Général Leclerc, 92260 Fontenay-aux-Roses, France

Product description: **AFT Type Flameproof Air Sensing Thermostat
(Aluminium/Externally Adjustable Variant)**

Protection concept(s): Flameproof 'd'
Enclosure 't'

Marking:  II 2 G D
Ex d IIC T6
Ex tD A21 T85°C
IP6X

Standards applied: EN 60079-0: 2006
EN 60079-1: 2004
EN 61241-0-2006
EN 61241-1-2004

The harmonised standards listed below have been compared with the above listed standards (used for certification purposes) and it is confirmed that no changes to the 'state of the art/current technical knowledge' apply to the products subject of this declaration;

Harmonised standards applied: EN 60079-0: 2012/A11: 2013
EN 60079-1: 2014
EN 60079-31: 2014

Other applicable Directives: 2014/30/EU Electromagnetic Compatibility Directive

Other standards applied: EN 60519-2: 2006 (Safety)
EN 61000-6-4: 2007/A1: 2011 (Emissions)
EN 61000-6-2: 2005 (Immunity)

Authorised signature:

A handwritten signature in black ink, appearing to be 'R. Coss'.

Name & Title: R. Coss – Technical Director

Date: 16th January 2018

EU DECLARATION OF CONFORMITYIssued in accordance with the **ATEX Directive 2014/34/EU****EXHEAT LIMITED***of Threxton Road Industrial Estate, Watton, Norfolk, IP25 6NG, UK.*

We declare under our sole responsibility that, in compliance with the above Directive, the product detailed below has been manufactured in conformity with
EC Type Examination Certificate Number LCIE 99 ATEX 6017 X
Issued by LCIE (Notified Body Number 0081)
of 33, Avenue du Général Leclerc, 92260 Fontenay-aux-Roses, France

Product description: HFT Type Flameproof Air Sensing Thermostat**Protection concept(s):** Flameproof 'd'**Marking:**  II 2 G
Ex d IIC T6**Standards applied:** EN 60079-0: 2006
EN 60079-1: 2004

The harmonised standards listed below have been compared with the above listed standards (used for certification purposes) and it is confirmed that no changes to the 'state of the art/current technical knowledge' apply to the products subject of this declaration;

Harmonised standards applied: EN 60079-0: 2012/A11: 2013
EN 60079-1: 2014**Other applicable Directives:** 2014/30/EU Electromagnetic Compatibility Directive**Other standards applied:** EN 60519-2: 2006 (Safety)
EN 61000-6-4: 2007/A1: 2011 (Emissions)
EN 61000-6-2: 2005 (Immunity)

Authorised signature:

A handwritten signature in black ink, appearing to be 'R. Coss'.

Name & Title: R. Coss – Technical Director

Date: 16th January 2018

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IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx LCI 07.0009X issue No.: 0 Certificate history:

Status: Current

Date of Issue: 2007-12-19 Page 1 of 3

Applicant: **EXHEAT**
Thrextan Road Industrial Estate
Watton, Thetford, Norfolk
IP25 6NG, UNITED KINGDOM
United Kingdom

Electrical Apparatus: **Heater**
Optional accessory:

Type of Protection: **Increased safety 'e'**

Marking: **EXHEAT**
Type F Heater**
Serial number
Ex e II T2, T3 or T4
Tamb = -20°C to +60°C (for T2 heaters only)
IECEx LCI 07.0009 X
WARNING : DO NOT OPEN WHILST ENERGISED
Power ratings

Approved for issue on behalf of the IECEx
Certification Body:

Marc GILLAUD

Position:

Certification manager

Signature:
(for printed version)

Date: January 18th, 2008

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

Laboratoire Central des Industries Electriques (LCIE)
33 Avenue du General Leclerc
FR-92260 Fontenay-aux-Roses
France



LCIE



IECEx Certificate of Conformity

Certificate No.: IECEx LCI 07.0009X

Date of Issue: 2007-12-19

Issue No.: 0

Page 2 of 3

Manufacturer: **EXHEAT**
Threxton Road Industrial Estate
Watton, Thetford, Norfolk
IP25 6NG, UNITED KINGDOM
United Kingdom

Manufacturing location(s):

EXHEAT
Threxton Road Industrial
Estate
Watton, Thetford, Norfolk
IP25 6NG, UNITED
KINGDOM
United Kingdom

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-7 : 2001 Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e'

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

FR/LCI/ExTR07.0007/00

Quality Assessment Report:

FR/LCI/QAR06.0005/00



IECEx Certificate of Conformity

Certificate No.: IECEx LCI 07.0009X

Date of Issue: 2007-12-19

Issue No.: 0

Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The FAW and FCR type air heaters are convector heaters comprising up to 6-off tubular metal sheathed finned elements terminated in an integral Ex e terminal enclosure, rated at up to 4kW, 660V, single or polyphase. There are three variants : the FAW, the FAW-C (compact version) and FCR (wall-mounted convector). This equipment is designed to operate in an ambient temperature of -60°C to +60°C. The enclosure is made of stainless or mild steel, natural or painted. All external electrical connections are terminated in the terminal enclosure. The maximum rating is established to ensure that whilst continuously energised at its rated voltage a given temperature class cannot be exceeded in a given ambient.

FAW & FCR : based on a maximum power density at the element sheath surface of 3.01 W/cm² at its rated supply voltage these heaters have a temperature class of T3 in an ambient of up to +40°C and T2 in an ambient of up to +60°C.

FAW & FCR : based on a maximum power density at the element sheath surface of 1.35 W/cm² at its rated supply voltage these heaters have a temperature class of T4 in an ambient of up to +40°C. FAW-C : based on a maximum power density at the element sheath surface of 1.1 W/cm² at its rated supply voltage these heaters have a temperature class of T3 in an ambient of up to +40°C and T2 in an ambient of up to +60°C.

CONDITIONS OF CERTIFICATION: YES as shown below:

Power ratings

FAW and FCR : 4kW single or polyphase up to 660V

FAW-C : 4kW single or polyphase up to 550V

Ambient operating temperature

FAW & FCR (power density at element surface of 3.01 W/cm²) :

-60°C to +40°C for T3

-60°C to +60°C for T2

FAW & FCR (power density at element surface of 1.35W/cm²) :

-60°C to +40°C for T4

FAW-C (power density at element surface of 1.1 W/cm²) :

-60°C to +40°C for T3

-60°C to +60°C for T2

1 ATTESTATION D'EXAMEN CE DE TYPE

2 Appareils et systèmes de protection destinés à être utilisés en atmosphères explosibles
Directive 94/9/CE

3 Numéro de l'attestation CE de type
LCIE 00 ATEX 6013 X

4 Appareil ou système de protection

Appareil de chauffage
Type : FAW

5 Demandeur : HEATEX LIMITED

6 Adresse : Threxton Road Industrial Estate
Watton, Thetford, Norfolk, IP25 6NG
UNITED KINGDOM

7 Cet appareil ou système de protection et ses variantes éventuelles acceptées est décrit dans l'annexe de la présente attestation et dans les documents descriptifs cités en annexe.

8 Le LCIE, organisme notifié sous la référence 0081 conformément à l'article 9 de la directive 94/9/CE du Parlement européen et du Conseil du 23 mars 1994, certifie que cet appareil ou système de protection est conforme aux exigences essentielles en ce qui concerne la sécurité et la santé pour la conception et la construction d'appareils et de systèmes de protection destinés à être utilisés en atmosphères explosibles, données dans l'annexe II de la directive. Les vérifications et épreuves figurent dans notre rapport confidentiel N° 21 455 010.

9 Le respect des exigences essentielles en ce qui concerne la sécurité et la santé est assuré par la conformité aux documents suivants :
- EN 50014 (1992)
- EN 50019 (1994)

10 Le signe X lorsqu'il est placé à la suite du numéro de l'attestation, indique que ce matériel ou système de protection est soumis aux conditions spéciales pour une utilisation sûre, mentionnées dans l'annexe de la présente attestation.

11 Cette attestation d'examen CE de type concerne uniquement la conception et la construction de l'appareil ou du système de protection spécifié, conformément à la directive 94/9/CE. Des exigences supplémentaires de cette directive sont applicables pour la fabrication et la fourniture de l'appareil ou du système de protection.

12 Le marquage de l'appareil ou du système de protection devra comporter, entre autres indications utiles, les mentions suivantes :



II 2 G
EE e II T4 à T2

1 EC TYPE EXAMINATION CERTIFICATE

2 Equipment or Protective System Intended for use in Potentially explosive atmospheres
Directive 94/9/CE

3 EC type Examination Certificate number
LCIE 00 ATEX 6013 X

4 Equipment or Protective system

Heater
Type : FAW

5 Applicant : HEATEX LIMITED

6 Address : Threxton Road Industrial Estate
Watton, Thetford, Norfolk, IP25 6NG
UNITED KINGDOM

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 LCIE, notified body number 0081 in accordance with article 9 of the directive 94/9/CE of the European Parliament and Council of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective system intended for use in potentially explosive atmospheres, given in Annex II to the directive. The examination and test results are recorded in confidential report No 21 455 010

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with :
- EN 50014 (1992)
- EN 50019 (1994)

10 If the sign X is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC Type examination certificate relates only to the design and construction of this specified equipment or protective system in accordance with the Directive 94/9/EC. Further requirements of Directive applies to the manufacture and supply of this equipment or protective system.

12 The marking of the equipment or protective system shall include the following :



II 2 G
EE e II T4 to T2

Fontenay-aux-Roses, le 23 juin 2000

Le Directeur de l'organisme certificateur
Manager of the certification body

Timbre sec/dry seal

Par délégation
Michel BRÉNON
Directeur adjoint
à la Certification

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LABORATOIRE CENTRAL DES INDUSTRIES ELECTRIQUES

Société anonyme à Directoire et Conseil de surveillance au capital de 103 592 000 Francs - RCS Nanterre B 408 363 174

Siège social : 33, avenue du Général Leclerc - F 92260 Fontenay-aux-Roses - Tél. : +33 (0)1 40 95 60 60

(A1) **ANNEXE**

(A2) **ATTESTATION D'EXAMEN CE DE TYPE**

LCIE 00 ATEX 6013 X

(A3) **Description de l'équipement ou du système de protection**

L'appareil de chauffage type FAW, de tension nominale jusqu'à 660 V et de puissance nominale jusqu'à 4 kW, comprend une boîte de raccordement avec un montage de protection et jusqu'à 6 éléments chauffants métalliques.

L'appareil est construit en 2 versions :

- version "normale",
- version "compact".

Le marquage sera le suivant :

HEATEX LIMITED

Adresse

Type : FAW

N° de fabrication

Année de fabrication

 II 2 G

EEx e II T4 à T2

LCIE 00 ATEX 6013 X

Ne pas ouvrir sous tension

Caractéristiques électriques

Le marquage CE est accompagné du numéro d'identification de l'organisme notifié responsable de la surveillance du système de qualité (0081 pour le LCIE).

(A4) **Documents descriptifs**

Dossier technique du Rév. 1 du 24/05/2000.

Ce document comprend 7 rubriques (8 pages).

(A5) **Conditions spéciales pour une utilisation sûre**

- Conditions d'alimentation :

. Version "normale" : 4 kW par élément ou tension polyphasée jusqu'à 660 V

. Version "compact" : 4 kW par élément ou tension polyphasée jusqu'à 550 V

- Classement en température :

. Version "normale" : pour une puissance maximale à la surface de l'élément de 3,01 W/cm² à sa tension nominale :

T3 jusqu'à + 40 °C

T2 jusqu'à + 60 °C

. Version "compact" : pour une puissance maximale à la surface de l'élément de 1,1 W/cm² à sa tension nominale :

T3 jusqu'à + 40 °C

T2 jusqu'à + 60 °C

(A6) **Exigences essentielles en ce qui concerne la sécurité et la santé**

La conception de cet équipement satisfait aux normes européennes EN 50014 et EN 50019.

Epreuve individuelle :

Chaque exemplaire du matériel devra subir une épreuve de rigidité diélectrique conformément aux dispositions du paragraphe 7 de la norme EN 50019.

(A1) **SCHEDULE**

(A2) **EC TYPE EXAMINATION CERTIFICATE**

LCIE 00 ATEX 6013 X

(A3) **Description of Equipment or Protective System**

The type FAW heater, rated at up to 660 V and 4 kW, comprises a terminal enclosure with integral mounting frame and guard and up to 6 finned tubular metal heating elements.

The equipment is manufactured in 2 models :

- "normal" model,
- "compact" model.

The marking will be the following :

HEATEX LIMITED

Address

Type : FAW

Serial number

Year of construction :

 II 2 G

EEx e II T4 to T2

LCIE 00 ATEX 6013 X

Do not open while energized

Electrical characteristics.

The CE marking shall be accompanied by the identification number of the notified body responsible for surveillance of the quality system (0081 for the LCIE).

(A4) **Descriptive documents :**

Technical file Rev. 1 dated 24/05/2000.

This file includes 7 items (8 pages).

(A5) **Special conditions for safe use**

- Power rating :

. "Normal" model : 4 kW single or polyphase up to 660 V

. "Compact" model : 4 kW single or polyphase up to 550 V

- Temperature classification :

. "Normal" model : based on a maximum power density at the element surface of 3,01 W/cm² at its rated voltage :

T3 up to + 40 °C

T2 up to + 60 °C

. "Compact" model : based on a maximum power density at the element surface of 1,1 W/cm² at its rated voltage :

T3 up to + 40 °C

T2 up to + 60 °C

(A6) **Essential Health and Safety Requirements**

The design of the equipment complies to European standards EN 50014 and EN 50019.

Routine test :

Each single electrical apparatus must be submitted to a dielectric strength test as set forth by the dispositions of paragraph 7 of EN 50019 standard.



(A1) **ATTESTATION D'EXAMEN CE DE TYPE**
LCIE 00 ATEX 6013 X du 23 juin 2000

AVENANT 00 ATEX 6013 X/01

(A1) **EC TYPE EXAMINATION CERTIFICATE**
LCIE 00 ATEX 6013 X dated June 23, 2000

VARIATION 00 ATEX 6013 X/01

(A2) **DÉSIGNATION DE L'ÉQUIPEMENT OU DU**
SYSTÈME DE PROTECTION :

Appareil de chauffage
Types : FAW et FCR
Construit par : HEATEX LIMITED

(A2) **NAME OF EQUIPMENT OR PROTECTIVE SYSTEM :**

Heater
Type : FAW et FCR
Manufactured by : HEATEX LIMITED

(A3) **OBJET DE L'AVENANT, DESCRIPTION DE**
L'APPAREIL OU DU SYSTÈME DE PROTECTION :

- Création du type FCR.

Marquage : Inchangé. Complété par le type FCR.

(A3) **SUBJECT OF THE VARIATION, DESCRIPTION OF**
EQUIPMENT OR PROTECTIVE SYSTEM :

- Creation of FCR type.

Marking : Unchanged. Completed by FCR type.

(A4) **DOCUMENTS DESCRIPTIFS :**

Dossier technique Rév. 1 du 08/06/2001.
Ce dossier comprend 4 rubriques (5 pages).

(A4) **DESCRIPTIVE DOCUMENTS :**

Technical file Rev. 1 dated 08/06/2001.
This file includes 4 items (5 pages).

(A5) **CONDITIONS SPÉCIALES POUR UNE UTILISATION**
SÛRE :

Inchangées.

(A5) **SPECIAL CONDITIONS FOR SAFE USE :**

Unchanged.

(A6) **EXIGENCES ESSENTIELLES EN CE QUI**
CONCERNE LA SÉCURITÉ ET LA SANTÉ :

Inchangées.

(A6) **ESSENTIAL HEALTH AND SAFETY**
REQUIREMENTS :

Unchanged.

Fontenay-aux-Roses, le 27 juillet 2001

Le Directeur de l'organisme certificateur
Manager of the certification body

Timbre sec/Dry seal

Par délégation
Michel BRÉNON
Directeur adjoint
à la Certification

Page 1/1

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LABORATOIRE CENTRAL DES INDUSTRIES ELECTRIQUES

Société anonyme à Directoire et Conseil de surveillance au capital de 15 745 984 euros - RCS Nanterre B 408 363 174

33, avenue du Général Leclerc - BP n° 8 - F 92266 FONTENAY-AUX-ROSES CEDEX - Tél. : +33 1 40 95 60 60



LCIE

(A1) **ATTESTATION D'EXAMEN CE DE TYPE**
LCIE 00 ATEX 6013 X du 23 Juin 2000.

AVENANT 00 ATEX 6013X/02

(A2) **DESIGNATION DE L'EQUIPEMENT OU DU**
SYSTEME DE PROTECTION :

Appareil de chauffage
Type : FAW, FCR
Construit par : HEATEX LIMITED

(A3) **OBJET DE L'AVENANT, DESCRIPTION DE**
L'APPAREIL OU DU SYTEME DE PROTECTION :

Abaissement de la température minimale d'utilisation
à -60°C.

Le marquage est inchangé.

(A4) **DOCUMENTS DESCRIPTIFS :**

Dossier technique n° 2004-17-TF rév. 3 du 20 Avril 2004.

Ce dossier comprend 2 rubriques (3 pages).

(A5) **CONDITIONS SPECIALES POUR UNE**
UTILISATION SURE :

Le classement en température est modifié comme suit :

Version / Model	Puissance maximale à la surface de l'élément à sa tension nominale / Maximal power of the element at surface under nominal voltage	Température ambiante d'utilisation / Ambient operating temperature	Classement en température / Temperature classification
Normale / Normal	3,01 W/cm ²	- 60 °C ≤ T _{amb} ≤ + 40°C	T3
	1,35 W/cm ²	- 60 °C ≤ T _{amb} ≤ + 60°C	T2
Compacte / Compact	1,1 W/cm ²	- 60 °C ≤ T _{amb} ≤ + 40°C	T4
		- 60 °C ≤ T _{amb} ≤ + 60°C	T3
		- 60 °C ≤ T _{amb} ≤ + 60°C	T2

(A6) **EXIGENCES ESSENTIELLES EN CE QUI**
CONCERNE LA SECURITE ET LA SANTE :

Inchangées.

(A1) **EC TYPE EXAMINATION CERTIFICATE**
LCIE 00 ATEX 6013 X dated June 23rd, 2000.

VARIATION 00 ATEX 6013X/02

(A2) **NAME OF EQUIPMENT OR PROTECTIVE SYSTEM :**

Heater
Type : FAW, FCR
Manufactured by : HEATEX LIMITED

(A3) **SUBJECT OF THE VARIATION, DESCRIPTION OF**
EQUIPMENT OR PROTECTIVE SYSTEM :

Lowering of the minimal operating temperature
to -60°C.

The marking is unchanged.

(A4) **DESCRIPTIVE DOCUMENTS :**

Certification file No. 2004-17-TF rev. 3 dated April 20th,
2004.

This file includes 2 items (3 pages).

(A5) **SPECIAL CONDITIONS FOR SAFE USE :**

The temperature classification is modified as follows .

(A6) **ESSENTIAL HEALTH AND SAFETY**
REQUIREMENTS :

Unchanged.

Fontenay-aux-Roses, le 30 septembre 2004

Le Directeur de l'organisme certificateur
Manager of the certification body

Michel BRÉNON

Timbre sec/dry seal

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Page 1/1



LCIE



1 **AVENANT D'ATTESTATION D'EXAMEN CE DE TYPE**

2 **Appareil ou système de protection** destiné à être utilisé en atmosphères explosibles (**Directive 94/9/CE**)

3 Numéro de l'avenant :
LCIE 00 ATEX 6013 X / 03

4 Appareil ou système de protection :
Appareil de chauffage
Type : FAW, FCR

5 Demandeur : **EXHEAT LIMITED**

15 **DESCRIPTION DE L'AVENANT**

- Changement de raison sociale : HEATEX devient EXHEAT
- Mise à jour normative selon les normes EN 60079-0 (2004) et EN 60079-7 (2003)

Les résultats des vérifications et essais figurent dans le rapport confidentiel N° 77473-566020-02.

Paramètres spécifiques du ou des modes de protection concerné(s) :
inchangés

Le marquage doit être modifié comme suit :

EXHEAT au lieu de HEATEX

Ex e II T2, T3 ou T4

AVERTISSEMENT – NE PAS OUVRIR SOUS TENSION

16 **DOCUMENTS DESCRIPTIFS**

Lettre de changement de raison sociale du 25/05/07.

17 **CONDITIONS SPECIALES POUR UNE UTILISATION SURE**

$-60^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$ ou $+60^{\circ}\text{C}$ (pour les réchauffeurs classés T2)

18 **EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE**

Couvertes par les normes européennes EN 60079-0 (2004) et EN 60079-7 (2003).

19 **VERIFICATIONS ET ESSAIS INDIVIDUELS**

Chaque exemplaire du matériel devra subir une épreuve de rigidité diélectrique conformément au paragraphe 6.1 de la norme EN 60079-7 (2003).

Fontenay-aux-Roses, le 30 mai 2008

1 **SUPPLEMENTARY EC TYPE EXAMINATION CERTIFICATE**

2 **Equipment or protective system** intended for use in potentially explosive atmospheres (**Directive 94/9/EC**)

3 Supplementary certificate number :
LCIE 00 ATEX 6013 X / 03

4 Equipment or protective system :
Heater
Type : FAW, FCR

5 Applicant : **EXHEAT LIMITED**

15 **DESCRIPTION OF THE SUPPLEMENTARY CERTIFICATE**

- Change of company name : HEATEX becomes EXHEAT
- Normative update according to the standards EN 60079-0 (2004) and EN 60079-7 (2003)

The examination and test results are recorded in confidential report N° 77473-566020-02.

Specific parameters of the mode(s) of protection concerned:

unchanged

The marking shall be modified as follows :

EXHEAT instead of HEATEX

Ex e II T2, T3 or T4

WARNING – DO NOT OPEN WHEN ENERGIZED

16 **DESCRIPTIVE DOCUMENTS**

Certificate of incorporation on change of name dated 25/05/07.

17 **SPECIAL CONDITIONS FOR SAFE USE**

$-60^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$ ou $+60^{\circ}\text{C}$ (For T2 Heaters)

18 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS**

Covered by the European standards EN 60079-0 (2004) and EN 60079-7 (2003).

19 **ROUTINE VERIFICATIONS AND TESTS**

Each single electrical apparatus shall be submitted to a dielectric strength test in accordance with clause 6.1 of EN 60079-7 (2003).



Henri CERVELLO

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EU DECLARATION OF CONFORMITY

Issued in accordance with the **ATEX Directive 2014/34/EU**

EXHEAT LIMITED

of Threxton Road Industrial Estate, Watton, Norfolk, IP25 6NG, UK.

We declare under our sole responsibility that, in compliance with the above Directive, the product detailed below has been manufactured in conformity with
EC Type Examination Certificate Number LCIE 00 ATEX 6013 X
Issued by LCIE (Notified Body Number 0081)
of 33, Avenue du Général Leclerc, 92260 Fontenay-aux-Roses, France

Product description: **FAW.../FCR... Type Air Heater**

Protection concept(s): Flameproof 'e'

Marking:  II 2 G
Ex e II T4 or T2

Standards applied: EN 60079-0: 2004
EN 60079-7: 2003

The Harmonised Standards listed below have been compared with the above listed Standards (used for certification purposes) and it is confirmed that no changes to the 'state of the art/current technical knowledge' apply to the products subject of this declaration;

Harmonised standards applied: EN 60079-0: 2012+A11: 2013
EN IEC 60079-7: 2015+A1: 2018

Other applicable Directives: 2014/30/EU Electromagnetic Compatibility Directive

Other standards applied: EN 60519-2: 2006 (Safety)
EN 61000-6-4: 2007/A1:2011 (Emissions)
EN 61000-6-2: 2005 (Immunity)

Authorised Signature:

Name & Title: R. Coss – Technical Director

Date: 30th July 2018

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EXHEAT INDUSTRIAL LTD

Threxton House, Threxton Road Industrial Estate
Watton, Thetford, IP25 6NG

Tel: +44 (0)1953 886210

Fax: +44 (0)1953 883853

For sales and new product information see our website

www.exheat-industrial.com

Author: P. Bumstead

Issue Date: April. 2019

Issue K_English

A4 printable version available on our website:

www.exheat-industrial.com/product



1 ATTESTATION D'EXAMEN CE DE TYPE

2 Appareils et systèmes de protection destinés à être utilisés en atmosphères explosibles
Directive 94/9/CE

3 Numéro de l'attestation CE de type
LCIE 00 ATEX 6013 X

4 Appareil ou système de protection

Appareil de chauffage
Type : FAW

5 Demandeur : HEATEX LIMITED

6 Adresse : Threxton Road Industrial Estate
Watton, Thetford, Norfolk, IP25 6NG
UNITED KINGDOM

7 Cet appareil ou système de protection et ses variantes éventuelles acceptées est décrit dans l'annexe de la présente attestation et dans les documents descriptifs cités en annexe.

8 Le LCIE, organisme notifié sous la référence 0081 conformément à l'article 9 de la directive 94/9/CE du Parlement européen et du Conseil du 23 mars 1994, certifie que cet appareil ou système de protection est conforme aux exigences essentielles en ce qui concerne la sécurité et la santé pour la conception et la construction d'appareils et de systèmes de protection destinés à être utilisés en atmosphères explosibles, données dans l'annexe II de la directive. Les vérifications et épreuves figurent dans notre rapport confidentiel N° 21 455 010.

9 Le respect des exigences essentielles en ce qui concerne la sécurité et la santé est assuré par la conformité aux documents suivants :
- EN 50014 (1992)
- EN 50019 (1994)

10 Le signe X lorsqu'il est placé à la suite du numéro de l'attestation, indique que ce matériel ou système de protection est soumis aux conditions spéciales pour une utilisation sûre, mentionnées dans l'annexe de la présente attestation.

11 Cette attestation d'examen CE de type concerne uniquement la conception et la construction de l'appareil ou du système de protection spécifié, conformément à la directive 94/9/CE. Des exigences supplémentaires de cette directive sont applicables pour la fabrication et la fourniture de l'appareil ou du système de protection.

12 Le marquage de l'appareil ou du système de protection devra comporter, entre autres indications utiles, les mentions suivantes :

 II 2 G
EEx e II T4 à T2

1 EC TYPE EXAMINATION CERTIFICATE

2 Equipment or Protective System Intended for use in Potentially explosive atmospheres
Directive 94/9/CE

3 EC type Examination Certificate number
LCIE 00 ATEX 6013 X

4 Equipment or Protective system

Heater
Type : FAW

5 Applicant : HEATEX LIMITED

6 Address : Threxton Road Industrial Estate
Watton, Thetford, Norfolk, IP25 6NG
UNITED KINGDOM

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 LCIE, notified body number 0081 in accordance with article 9 of the directive 94/9/CE of the European Parliament and Council of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective system intended for use in potentially explosive atmospheres, given in Annex II to the directive. The examination and test results are recorded in confidential report No 21 455 010.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with :
- EN 50014 (1992)
- EN 50019 (1994)

10 If the sign X is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC Type examination certificate relates only to the design and construction of this specified equipment or protective system in accordance with the Directive 94/9/EC. Further requirements of Directive applies to the manufacture and supply of this equipment or protective system.

12 The marking of the equipment or protective system shall include the following :

 II 2 G
EEx e II T4 to T2

Fontenay-aux-Roses, le 23 juin 2000

Le Directeur de l'organisme certificateur
Manager of the certification body

Timbre sec/dry seal

Par délégation
Michel BRÉNON
Directeur adjoint
à la Certification

Page 1/2 13-b

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■ LABORATOIRE CENTRAL DES INDUSTRIES ELECTRIQUES

Société anonyme à Directoire et Conseil de surveillance au capital de 103 592 000 Francs - RCS Nanterre B 408 363 174

Siège social : 33, avenue du Général Leclerc - F 92260 Fontenay-aux-Roses - Tél. : +33 (0)1 40 95 60 60



(A1) **ANNEXE**

(A2) **ATTESTATION D'EXAMEN CE DE TYPE**

LCIE 00 ATEX 6013 X

(A3) **Description de l'équipement ou du système de protection**

L'appareil de chauffage type FAW, de tension nominale jusqu'à 660 V et de puissance nominale jusqu'à 4 kW, comprend une boîte de raccordement avec un montage de protection et jusqu'à 6 éléments chauffants métalliques.

L'appareil est construit en 2 versions :

- version "normale",
- version "compact".

Le marquage sera le suivant :

HEATEX LIMITED

Adresse

Type : FAW

N° de fabrication

Année de fabrication

 II 2 G

EEx e II T4 à T2

LCIE 00 ATEX 6013 X

Ne pas ouvrir sous tension

Caractéristiques électriques

Le marquage CE est accompagné du numéro d'identification de l'organisme notifié responsable de la surveillance du système de qualité (0081 pour le LCIE).

(A4) **Documents descriptifs**

Dossier technique du Rév. 1 du 24/05/2000.
Ce document comprend 7 rubriques (8 pages).

(A5) **Conditions spéciales pour une utilisation sûre**

- Conditions d'alimentation :
 - . Version "normale" : 4 kW par élément ou tension polyphasée jusqu'à 660 V
 - . Version "compact" : 4 kW par élément ou tension polyphasée jusqu'à 550 V
- Classement en température :
 - . Version "normale" : pour une puissance maximale à la surface de l'élément de 3,01 W/cm² à sa tension nominale :
 - T3 jusqu'à + 40 °C
 - T2 jusqu'à + 60 °C
 - . Version "compact" : pour une puissance maximale à la surface de l'élément de 1,1 W/cm² à sa tension nominale :
 - T3 jusqu'à + 40 °C
 - T2 jusqu'à + 60 °C

(A6) **Exigences essentielles en ce qui concerne la sécurité et la santé**

La conception de cet équipement satisfait aux normes européennes EN 50014 et EN 50019.

Epreuve individuelle :

Chaque exemplaire du matériel devra subir une épreuve de rigidité diélectrique conformément aux dispositions du paragraphe 7 de la norme EN 50019.

(A1) **SCHEDULE**

(A2) **EC TYPE EXAMINATION CERTIFICATE**

LCIE 00 ATEX 6013 X

(A3) **Description of Equipment or Protective System**

The type FAW heater, rated at up to 660 V and 4 kW, comprises a terminal enclosure with integral mounting frame and guard and up to 6 finned tubular metal heating elements.

The equipment is manufactured in 2 models :

- "normal" model,
- "compact" model.

The marking will be the following :

HEATEX LIMITED

Address

Type : FAW

Serial number

Year of construction :

 II 2 G

EEx e II T4 to T2

LCIE 00 ATEX 6013 X

Do not open while energized

Electrical characteristics.

The CE marking shall be accompanied by the identification number of the notified body responsible for surveillance of the quality system (0081 for the LCIE).

(A4) **Descriptive documents :**

Technical file Rev. 1 dated 24/05/2000.
This file includes 7 items (8 pages).

(A5) **Special conditions for safe use**

- Power rating :
 - . "Normal" model : 4 kW single or polyphase up to 660 V
 - . "Compact" model : 4 kW single or polyphase up to 550 V
- Temperature classification :
 - . "Normal" model : based on a maximum power density at the element surface of 3,01 W/cm² at its rated voltage :
 - T3 up to + 40 °C
 - T2 up to + 60 °C
 - . "Compact" model : based on a maximum power density at the element surface of 1,1 W/cm² at its rated voltage :
 - T3 up to + 40 °C
 - T2 up to + 60 °C

(A6) **Essential Health and Safety Requirements**

The design of the equipment complies to European standards EN 50014 and EN 50019.

Routine test :

Each single electrical apparatus must be submitted to a dielectric strength test as set forth by the dispositions of paragraph 7 of EN 50019 standard.



(A1) **ATTESTATION D'EXAMEN CE DE TYPE**
LCIE 00 ATEX 6013 X du 23 juin 2000

AVENANT 00 ATEX 6013 X/01



(A1) **EC TYPE EXAMINATION CERTIFICATE**
LCIE 00 ATEX 6013 X dated June 23, 2000

VARIATION 00 ATEX 6013 X/01

(A2) **DÉSIGNATION DE L'ÉQUIPEMENT OU DU**
SYSTÈME DE PROTECTION :

Appareil de chauffage
Types : FAW et FCR
Construit par : HEATEX LIMITED

(A2) **NAME OF EQUIPMENT OR PROTECTIVE SYSTEM :**

Heater
Type : FAW et FCR
Manufactured by : HEATEX LIMITED

(A3) **OBJET DE L'AVENANT, DESCRIPTION DE**
L'APPAREIL OU DU SYSTÈME DE PROTECTION :

- Création du type FCR.

Marquage : Inchangé. Complété par le type FCR.

(A3) **SUBJECT OF THE VARIATION, DESCRIPTION OF**
EQUIPMENT OR PROTECTIVE SYSTEM :

- Creation of FCR type.

Marking : Unchanged. Completed by FCR type.

(A4) **DOCUMENTS DESCRIPTIFS :**

Dossier technique Rév. 1 du 08/06/2001.
Ce dossier comprend 4 rubriques (5 pages).

(A4) **DESCRIPTIVE DOCUMENTS :**

Technical file Rev. 1 dated 08/06/2001.
This file includes 4 items (5 pages).

(A5) **CONDITIONS SPÉCIALES POUR UNE UTILISATION**
SÛRE :

Inchangées.

(A5) **SPECIAL CONDITIONS FOR SAFE USE :**

Unchanged.

(A6) **EXIGENCES ESSENTIELLES EN CE QUI**
CONCERNE LA SÉCURITÉ ET LA SANTÉ :

Inchangées.

(A6) **ESSENTIAL HEALTH AND SAFETY**
REQUIREMENTS :

Unchanged.

Fontenay-aux-Roses, le 27 juillet 2001

Le Directeur de l'organisme certificateur
Manager of the certification body

Timbre sec/Dry seal

Par délégation
Michel BRÉNON
Directeur adjoint
à la Certification

Page 1/1

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LABORATOIRE CENTRAL DES INDUSTRIES ELECTRIQUES

Société anonyme à Directoire et Conseil de surveillance au capital de 15 745 984 euros - RCS Nanterre B 408 363 174

33, avenue du Général Leclerc - BP n° 8 - F 92266 FONTENAY-AUX-ROSES CEDEX - Tél. : +33 1 40 95 60 60

Junction Box Certificates



1 **EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
Directive 94/9/EC

3 EC - Type Examination Certificate Number: **Baseefa06ATEX0117X**

4 Equipment or Protective System: **PL6** Range of Junction Boxes**

5 Manufacturer: **Hawke International**

6 Address: **Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Baseefa (2001) Ltd., Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No. **GB/BAS/Ex/TR06.0033/00**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2004, EN60079-7:2003, EN 61241-0: 2004, EN 61241-1: 2004

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include the following :

(Ex) II 2GD Exe II Ex tD A21 T(see schedule) 80°C Tamb -60°C to (see schedule)

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0500**

Project File No. **04/0901**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa (2001) Ltd
Registered in England No. 4305578 at the above address

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.

Re-issued 06/07/10 – minor clarifications



13

Schedule

14

Certificate Number Baseefa06ATEX00117X

15 Description of Equipment or Protective System

The PL6** Range of Junction Boxes consist of the type ZPL6* range of plastic empty enclosures covered by Baseefa06ATEX0116U Exe II. The junction boxes are fitted with a variety of different terminal arrangements. All the terminals are covered by their own component certificates and are coded Exe II. The terminals are listed on D9160 held on Baseefa General Technical File 0500. The actual terminals fitted to each junction box will be listed in the schedule of the instruction sheet supplied with the junction box.

The terminals must be used within their relevant temperature range, voltage and current limitations, and fitted in accordance with IEC 60079 with regard to creepage and clearance distances by Hawke International. Details on drawing C2542 describe partitioning arrangements which allow for the termination of intrinsically safe (i.s.) circuits and non i.s. circuits within the same junction box. When i.s. circuits are present an additional label is fitted to the outside of the junction box stating 'INTRINSICALLY SAFE CIRCUITS ENCLOSED'.

The maximum power dissipation within each junction box is as follows:

BOX TYPE	Maximum Power Dissipation (Watts)																		Max. Cable Length per Terminal (M)
	T _{amb} T0	T _{amb} 80°C	T _{amb} -60/+40°C	T _{amb} T6	T _{amb} 80°C	T _{amb} -60/+55°C	T _{amb} T8	T _{amb} 80°C	T _{amb} -60/+65°C	T _{amb} T5	T _{amb} 80°C	T _{amb} -60/+40°C	T _{amb} T5	T _{amb} 80°C	T _{amb} -60/+55°C	T _{amb} T5	T _{amb} 80°C	T _{amb} -60/+65°C	
PL612		4.1			2.5			1.5			5.6			4.1			3.0		0.127
PL615		6.4			4.0			2.4			8.8			6.4			4.8		0.175
PL620		11.4			7.1			4.2			15.6			11.4			8.5		0.240
PL626		11.4			7.1			4.2			15.6			11.4			8.5		0.275
PL630		20.8			13.0			7.8			28.6			20.8			15.6		0.395

The maximum number of terminals which may be fitted into each junction box is calculate using the following formula:

$$\text{Power} = I^2 \times N (R_t + R_c) \text{ Watts}$$

Where:

I = Actual current through the conductor up to the maximum permitted certified current of the terminal when fitted in a junction box (Amps).

N = Number of terminals

R_t = Terminal resistance (Ohms at 20°C)

R_c = Resistance of one conductor (Ohms at 20°C) when using a maximum diagonal cable length listed in the above table.

Earth facilities and cable entries are described on the component certificate for the empty enclosures Baseefa06ATEX0116U. A suitable certified internal rail mounted earth terminal may be used. If a 'clean earth' is required a rail mounted power terminal may be used.

When required a component certified breather, drain or breather-drain may be fitted to the junction box as specified on the component certificate Baseefa06ATEX0116U. When fitted the IP rating of the junction box is reduced to the IP rating of the breather drain fitted, but must be at least IP54, and may no longer be suitable for category 2D. Breather drains must be installed in their correct orientation in the bottom face of the junction box.

16 Report Number

GB/BAS/Ex/TR06.0033/00



17 Special Conditions for Safe Use

1. When used under dust layers the maximum depth shall be no greater than 50mm.
2. Unused cables entries must be fitted with the following stopping plugs:
Hawke type 375 to Baseefa06ATEX0236U / IECEx BAS 06.0056U
Hawke type 387 to Baseefa06ATEX0118U / IECEx BAS 06.0029U
Redapt type PU-E-4 to SIRA00ATEX3091
Redapt type PU-D to SIRA00ATEX1094
Raxton types CK, CQ, CF and CB to SIRA00ATEX1073U

The enclosure is limited to the temperature range of the stopping plug fitted.
3. Any breathing and draining device must be installed in its correct orientation in the bottom face of the enclosure.
4. All terminal screws, used and unused, shall be fully tightened down by the end user.
5. Insulation of conductors must extend to within 1mm of the metal of the terminal throat unless specified otherwise on the terminal certificate.
6. No more than one single or multi-stranded lead shall be connected to either side of any terminal unless multiple conductors have been joined in a suitable manner, e.g. two conductors into a single insulated bootlace ferrule, or any method indicated on the terminal certificate.
7. Terminals shall be installed in such a manner that the creepage and clearance distances between the terminal and adjacent components, enclosure walls and covers complying with the requirements of IEC 60079 for the rated voltage of the equipment.
8. Terminal temperatures must not exceed the operating range specified on the component certificate.
9. All terminals, and accessories such as cross-connectors, shall be installed in accordance with the terminal manufactures instructions. Hawke International will supply the relevant terminal manufacturer's instructions with each junction box covered by this certificate.
10. The maximum voltage, current and dissipated power shown on the rating label must not be exceeded.
11. When connecting conductors of cross section below the maximum allowed for the particular terminal then the maximum amps per pole must be reduced inline with the maximum amps permitted for a terminal equivalent to the conductor size fitted e.g. If a terminal that can take a 10mm² conductor at 40Amps is fitted with a 4mm² conductor then the current shall be reduced to a maximum of 22Amps, or the rating marked on the apparatus label, whichever is the lower.

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
C2542	-	B	31/07/06	PL6** General Arrangement
9004	-	B	03/08/06	PL626 General Arrangement

All drawings are common to and held on IECEx BAS 06.0028X

Certificate Number
Baseefa06ATEX0117X/1



Issued 06 July 2010
Page 1 of 2

1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: Baseefa06ATEX0117X/1

4 Equipment or Protective System: PL6** RANGE OF JUNCTION BOXES

5 Manufacturer: HAWKE INTERNATIONAL

6 Address: Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa06ATEX0117X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. 0500

Project File No. 10/0532

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa06ATEX0117X/1

15 Description of the variation to the Equipment or Protective System

Variation 1.1

To allow the use of the following stopping plug:

Manufacturer	Product	Type	Certificate Number	IP Rating
Hawke	Stopping Plug	387/1	Sira06ATEX1240U Operating Temperature -20°C to +60°C	IP66

16 Report Number

GB/BAS/TR10.0155/00

17 Special Conditions for Safe Use

None additional to those listed previously

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

None



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
Directive 94/9/EC

3 Supplementary EC - Type Examination Certificate Number: **Baseefa06ATEX0117X/2**

4 Equipment or Protective System: **PL6** RANGE OF JUNCTION BOXES**

5 Manufacturer: **HAWKE INTERNATIONAL**

6 Address: **Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa06ATEX0117X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. 0500

Project File No. 10/0718

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
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Registered in England No. 4305578. Registered address as above.


pp R S SINCLAIR 
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa06ATEX0117X/2

15

Description of the variation to the Equipment or Protective System

Variation 2.1

Addition of further Special Condition for Safe Use regarding closing of unused entries.

16

Report Number

GB/BAS/TR10.0270/00

17

Additional Special Conditions for Safe Use

Unused entries may be fitted with alternative stopping plugs and or breather drains to those listed in the schedule. The user is responsible for ensuring that the protection concept, temperature class and relevant IP rating are maintained.

18

Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19

Drawings and Documents

None

Certificate Number
Baseefa06ATEX0117X/3



Issued 30 April 2012
Page 1 of 2

1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: Baseefa06ATEX0117X/3

4 Equipment or Protective System: PL6 RANGE OF JUNCTION BOXES**

5 Manufacturer: HAWKE INTERNATIONAL

6 Address: Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA

7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa06ATEX0117X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 Item 9 of the original Certificate is replaced by "Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

IEC 60079-0: 2011 EN 60079-7: 2007 EN 60079-31: 2009

except in respect of those requirements listed at item 18 of the Schedule."

9 The marking of the equipment has changed from the original Certificate and shall include the following:

**⊕ II 2GD Ex e IIC T(see schedule) Gb Ex tb IIC T80°C Db IP66 and IP67
Tamb -60°C to +(see schedule)**

This certificate shall be held with the original certificate and may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. 0500

Project File No. 12/0352

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.


R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa06ATEX0117X/3

15

Description of the variation to the Equipment or Protective System

Variation 3.1

To confirm that the equipment covered by this certificate has been reviewed against the requirements of IEC 60079-0: 2011, EN 60079-7: 2007, EN 60079-31: 2009 in respect of the differences from EN 60079-0: 2004, EN 60079-7: 2003, EN 61241-0: 2004 and EN 61241-1:2004, and the equipment has been assessed and is in compliance with the requirements of the latest standards.

The marking is now as follows:

Ⓔ II 2GD Ex e IIC T(see schedule) Gb Ex tb IIC T80°C Db IP66 and IP67

Tamb -60°C to +(see schedule)

16

Report Number

GB/BAS/TR12.0113/00

17

Specific Conditions of Use

None additional to those listed previously

18

Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19

Drawings and Documents

Number	Sheet	Issue	Date	Description
C2542	---	C	03/04/12	General arrangement type 'PL6' series junction box
9004	1 of 1	C	03/04/12	PL626 Certification drawing

Drawings held on IECEx BAS 06.0028X and common to Baseefa06ATEX0117X

1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: Baseefa06ATEX0117X/4

4 Equipment or Protective System: PL6 RANGE OF JUNCTION BOXES**

5 Manufacturer: HAWKE INTERNATIONAL

6 Address: Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa06ATEX0117X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

Baseefa Customer Reference No. 0500

Project File No. 15/0106

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SGS Baseefa Limited

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ

Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com

Registered in England No. 4305578

Registered address: Rossmore Business Park, Ellesmere Port, Cheshire. CH65 3EN



R S SINCLAIR
GENERAL MANAGER

On behalf of SGS Baseefa Limited

13

Schedule

14

Certificate Number Baseefa06ATEX0117X/4

15 Description of the variation to the Equipment or Protective System

Variation 4

To add new PL642 and PL644 junction boxes

JHX TYPE	Maximum Power Dissipation (Watts)															Min. Cable Length per Terminal (M)	
	T _{amb}	T _{amb}	T _{amb}	T _{amb}	T _{amb}	T _{amb}	T _{amb}	T _{amb}	T _{amb}	T _{amb}	T _{amb}	T _{amb}	T _{amb}	T _{amb}			
	16	80°C	40 +30°C	16	80°C	40 +55°C	16	80°C	40 +55°C	16	80°C	40 +55°C	15	80°C	40 +55°C		
PL642		20.8			13.0			7.8			28.6			20.8		15.6	0.432
PL644		20.8			13.0			7.8			28.6			20.8		15.6	0.528

16 Report Number

GB/BAS/ExTR15.0222/00

17 Specific Conditions of Use

None additional to those listed previously

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Issue	Date	Description
C2542	D	29/07/15	General Arrangement Type PL6 Series Junction Boxes

1 **SUPPLEMENTARY EU - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
Directive 2014/34/EU

3 Supplementary EU - Type **Baseefa06ATEX0117X/5**
Examination Certificate Number:

3.1 In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

4 Product: **PL6** Range of Junction Boxes**

5 Manufacturer: **Hawke International**

6 Address: **A Division of Hubbell Limited**
A Member of the Hubbell Group of Companies
Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa06ATEX0117X to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 SGS Baseefa, Notified Body number 1180, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that the product, as modified by this supplementary certificate, has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

9 Item 9 of the original Certificate is replaced by "Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0: 2012 + A11:2013 EN 60079-1: 2014 EN 60079-7: 2007 EN 60079-11: 2012 EN 60079-31: 2014

except in respect of those requirements listed at item 18 of the Schedule."

12 The marking of the equipment has changed from the original Certificate and shall include the following:

⊗ II 2G Ex e IIC T(see schedule) Gb

⊗ II 2D Ex tb IIIC T80°C Db

See schedule for marking for Intrinsic Safety (terminals) and flameproof (fuses)

SGS Baseefa Customer Reference No. **0500**

Project File No. **17/0235**

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SGS Baseefa Limited

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ

Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601

e-mail baseefa@sgs.com web site www.sgs.co.uk/baseefa

Registered in England No. 4305578.

Registered address: Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN

R S Sinclair
R S SINCLAIR

TECHNICAL MANAGER

On behalf of SGS Baseefa Limited

13

Schedule

14

Certificate Number Baseefa06ATEX0117X/5

15

Description of the variation to the Product

Variation 5.1

To confirm that the junction boxes covered by this certificate have been reviewed against the requirements of EN 60079-31: 2014 in respect of the differences from EN 60079-31: 2009, and comply with the requirements of the latest standard.

Variation 5.2

Add additional optional accessories as listed on the ZPL6 range of enclosures to Baseefa06ATEX0116U:

Manufacturer	Product	Type	Certificate Number	IP Rating
Hawke	Stopping Plug	375	IECEXBAS12.0065X Baseefa12ATEX0095X -60°C to +75°C	IP66/67
Hawke	Stopping Plug	387	IECEXBAS06.0029U Baseefa06ATEX0118U Nitrile o-ring: -60°C to +80°C Silicone o-ring: -60°C to +160°C	IP66/67
Hawke	Stopping Plug	487	IECEXBAS11.0071X Baseefa11ATEX0149X Nitrile o-ring: -60°C to +80°C Silicone o-ring: -60°C to +150°C	IP66/67
Raxton	Stopping Plug	CK, CQ, CF & CB	IECEXSIR07.0009X SIRA10ATEX1224X Operating Temperature -20°C to +60°C	IP66
Hawke	Breather Drain	389	IECEXBAS11.0075X Baseefa11ATEX0153X Nitrile o-ring: -60°C to +80°C Silicone o-ring: -60°C to +150°C	IP66
Raxton	Breather Drain	CV	IECEXSIR09.0096X SIRA10ATEX3279X Operating Temperature -20°C to +65°C	IP66
Walsall	Breather Drain	BDE	IECEXBAS06.0078U Baseefa06ATEX0285U Operating Temperature Nitrile o-ring: -20°C to +70°C Silicone o-ring: -60°C to +160°C	IP66
Redapt	Breather Drain	DP-E	IECEXSIR08.0024U SIRA99ATEX3050U Operating Temperature -50°C to +85°C	IP66

Manufacturer	Product	Type	Certificate Number	IP Rating
Hawke	Int/Ext Earth	IES10, IES6/12, ES6/12	IECExBAS09.0013U Baseefa09ATEX0039U -60°to +200°C	IP66

Variation 5.3

For commercial purposes to suit the application, the PL6** range of junction boxes may be marked with Intrinsically Safe (I.S.) Ex i* coding. The manufacturer may opt to show both Ex e and Ex i* coding or just show Ex i* coding on the certification label.

Marking options:

- When only Ex e coding is marked on the certification label with the addition of a traffolyte label stating 'Intrinsically Safe circuits enclosed' or 'Intrinsically Safe and Non- Intrinsically Safe circuits enclosed', then the manufacturer shall show the ratings as the standard Ex e wattage, current and voltage ratings.
- When both Ex e and Ex i* coding is marked on the certification label, then the manufacturer shall show the ratings as the standard Ex e wattage, current and voltage ratings.
- When only Ex i* coding is marked on the junction box, then the manufacturer shall show the ratings as the reduced I.S. wattage, current and voltage ratings in-line with EN 60079-11.

The marking is as follows:

Ⓔ II 2G Ex ib IIC T6 Gb

Ⓔ II 2D Ex ib IIIC T80°C Db

or

Ⓔ II 1G Ex ia IIC T6 Ga

Ⓔ II 1D Ex ia IIIC T80°C Da

Variation 5.4

For commercial purposes, amend the dust Temperature Class to T95°C when used in conjunction with T5 for Ex e Ex tb:

BOX TYPE	Maximum Power Dissipation (Watts)																		Max Cable Length per Terminal (M)
	T _{rating} T6	T _{dust} 80°C	T _{amb} -60 +40°C	T _{rating} T6	T _{dust} 80°C	T _{amb} -60 +55°C	T _{rating} T6	T _{dust} 80°C	T _{amb} -60 +65°C	T _{rating} T5	T _{dust} 95°C	T _{amb} -60 +40°C	T _{rating} T5	T _{dust} 95°C	T _{amb} -60 +55°C	T _{rating} T5	T _{dust} 95°C	T _{amb} -60 +65°C	
PL612	4.1			2.5			1.5				5.6		4.1			3.0			0.127
PL615	6.4			4.0			2.4				8.8		6.4			4.8			0.175
PL620	11.4			7.1			4.2				15.6		11.4			8.5			0.240
PL626	11.4			7.1			4.2				15.6		11.4			8.5			0.275
PL630	20.8			13.0			7.8				28.6		20.8			15.6			0.365
PL642	20.8			13.0			7.8				28.6		20.8			15.6			0.432
PL644	20.8			13.0			7.8				28.6		20.8			15.6			0.528

Variation 5.5

Include the option to fit Bartec GmbH type 07-7311-63J2/** fuse terminals:

To IECEX PTB 11.0083U

Service Temperature Range -25°C to +100°C

1.6A and 2.0A versions, types:

07-7311-63J2/JM (1.6A, Medium time lag)

07-7311-63J2/KM (2.0A, Medium time lag)

07-7311-63J2/JT (1.6A, Time lag)

07-7311-63J2/KT (2.0A, Time lag)

The fuse terminals or a combination of these fuse terminals with power terminals may be fitted in the PL620, PL630, PL626, PL642 and PL644 junction boxes. When fuse terminals are fitted the junction boxes become 'defined arrangements'.

The marking is as follows due to the fuse terminals:

- a)  II 2GD Ex db e IIC T6 Gb Ex tb IIIC T80° Db Tamb -25°C to +40°C
or
b)  II 2GD Ex db e IIC T5 Gb Ex tb IIIC T95° Db Tamb -25°C to +55°C

16 Report Number

GB/BAS/ExTR17.0099/00

17 Specific Conditions of Use

All previously listed conditions are replaced as follows including the new fuse terminal condition:

1. Unused entry holes must be fitted with stopping plugs as listed on the ZPL6 component certificate Baseefa06ATEX0116U. The operating temperature range and Ingress Protection rating of the enclosure is limited to that of the stopping plug fitted.
2. Any breathing and draining device as listed on the ZPL6** component certificate Baseefa06ATEX0116U may be fitted. The breather/drain devices must be installed in their correct orientation in either the bottom face of the junction box. The operating temperature range and Ingress Protection rating of the junction box is limited to that of the breather/drain device fitted.
3. All terminal screws, used and unused, shall be fully tightened down by the end user.
4. Insulation of conductors must extend to within 1mm of the metal of the terminal throat unless specified otherwise on the terminal certificate.
5. No more than one single or multi-stranded lead shall be connected to either side of any terminal unless multiple conductors have been joined in a suitable manner, e.g. two conductors into a single insulated bootlace ferrule, or any method indicated on the terminal certificate.
6. Terminals and their accessories shall be installed in such a manner that the creepage distances and clearances between the terminal and adjacent components, enclosure walls and covers comply with the requirements of EN 60079-7 and EN 60079-11 for the rated voltage of the equipment.
7. Terminal temperatures must not exceed the operating range specified on the component certificate for the terminal.
8. All terminals, and accessories such as cross-connectors, shall be installed in accordance with the terminal manufactures instructions. Hawke International will supply the relevant terminal manufacturer's instructions with each junction box covered by this certificate.
9. The maximum voltage, current and dissipated power shown on the rating label must not be exceeded.
10. When connecting conductors of cross section below the maximum allowed for the particular terminal then the maximum amps per pole must be reduced in-line with the maximum amps permitted for a terminal equivalent to the conductor size fitted e.g. If a terminal that can take a 10mm² conductor at 40Amps is fitted with a 4mm² conductor then the current shall be reduced to a maximum of 22Amps, or the rating marked on the apparatus label, whichever is the lower.
11. When label fixing is by screws complete with Nyloc nuts then the Ingress Protection Rating is IP66.
12. Unused entries may be fitted with alternative stopping plugs and or breather drains to those listed in the schedule. The user is responsible for ensuring that the protection concept, temperature class and relevant IP rating are maintained.

13. When fuse terminals are fitted, the low ambient temperature is limited to -25°C and the junction box becomes a defined arrangement.

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Issue	Date	Description
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Changed drawing:

C2542	E	13/04/17	General arrangement type PL6 series
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New Drawings:

* C2500	A	11/04/17	General arrangement Bartec fuses in Exe junction boxes
---------	---	----------	--

All drawings are held with IECEx BAS 06.028X and common to Baseefa06ATEX0117X.

* This 'fuse' drawing is also common to Hawke Ex e IIC Sheet Metal range of junction boxes to: IECEx BAS 08.0065X and common to Baseefa08ATEX0208X.

A copy of this drawing is also held on IECEx BAS 08.0065X.

1 SUPPLEMENTARY EU - TYPE EXAMINATION CERTIFICATE

**2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU**

**3 Supplementary EU - Type Baseefa06ATEX0117X/6
Examination Certificate Number:**

3.1 In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

4 Product: PL6 Range of Junction Boxes**

5 Manufacturer: Hawke International

**6 Address: A Division of Hubbell Limited
A Member of the Hubbell Group of Companies
Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa06ATEX0117X to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 SGS Baseefa, Notified Body number 1180, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that the product, as modified by this supplementary certificate, has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

9 Item 9 of the original Certificate is replaced by "Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0: 2018 EN 60079-7: 2015 EN 60079-11: 2012 EN 60079-31: 2014

except in respect of those requirements listed at item 18 of the Schedule."

12 The marking of the equipment has changed from the original Certificate and shall include the following:

Ex II 2G Ex eb IIC T(see schedule) Gb

Ex II 2D Ex tb IIIC T(see schedule) Db

Tamb (see schedule)

See schedule for marking for Intrinsic Safety

SGS Baseefa Customer Reference No. 0500

Project File No. 18/0484

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SGS Baseefa Limited

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ

Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601

e-mail baseefa@sgs.com web site www.sgs.co.uk/sgsbaseefa

Registered in England No. 4305578.

Registered address: Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN

R S Sinclair

R S SINCLAIR

TECHNICAL MANAGER

On behalf of SGS Baseefa Limited

M POWNEY
Certification
Manager

13

Schedule

14

Certificate Number Baseefa06ATEX0117X/6

15 Description of the variation to the Product

Variation 6.1

To confirm that the products covered by this certificate have been reviewed against the requirements of EN IEC 60079-0: 2018 and EN 60079-7: 2015 in respect to the differences from EN 60079-0: 2012+A11: 2013 and EN 60079-7: 2007, and that none of these differences in the standards affects this product except the marking with regard to Increased Safety Ex eb.

The products are in compliance with EN IEC 60079-0: 2018, EN 60079-7: 2015, EN 60079-11: 2012 and EN 60079-31: 2014. The PL6 Range of Junction Boxes are now marked as follows:

⊕ II 2G Ex eb IIC T* Gb

⊕ II 2D Ex tb IIIC T* Db

For Temperature Class T* and Temperature Ambient (see previous schedules)

or

The marking for Intrinsic Safety junction boxes remains unchanged:

⊕ II 2G Ex ib IIC T6 Gb

⊕ II 2D Ex ib IIIC T80°C Db

For Temperature Class T* and Temperature Ambient (see previous schedules)

or

⊕ II 1G Ex ia IIC T6 Ga

⊕ II 1D Ex ia IIIC T80°C Da

For Temperature Class T* and Temperature Ambient (see previous schedules)

Variation 6.2

Include the use of optional high bond tape for securing labels.

Variation 6.3

Include minor label artwork changes.

Variation 6.4

The Bartec GmbH type 07-7311 series fuse terminals have been omitted from this junction box range.

16 Report Number

GB/BAS/ExTR18.0266/00

17 Specific Conditions of Use

None additional to those listed previously.

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
C2542	---	F	17/10/18	General arrangement type 'PL6' series junction boxes

This drawing is common to, and held with, IECEx BAS 06.0028X

Note:

Drawing Number C2500 General Arrangement Bartec fuses in a range of Ex e junction boxes, has now been omitted from this range of junction boxes.

Assembly Instructions for: PL 6** Series Junction Boxes

HAWKE
International

Assembly Instructions
AI 273 / Issue P - 12/09

IMPORTANT: This document should be read carefully before commencing installation

Zones of Use of Terminal Box

CAT II 2G for use in Zone 1. Areas as defined in IEC/EN 60079-14.

CAT II 2D for use in Zone 21 or 22. Areas as defined in IEC/EN 61241-1-2.

Service Temperature

PL 6** -60°C to +75°C

Minimum Installation Temperature: -5°C

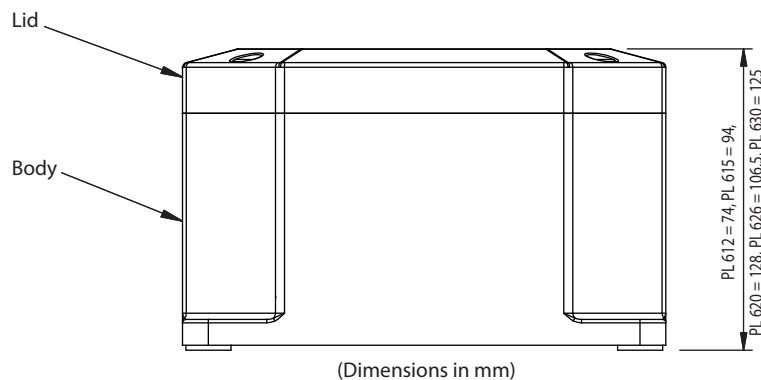
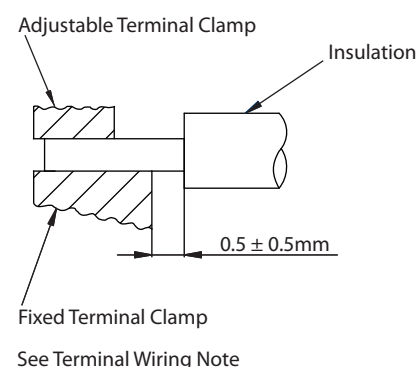
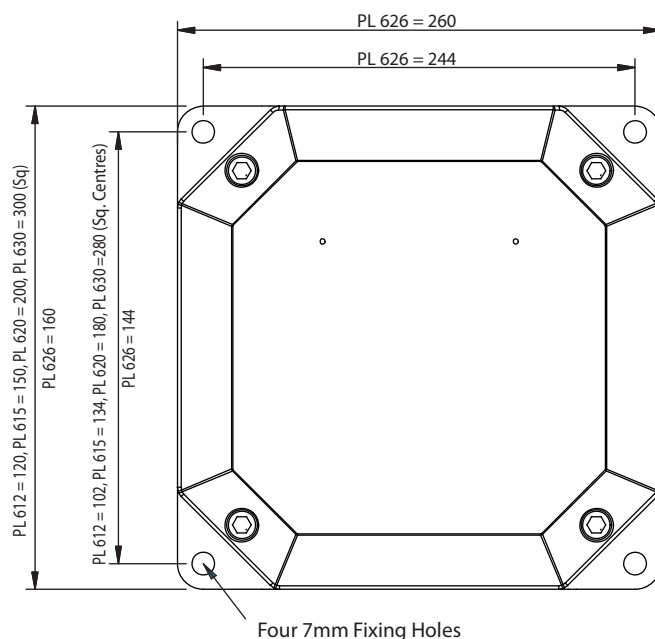
Certification Details

Box Type: PL6** Series Exe II/ExtD

Baseefa No: 01ATEX2107X Ⓢ II 2 GD T** Exe II T* Tamb *** IP66/67 Ⓒ

Baseefa No: 06ATEX0117X Ⓢ II 2 GD T** T* Tamb *** IP66/67 Ⓒ

IEC Ex No: BAS06.0028X



W = Maximum Dissipated Wattage

N = No. of Terminals Fitted

F = Combined Terminal Resistance

I = Maximum Current

$$W = N \times F \times I^2$$

$$N = W / F \times I^2$$

$$I = \text{Sqrt}(W / N \times F)$$

Note: Combined Terminal Resistance = Resistance of Maximum Conductor Length (see BS 6360 and table below) + Terminal Resistance

Box Type	Maximum Power Dissipation (Watts)																Max. Cable Length Per Terminal (M)		
	T*	T**	T*** -60°C +40°C	T*	T**	T*** -60°C +55°C	T*	T**	T*** -60°C +65°C	T*	T**	T*** -60°C +40°C	T*	T**	T*** -60°C +55°C	T*		T**	T*** -60°C +65°C
	T6	80°C		T6	80°C		T6	80°C		T5	80°C		T5	80°C		T5		80°C	
PL 612	4.1		2.5			1.5			5.6			4.1			3.0			0.127	
PL 615	6.4		4.0			2.4			8.8			6.4			4.8			0.175	
PL 620	11.4		7.1			4.2			15.6			11.4			8.5			0.240	
PL 626	11.4		7.1			4.2			15.6			11.4			8.5			0.275	
PL 630	20.8		13.0			7.8			28.6			20.8			15.6			0.365	

Connection Solutions

Hawke International is a division of Hubbell Ltd.
Registered No. 669157 in England. Registered Office:
Mitre House, 160 Aldersgate Street, London EC1A 4DD.
A member of the Hubbell Group of Companies

Hawke International
UK Office
Oxford Street West,
Ashton-Under-Lyne,
Lancashire
OL7 0NA, UK

AI 273 - Issue P / Page 1 of 3

Sales: +44 (0) 161 830 6698
Technical: +44 (0) 161 830 6697
Fax: +44 (0) 161 830 6648
E-mail: sales@ehawke.com

www.ehawke.com

TO OPEN THE LID:

1. Disconnect power (isolate all circuits).
2. Untighten the lid securing screws.
3. Carefully remove the lid ensuring the gasket is not displaced or damaged.

TO CLOSE THE LID:

1. Check that the gasket is correctly located in the groove in the underside of the lid and undamaged. Ensure that the correct lid is refitted.
2. Locate and tighten all the lid securing screws into the box body.

ENCLOSURE INSTALLATION (EI)

- a) The IP rating of the enclosure must be maintained for the area of use (e.g. IP6* for Zone 21 dust environment) by the use of correct arrangement of cable/gland/sealing arrangements and in accordance with the installation codes as detailed in IEC/EN 60079-14 - IEC/EN 61241 and these installation instructions.
- b) Where other certified components are part of the assembly, the user must take account of any limitations listed on relevant certificates.
- c) If an optional Breather/Drain as listed on the enclosure certificate is fitted the enclosure must be sited such that the Breather/Drain is pointing vertically downwards from the bottom of the box, and the IP rating of the selected Breather/Drain shall match the IP rating of the enclosure.
- d) The enclosure may be ready supplied with cable entries. Where the customer drills cable entries they must be installed in accordance with the component certificate BAS06ATEX0116U or IEC Ex No: BAS06.0027U and enclosure limitations, these specify a maximum clearance on the entry thread of 0.7mm for plain holes and where adjacent cable entries are installed sufficient clearance must be maintained to allow for the fitting of sealing/retaining washers and the rotation of the cable gland hexagons, and leave a minimum of material between adjacent holes inline with the above certificate number(s).
- e) All unused entry apertures must be sealed using a stopping plug as listed on the enclosure certificate and also the IP rating of the junction box shall be maintained for the zone of use.
- f) The apparatus must not be modified in anyway without reference to Hawke, as this will invalidate the certification, except for EI d) and e) and TW j) and k).

TERMINAL WIRING (TW)

- a) All wiring must be carried out in accordance with the relevant code of practice and/or instructions e.g. IEC/EN 60079-14 and IEC/EN 61241.
- b) The voltage and current and maximum dissipated power shown on the label must not be exceeded.
- c) When used as a general purpose junction box or marshalling box the circuits carrying currents $\geq 1\text{A}$ shall be individually protected against over current such that the protective device operates effectively at no more than 1.45 times the current carrying capacity of the smallest conductor used in that circuit.
- d) Where a major portion of the terminals are carrying maximum rated current the temperature at the branching point of the conductors may exceed 70°C. Under these circumstances the installer must ensure that the limiting temperature for the cable insulation used is acceptable e.g. 85°C (T6) or 100°C (T5).
- e) All leads must be insulated for the appropriate voltage.
- f) Not more than one single or multiple stranded lead shall be connected into either side of the terminals, unless the relevant component certificate allows more, or unless the multiple conductors have been previously joined in a suitable manner (for example with an insulated crimped boot lace ferrule, mounted in a vertical position) such that they form a single cohesive item for insertion into the terminal way.
- g) A parallel shaft screwdriver of the correct size should be used.
- h) Only those terminals shown on Drg. D9160 IECEx terminal schedule may be incorporated in the box. The installer must ensure that the conditions of use for the terminals outlined are complied with.
- i) All terminal screws used and unused shall be fully tightened down.
- j) The installer shall ensure creepage and clearance distances are not reduced, especially between intrinsically safe (is) and non-is circuits (e.g. 50mm clearance).
- k) The use of any cross connection devices between adjacent terminal ways shall be in accordance with the requirements of the relevant component certificate listed on Drg. D9160.
- l) Use of the terminal box at ambient temperatures below -20°C is dependant upon the minimum service temperature of the terminals.
- m) When connecting a terminal with a conductor that is below the maximum cross section area shown for the terminal, then the maximum amps / pole must be reduced in line with the maximum amps indicated for a terminal equivalent to the conductor size being fitted e.g. for a terminal that can take a maximum conductor size of 10mm² at 40 Amps, but is fitted with a 4mm² conductor then the current shall be reduced to a maximum of 16 Amps, or the rating on the junction box lid label (whichever is the lowest).

EARTHING:

- a) The earth leads must be in accordance with IEC/EN 60079-0 : 2004.
- b) Junction boxes shall be earthed in accordance with the relevant code of practice e.g. IEC/EN 60079-14 and IEC/EN 61241.
 - i) The PL 6** series boxes are supplied fitted with an internal earth terminal.
 - ii) The PL 6** series boxes may be supplied fitted with or without an internal earth continuity plate.

Note : *There is no integral connection from the internal earth continuity plate through to the external of the box.*

SCHEDULE OF TERMINALS FITTED (T6 40C AND T5 55C)

PL 612 Terminal Capacity Data										
Terminal Type	Conductor Size mm ²		Max. Volts	Maximum Physical Terminal Content		Reduced Terminal Content at Maximum Terminal Amps		Combined Terminal Resistance (Ohms)	Insulation Stripping Length (mm)	Terminal Tightening Torque (Nm)
	Min	Max		Term. Qty.	Amps	Term. Qty.	Amps			
WDU2.5N	0.5	2.5	420	12	16	10	17	0.001301	10	0.4 - 0.6
WDU2.5	0.5	2.5	550	10	17	10	17	0.001271	10	0.4 - 0.6
WDU4	0.5	4.0	690	10	22	9	22	0.000895	10	0.5 - 1.0
WDU6	0.5	6.0	550	9	29	6	29	0.000671	12	0.8 - 1.6
WDU10	1.5	10.0	550	6	39	5	40	0.000432	12	1.2 - 2.4
BK6	1.0	6.0	275	1	20	N/A	N/A	0.000936	8	0.5 - 0.7
MK6/6	1.0	6.0	440	1	26	N/A	N/A	0.000521	9	1.2 - 2.0

PL 615 Terminal Capacity Data										
Terminal Type	Conductor Size mm ²		Max. Volts	Maximum Physical Terminal Content		Reduced Terminal Content at Maximum Terminal Amps		Combined Terminal Resistance (Ohms)	Insulation Stripping Length (mm)	Terminal Tightening Torque (Nm)
	Min	Max		Term. Qty.	Amps	Term. Qty.	Amps			
WDU2.5N	0.5	2.5	420	14	16	13	17	0.001657	10	0.4 - 0.6
WDU2.5	0.5	2.5	550	14	17	13	17	0.001627	10	0.4 - 0.6
WDU4	0.5	4.0	690	12	22	11	22	0.001117	10	0.5 - 1.0
WDU6	0.5	6.0	550	9	29	9	29	0.000819	12	0.8 - 1.6
WDU10	1.5	10.0	550	7	40	7	40	0.000520	12	1.2 - 2.4
WDU16	1.5	16.0	690	6	53	6	53	0.000351	16	2.0 - 4.0

PL 620 Terminal Capacity Data										
Terminal Type	Conductor Size mm ²		Max. Volts	Maximum Physical Terminal Content		Reduced Terminal Content at Maximum Terminal Amps		Combined Terminal Resistance (Ohms)	Insulation Stripping Length (mm)	Terminal Tightening Torque (Nm)
	Min	Max		Term. Qty.	Amps	Term. Qty.	Amps			
WDU2.5N	0.5	2.5	420	24	16	18	17	0.002138	10	0.4 - 0.6
WDU2.5	0.5	2.5	550	24	16	18	17	0.002108	10	0.4 - 0.6
WDU4	0.5	4.0	690	20	21	16	22	0.001416	10	0.5 - 1.0
WDU6	0.5	6.0	550	15	29	12	29	0.001019	12	0.8 - 1.6
WDU10	1.5	10.0	550	12	40	10	40	0.000639	12	1.2 - 2.4
WDU16	1.5	16.0	690	9	53	9	53	0.000426	16	2.0 - 4.0
WDU35	2.5	35.0	690	6	87	6	87	0.000226	16	4.0 - 5.0
WDU70N	10.0	70.0	690	4	134	4	134	0.000124	22	8.0 - 12.0

PL 626 Terminal Capacity Data										
Terminal Type	Conductor Size mm ²		Max. Volts	Maximum Physical Terminal Content		Reduced Terminal Content at Maximum Terminal Amps		Combined Terminal Resistance (Ohms)	Insulation Stripping Length (mm)	Terminal Tightening Torque (Nm)
	Min	Max		Term. Qty.	Amps	Term. Qty.	Amps			
WDU2.5N	0.5	2.5	420	38	11	15	17	0.002398	10	0.4 - 0.6
WDU2.5	0.5	2.5	550	38	11	15	17	0.002368	10	0.4 - 0.6
WDU4	0.5	4.0	690	32	15	14	22	0.001578	10	0.5 - 1.0
WDU6	0.5	6.0	550	24	20	11	29	0.001127	12	0.8 - 1.6
WDU10	1.5	10.0	550	19	28	9	40	0.000703	12	1.2 - 2.4
WDU16	1.5	16.0	690	16	39	8	53	0.000466	16	2.0 - 4.0
WDU35	2.5	35.0	690	12	62	6	87	0.000244	16	4.0 - 5.0

If glands are installed in Faces B and D, maximum terminal quantities may be reduced.

PL 630 Terminal Capacity Data										
Terminal Type	Conductor Size mm ²		Max. Volts	Maximum Physical Terminal Content		Reduced Terminal Content at Maximum Terminal Amps		Combined Terminal Resistance (Ohms)	Insulation Stripping Length (mm)	Terminal Tightening Torque (Nm)
	Min	Max		Term. Qty.	Amps	Term. Qty.	Amps			
WDU2.5N	0.5	2.5	420	76	9	23	17	0.003065	10	0.4 - 0.6
WDU2.5	0.5	2.5	550	76	9	23	17	0.003035	10	0.4 - 0.6
WDU4	0.5	4.0	690	64	12	21	22	0.001993	10	0.5 - 1.0
WDU6	0.5	6.0	550	48	17	17	29	0.001404	12	0.8 - 1.6
WDU10	1.5	10.0	550	36	25	15	40	0.000868	12	1.2 - 2.4
WDU16	1.5	16.0	690	30	34	12	53	0.000570	16	2.0 - 4.0
WDU35	2.5	35.0	690	22	55	9	87	0.000291	18	4.0 - 5.0
WDU70N	10.0	70.0	690	11	108	7	134	0.000158	22	8.0 - 12.0

Note: Terminals listed are only suitable for a minimum operating temperature of -50°C.



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx BAS 06.0027U issue No.:10

Status: **Current**

Date of Issue: **2014-07-22** Page 1 of 4

Applicant: **Hawke International**
A Division of Hubbell Ltd.
A member of the Hubbell Group of Companies
Oxford Street West
Ashton-under-Lyne, Lancashire
OL7 0NA
United Kingdom

Certificate history:

Issue No. 10 (2014-7-22)
Issue No. 9 (2012-4-30)
Issue No. 8 (2012-4-11)
Issue No. 7 (2011-8-3)
Issue No. 6 (2011-3-25)
Issue No. 5 (2010-11-25)
Issue No. 4 (2010-7-7)
Issue No. 3 (2009-12-18)
Issue No. 2 (2009-5-14)
Issue No. 1 (2007-3-20)

Electrical Apparatus: **ZPL6** Range of Enclosures**
Optional accessory:

Type of Protection: **Ex e II**

Marking: **Ex e IIC Gb**
Ex tb IIIC Db IP66 and IP67

Approved for issue on behalf of the IECEx Certification Body: R S Sinclair

Position: General Manager

Signature:
(for printed version)

Date:


22-7-14

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

SGS Baseefa Limited
Rockhead Business Park
Staden Lane
Buxton
Derbyshire
SK17 9RZ
United Kingdom





IECEx Certificate of Conformity

Certificate No.: IECEx BAS 06.0027U

Date of Issue: 2014-07-22

Issue No.: 10

Page 2 of 4

Manufacturer: **Hawke International**
A Division of Hubbell Ltd.
A member of the Hubbell Group of Companies
Oxford Street West
Ashton-under-Lyne, Lancashire
OL7 0NA
United Kingdom

Additional Manufacturing location
(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-31 : 2008 Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

GB/BAS/ExTR06.0032/00	GB/BAS/ExTR07.0030/00	GB/BAS/ExTR09.0075/00
GB/BAS/ExTR09.0258/00	GB/BAS/ExTR10.0155/00	GB/BAS/ExTR10.0270/00
GB/BAS/ExTR11.0044/00	GB/BAS/ExTR11.0186/00	GB/BAS/ExTR12.0054/00
GB/BAS/ExTR12.0113/00	GB/BAS/ExTR12.0307/00	GB/BAS/ExTR14.0209/00

Quality Assessment Report:

GB/BAS/QAR06.0061/04



IECEx Certificate of Conformity

Certificate No.: IECEx BAS 06.0027U

Date of Issue: 2014-07-22

Issue No.: 10

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The **ZPL6** Range of Enclosures** are square or rectangular enclosures moulded from glass reinforced polyester. The enclosures are available in the following sizes:

Enclosure	length (mm)	width (mm)	height (mm)
ZPL 612	120	120	74
ZPL 615	150	150	94
ZPL 620	200	200	127
ZPL 630	300	300	127
ZPL 626	260	160	106.5

The base of each enclosure has external mounting lugs at each corner and the removable cover is secured by 4 screws retained in the cover by nylon washers or a special moulding in the lid. These screw into moulded, clipped or glued inserts at the corners of the body.

Ingress protection of IP66 or IP67 is achieved by the use of a silicone O-ring located in a groove in the cover which is compressed on assembly of the cover and base by a moulded protruding lip on the base. For further details and optional accessories, see the Annexe.

CONDITIONS OF CERTIFICATION: NO

SCHEDULE OF LIMITATIONS

1. If a breathing and draining device is required it shall be manufactured by Redapt in accordance with SIRA99ATEX3050U, and the enclosure ambient temperature range shall be limited to -50°C.
2. Any breathing and draining device must be installed in its correct orientation in the bottom face of the enclosure.
3. The enclosures shall not be exposed to temperatures outside the range -60°C to 75°C.
4. Unused entry holes must be fitted with one of the following stopping plugs:
 - Hawke Type 375 to Baseefa06ATEX0236U / IECEx BAS 06.0056U
 - Hawke Type 387 to Baseefa06ATEX0118U / IECEx BAS 06.0029U
 - Redapt Type PD-E-4 to SIRA00ATEX3091
 - Redapt Type PD-U to SIRA00ATEX1094
 - Raxton Types CK, CQ, CF and CB to SIRA00ATEX1073U
5. The enclosure is limited to the temperature range of the stopping plug fitted.
6. Unused entries may be fitted with alternative stopping plugs and or breather drains to those listed in the schedule. The user is responsible for ensuring that the protection concept, temperature class and relevant IP rating are maintained.
7. The bulkhead fitting shall have a maximum projection length from the enclosure wall of 60mm. The user is responsible for ensuring that the service temperature range and IP rating of the enclosure are not compromised by installation of the bulkhead fitting.



IECEx Certificate of Conformity

Certificate No.: IECEx BAS 06.0027U

Date of Issue: 2014-07-22

Issue No.: 10

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Variation 10.1

To include the test report GB/BAS/ExTR12.0307/00 for the repeat Thermal Conditioning and Ingress Protection testing of two existing types of silicone o-ring.

Variation 10.2

Minor drawing modifications to the ZPL626 lid

Variation 10.3

Minor drawing modifications to the ZPL626 body

ExTR: GB/BAS/ExTR14.0209/00

File Reference: 13/0402

Baseefa (2001) Ltd.

Rockhead Business Park
Staden lane, Buxton
Derbyshire
SK17 9RZ
United Kingdom



ANNEX to IECEx BAS 06.0027U

Issue No. 0

Date: 2006/08/11

The **ZPL6** Range of Enclosures** are square or rectangular enclosures moulded from glass reinforced polyester. The enclosures are available in the following sizes:

Enclosure	length (mm)	width (mm)	height (mm)
ZPL 612	120	120	74
ZPL 615	150	150	94
ZPL 620	200	200	127
ZPL 630	300	300	127
ZPL 626	260	160	106.5

The enclosures comprise of two parts. The base with moulded external mounting lugs at each corner and the removable cover secured by 4 screws retained in the cover by nylon washers or a special moulding in the lid. The cover fixings screw into moulded inserts at the corners of the body. The inserts may alternatively be clipped or glued in position where applicable.

Ingress protection of at least IP66 and IP67 is achieved by the use of a silicone O-ring located in a groove in the cover which is compressed on assembly of the cover and base by a moulded protruding lip on the base. Controlled compression is achieved by suitable selection of the depth of cover groove and height of base lip.

Brass or stainless steel inserts are provided in the base for fixing internal components. Any of the sides of the enclosure, including the base and lid, may be drilled and tapped or drilled with clearance holes for cable entries. The maximum number, size and allowed location of these holes is defined on the relevant drawings listed below.

Provision is made for up to four extra optional blind holes on either the cover or the base, or both, for the purpose of fixing additional labels on all 5 enclosure sizes.

The marking details may be embossed into the lid in a recess of up to 1mm depth on the ZPL612, ZPL615, ZPL620 and ZPL630 enclosures.

The enclosures may be fitted with either a flat metallic mounting plate or an earth continuity plate which is a cruciform shape with four folded up stands with punchings for cable entry devices in the up stands. The earth continuity plate may also consist of metal up stands riveted or welded to a metal base plate or simply just the up stands on their own. Both the mounting plate and the earth continuity plate are suitably drilled and punched where appropriate for mounting to the enclosure base and for the mounting of enclosure components. Screws and washers are used to secure the plate to the base of the enclosure using the moulded-in inserts provided in the base.

The enclosure may additionally be fitted with an external/internal earth stud assembly covered by BASEEFA Certificate No. BAS01ATEX2111U.

The enclosures may be coated with an electromagnetic interference shielding material. The coating is either nickel or silver and may be applied internally, externally or both and may include a decorative black polyurethane finish. Both materials are held in a polyurethane resin binder. This coating is carried out by Hawke International.

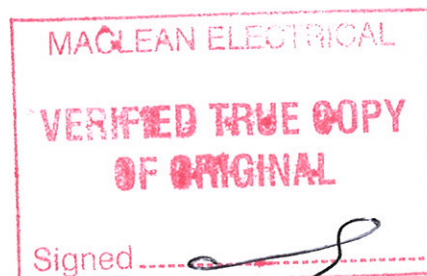
When enclosures are externally EMC coated an internal/external earth stud assembly is always fitted.

The enclosures are normally black but may be produced in alternative colours by coating with an acrylic or epoxy (xylene solvent based) paint finish. The customer may paint the enclosure in accordance with procedures supplied by Hawke International.

Plug and Socket Certificates

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin



(1) **EC-TYPE-EXAMINATION CERTIFICATE** (Translation)

(2) Equipment and Protective Systems Intended for Use in
Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

PTB 99 ATEX 1039



(4) Equipment: Plug-and socket device type GHG 511 R....

(5) Manufacturer: CEAG Sicherheitstechnik GmbH

(6) Address: D-69412 Eberbach

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report PTB Ex 99-19088.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014:1997

EN 50018:1994

EN 50019:1994

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

(12) The marking of the equipment shall include the following:

 **II 2 G EEx ed IIC T6 resp. T5**

Zertifizierungsstelle Explosionsschutz

Braunschweig, September 01, 1999

By order:


Dr.-Ing. U. Klausmeyer
Regierungsdirektor



sheet 1/3

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

Physikalisch-Technische Bundesanstalt • Bundesallee 100 • D-38116 Braunschweig

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

(13)

SCHEDULE

(14)

EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1039

(15) Description of equipment

The type GHG 511 ... R ... plug-and-socket device serves to connect portable electrical apparatus or to make connections in potentially explosive atmospheres.

The following variant is permissible: transformer plugs (isolating transformer, class of protection II).

Staggered grooves guarantee that only plugs or socket outlets of identical rated voltage will be used together. Mechanical marking ensures that the plugs of the type GHG 531... V ... plug-and-socket device (Certificate of Conformity PTB No. Ex-85.B.1115) can be used for the wall-mounting socket-outlet and in the coupling.

Electrical data

Plug-and-socket device, five-pole

Rated voltage	up to	500	V
Rated current.....	max.	16	A
Utilization category		AC-3	

Plug-and-socket device, four-pole

Rated voltage	up to	690	V
Rated current.....	max.	16	A
Utilization category		AC-3	

Plug-and-socket device, three-pole

Rated voltage	up to	400	V
Rated current.....	max.	16	A
Utilization category		AC-3	

Transformer plug

Rated voltage, primary.....	up to	250	V
Rated voltage, secondary	up to	42	V
Power consumption	max.	65	VA
Miniature fuse		0.5	A
Temperature class		T 5	

sheet 2/3

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1039

In accordance with the relevant provisions, rated values other than those stated above are permissible, provided the making and breaking capacity is complied with. They have been specified by the manufacturer, dependent on the mode of operation, utilization category etc.

Nominal frequency..... up to	400	Hz
Rated cross-section		
Plug..... max.	2.5	mm ²
Coupling..... max.	4	mm ²
Wall-mounting socket-outlet max.	4	mm ²

(16) Report PTB Ex 99-19088, description (8 sheets), Annex to the description (11 sheets),
11 drawings

(17) Special conditions for safe use

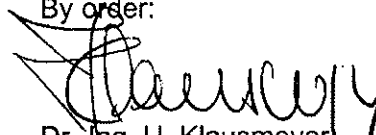
not applicable

(18) Essential health and safety requirements

The tests carried out and their positive results show that the plug-and-socket device meets the requirements of Directive 94/9/EC and of the standards stated on the cover sheet.

Zertifizierungsstelle Explosionsschutz

By order:


Dr.-Ing. U. Klausmeyer
Regierungsrat



Braunschweig, September 01, 1999

sheet 3/3

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

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1st SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to CONFORMITY STATEMENT PTB 99 ATEX 1039

(Translation)

Equipment: Plug-and-socket device, type GHG 513 R....

Marking:  II 2 G EEx de IIC T6 resp. T5

Manufacturer: CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49
D-69412 Eberbach

Description of supplements and modifications

The plug-and-socket device of type GHG 513.... R.... is supplemented by an extra-low-voltage version.

Electrical data

Rated insulating voltage	up to	60 V		
Rated voltage	up to	50 V	50 V	50 V
Rated current	max.	16 A	16 A	10 A
Utilisation category		AC-3	DC-1	DC-11

Provided the making and breaking capacities are met, rated values other than those specified above are acceptable and will be defined by the manufacturer on the basis of the operating mode, utilisation category, etc.

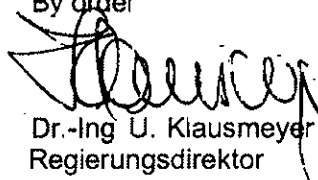
Rated frequency	up to	400 Hz
Rated cross-section	max.	2.5 mm ² finely stranded
		4 mm ² stranded
Ambient temperature		-55 °C to 55 °C

Test report: PTB Ex 00-19253

Zertifizierungsstelle Explosionsschutz

Braunschweig, January 15, 2001

By order


Dr.-Ing. U. Klausmeyer
Regierungsdirektor



Sheet 1/1

Conformity Statements without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

2nd SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1039

(Translation)

Equipment: Plug-and-socket device, type GHG 511R.....

Marking:  II 2 G EEx de IIC T6 or T5

Manufacturer: CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49
D-69412 Eberbach, Germany

Description of supplements and modifications

The wall-mounting socket outlet, type GHG 511.4.. R..., may also be provided with an auxiliary switch for operation with an intrinsically safe circuit.

Intrinsically safe auxiliary circuit

Connection at terminals 3(11), 4(12), and 1 for intrinsically safe circuits EEx [ia] IIC T6 or T5

Only for connection to certified intrinsically safe circuits.

When using the intrinsically safe auxiliary circuit, the protection symbol will change to:

EEx de [ia] IIC T6 or T5

The composition of the protection symbol will be based on the types of protection of components actually used.

Plug connector

The plug-and-socket device, type GHG 511.... R... , is supplemented by plug connector GHG 531 .7.. V.... (old design) of plug-and-socket device GHG 531 V.... (old Certificate of Conformity PTB No. Ex.85.B.1115), which has the same explosion-proof characteristics.

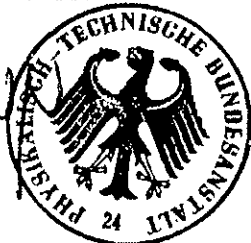
Test report: PTB Ex 02-11086

Zertifizierungsstelle Explosionsschutz

Braunschweig, May 13, 2002

By order:


Dr.-Ing. U. Klausmeyer
Regierungsdirektor



Sheet 1/1

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

3rd SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1039

(Translation)

Equipment: Plug-and-socket device, type GHG 511 R....

Marking:  II 2 G EEx de [Ia] IIC T6 or T5

Manufacturer: Cooper Crouse-Hinds GmbH previously CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49
69412 Eberbach, Germany

Description of supplements and modifications

The plug-and-socket device, type GHG 51.R...., may also be manufactured with the following modifications:

- The flange of the type GHG 511 8...R.... socket outlet may also be made from material CuZn 15. This type comes complete with a captive protective cap.
- If the current rating is reduced to 3 A, the plug-and-socket device may be used in ambient temperatures of up to 70 °C. A similar correlation between intermediate values is accepted. Users shall be informed of such values in an adequate form.
- For special voltage ratings, the mechanical characterization 1h, 8h and 12h will be used.
 - 4-pole < 690 V
 - 5-pole < 500 V
 - 3-pole < 400 V
- The plug-and-socket device is supplemented by the plug of type GHG 54. 23..R....
- The plug-and-socket device may also be used in the hazardous area "dust". In that case, the marking is as follows:

 II 2 G/D EEx ed [Ia] IIC T6 or T5 IP 66 T 60 °C

The composition of the protection symbol will be based on the types of protection of the components actually used.

Test report: PTB Ex 04-13042

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, April 01, 2004

Dipl.-Phys. U. Völkel



Sheet 1/1

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

4th SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1039

(Translation)

Equipment: Plug-and-socket system, type GHG 511 R....

Marking:  II 2 G/D EEx ed [ia] IIC T6 and T5 IP66 T60 °C

Manufacturer: Cooper Crouse-Hinds GmbH

Address: Neuer Weg Nord 49, 69412 Eberbach, Germany

Description of supplements and modifications

The explosion-protected 16/20A plug-and-socket system is in future also to be used at ambient temperatures between -25°C and +45°C (see table 1).

Component application Table 1:

Unit	Voltage range	Operating temperature
Wall socket, type GHG 511 R Standard version	110V AC – 690 VAC	-20°C - +40°C
Wall socket, type GHG 511 M Special version	110V AC – 690 VAC	-25°C - +45°C
Wall socket, type GHG 511 Special version with aux. contact	110V AC – 690 VAC	-20°C - +40°C -25°C - +45°C
Wall socket, type GHG 511 M Version with CuZn flange	110V AC – 690 VAC	-25°C - +45°C
Wall socket, type GHG 511 R Version up to max. 3A	110V AC – 690 VAC	-20°C - +70°C
Wall socket, type GHG 513 R	≤ 50V AC / DC	-25°C - +45°C
Coupler, type GHG 511 R Standard version	110V AC – 690VAC	-20°C - +40°C
Coupler, type GHG 511 M Special version	110V AC – 690 VAC	-25°C - +45°C
Transformer plug, type GHG 531 6.. *	250V / ≤42V 65 VA	-20°C - +40°C
Plug, type GHG 511 7... R Standard version	110V AC – 690 VAC	-25°C - +45°C
Plug, type GHG 531 7... *	110V AC – 690 VAC	-20°C - +40°C
Plug, type GHG 543	110V AC – 690 VAC	-25°C - +40°C
Plug, type GHG 543	≤ 50V AC / DC	-25°C - +40°C
Plug, type GHG 542	≤ 50V AC / DC	-25°C - +40°C

* no EN 61241-0 identification for category 2 D.

Sheet 1/5

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

Physikalisch-Technische Bundesanstalt • Bundesallee 100 • 38116 Braunschweig • GERMANY

Electrical data:

Rated voltage: up to max.: 650V_{AC} / 500V_{DC}
 special version: 500V_{AC} = ICC

Rated frequency: AC = 50/60 Hz
 special version: = 400Hz

Conductor size: plug - up to 2.5 mm²
 socket/socketlet - up to 4 mm²

Plug-and-socket system: type GHG 511... 5-pole (3-pole + N + PE)

Rated voltage: up to 500V_{AC}

Rated current: up to 16/20 A

Switching capacity AC-3: up to 16 A

Plug-and-socket system: type GHG 511... 4-pole (3-pole + PE)

Rated voltage: up to 650V_{AC}

Rated current: up to 16/20 A

Switching capacity AC-3: up to 16 A

Plug-and-socket system: type GHG 511... 3-pole (1-pole + N + PE)

Rated voltage: up to 250V_{AC}

Rated current: up to 16/20 A

Switching capacity AC-3: up to 16 A

Plug-and-socket system 3-pole, type GHG 513...

Rated voltage: ≤ 50V_{AC} // DC

Rated current: up to 16/20 A

Switching capacity AC-3: up to 16 A

Switching capacity DC-1: up to 16 A

Switching capacity DC-1 II: up to 10 A

Plug-and-socket system 2-pole, type GHG 513...

Rated voltage: ≤ 50V_{AC} // DC

Rated current: up to 16/20 A

Switching capacity AC-3: up to 16 A

Switching capacity DC-1: up to 16 A

Switching capacity DC-1 II: up to 10 A

Transformer plug, type GHG 531... 4-pole/E-pole

Rated voltage: primary up to 250V_{AC}

secondary: up to 12V/ 24V/ 36V/ 42V/ 250V

Rated power: up to 65VA

Sheet 2/2

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may, provided only without alteration, be re-used on alterations subject to approval by the Physikalisch-Technische Bundesanstalt. In case of doubt, the German text shall prevail.

01.1 Type code

Type:	GHG 51	R
Type =	GHG 51, 16A/20A	
Current & voltage		
1 =	16 A 110 V - 690 V	
3 =	16 A 12 V - ≤ 50 V*	
* for extra-low voltage wall socket ≤ 50 V		
Model		
2 =	Plug *	
3 =	Coupler	
4 =	Wall socket	
5 =	Flange socket *	
7 =	Plug	
8 =	Flange socket	
* for extra-low voltage ≤ 50 V		
Pole number		
2 =	2-pole *	
3 =	3-pole *	
3 =	3-pole (1+N+PE)	
4 =	4-pole (3+PE)	
5 =	5-pole (3+N+PE)	
* for extra-low voltage ≤ 50 V		
Voltage		
00 =	0h ≤ 24 V AC	
03 =	3h 230V AC	
03 =	3h ≤ 42 V AC 400Hz *	
04 =	4h 110/130V AC	
05 =	5h 690V AC	
06 =	6h 230/415V AC	
07 =	7h 500V AC	
08 =	8h special version	
09 =	9h 127/230V	
10 =	10h < 50 V DC *	
12 =	12h 42V AC *	
* for extra-low voltage ≤ 50 V		
Temperatures		
R =	-20°C - +40°C	
M =	special range see T _{amb}	
Version		
0 =	plastic	
1 =	stainless steel	
2 =	CuNi	
3 =	internal metal plate	
5 - 8 =	with aux. switch	

Serial number for special versions without effect on explosion protection

01.2 Type code

Special versions

Type:

Type = GHG 5. 16A/20A

Model

531 = plug 4-pole & 5-pole 16A

542 = plug 2-pole & 3-pole 16A*

543 = plug 3-pole 16A

* for extra-low voltage ≤ 50 V

Version

2 = plug 2-pole & 3-pole

6 = transformer plug 4-pole & 5-pole

7 = plug 4-pole & 5-pole

7 = fused plug *

* only for 4-plug & 5-plug versions

Pole number

2 = 2-pole*

3 = 3-pole*

4 = 4-pole

5 = 5-pole

* only for extra-low voltage ≤ 50 V

Voltage & time setting

00 = 0h ≤ 24 V AC

03 = 3h 230V AC

03 = 3h ≤ 42 V AC 400Hz *

04 = 4h 110/130V AC

05 = 5h 690V AC

06 = 6h 230/415V AC

07 = 7h 500V AC

08 = 8h special version

09 = 9h 230V - 240V

10 = 10h < 50 V DC *

12 = 12h 42V AC *

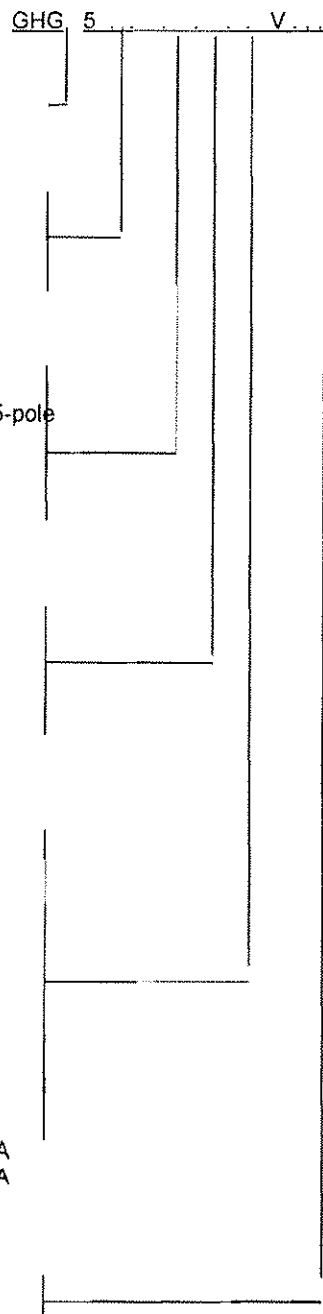
36 = 6h fused plug 6.3 A

66 = 6h transformer plug 65 VA

69 = 9h transformer plug 65 VA

* for extra-low voltage ≤ 50 V

Serial number for special versions
without effect on explosion protection



Applied standards

EN 60079-0:2006
EN 60079-11: 2007

EN 60079-1:2007
EN 61241-0: 2006

EN 60079-7: 2007
EN 61241-1: 2004

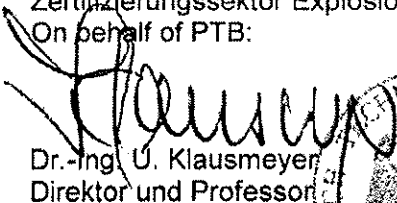
With the application of the above standards, the marking changes to:

 II 2 G Ex de [ia] IIC T6 or T5
 II 2 D Ex tD A21 IP66 T80 °C

Assessment and Test Report: PTB Ex 09-19075

Zertifizierungssektor Explosionsschutz
On behalf of PTB:

Braunschweig, September 10, 2010


Dr.-Ing. U. Klausmeyer
Direktor und Professor



Cooper Crouse-Hinds GmbH
z. Hd. Herrn Setzer
Neuer Weg-Nord 49
69412 Eberbach

Ihr Zeichen: Setzer Edgar
Ihre Nachricht vom: 2012-08-20
Unser Zeichen: 3.6-3536 /2012-Th
Unsere Nachricht vom:

Bearbeitet von: Dr.-Ing. Martin Thedens
Telefondurchwahl: (0531) 592 - 35 10
(0170) 85 73 177
Telefaxdurchwahl: (0531) 592 - 35 05
E-Mail: Martin.Thedens@ptb.de
http://www.explosionsschutz.ptb.de
Datum: 29. August 2012

Schriftliche Freigabe zu PTB 99 ATEX 1039, PTB 00 ATEX 1070 und PTB 01 ATEX 1069

Sehr geehrter Herr Setzer,

es bestehen keine sicherheitstechnischen Bedenken die Wandsteckdosen 16A - GHG 511...., 63A - GHG 514.... und 125A - GHG 515.... auch mit einer Signalleuchte, entsprechend den Zeichnungen 16A 3-pol. GHG 511-1-4597, 16A 5-pol. GHG 511-1-4598, 63A 5-pol. GHG 514-1-4599 und 125A 5-pol. GHG 515-1-4600 (siehe Prüfbericht PTB Ex 12-12239) zu produzieren.

Die Signalleuchte soll wahlweise zwei Funktionen erfüllen. Zum einen als Betriebskontrollleuchte für die Ein- und Aus-Funktionsanzeige, zum anderen als eine Bereitschaftsmeldungsanzeige, um zu erkennen, ob am Schalter der Steckdose Spannung anliegt.

Die Steckvorrichtungen können mit folgenden Parametern eingesetzt werden:

Typ	IP Schutzart	T_{amb}	Temperaturklasse
GHG 511. 16A	IP 65	-20°C - +40°C	T6/ T5
GHG 514. 63A	IP 66	-20°C - +40°C	T6/ T5
GHG 515. 125A	IP 66	-20°C - +40°C	T6/ T5

There are no safety-related objections to produce the sockets 16A - GHG 511...., 63A - GHG 514.... and 125A - GHG 515.... with a pilot lamp according the drawings 16A 3-pol. GHG 511-1-4597, 16A 5-pol. GHG 511-1-4598, 63A 5-pol. GHG 514-1-4599 and 125A 5-pol. GHG 515-1-4600 (see test report PTB Ex 12-12239).

The signal lamp optionally fulfills one of the two following functions: one is as an operating control lamp for the On / Off - function display, the other as a standby indicating signal if there is voltage on the socket switch.

The metallic plug and socket system can be used with following parameters:

Type	IP grade	T_{amb}	Temperature Class
GHG 511. 16A	IP 65	-20°C - +40°C	T6/ T5
GHG 514. 63A	IP 66	-20°C - +40°C	T6/ T5
GHG 515. 125A	IP 66	-20°C - +40°C	T6/ T5

Mit freundlichen Grüßen

Im Auftrag


Dr.-Ing. Martin Thedens
Oberregierungsrat



EC - TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

- EC - Type Examination Certificate Number: **Baseefa12ATEX0095X**
- Equipment or Protective System: **Type 375 Range of Stopping Plugs**
- Manufacturer: **Hawke International**
- Address: **Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**
- This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- Baseefa, Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in confidential Report No. **GB/BAS/ExTR12.0061/00**
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0: 2012 EN 60079-7: 2007 EN 60079-31: 2009
- except in respect of those requirements listed at item 18 of the Schedule.
- If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
- The marking of the equipment or protective system shall include the following :

Ex II 2GD Ex e IIC Gb Ex tb IIIC Db

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0500**

Project File No. **11/0414**

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.


R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa12ATEX0095X

15 Description of Equipment or Protective System

The Type 375 Range of Stopping Plugs are made from natural black plastic and are available in sizes, M16, M20, M25, M32, M40, M50, M63 AND M75, all with 1.5 pitch.

The stopping plug comprises of a 15mm length of thread with a domed head moulded with a hexagonal recess in the top of the head. A nitrile or silicone o-ring is positioned under the head in a groove at the base of the thread.

The stopping plug when fitted in the equipment as specified on D2555 meets the requirements of IP66 and IP67.

16 Report Number

GB/BAS/ExTR12.0061/00

17 Specific Conditions of Use

1. This Stopping Plug is suitable for use within an operating temperature range of -60°C to +75°C.
2. The Stopping Plug shall maintain the ingress protection rating of the associated increased safety enclosure/junction box.
3. The equipment face shall be smooth.
4. The Stopping Plug shall be mounted perpendicular to the equipment face ensuring that the integral o-ring is evenly compressed against the equipment face.
5. The Stopping Plug may be fitted in either threaded holes or plain holes.
6. Plain holes shall be no larger 0.7mm above the major diameter of the Stopping Plug thread and the plug shall be held in position with a locknut and optional locking washer.
7. For enclosures with tapered walls/draw angles the stopping plug shall be fitted in a threaded hole to ensure the stopping plug remains perpendicular to the equipment face.
8. Warning: M50, M63 and M75 stopping plugs are a potential static ignition risk, clean only with a damp cloth.

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
D2555	1 of 1	D	25/01/11	ATEX/IECEX 375 stopping plug general arrangement
D2556	1 of 2	C	23/05/12	375 stopping plug detail
D2556	2 of 2	C	23/05/12	375 stopping plug detail

The above drawings are common to, and held on, IECEX BAS 12.0065X.

Betriebsanleitung

Cooper Crouse-Hinds GmbH
Neuer Weg-Nord 49
D-69412 Eberbach

Steckvorrichtung, 16A Zone 1
plug and socket system 16A zone 1
prise et prise de 16A zone 1

GHG 511 ..., GHG513..., GHG 54...
GHG 531 ...(Stecker, plug, fiche)

en oder normativen Dokumenten übereinstimmen.
the following standards or normative documents.
normes ou aux documents normatifs suivants.

Titel und / oder Nr. sowie Ausgabedatum der Norm.
Title and / or No. and date of issue of the standard.
Titre et / ou No. ainsi que date d'émission des
normes.

EN 60 079-0: 2006
EN 60 079-1: 2004
EN 60 079-7: 2007
EN 60 079-11: 2007

EN 61 241-0: 2006
EN 61 241-1: 2004

EN 60 309-2:1999 + A1:2007
EN 60 529: 1991 + A1: 2000

EN 60 947-1: 2007

L.V. H. Huter
Letter Approval
Head of Approval office
Chef du dépt. approbation

Q001-1

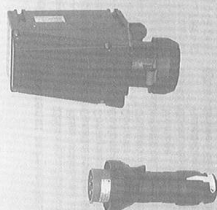
Physikalisch-Technische Bundesanstalt (0102)
Bundesallee 100
D-38116 Braunschweig

Physikalisch-Technische Bundesanstalt (0102)
Bundesallee 100
D-38116 Braunschweig

in der zugehörigen Betriebsanleitung zu beachten.
accompanying operating instructions must be followed.
des directives du mode d'emploi correspondent à ceux-ci.

GHG 510 7001 P0001 D/E/F (H)

GHG 510 7001 P0001 (H) Auflage 80_3-2010 / SL



COOPER Crouse-Hinds

— Se for necessária a tradução destas instruções de operação para outro idioma da União Europeia pode solicitá-la junto do seu

L: Niniejszą instrukcję obsługi w odpowiedniej wersji językowej można zamówić w

lunds/CEAG na dany kraj.

show beställas från Er Cooper Crouse-
Hinds/CEAG-representant*

podnom jazyku poskytnú zastúpenie spoločnosti
Cooper Crouse-Hinds/CEAG vo Vašej krajine."

lahko zahtevate pri pristojnem zastopništvu podjetja Cooper Crouse-Hinds/CEAG v Vaši državi.*

GHG 510 7001 P0001 D/E/F (H)

Explosion protected plug and socket system
16A, GHG 511

2 Safety instructions GHG 511
plugs and sockets

They are not suitable for Zone 0 and Zone 20 hazardous areas. The temperature class and explosion group marked on the apparatus shall be observed.

The electrical connection of the device may only be carried out by skilled staff. Modifications to the plugs and sockets or changes of their design are not permitted. They shall be used for their intended purpose and in perfect and clean condition.

The requirements of the EN 61241-4 and -1 regarding excessive dust deposits and temperature to be considered from the user.

To ensure adherence to the temperature class stated on the type label of the apparatus, the rated terminal cross section and the self heating of the apparatus shall be taken into account (test criterion for the self heating is an overload of 10%).

For replacement and repair only genuine COOPER CROUSE-HINDS spare parts shall be used. Repairs that affect the explosion protection, may only be carried out by COOPER CROUSE-HINDS or a qualified electrician in compliance with the respective national regulations.

Prior to taking the plugs and sockets into operation, they will have to be checked in accordance with the instruction as per section 6.

The interlocking switch of the socket is connected without plug and cannot be connected without plug.

The plugs GHG 543/531 can further on be used for the sockets of the series GHG 543/GHG531.

Before the initial operation, any foreign matter will have to be removed from the plugs and sockets.

Flange sockets may only be used in protective enclosures of apparatus that have been certified for the respective application.

Observe the national safety rules and regulations for prevention of accidents as well as the safety instructions included in operating instructions and set in place the same as this text.

1 Technical data

Marking acc. to 94/9/EC:

II 2 G Ex de Ila II C T6 baw, T5
II 2 D Ex ID A21 IP 66 T 80 °C

EC-type examination certificate:

Wall socket	GHG 511 4	PTB 99 ATEX 1039
Plug	GHG 511 3	PTB 99 ATEX 1039
Coupler	GHG 511 8	PTB 99 ATEX 1040 U
Flange socket	GHG 543 2	PTB 99 ATEX 1039
Plug	GHG 531 7	PTB 99 ATEX 1039

Rated voltage:

GHG 511 4	3-pole	up to 415V, 50/60Hz
GHG 511 3	3-pole	up to 500V, 50/60Hz
GHG 511 8	5-pole	up to 500V, 50/60Hz
GHG 543 2	5-pole	up to 230V, 50/60Hz
GHG 531 7	5-pole	up to 690V, 50/60Hz

Plug GHG 543 2, Plug GHG 531 7.

(Special voltages and various contact-marking are possible on request)

Rated current:

Back-up fuse:	max. 16 A	GHG 543/531
Switching capacity AC 3, 3-pole:	max. 25 A	10A
Switching capacity AC 3, 4-pole:	max. 25 A	32A
Switching capacity AC 3, 5-pole:	230V/16A	32A
Switching capacity AC 3, 5-pole:	400V/16A	

Perm. ambient temperature: -40° C to +40° C (catalogue version)

Perm. storage temperature: -40° C to +40° C (catalogue version)

* Attention! When the Plugs GHG 543/531 is inserted with sockets of the series GHG 511, the IP protection category of the combination is reduced to the minimum protection

Insulation class acc. to EN/IEC 61140: I - is complied with by devices

Cable entry: (catalogue version)

Plug / Coupler

Plug GHG 543/GHG531

Supply terminals:

Wall socket, flange socket

Coupler

Plug GHG 511

Test torque:

Test torque for max. cable Ø in Nm

Cover screws

Terminals plug

Self-clamping screws size 4

Working voltage for pressure plate GHG 54

Wall socket

Coupler

Flange socket

Wall socket

Coupler

Flange socket

Plug

Coupler

Flange socket

Auxiliary contact, rated voltage:

Auxiliary contact, rated current:

3 Conformity with standards

The plugs and sockets are conform to the standards specified in the EC-Declaration of conformity, have been designed, manufactured and tested according to the state of the art and to DIN EN ISO 9001.

94/9 EC Equipment and protective systems intended for use in potentially explosive atmospheres.

The plugs and sockets also fulfil further requirements such as those of the directive on electromagnetic compatibility (2004/108/EC).

4 Field of application

The plugs and sockets GHG 511 are suitable for use in Zones 1 and 2 as well as in Zones 21 and 22 in accordance with IEC 60079-10.

The enclosure materials employed, including the electrical materials, ensure a corrosion protection and resistance to chemical substances corresponding to the requirements in a "normal industrial atmosphere".

- impact resistant polycarbonate
- glass-fibre reinforced polyester
- special steel AISI 316 L

In case of use in an extremely aggressive atmosphere, please refer to manufacturer.

5 Use/Properties

The GHG 511 plugs and sockets are used for the power supply of local controls with varying cable lengths.

The low-voltage plugs and sockets GHG 511 are fitted with a lead switch and can be used in a "normal industrial area".

The plugs and sockets can also be used in a "normal industrial area".

The plugs and sockets can generally be used for the voltage range laid down in IEC 309 (e.g. UN 400V) that corresponds to the voltage range 380-510V).

The apparatus connected to the plug shall be suitable for the applied mains voltage.

In order to switch on the socket, the plug is inserted, pushed fully home and then turned through approx. 45° to the right. Thereby, the plug is locked in the socket (see page 12, fig. 1).

The improper installation and operation of plugs and sockets may result in the invalidation of the guarantee.

Explosion protected plug and socket system
16A, GHG 511

6.1 Mounting

The wall sockets can be mounted without opening their enclosure.

In case the wall sockets are mounted directly onto the wall, they may rest evenly only at the respective fastening points. The chosen screw shall match the fastening hole (see dimensional drawing) and it must not damage the hole (e.g. use of a washer). The device shall be fastened diagonally with at least 2 screws.

The wall sockets, flange sockets and couplers shall be mounted so that the plug hole points downwards (see page 12, fig. 2).

The wall sockets can be clipped onto the COOPER CROUSE-HINDS mounting plate (see page 12, fig. 2, item 2) is turned to its stop onto the socket.

The data as per part 3 and 4 will have to be taken into account with the use.

For the operation, the instructions stated in section 7 of the operating instructions will have to be observed.

From time to time the locking function protecting against inappropriate use of industrial plugs in zone 1 has to be checked.

In the open air, the plugs must be kept with the plug opening (on side) pointing downwards or be closed with protective plug (see page 12, fig. 2, item 2) (see general catalogue).

The user alone is responsible for the appropriate use of this plug and socket system in consideration of the basic conditions existing at the plant (see technical data).

After a short in the circuit, the functioning of the plug and socket system and of the plugs has to be checked.

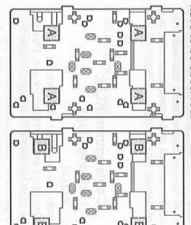
Since the switch contacts can no more be checked, the complete switch insert (flange socket) will have to be replaced after repeated short circuits.

The conductors shall be connected with special care in order to maintain the explosion category.

The insulation of the conductors shall reach up to the terminal. The conductor itself shall not be damaged.

For the mounting and operation, the respective national regulations as well as the general rules of engineering will have to be observed.

Taking into account the respective regulations, the properly bared conductors of the cables shall be connected.



6.2 Opening the device/ Electrical connection

Before opening the apparatus, ensure that it has been isolated from the voltage supply, or take appropriate protective measures.

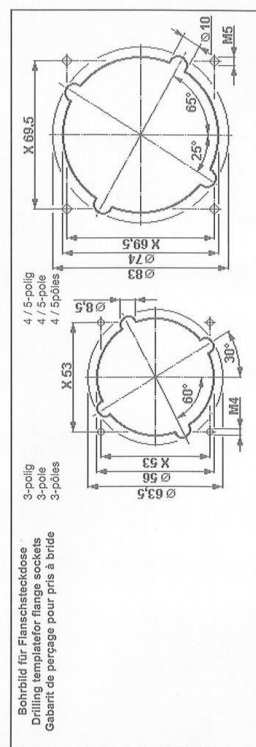
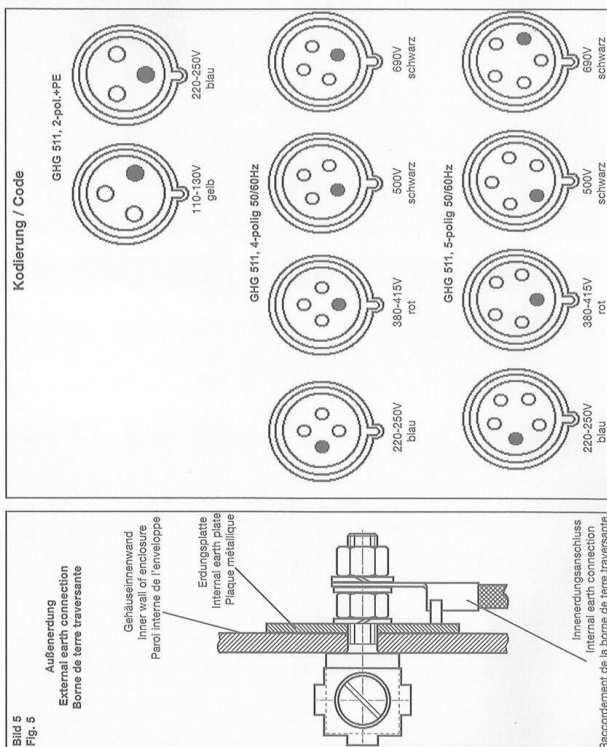
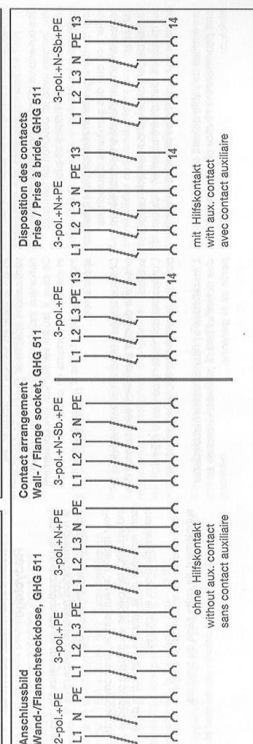
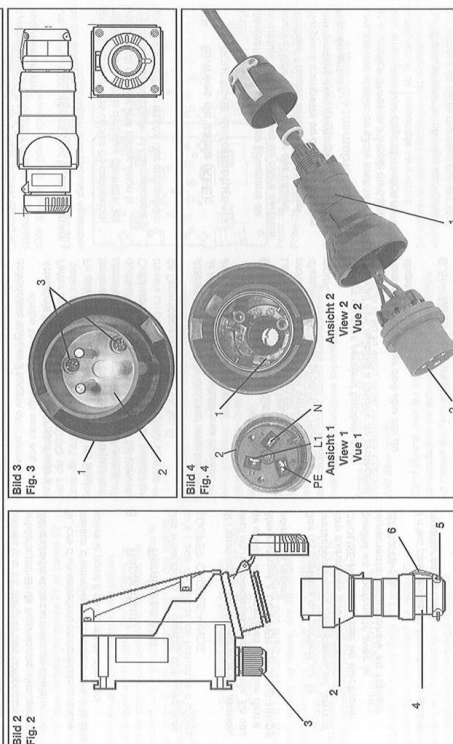
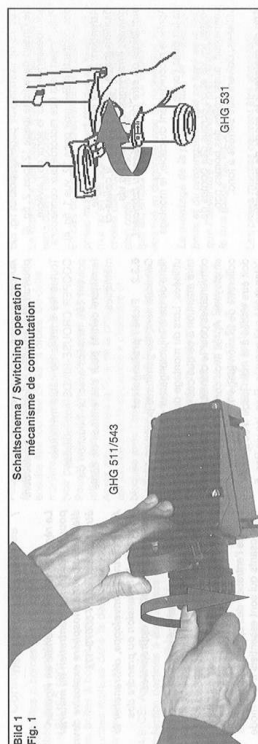
The electrical connection of the device may only be carried out by skilled staff.

The conductors shall be connected with special care in order to maintain the explosion category.

The insulation of the conductors shall reach up to the terminal. The conductor itself shall not be damaged.

For the mounting and operation, the respective national regulations as well as the general rules of engineering will have to be observed.

Taking into account the respective regulations, the properly bared conductors of the cables shall be connected.





EC TYPE-EXAMINATION CERTIFICATE

Component intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

Certificate Number: **Sira 10ATEX3335U** Issue: **0**

Component: **Type AB & AJ Adapters
Type BB & BJ Reducers
Types CK & CQ Stopping Plugs**

Applicant: **Raxton Limited**

Address: Kingsway South
Westgate
Aldridge WS9 8FS
UK

This component and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of a component intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2009

EN 60079-7:2007

EN 60079-31:2009

The sign 'U' is placed after the certificate number to indicate that the product assessed is a component and may be subject to further assessment when incorporated into equipment. Any special conditions for safe use are listed in the schedule to this certificate.

This EC type-examination certificate relates only to the design and construction of the specified component. If applicable, further requirements of this Directive apply to the manufacture and supply of this component.

The marking of the component shall include the following:



II 2 G D
Ex e IIC Gb
Ex t IIIC Db

Project Number 23297

C Ellaby
Certification Officer

This certificate and its schedules may only be reproduced in its entirety and without change.



SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 10ATEX3335U
Issue 0

- 15.7 When the entry devices are manufactured in BKV 140 type material, they shall be protected from exposure to light; items made from this material are marked with 'BKV 140'.

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Sira Certification Service

Rake Lane, Eccleston, Chester, CH4 9JN, England

Tel: +44 (0) 1244 670900
Fax: +44 (0) 1244 681330
Email: info@siracertification.com
Web: www.siracertification.com

Certificate Annexe

Certificate Number: Sira 10ATEX3335U

Component: Type AB & AJ adapters
Type BB & BJ reducers
Types CK & CQ stopping plugs

Applicant: Raxton Limited



Issue 0

Drawing No.	Sheets	Rev.	Date (Sira Stamp)	Title
ATEX 851	1 of 1	1	17 Jan 11	CK & CQ Series
ATEX 852	1 of 1	1	17 Jan 11	AB & AJ & BB & BJ Series
IECEX 851	1 of 1	1	17 Jan 11	CK & CQ Series
IECEX 852	1 of 1	1	17 Jan 11	AB & AJ & BB & BJ Series

This certificate and its schedules may only be reproduced in its entirety and without change.

Sira Certification Service

Rake Lane, Eccleston, Chester, CH4 9JN, England

Tel: +44 (0) 1244 670900
Fax: +44 (0) 1244 681330
Email: info@siracertification.com
Web: www.siracertification.com

Eexd Enclosure Certificates

MCI Electrotechnics Ltd

23 Kirkton Avenue, Pitmedden industrial Estate
 Dyce, Aberdeen, Scotland, UK, AB21 0BF
 Tel: (44) (1224) 772211 Fax: (1224) 772750
 E-mail: info@mci-electro.co.uk

FLASH TEST REPORT

Job No: 272162

Date Issued: 22 August 2022

Form No: F41

Client: BLUE MANTA

Job Title: EJB12A

Location:

PO No.: 0000039978

Product: FJB 12A DISTRIBUTION BOARD

Serial No.: MCI 272162 04

TEST

TEST EQUIP Manufacturer

TEST EQUIP Model

TEST EQUIP Serial No.(CHECK)

VOLTAGE TESTED AT

TIME TESTED FOR

PASS VALUE

RESULTS

L1 - EARTH

L2 - EARTH

L3 - EARTH

NEUTRAL - EARTH

NEUTRAL - L1

NEUTRAL - L2

NEUTRAL - L3

L1 - L2

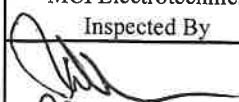
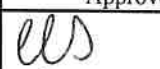
L2 - L3

L3 - L1

INITIAL INSULATION RESISTANCE TEST		HIGH VOLTAGE FLASH TEST	FINAL INSULATION RESISTANCE TEST	
EDGCUMBE		MEGGER	EDGCUMBE	
16D		FT4 Flash Tester	16D	
103450		122701498	103450	
1000 volts		2500 volts	1000 volts	
n/a		1 minute	n/a	
> 50 Mohms		3.0 mA	> 50 Mohms	
PASSED 1st TIME	PASSED REPAIRED	mA LEAKAGE RECORD VALUE	PASSED 1st TIME	PASSED REPAIRED
100+			100+	
100+			100+	
100+			100+	

sign.

print name
date

MCI Electrotechnics Inspected By	MCI Electrotechnics Approved By	Client Witness/Approved (Only If Applicable)	Certifying Authority (Only If Applicable)
 22/08/22	 C. Crumley 22/08/22		

company

MCI Electrotechnics Ltd 23 Kirkton Avenue, Pitmedden industrial Estate Dyce, Aberdeen, Scotland, UK, AB21 0BF Tel: (44) (1224) 772211 Fax: (1224) 772750 E-mail: info@mci-electro.co.uk	VISUAL INSPECTION REPORT
Client: BLUE MANTA Job Title: EJB12A Location:	Job No: 272162 Date Issued: 30 June 2022 Form No: F43 PO No.: 0000039978 Product: EJB 12A DISTRIBUTION BOARD Serial No.: MCI 272162 04

No.	DESCRIPTION of VISUAL FINAL INSPECTION	Not Applicable	PASSED 1st TIME	PASSED REPAIRED
1	LAYOUT: as per approved drawings, if applicable	NA	✓	
2	PAINT: colour is correct, all paint matches and no scratches		✓	
3	ENCLOSURE: all gaskets and/or dust seals intact and correctly fitted	NA		
4	ENCLOSURE: inside and outside clean and dust free		✓	
5	ENCLOSURE: not dented or damaged		✓	
6	ENCLOSURE: unused holes which effect enclosure rating plugged off	NA		
7	ENCLOSURE: gland plate doors/covers fasteners intact and tight	NA		
8	GLANDING: gland plate ^{POSTERS} as per customer requirements		✓	
9	DOOR: lock devices fitted and easy opening	NA		
10	DOOR: all doors open and close correctly and freely ^{NO COVER}		✓	
11	DOOR: mechanical interlock between isolator and door functioning	NA		
12	CHASSIS: withdrawable chassis easily withdrawn and re-inserted	NA		
13	EARTHING: all doors and/or covers earth connections made		✓	
14	EARTHING: earthed correctly, tight and sheared ^{grease}		✓	
15	LABELS: all engraving as per approved drawing or list		✓	
16	LABELS: all exterior labels fixed		✓	
17	LABELS: all fuse circuit and bus bar phase labels attached	NA		
18	WIRING: tidy in appearance in trunking, loomed or otherwise secured	NA		
19	TERMINATIONS: all cores, including spares, correctly ferruled or lugged	NA		
20	TERMINATIONS: all crimps correctly crimped ^(RACETANG)		✓	
21	TERMINATIONS: all exposed terminals have shroud	NA		
22	TERMINATIONS: all terminals correct type, securely mounted and labeled	NA		
23	DRAWINGS: circuit designation chart attached	NA		
24	LABELS: MCI nameplate fitted (serial reference number recorded above)		✓	
25				
26				

RECORD in metres HEIGHT _____ WIDTH _____ DEPTH _____

NOTES

EJB 12 A

MCI Electrotechnics Inspected By print name P. Anderson date 22/08/22	MCI Electrotechnics Approved By C. CALUMMS 22/08/22	Client Witness/Approved (Only If Applicable)	Certifying Authority (Only If Applicable)
--	--	---	--

company

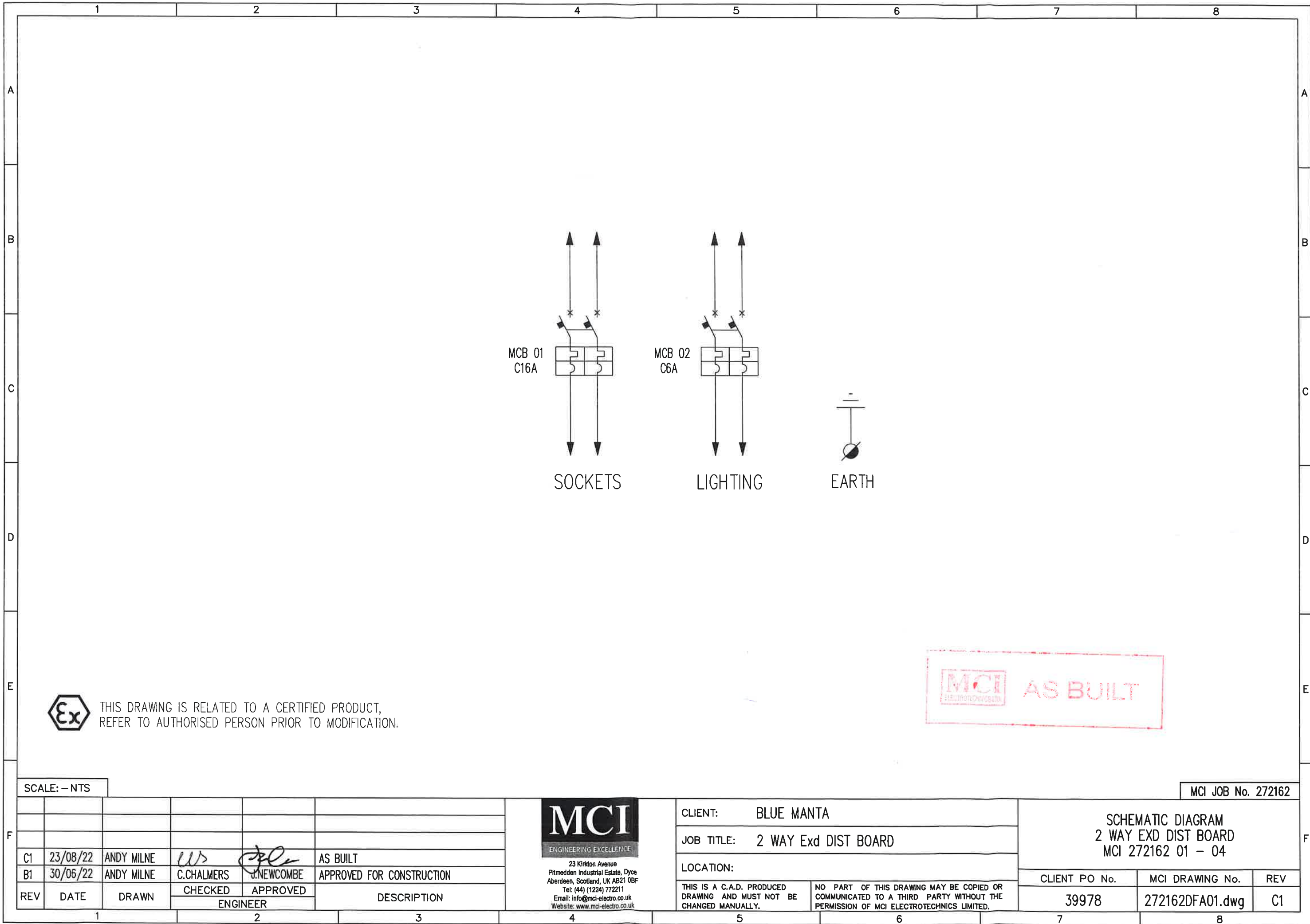
MCI Electrotechnics Ltd 23 Kirkton Avenue, Pitmedden industrial Estate Dyce, Aberdeen, Scotland, UK, AB21 0BF Tel: (44) (1224) 772211 Fax: (1224) 772750 E-mail: info@mci-electro.co.uk	FUNCTION TEST REPORT	
	Job No: 272162 Date Issued: 30 June 2022 Form No: F42	
Client: BLUE MANTA Job Title: EJB12A Location:	PO No.: 0000039978 Product: EJB 12A DISTRIBUTION BOARD Serial No.: MCI 272162 04	

POWER OFF FUNCTION TESTS			Not Applicable	PASSED 1st TIME	PASSED REPAIRED
1	BUS BARS: confirm bus bars maintain correct phase relationship	na			
2	BUS BARS: test all connections have been tightened to specifications	na			
3	EARTH: test all earth connections are continuous throughout		✓		
4	BREAKER/CONTACTOR: resistance test across contacts	na			
5	FUSE: test fuse and/or link is inserted and functioning, confirm rating	na			
6					
7					
CURRENT INJECTION TEST & RECORD VALUES			SETPOINT	TIME	
8	BREAKER: compare to manufacturer				
9	RCD:		na		
10	CURRENT OVERLOAD:				
11	THERMAL OVERLOAD:				
12					
CT RATIO CHECK & RECORD VALUES			RED PH.	YELLOW	BLUE PH.
13	CURRENT TRANSFORMER: ratio		na		
METERS RECORD VALUES			SCALE	RATING	
14	AMMETER:		na		
15	VOLTMETER:				
16					

POWER ON FUNCTION TESTS			Not Applicable	PASSED 1st TIME	PASSED REPAIRED
17	ISOLATION: of circuits by removing respective fuses and/or open MCB		✓		
18	LAMPS: test all lamps are functional	na			
19	HEATERS: test anti-condensation heaters are functioning and correct	na			
20	LOGIC: using approved drawings, test all logic via simulation and jumpers		✓		
21					
22					

23	END OF TESTING: all test jumpers removed, all switches set to 'OFF'	DONE	✓
24	DRAWINGS: 'As Built' drawings marked up and complete	DONE	✓

sign.	MCI Electrotechnics Inspected By	MCI Electrotechnics Approved By	Client Witness/Approved (Only If Applicable)	Certifying Authority (Only If Applicable)
	 22/08/22	 C. Curran 22/08/22		
print name				
date				company





SEE INSTALLATION
INSTRUCTION DOCUMENT

MCI ELECTROTECHNICS LTD. AB21 0BF
DISTRIBUTION001(EJB12A) Max : 690V ac
 Max : 250V dc
WARNING - Do not open when an explosive atmosphere is present
 Ex db IIB T4 Gb
 IECEX SIR 15.0088X
 IP65 Tamb = -20°C to 55 °C Made in UK
 Snr. 2022 MCI 272162 04 www.mci-electro.co.uk



BOTTOM VIEW



THIS DRAWING IS RELATED TO A CERTIFIED PRODUCT,
REFER TO AUTHORISED PERSON PRIOR TO MODIFICATION.



AS BUILT

MCI JOB No. 272162

23 Kirkton Avenue
Pitmedden Industrial Estate, Dyce
Aberdeen, Scotland, UK AB21 0BF
Tel: (44) (1224) 772211
Email: info@mcl-electro.co.uk
Website: www.mcl-electro.co.uk

NO PART OF THIS DRAWING MAY BE COPIED OR COMMUNICATED TO A THIRD PARTY WITHOUT THE PERMISSION OF MCI ELECTROTECHNICS LIMITED.

C1

C1	23/08/22	ANDY MILNE			AS BUILT
B1	30/06/22	ANDY MILNE	C.CHALMERS	J.NEWCOMBE	APPROVED FOR CONSTRUCTION
REV	DATE	DRAWN	CHECKED	APPROVED	DESCRIPTION
			ENGINEER		



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx SIR 15.0088X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 1	Issue 0 (2015-11-25)
Date of Issue:	2021-11-29		
Applicant:	MCI Electrotechnics Ltd 23 Kirkton Avenue Pitmedden Road Industrial Estate Dyce Aberdeen AB21 0BF United Kingdom		
Equipment:	Range of Control Panels (See Annexe for model references)		
Optional accessory:			
Type of Protection:	Flameproof and Intrinsic Safety		
Marking:	Model CPFG001 Ex db [ia] IIB T6 Gb -20°C to +40°C All other models Ex db IIB T4 Gb -20°C to +55°C	(The [ia] is applied to inform the user/installer that the enclosure houses items of intrinsically safe equipment that are previously certified and marked in their own right; these items are identified in the product description and their use is covered by a Condition of Certification.)	

Approved for issue on behalf of the IECEx
Certification Body:

Neil Jones

Position:

Certification Manager

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

CSA Group Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside CH5 3US
United Kingdom





IECEx Certificate of Conformity

Certificate No.: **IECEx SIR 15.0088X**

Page 2 of 4

Date of issue: 2021-11-29

Issue No: 1

Manufacturer: **MCI Electrotechnics Limited**
23 Kirton Avenue
Pitmedden Rd Industrial Estate
Dyce
Aberdeen
Scotland AB21 0BF
United Kingdom

Additional
manufacturing
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

GB/CSAE/ExTR21.0169/00

GB/SIR/ExTR15.0312/00

Quality Assessment Report:

GB/SIR/QAR12.0006/04



IECEX Certificate of Conformity

Certificate No.: **IECEX SIR 15.0088X**

Page 3 of 4

Date of issue: **2021-11-29**

Issue No: 1

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Range of Control Panels is fully described in the Certificate Annexe.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Some external parts of the equipment are non-conducting and may generate an ignition-capable level of electrostatic charge under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done with a damp cloth.
2. The flamepaths of the equipment shall not be repaired.
3. IECEx CPFG Panel, CPFG001, contains intrinsically safe equipment. The Intrinsic safety parameters in their associated IECEx certificates shall be observed.



IECEX Certificate of Conformity

Certificate No.: **IECEX SIR 15.0088X**

Page 4 of 4

Date of issue: 2021-11-29

Issue No: 1

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

This issue, Issue 1, recognises the following changes; refer to the certificate annex to view a comprehensive history:

1. The Applicant's Name and Address was updated from MCI Electrotechnics Ltd, Unit F33 Wellheads Industrial Centre, Wellheads Crescent, Dyce, Aberdeen, AB21 7GA, United Kingdom to MCI Electrotechnics Ltd, 23 Kirton Avenue, Pitmedden Rd Industrial Estate, Dyce, Aberdeen, AB21 0BF.

Annex:

[IECEX SIR 15.0088X Annexe Issue 1.pdf](#)

Annexe to: IECEx SIR 15.0088X Issue 1

Applicant: MCI Electrotechnics Ltd

Apparatus: Range of Control Panels



IECEx CPFG Panel, CPFG001

The IECEx CPFG Panel, CPFG001 is for the purposes of purging and monitoring fire and gas. It consists of an enclosure which is approximately 680 mm × 474 mm × 295 mm. The front panel of the enclosure includes a window and up to six push buttons and rotary switches. The equipment has the option of up to six M20 entries and one M25 entry on either left or right side of the enclosure. There are two variants for entries on the bottom of the enclosure: the first option is up to thirteen M20 entries and two M25 entries, and the second option is up to ten M20 entries, two M25 entries and two M32 entries.

The equipment contains a number of items of equipment, including power supply units, terminals, fuse holders, relays, contactors, a transformer and intrinsically safe barriers, repeaters and transmitters. The following intrinsically safe equipment is permitted:

Model	Certificate numbers
Isolating Switching Amplifier, Type KFD2-SR2-Ex2.W	IECEx PTB 11.0034
Type KFD0-CS-Ex1.51P Transformer Isolated Loop Powered Current Separator	IECEx BAS 05.0004
KFD2-STC4-Ex1. Smart Transmitter Isolator	IECEx BAS 04.0016
Type KFD0-SD2-Ex1.1045 Solenoid Drive Transformer Isolated Solenoid Driver	IECEx BAS 06.0058

IECEx Contactor Panel, CONTACTOR001

The IECEx Contactor Panel, CONTACTOR001 is for the purposes of switching power to a controlled environment. It consists of an enclosure which is approximately 680 mm × 474 mm × 295 mm. The front panel of the enclosure includes the option of a rotary switch. The equipment has the option of an M12 entry on the left side of the enclosure and up to one M63 entry, two M32 entries, one M25 entry and two M20 entries at the bottom of the enclosure one M63 entry on the top of the enclosure.

The equipment contains a number of items of equipment, including contactors, a transformers, fuse holders, and terminals.

IECEx Transformer Panel, TRANSFORMER001

The IECEx Transformer Panel, TRANSFORMER001 is for the purposes of converting voltage. There are two versions of the equipment.

The first version consists of an enclosure which is approximately 474 mm × 373 mm × 295 mm that has the option of up to three M20 entries and one M10 entry at the top of the enclosure.

The second version consists of an enclosure which is approximately 680 mm × 474 mm × 295 mm that has the option of one M10 entry on the left of the enclosure and up to two M32 entries and one M25 entry on the bottom of the enclosure.

The equipment contains a number of items of equipment, including a transformer, fuse holders and terminals.

IECEx Starter Panel, Model, STARTER001

The IECEx Starter Panel, Model, STARTER001 is for the purposes of supplying power and control for an electric motor. It consists of an enclosure which is approximately 680 mm × 474 mm × 295 mm. The equipment has two cable entry layouts.

The first version is up to eight M25 entries on the front face of the enclosure, up to one M40, four M32, six M25, one M63 and one M10 entries on each of the left and right face enclosure, and up to one M40, four M32, two M25 and one M63 entries on the top and bottom faces of the enclosure.

Date: 29 November 2021

Page 1 of 2

Annexe to: IECEx SIR 15.0088X Issue 1

Applicant: MCI Electrotechnics Ltd

Apparatus: Range of Control Panels



The second version is up to fourteen M25 entries on the front face of the enclosure, up to two M40, eight M25, one M63 and one M10 entries on the left face of the enclosure, up to one M40, four M32, six M25, one M63 and one M10 entries on the right face of the equipment, up to two M40, four M32 and one M63 entries on the bottom face of the enclosure, and up to two M40 and six M32 entries on the top face of the enclosure.

The equipment contains a number of items of equipment, including a transformer, relays, terminals, contactors and a motor start.

IECEx Distribution Panel, Model DISTRIBUTION001

The IECEx Distribution Panel, Model DISTRIBUTION001 is for the purposes of distributing power to separate equipment. There are three versions of the equipment.

The first version consists of an enclosure which is approximately 680 mm × 474 mm × 295 mm that has the option of up to ten M25, one M40 and two M20 entries on the bottom and top faces of the enclosure, up to twenty-one M25 entries on the front face of the enclosure and up to one M50 and sixteen M25 entries on the left and right faces of the enclosure. The enclosure uses up to twenty-one rotary switches which pass through the entries on the front face of the equipment.

The second version consists of an enclosure which is approximately 577 mm × 373 mm × 295 mm that has the option of up to one M32 and seven M25 entries on the bottom and top faces of the enclosure, up to twelve M25 entries on the front face of the enclosure and up to one M10, one M40 and twelve M25 entries on the left and right faces of the enclosure. The enclosure uses up to twelve rotary switches which pass through the entries on the front face of the equipment.

The third version consists of an enclosure which is approximately 474 mm × 373 mm × 295 mm that has the option of up to one M32 and six M25 entries on the bottom and top faces of the enclosure, up to six M25 entries on the front face of the enclosure and up to one M10, one M40 and eight M25 entries on the left and right faces of the enclosure. The enclosure uses up to six rotary switches which pass through the entries on the front face of the equipment.

The equipment contains a number of miniature circuit breakers (MCBs) or residual current devices (RCDs), terminals and a busbar system.

Ratings

Panel Model Reference		Ratings		
IECEx CPFG Panel -	CPFG001	690 V a.c.	250 V d.c.	63 A
IECEx Contactor Panel -	CONTACTOR001	690 V a.c.	250 V d.c.	460 A
IECEx Transformer Panel -	TRANSFORMER001	690 V a.c.	250 V d.c.	50 A
IECEx Starter Panel -	STARTER001	690 V a.c.	250 V d.c.	160 A
IECEx Distribution Panel -	DISTRIBUTION001	690 V a.c.	250 V d.c.	630 A

Full certificate change history

Issue 1 – this Issue introduced the following change:

1. The Applicant's Name and Address was updated from MCI Electrotechnics Ltd, Unit F33 Wellheads industrial Centre, Wellheads Crescent, Dyce, Aberdeen, AB21 7GA, United Kingdom to MCI Electrotechnics Ltd, 23 Kirton Avenue, Pitmedden Rd Industrial Estate, Dyce, Aberdeen, AB21 0BF.

Date: 29 November 2021

Page 2 of 2

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

MCI Electrotechnics Ltd.

23 Kirkton Avenue, Pitmedden Industrial Estate
Dyce, Aberdeen, Scotland, UK, AB21 0BF
Tel: (44) (1224) 772211 Fax: (44) (1224) 772750
E-mail: info@mci-electro.co.uk

EU Declaration of Conformity

MCI Electrotechnics Ltd declares under our sole responsibility that the product stated below conforms to the relevant provisions of directive 2014/34/EU

Product: Ex d EJB12A Distribution Board **Serial No.:** MCI 272162 04
Ex db II B T4 Gb

Notified Body: CSA Group Testing UK Ltd
Quality CSA Group 0518
Unit 6 Hawarden Ind Park
Hawarden
CH5 3US

Notified body: CSA GROUP Testing UK Ltd
Certification CSA Group 0518
Unit 6 Hawarden ind park
Hawarden
CH5 3US

Conformity has been demonstrated with reference to the following documentation: and is deemed suitable for use in Zones A & B according to EN 61131-2, EN61000-6-4, EN 61000-6-2

IECEx Certificate of Conformity IECEx SIR 15.0088X
Conforms to the EMC Directive 2014/30/EU With reference to EN 61439-1,61439-2

Compliance with the Essential Health & Safety Requirements has been assessed by reference to the following standards: and conforms with the EMC Directive 2014/30/ EU

EN 60079-0: 2011
EN 60079-1: 2014
EN 60079-11:2011



Ron Anderson
Engineering Director

Date of issue: 23/08/22



23 Kirkton Avenue
Pitmedden Road Industrial Estate
Dyce
Aberdeen
AB21 0BF

POWER AND CONTROL SPECIALISTS

Installation and Maintenance Document

Equipment boxes, switchgear assemblies for Hazardous Areas

Series EJB

Please read these Instructions carefully before installing, taking into Operation and Maintaining this equipment.

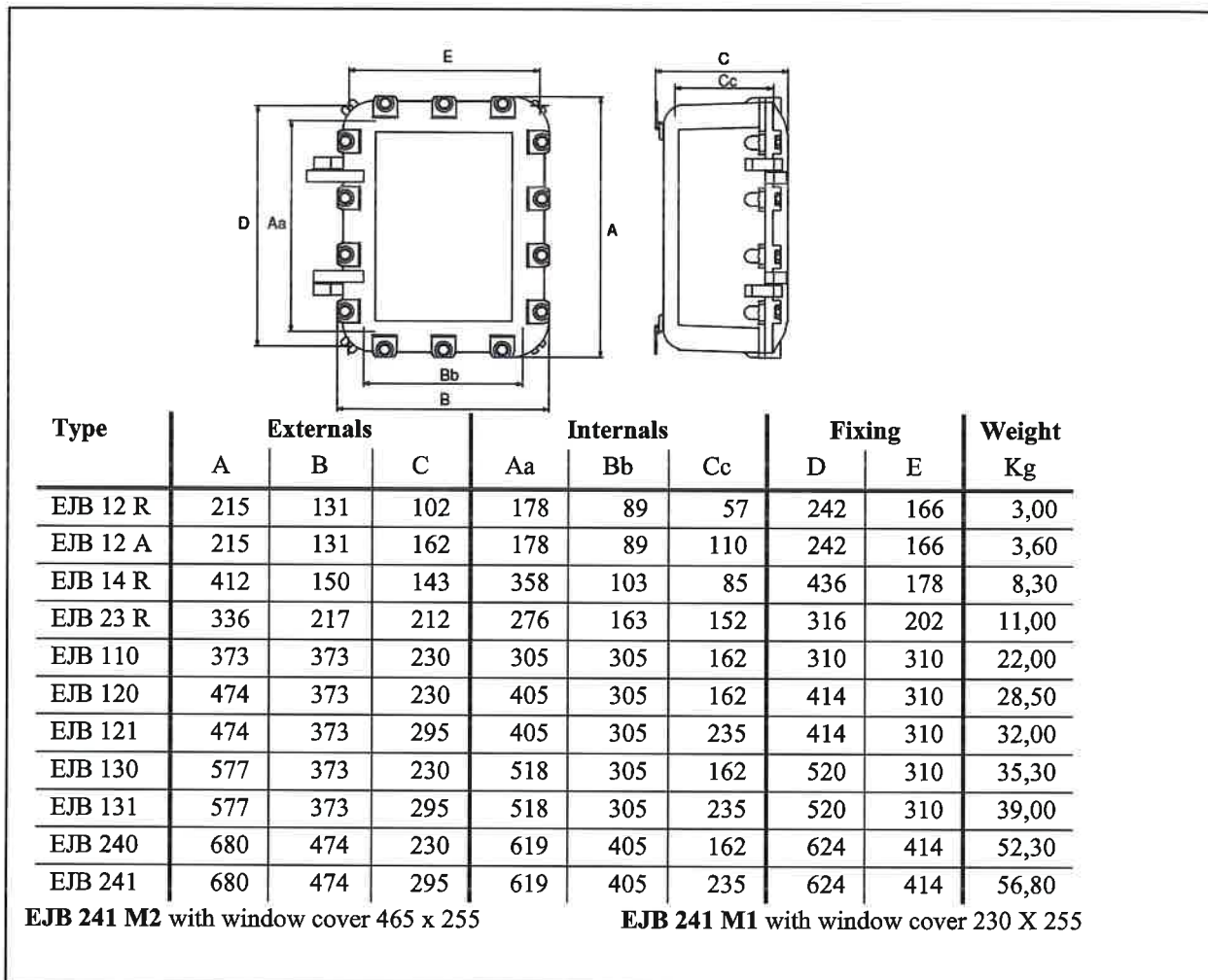
Contents:

- 1 **Safety Instructions**
- 2 **Conformity with Standards**
- 3 **Technical Data**
- 4 **Installation**
- 5 **Taking into Operation**
- 6 **Maintenance**
- 7 **Specific Condition of Use**



T: +44 (0)1224 772211
E: info@mci-electro.co.uk
W: www.mci-electro.co.uk

Fig. 1



1 Safety Instructions

These operating instructions shall not be kept inside the enclosure during operation.
Changes to the design and or any other modifications to the enclosures are not permitted.
While undertaking any servicing on the equipment boxes switchgear or rack assemblies, the National safety rules and regulations for prevention of accidents must be observed as well as the safety instructions included in these operating instructions and set in *italics* the same as this text.
These boxes are suitable for use in zone 1 & 2 hazardous areas acc. To IEC/EN 60079-10



23 Kirkton Avenue
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Aberdeen
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POWER AND CONTROL SPECIALISTS

2 Conformity with Standards

These enclosures have been designed, manufactured and tested to meet the requirements of the following standards:

IEC 60079-0 2011 "Explosive atmospheres - Part 0: General Requirements.

IEC 60079-1:2014-06 Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures "d"

IEC 60079-11 2011 Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "I".

3 Technical Data

These boxes are specially designed to accommodate various electrical equipment or rack Assemblies according to requirements

Examples of what can be mounted inside these enclosures:

- Busbar
- Terminals
- Transformers
- Air braking apparatus
- Fuses
- Capacitors with discharge residence, $t < 3s$
- Electronic components
- etc.

The covers shall be mechanized in order to provide:

- Push buttons
- Rotary actuators
- Windows for signal lamps
- Windows for indicators

The EJB equipment with electronic circuits inside, for installing in the EU market will be tested. In order to insure the requirements of the directive 2004/108/EC "Electrostatic compatibility (EMC).

Protection mode Ex db [ia] IIB T4 Gb, Ex db IIB T4 Gb, Ex db IIB T5 Gb

Thermal class: according to power dissipation of the internal components, see label on the supplied equipment.

Protection: IP65 to IEC/EN 60529

Certificate of Conformity: IECEx SIR 15.0088X

(The mark X is a thermal class limitation to max T5 for equipment with signal lamps and windows)

Ambient temperature: -20c to + 55c (+40 see data plate)

Storage temperature: -40c to +80c

Rated voltage: AC less than or equal to 690V

Rated current less than or equal to 800Amp

Short circuit breaking on bus bar: 10Ka

Equipment composition: see technical documentation (drawings, parts lists etc) of the supplied Equipment

Cable entries: up to 4% according to needs different types of threads.



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Only EXDIIB (AB6N) minimum certified cable glands or seals suitable for the kind of cable to be used for handling and installing these accessories, instructions supplied by the manufacturer must be followed.

Dimensions and weight: see figure 1

4 Installation

When mounting and operating electrical apparatus for hazardous areas, the relevant regulations as well as the general rules of engineering will have to be observed.
Transport and store in original packaging only.

Opening and closing of enclosures:

Power must be isolated before opening the box.

- To slacken or tighten the stainless-steel screws of the cover with a torque, M6=9.9Nm, M8=24Nm and M10=30Nm

Cable entries: Thread form, in general metric threads are provided however check with the detailed General arrangement drawing for the project.

- To mount cable glands or seals selected according to the kind and size of the feeding cable, the instructions supplied by the manufacturer must be followed.
- Note: The selected gland/cable cannot exceed the temperature class/rating of the enclosure.
- Unused cable entries must be closed by an Exd IIB minimum certified blanking plug, which must be installed according to the manufacturer's instructions.

Main connections:

- Connect in accordance with the technical documentation of the supplied equipment.

5 Taking into operation

Prior to operation, check the equipment box, switchgear or rack assemblies for proper functioning and that the electrical installation is in compliance with these operating instructions and other applicable regulations.

Carry out insulation measurements only between L and PE as well as N and PE:

- Test voltage 1Kv AC/DC max
- Minimal insulation: 5 mega ohms

Then the boxes must be tightly closed.

6 Maintenance

The user is responsible for the safe use of the enclosures.

The national regulations applicable to the maintenance, test and repair of the apparatus for hazardous areas and the general rules of engineering will have to be observed.

The enclosure shall be maintained in accordance with the national regulations, it is recommended that an inspection plan should be established in accordance with IEC79-17, BSEN60079-17.

During the inspection, the parts of the protection mode must be inspected with special attention, i.e.

- Do the body, covers and windows have cracks or show signs of damage?
- Are the flange flameproof joints clean, greased and without damage or corrosion and are all closing elements of the enclosure intact?
- Is there any corrosion of threads on the cable entries?
- Are cable entry blanking plugs and terminals well tightened?



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Flameproof joints must be permanently greased in order to insure their protection against corrosion, water tightness and blocking problems, clean remains of grease and corrosion without using metal tools (they can damage the joint surface).

Grease used must be thermally and chemically stable with drop of =175c i.e., Molykote BR2.

If the gap of the flameproof joint is greater than 0.15mm, the equipment must be returned to the manufacturer for repair, if damage occurs to the glass seal, flame path or flameproof joint the user is not authorized to carry out any repair work, this is deemed as unrepairable.

If the enclosure requires repainting, paint must not come into contact with the flameproof joints, where painted or powder coated, the enclosure could present an electrostatic hazard.

Clean only with a damp or anti-static cloth.

Inspection:

To observe the national regulations, Qualified personnel must carry out repairs.

Repair:

Only manufacturer spare parts must be used for repairs.

To observe national regulations, Qualified personnel must carry out repairs.

If in any doubt, check with the technical services of MCI-Electrotechnics Ltd.

Spare parts and accessories.

- stainless steel bolt M6 x 15 DIN 933, ref; 502112911
- stainless steel bolt M8 x 20 DIN 933, ref;444112203
- stainless steel bolt M10 x 35 DIN 933, ref; 501112237
- Mounting plate type PEJB12, ref, 111117122
- Mounting plate type PEJB14, ref; 111117130
- Mounting plate type PEJB23, ref; 111117146
- Mounting plate type PEJB110, ref; 111117156
- Mounting plate type PEJB120, ref; 111117164
- Mounting plate type PEJB130, ref; 111117172
- Mounting plate type PEJB240, ref; 111117180
- Hinge screw ref; 111117198
- Fix element ref; 000117241
- Grease Molykote BR2 by Dow Corning

7 Specific Conditions of Use

1. Some external parts of the equipment are non-conducting and may generate an ignition- capable level of electrostatic charge under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done with a damp cloth.
2. The flame paths of the equipment shall not be repaired.
3. IECEx CPFG Panel, CPFG001, contains intrinsically safe equipment. The intrinsic safety parameters in their associated IECEx certificates shall be observed.

Document rev 02 21/02/22

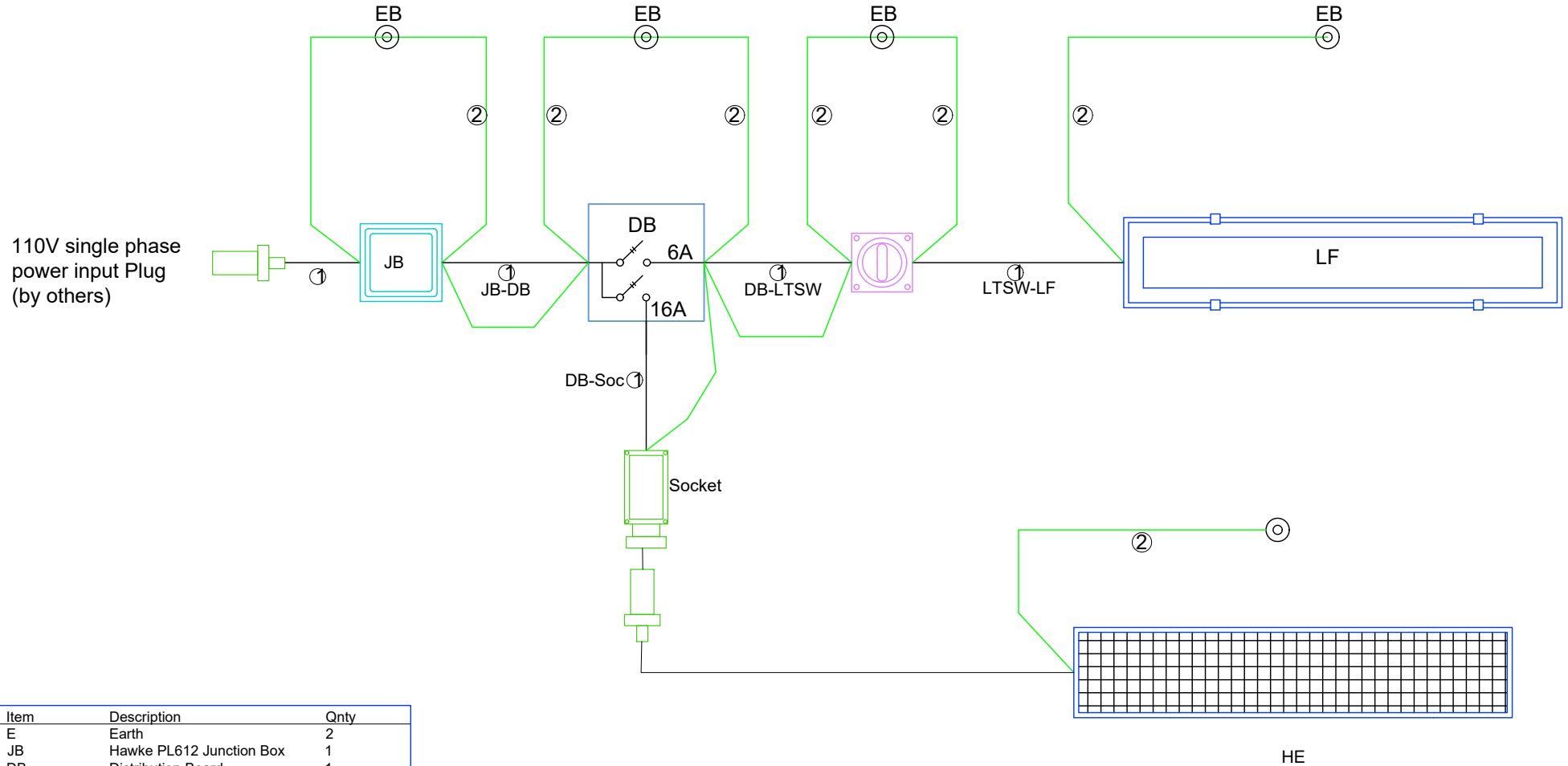


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Electrical Drawing

REVISION HISTORY

REV	BY	DESCRIPTION	DATE	CHKD	APPR	EXT APP	CL APP
1	RG	-	03.05.23	RG	FB	N/A	N/A



Item	Description	Qty
E	Earth	2
JB	Hawke PL612 Junction Box	1
DB	Distribution Board	1
LTSW	Double Pole Light Switch	2
LF	4ft Twin Fluorescent Light	1
Soc	Socket	1
PL	16 Amp Plug	2
DB-LTSW	Light Switch	1
HE	Heater	1

Cable Types BS6883	
Item	Description
1	3 x 2.5mm (tcu/epr/sw4/gswb/sw4) RFOU
2	6mm 1c ru

This drawing is copyright© and is the property of Blue Manta International, and must not be reproduced or used without the express permission of Blue Manta International.		General tolerances UNO Steel fabrications: ± 3.00mm Machining: ± 0.25mm Concentric: ± 0.05mm Angular: ± 0.05mm	Machined corner rads. Inside: ± 0.50mm UNO Outside: ± 0.65mm UNO
Description: Electrical Schematic			
Part no:	BM-C-1453	Drawing No:	N/A
Client:	Bluemanta	Scale:	NTS@A3

