

Certificate of
Conformity & EC
Declaration of
Conformity



IECEX CoC Certified Service Facility

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 S0009 issue No.:0 Certificate history:

Status: **Current** Date of Issue: **2010-05-28**

Applicant: **Dowding and Mills (UK) Limited**
Pitmedden Road Industrial Estate,
Dyce,
Aberdeen,
AB21 0BF
United Kingdom

Type of Service: **Repair and Overhaul according to IEC 60079-19**

Type of Protection: Flameproof Enclosure "d"
Increased Safety "e"
Type of Protection "n"

Scope of Service: **Repair & Overhaul of Rotating Machines, Exd, Exe, Exn, together with Enclosures, Exd & Exe Exed**
Also Replacement of Motor Shaft Bearings Offshore

Locations covered by this Certificate: **As Above**

Facility Audit Report: [GB/BAS/FAR10.0003/00](#)

This certificate is issued as verification that the Service Facility and associated locations were assessed and found to comply with the IECEx Scheme requirements, relating to the type and scope of service listed above. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 03 and Operational Documents as amended.

Approved for issue on behalf of the IECEx Certification Body: *PP* Ron Sinclair *M POWNEY*

Position:

Managing Director

Signature:

M Powney

28/5/10

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 the Official IECEx Website.

Certificate issued by:

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



EC Declaration of Conformity

In accordance with BS EN ISO/IEC 17050-1:2010

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-1050

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.**

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

EN 13463-1: 2009	Non – electrical equipment for use in potentially explosive atmospheres Part 1: Basic methods and requirements.
EN 13463-5: 2011	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	Explosive atmospheres – Part 0: Equipment – General requirements.
EN 60079-1	Explosive atmospheres. Equipment protection by flameproof enclosures "d"
EN 60079-2	Explosive atmospheres. Equipment protection by pressurized enclosure "p"
EN 60079-5	Explosive atmospheres. Equipment protection by powder filling "q"
EN 60079-6	Explosive atmospheres. Equipment protected by oil immersion "o"
EN 60079-7	Explosive atmospheres. Equipment protection by increased safety "e"
EN 60079-11	Explosive atmospheres. Equipment protection by intrinsic safety "i"
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.

A handwritten signature in blue ink, appearing to read "Ally Thomson".

Signature: Name:.....Ally Thomson.....
(Responsible Person)

Position:Base Manager..... Date:20/02/2017.....

Engineer Report

CERTIFICATE OF CONFORMITY**DATE : 22 JUNE 2023****CUSTOMER : BLUE MANTA****CONTACT NAME : F. BARCLAY****CUSTOMER REF : BM-C-1050****CUSTOMER P/O : 42872****SULZER PROJECT : P0005242**

Services UK & Nordics Ltd
Aberdeen Service Centre
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 Services UK & Nordics Ltd**SIMON CUNLIFFE
FIELD SERVICE TECHNICIAN**

CUSTOMER: BLUE MANTA

ATTENTION: F BARCLAY

CUSTOMER REF: 42872

SULZER JOB NO: P0005242

ELECTRICAL INSPECTION SHEET		009
PLANT IDENT NO	BM-C-1050	PAGE 1

EQUIPMENT DESCRIPTION	CONTAINER
EARTH CONTINUITY TESTS	

ITEM DESCRIPTION	TICK APPROPRIATE		SIZE MM ²		TYPE INSULATION	EARTH CONTINUITY (OHMS) TO MAIN EARTH POINT
	C.P.C.	EQUI-POTENTIAL	C.P.C.	EQUI-POTENTIAL		
Supply plug	✓		2.5		Epr/csp	0.04
Supply J-box	✓	✓	2.5	6	Epr/csp	0.02
Distribution box	✓	✓	2.5	6	Epr/csp	0.08
Light switch	✓	✓	2.5	6	Epr/csp	0.09
Light	✓	✓	2.5	6	Epr/csp	0.08
Socket	✓	✓	2.5	6	Epr/csp	0.08

GENERAL COMMENTS:

INSPECTED BY (PRINT): S.CUNLIFFE	
SIGN/CHECKED: R.STUART	DATE:22/06/2023

ELECTRICAL INSPECTION SHEET				08	CABLE TEST RESULTS			
PLANT IDENT NO		BM-C-1212		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	Braided	3	2.5	Black	>1000	>1000	0.2	15
2	Braided	3	2.5	Black	>1000	>1000	0.2	0.5
3	Braided	3	2.5	Black	>1000	>1000	0.1	0.5
4	Braided	3	2.5	Black	>1000	>1000	0.1	3
5	Braided	3	2.5	Black	>1000	>1000	0.2	3

INSPECTED BY (PRINT): S. CUNLIFFE

SIGN/CHECKED: R.STUART

DATE: 22-06-2023

HAZARDOUS AREA SCHEDULE										EIS036
CUSTOMER	BLUE MANTA	ATTENTION		F BARCLAY		CUSTOMER REF		BM-C-1050	SULZER PROJECT NO.	P0005242
TAG/SERIAL NO	DESCRIPTION	TYPE / Pt NO	PROTECTION TYPE	ZONE/CAT	CLASS	GROUP	T CLASS	MANUFACTURER	APPROVAL AUTH	CERT NO
Fert.Nr. 1439	SUPPLY PLUG	GHG5117304 R0001	Ex	2	de	IIC	6	EATON / CEAG	BVS	99 ATEX E053X
M/047717/13	SUPPLY J-BOX	PL612	Ex	1	e	IIC	6	Hawke International	BASEEFA	06 ATEX0117X
20141-2	DISTRIBUTION BOX	EJB12A	Ex	1	d	IIB	6	PDC	LOM	03 ATEX2046X
FERT No. 1053	LIGHT SWITCH	GHG2732000 R0003	Ex	1	de	IIC	6	EATON/CEAG	PTB	98 ATEX 3121
846760D	LIGHT 4ft	92036/36	Ex	1	de	IIC	4	CEAG	BVS	09 ATEX E 034
FERT No.1093	SOCKET	GHG5114304 R0002	Ex	1	de	IIC	6	CEAG	PTB	99 ATEX

Customer	BUE MANTA
Sulzer Project No.	P0005242
Plant ID Ref	BM-C-1050
Electrical Inspection Sheet	044-1

ITEM DETAILS																	
Equipment description	SUPPLY PLUG							Voltage	130V								
Manufacturer	EATON/CEAG							Current	16A								
Serial Number	FERT No. 1439							Frequency (Hz)	50								
Type Number	GHG5117304R0001							Wattage	N/A								
Frame	-							RPM	N/A								
Certification Authority	BVS							IP Rating	66								
Certification Number	99 ATEX E053X							Zone of Use	1								
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	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	-	-
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)	-	-
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	V	S
17	Apparatus is appropriate to area classification	V	S
18	Surface temperature class is correct	V	S
19	Apparatus sub-group is correct	V	S
20	Circuit and/or apparatus documentation is appropriate to area classification	V	S
21	Apparatus and cables installed is that specified in the documentation	V	S
22	Installation is clearly labeled	V	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	D	S
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.	-	-
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 Molykote 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	D	S
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?	D	S
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	-	-
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	V	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	22/06/2023

Inspected By (Print Name)	S. CUNLIFFE	Date	22/06/2023
Checked By (Print Name)	R. STUART		
In accordance with current BS EN 60079-17 Standard			

Customer	BUE MANTA
Sulzer Project No.	P0005242
Plant ID Ref	BM-C-1050
Electrical Inspection Sheet	044-2

ITEM DETAILS																	
Equipment description	SUPPLY J-BOX							Voltage	550								
Manufacturer	Hawke International							Current	17								
Serial Number	M/047717/13							Frequency (Hz)	-								
Type Number	PL612							Wattage	4.1								
Frame	-							RPM	N/A								
Certification Authority	BASEEFA							IP Rating	66								
Certification Number	06 ATEX0117X							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	-	-
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	V	S
17	Apparatus is appropriate to area classification	V	S
18	Surface temperature class is correct	V	S
19	Apparatus sub-group is correct	V	S
20	Circuit and/or apparatus documentation is appropriate to area classification	V	S
21	Apparatus and cables installed is that specified in the documentation	V	S
22	Installation is clearly labeled	V	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	D	S
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 Molykote 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?	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	V	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	22/06/2023

Inspected By (Print Name)	S. CUNLIFFE	Date	22/06/2023
Checked By (Print Name)	R. STUART		
In accordance with current BS EN 60079-17 Standard			

Customer	BUE MANTA
Sulzer Project No.	P0005242
Plant ID Ref	BM-C-1050
Electrical Inspection Sheet	044-3

ITEM DETAILS																	
Equipment description	DISTRIBUTION BOX							Voltage	480V								
Manufacturer	PDC SYSTEMS							Current	25								
Serial Number	20141-2							Frequency (Hz)	50/60								
Type Number	EJB12A							Wattage	15								
Frame	-							RPM	N/A								
Certification Authority	LOM							IP Rating	65								
Certification Number	03 ATEX2046X							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	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.	V	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	V	S
17	Apparatus is appropriate to area classification	V	S
18	Surface temperature class is correct	V	S
19	Apparatus sub-group is correct	V	S
20	Circuit and/or apparatus documentation is appropriate to area classification	V	S
21	Apparatus and cables installed is that specified in the documentation	V	S
22	Installation is clearly labeled	V	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	D	S
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	-	-
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	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 Molykote 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	D	S
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?	D	S
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	V	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	22/06/2023

Inspected By (Print Name)	S. CUNLIFFE	Date	22/06/2023
Checked By (Print Name)	R. STUART		
In accordance with current BS EN 60079-17 Standard			

Customer	BUE MANTA
Sulzer Project No.	P0005242
Plant ID Ref	BM-C-1050
Electrical Inspection Sheet	044-4

ITEM DETAILS																	
Equipment description	LIGHT SWITCH								Voltage	250Vac							
Manufacturer	CEAG								Current	16A							
Serial Number	FERT No. 1053								Frequency (Hz)	N/A							
Type Number	GHG2732000R0003								Wattage	N/A							
Frame	-								RPM	N/A							
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	<u>d</u>	<u>e</u>	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)	-	-
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	V	S
17	Apparatus is appropriate to area classification	V	S
18	Surface temperature class is correct	V	S
19	Apparatus sub-group is correct	V	S
20	Circuit and/or apparatus documentation is appropriate to area classification	V	S
21	Apparatus and cables installed is that specified in the documentation	V	S
22	Installation is clearly labeled	V	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	D	S
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.	-	-
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 Molykote 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	D	S
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?	D	S
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	V	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	22/06/2023

Inspected By (Print Name)	S. CUNLIFFE	Date	22/06/2023
Checked By (Print Name)	R. STUART		
In accordance with current BS EN 60079-17 Standard			

Customer	BUE MANTA
Sulzer Project No.	P0005242
Plant ID Ref	BM-C-1050
Electrical Inspection Sheet	044-5

ITEM DETAILS																	
Equipment description	LIGHT 4ft								Voltage		254						
Manufacturer	CEAG								Current		-						
Serial Number	846760D								Frequency (Hz)		50/60						
Type Number	92036/36								Wattage		N/A						
Frame	-								RPM		N/A						
Certification Authority	BVS								IP Rating		66/67						
Certification Number	09 ATEX E 034								Zone of Use		1						
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	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)	-	-
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	-	-
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	V	S
17	Apparatus is appropriate to area classification	V	S
18	Surface temperature class is correct	V	S
19	Apparatus sub-group is correct	V	S
20	Circuit and/or apparatus documentation is appropriate to area classification	V	S
21	Apparatus and cables installed is that specified in the documentation	V	S
22	Installation is clearly labeled	V	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	D	S
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	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 Molykote 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	D	S
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?	D	S
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	V	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	22/06/2023

Inspected By (Print Name)	S. CUNLIFFE	Date	22/06/2023
Checked By (Print Name)	R. STUART		
In accordance with current BS EN 60079-17 Standard			

Customer	BUE MANTA
Sulzer Project No.	P0005242
Plant ID Ref	BM-C-1050
Electrical Inspection Sheet	044-6

ITEM DETAILS																	
Equipment description	SOCKET								Voltage	130V							
Manufacturer	CEAG								Current	16A							
Serial Number	FERT No.1093								Frequency (Hz)	50							
Type Number	GHG5114304R0002								Wattage	N/A							
Frame	-								RPM	N/A							
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	<u>d</u>	<u>e</u>	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	-	-
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)	-	-
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	V	S
17	Apparatus is appropriate to area classification	V	S
18	Surface temperature class is correct	V	S
19	Apparatus sub-group is correct	V	S
20	Circuit and/or apparatus documentation is appropriate to area classification	V	S
21	Apparatus and cables installed is that specified in the documentation	V	S
22	Installation is clearly labeled	V	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	D	S
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.	-	-
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 Molykote 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	D	S
43	Enclosed break devices are undamaged	D	S
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?	D	S
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	-	-
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	V	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	22/06/2023

Inspected By (Print Name)	S. CUNLIFFE	Date	22/06/2023
Checked By (Print Name)	R. STUART		
In accordance with current BS EN 60079-17 Standard			

Cable Certificates



EC - TYPE EXAMINATION CERTIFICATE

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

EC - Type Examination
Certificate Number: **Baseefa06ATEX0056X**

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

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 (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**

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.

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 :

 **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.

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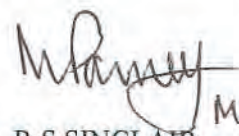
Baseefa Customer Reference No. 0500

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.

Schedule

13

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**

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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 (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

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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.

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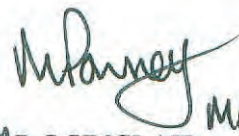
Baseefa Customer Reference No. 0500

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. 4305576. Registered address as above.


R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



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Schedule

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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.

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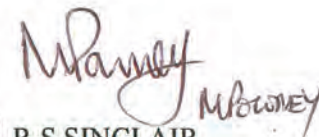
Baseefa Customer Reference No. 0500

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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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



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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.

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Baseefa Customer Reference No. **0500**

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

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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

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.

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Baseefa Customer Reference No. 0500

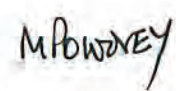
Project File No. 11/0741 and 11/0943

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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





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

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

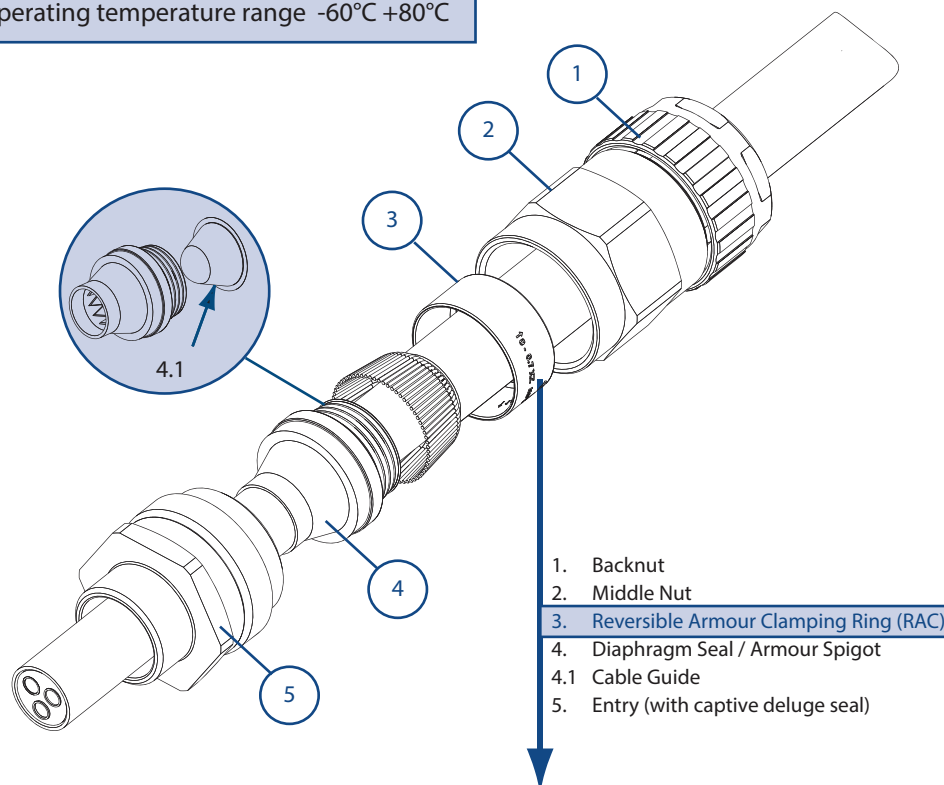
Cable Glands

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

HAWKE International

AI 300 / Issue U - 03/15

Operating temperature range -60°C +80°C

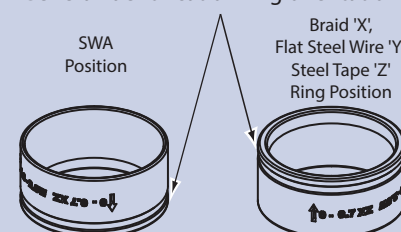


Certification Details

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)

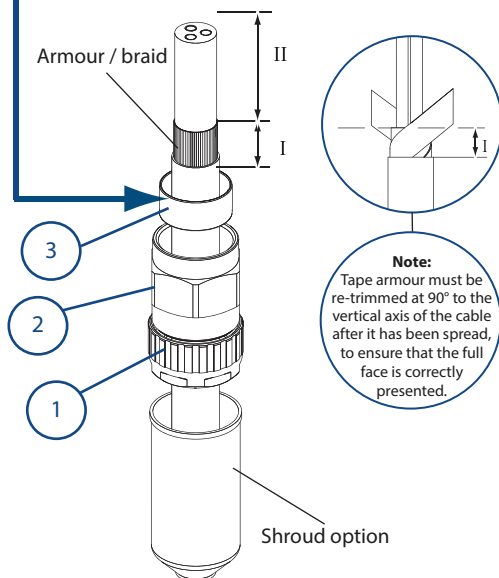
General identification ring orientation for:



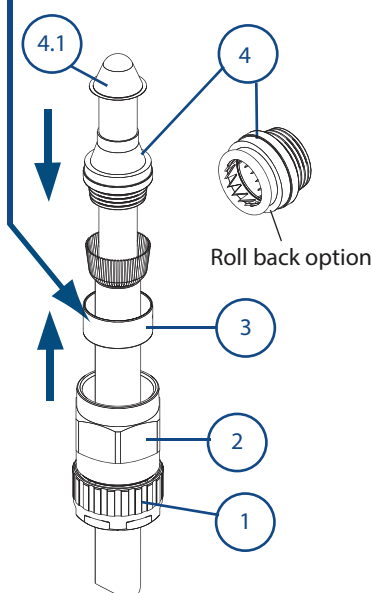
IMPORTANT: The arrowhead indicating the correct armour thickness or type should point towards the equipment

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

Cable Preparation



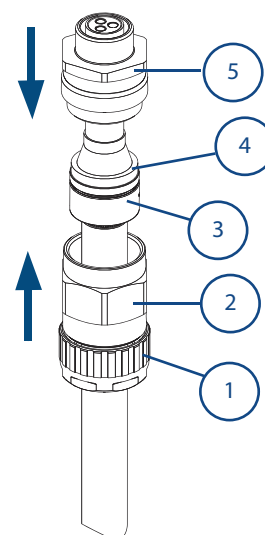
Gland Preparation



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.



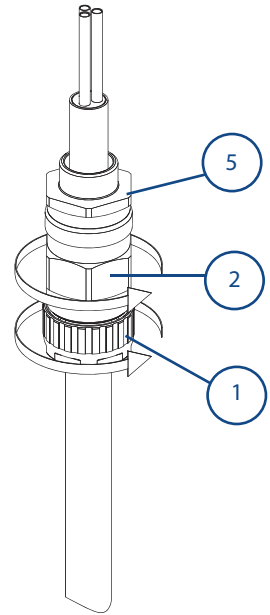
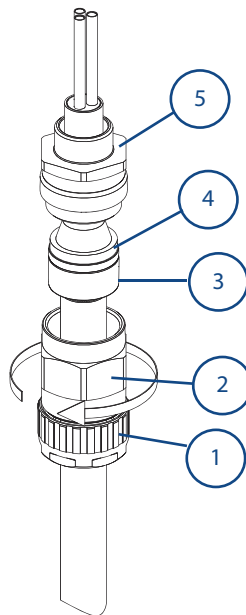
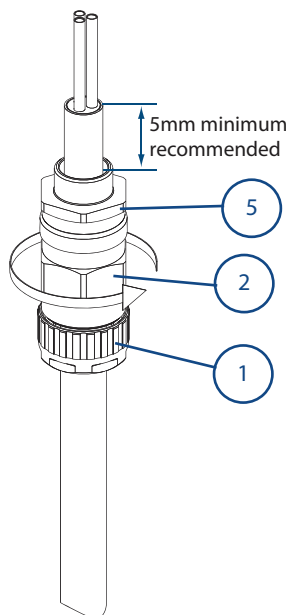
Connection Solutions

www.ehawke.com

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

UK Office
Oxford Street West,
Ashton-Under-Lyne,
Lancashire. OL7 0NA. UK
Sales: +44 (0) 161 830 6698
Technical: +44 (0) 161 830 6697
Fax: +44 (0) 161 830 6648
E-mail: sales@ehawke.com

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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												
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.



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: **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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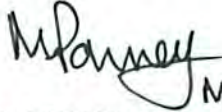
Baseefa Customer Reference No. **0500**

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



13

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.

This supplementary certificate shall be held with the original certificate.

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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
Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.


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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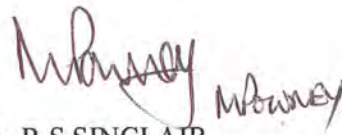
Baseefa Customer Reference No. **0500**

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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DIRECTOR
On behalf of
Baseefa



13

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.

This supplementary certificate shall be held with the original certificate.

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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.

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Baseefa Customer Reference No. **0500**

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

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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 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.

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Baseefa Customer Reference No. **0500**

Project File No. **11/0622**

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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.


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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.

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Baseefa Customer Reference No. **0500**

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

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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.


pp R S SINCLAIR M. POWNEY
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^o armour clamping components with 5^o 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

R S 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**

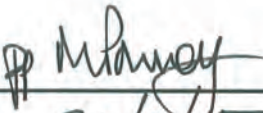
Marking: **Ex d IIC Ex e IIC Gb**
Ex tb IIIC Db IP66
(- 60°C ≤ta ≤+ 100°C) see schedule

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 :-

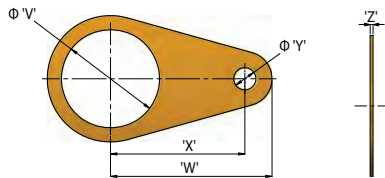
- a. An entry component, in the size range Os to F (M16 to M75)
- b. A compressible sealing ring
- c. A combined compression spigot and armour clamping cone
- d. A reversible armour clamping ring
- e. A middle nut
- f. An outer seal assembly (sleeve seal and support ring)
- g. A back nut
- h. An optional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

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

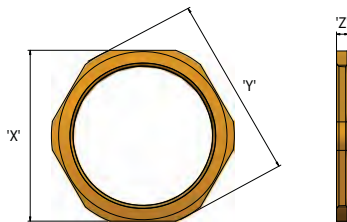
- Manufactured in Brass (standard).
- Stainless Steel earthtags are available, but dimensions may differ slightly to those stated in the selection table. Please contact Hawke Technical Sales for details.

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



**INSTALLATION OPERATION AND
MAINTENANCE INSTRUCTIONS FOR
HEATEX FAW, FAW-C, AND STW TYPE AIR
WARMERS, FCR TYPE CONVECTORS AND
HFT TYPE AIR THERMOSTATS**

**Please read these instructions thoroughly before installation and ensure they are
passed on to the end-user**

1.0 GENERAL

- 1.1 All work should be carried out by suitable qualified personnel.
- 1.2 Equipment must be handled with care and stored in dry conditions.
- 1.3 **CAUTION** - FCR convectors and airwarmers over 1m long are **HEAVY** and must be handled appropriately.
- 1.4 These heaters are designed for industrial use only and additional personnel protection against contact with hot surfaces may be required in some installations.
- 1.5 Carefully remove all protective packaging and visually inspect unit for any transit damage.
- 1.6 FAW and FAW-C - note that the heating elements should be parallel and equi-spaced within the guard.
- 1.7 Before connection ensure that the supply corresponds with that specified on the rating label.
- 1.8 Ensure that the sizes and types of cables to be used are suitably rated for the load and temperature of the unit.
- 1.9 Each heater must be protected by a suitably rated over current device.
- 1.10 All prevailing rules, regulations and bylaws in force at the time and place of installation must be observed.
- 1.11 The heater should be securely fixed in position and all terminal connections checked for tightness before energising.
- 1.12 Any modification not carried out by Heatex Limited or its approved agent will invalidate certification and warranty.

2.0 INSTALLATION

- 2.1 The installer or end user shall ensure that the unit has free and unrestricted airflow to allow natural convection to occur at all times. **DO NOT COVER OR REST ANYTHING ON THE HEATER.**
- 2.2 FAW and FAW-C heaters - at no time is the ambient temperature to be allowed to rise above 40° C (T3 & T4 rated units) or 60° C (T2 rated units). This shall be achieved by end user installation (suggested method – flameproof room thermostat – Heatex model HFT).
- 2.3 STW heaters may be regulated by a Heatex industrial thermostat (separate or integral).
- 2.4 Orientation of heater must be strictly adhered to ('TOP' label to be on top).
- 2.5 **WARNING** – air warmers must at no time be covered during operation, as this could lead to dangerous overheating and will invalidate the hazardous area certification.

3.0 ELECTRICAL SUPPLY CONNECTION

- 3.1 Please refer to the wiring diagram *figs 1 to 5*.
- 3.2 The cable entry is positioned on the side of the terminal box.

- 3.3 The cables must enter the FAW, FAW-C or FCR heater terminal box via a certified EEx e or EEx d cable gland (not supplied) and enter the HFT terminal box via a certified EEx d cable gland (not supplied) to suit the cable and be fitted by a qualified person.
- 3.4 The installer or end user must only connect to the Heatex supplied terminals within the terminal box - DO NOT connect to or disturb factory fitted heating element wiring.
- 3.5 HFT thermostats – the spigot flame path surfaces must be checked to ensure that they are undamaged and the ‘o’ ring must be fully located in its groove before re-fitting the cover.
- 3.6 The cover of the HFT terminal box is removed after releasing the 3 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.
- 3.7 After re-fitting, the gap between the cover and the body of the HFT terminal box must be checked to ensure that it does not exceed 0.15mm.

4.0 EARTH CONNECTION

- 4.1 The external earth connection (hazardous area units only) is located underneath the protective guard of the FAW, FAW-C and FCR in the same orientation as the elements and on the corner of the HFT terminal box.
- 4.2 The internal earth connection is to one end of the terminal rail (FAW and FAW-C) or via a pillar (STW and HFT) inside the terminal box.

5.0 OPERATION

- 5.1 Once energized the Air Warmer will continue to operate until de-energised by an external control device (available separately).
- 5.2 The FAW and FAW-C Air Warmers and FCR Convector are designed to operate in ambient temperatures of up to 40° C (T3 & T4 rated units) or 60° C (T2 rated units) and the user must ensure that this is not exceeded at any time.
- 5.3 The STW Air Warmers are designed to operate in ambient temperatures of up to 60°C. Where an integral adjustable thermostat is provided, this senses ambient air temperature. Rotate the control clockwise to increase the set-point or anticlockwise to reduce the set-point.
- 5.3 Where an integral adjustable thermostat is provided with the HFT, rotate the control clockwise to increase the set-point or anticlockwise to reduce the set-point.

6.0 MAINTENANCE

- 6.1 All prevailing site safety regulations shall be adhered to at all times.
- 6.2 Before and whilst any maintenance activity is carried out, it must be ensured that there are no hazardous gases present.
- 6.3 Equipment is to be fully isolated from the electrical supply before and whilst any work is being carried out.
- 6.4 Any damage or faults should be notified to Heatex Limited immediately.

- 6.5 Any replacement parts required must be obtained directly from Heatex. The use of any other parts will void any certification and warranty
- 6.6 For equipment certified for use in hazardous areas reference should be made to EN60079-17 (especially table 1) in addition to the following recommendations:

6.6.1 3 Monthly

- a. Generally inspect the equipment for external damage.
- b. Ensure that the spaces between the element fins remain clear and that the airflow remains unrestricted.

6.6.2 6 Monthly

- a. Isolate the electrical supply and remove the cover.
- b. Internals should be clean and dry.
- c. Ensure terminals are intact and secure.
- d. Heating element insulation resistance to be at least 2 megohm.
- e. Refit cover with new gasket or 'o' ring if required.
- f. HFT only – check the flamepath gap as 3.7 above.
- g. Earth continuity must be maintained between all points and the main structure.

6.6.2 Annually

- a. Carry out 3 monthly and 6 monthly check as above.
- b. Check for element failure or low insulation resistance.

- 6.7 FAW and FAW-C heaters - only Heatex Ltd or its approved agent to carry out heating element replacement otherwise the Hazardous Area certification will be invalidated.

- 6.8 If heaters are being left unused for a period greater than 3 months, carry out 6 monthly maintenance before energising.

7.0 Marking & certification reference

- 7.1 FAW, FAW-C and FCR

 II 2 G

EEx e II T(2, 3 or 4 depending on model)

LCIE 00 ATEX 6013 X

- 7.2 HFT

 II 2 G/D

EEx d IIC T6 IP6X T85°C

LCIE 99 ATEX 6017 X

Fig.1

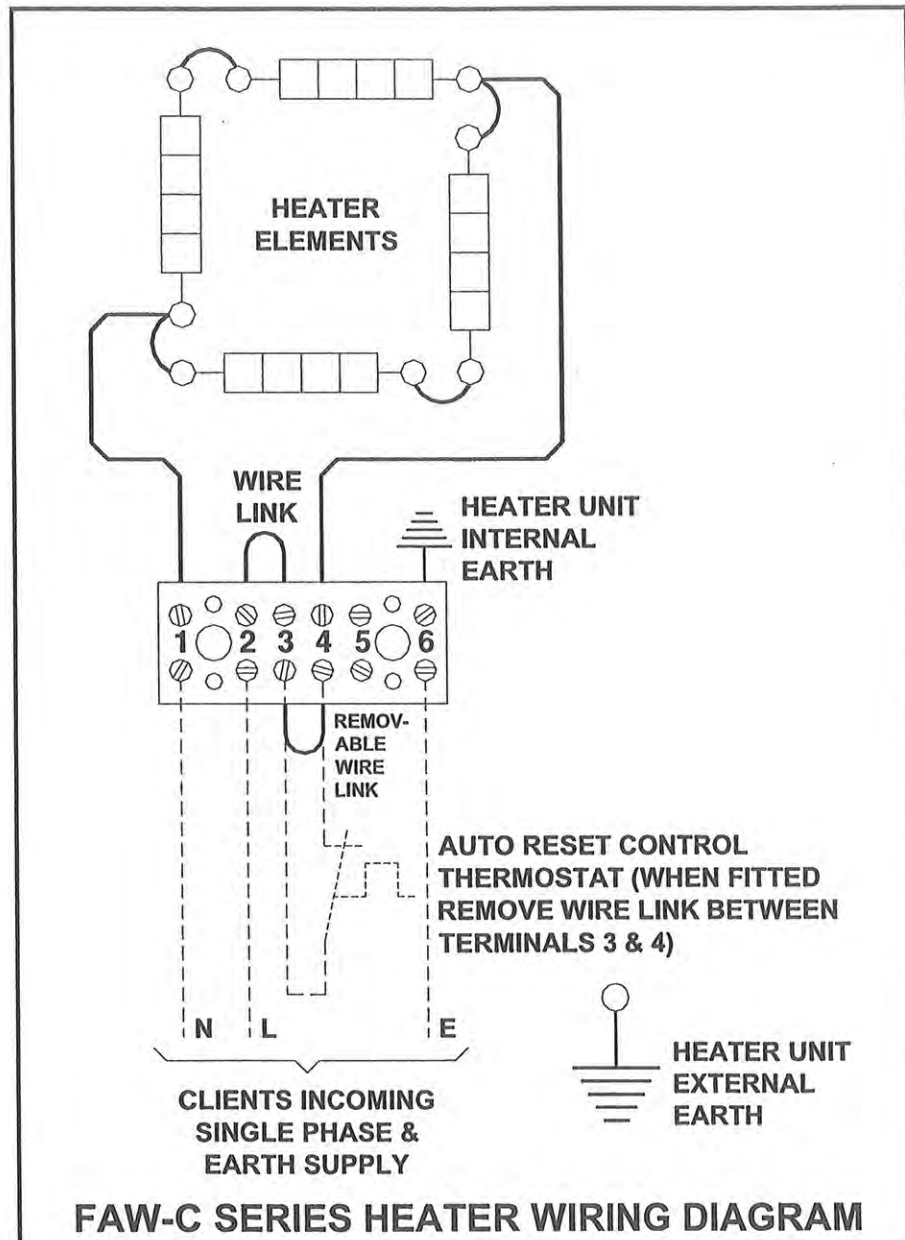


Fig 2.

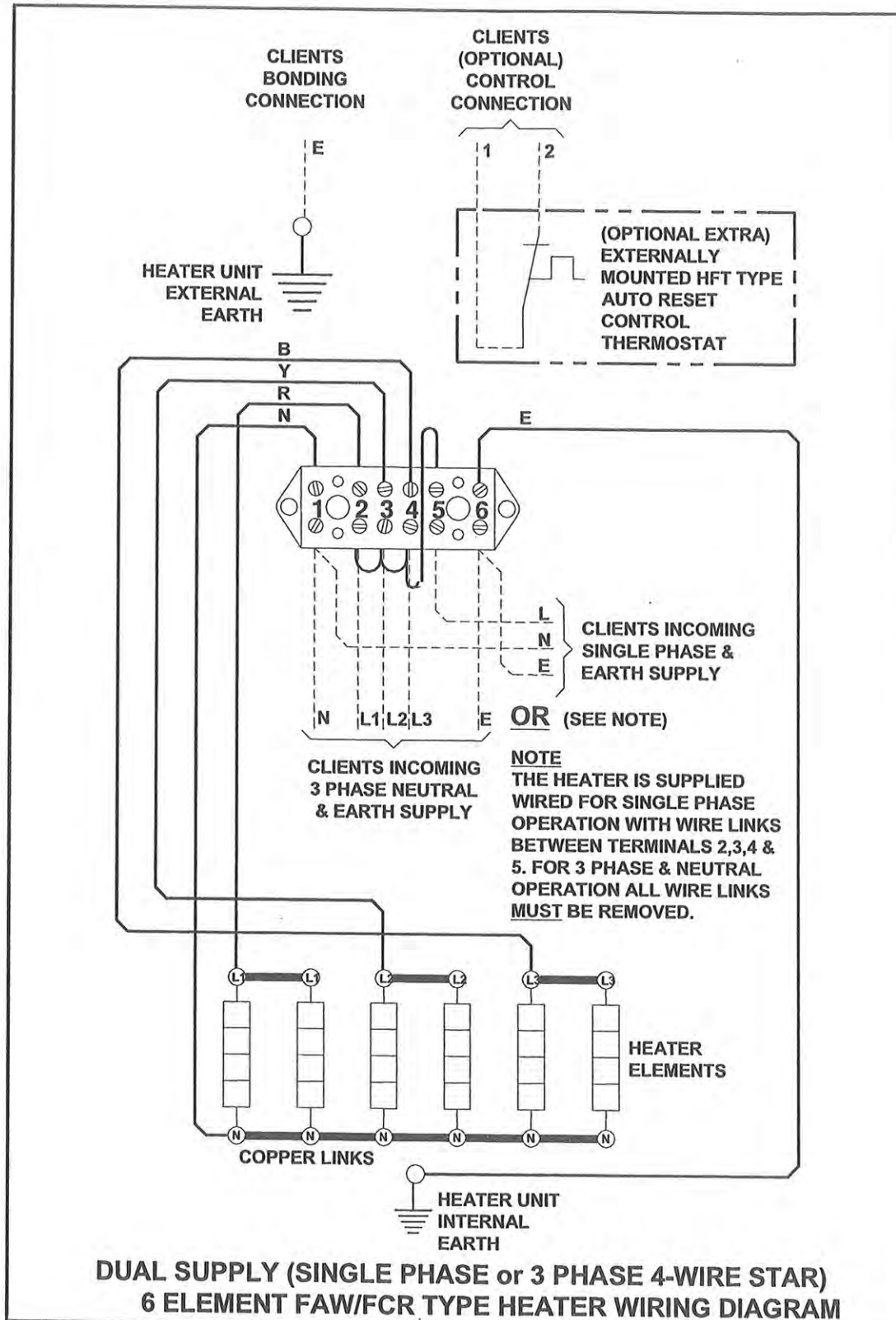


Fig 3.

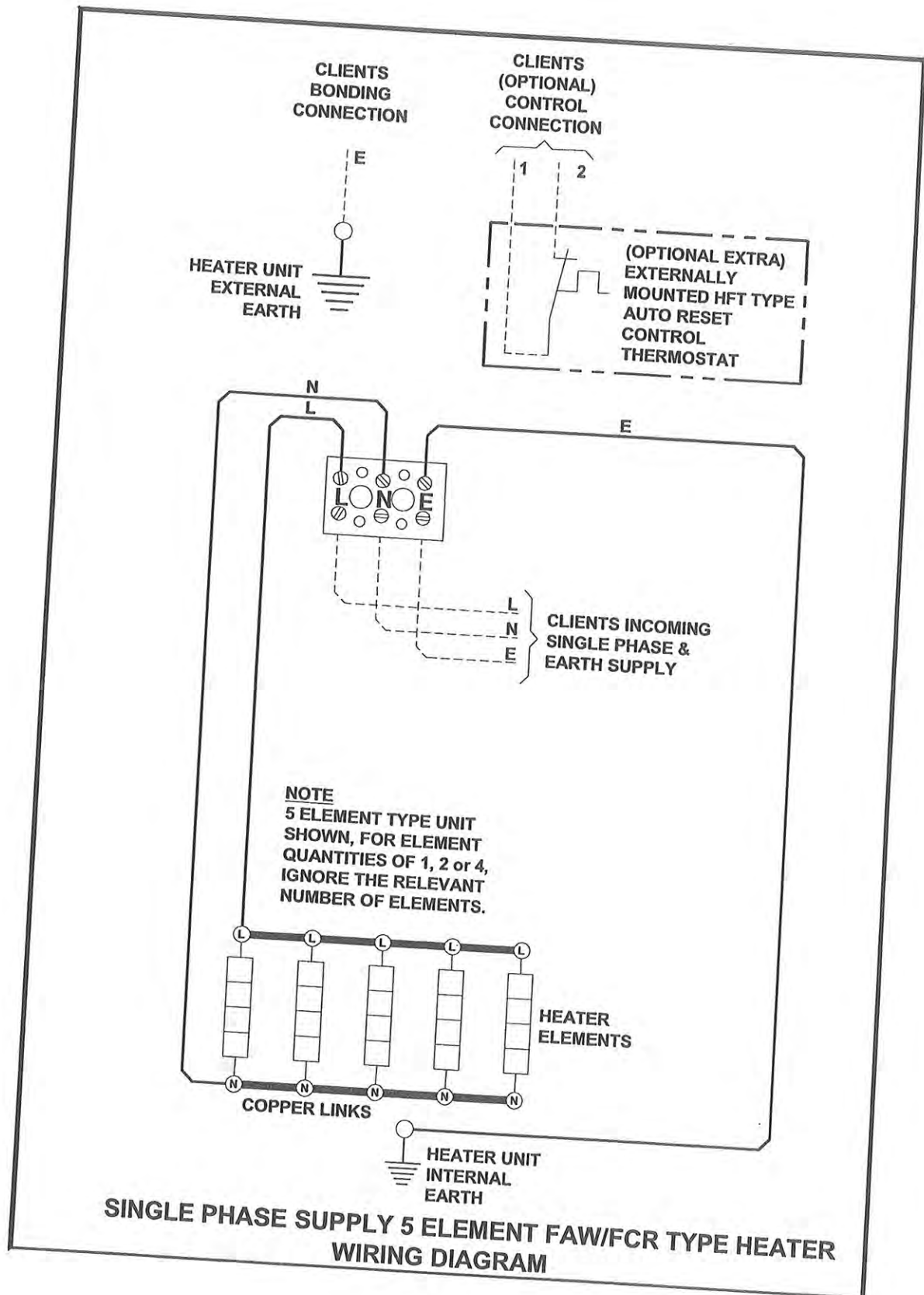


Fig 4.

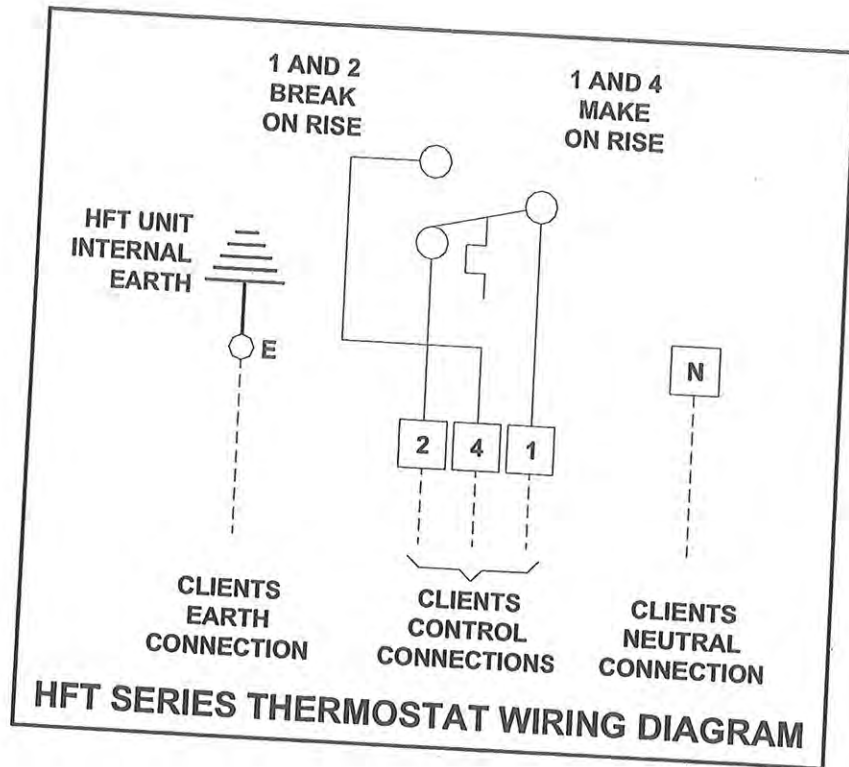


Fig 5.

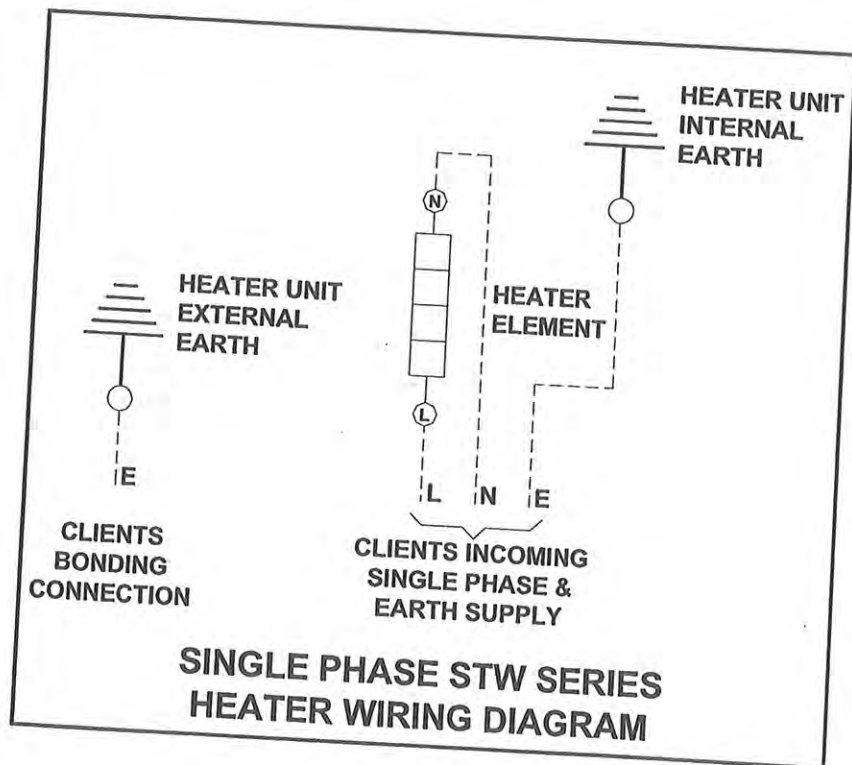
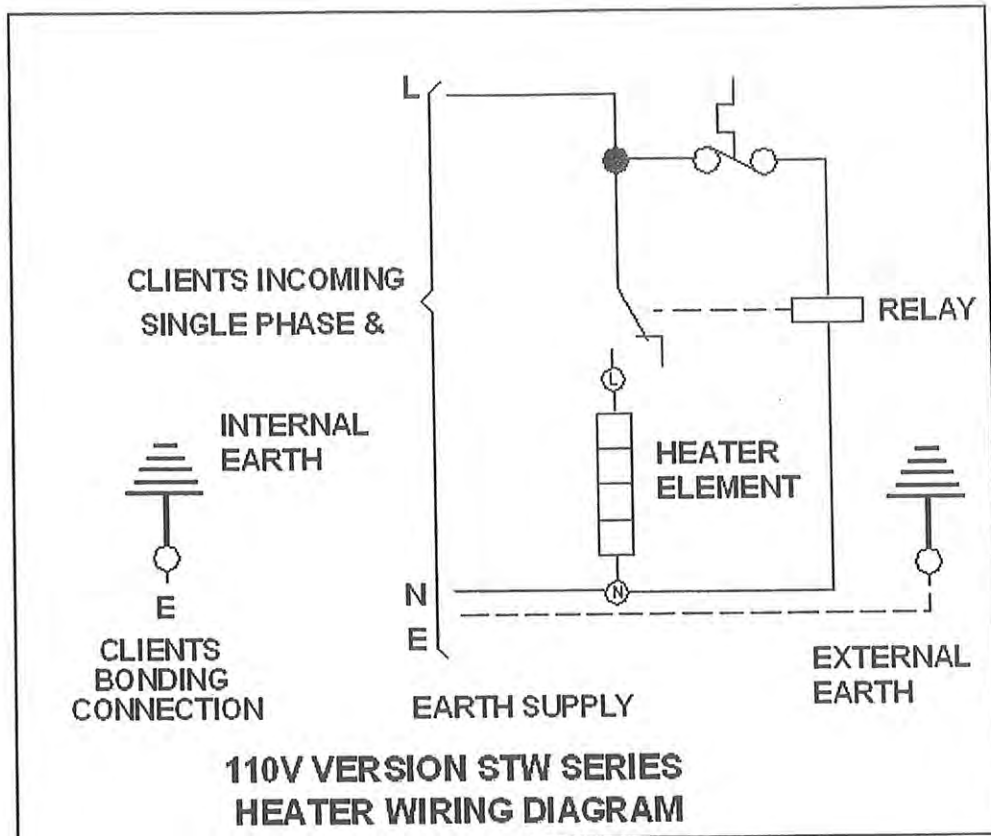


Fig 6.



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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

HEATEX LTD

Threxton Road Industrial Estate

Watton, Thetford, IP25 6NG

Tel: +44 (0)1953 886200

Fax: +44 (0)1953 886222

**For sales and new product information see our website
www.exheat.com**



73/23/EEC

89/336/EEC

94/9/EC (Excluding STW)

Stock Code S90.00.00.14

Issue F



(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



(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 SYSTÈME 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

(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

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LCIE 33 av. du Général Leclerc Tel : +33 1 40 95 60 60 Société Anonyme
Laboratoire Central BP 8 Fax : +33 1 40 95 80 56 au capital de 15 745 981 €
des Industries Electriques 92200 Fontenay-aux-Roses cedex contact@lcie.fr RCS Nanterre B 408 363 171
Une société de Bureau Veritas France www.lcie.fr

EC DECLARATION OF CONFORMITY

Issued in accordance with the

ATEX Directive 94/9/EC

HEATEX LIMITED

of

Threxton Road Industrial Estate, Watton, Norfolk, IP25 6NG, UK

Declare 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):	Increased Safety 'e'
Marking:	 II 2 G Ex e II T4 to T2
Harmonised standards applied:	EN 60079-0 (2006) EN 60079-7 (2003)
Other applicable Directives:	2006/95/EC Low Voltage Directive 89/336/EEC Electromagnetic Compatibility Directive (As amended by 92/31/EEC & 93/68/EEC)
Other standards applied:	EN 60519-2 (Safety) EN 61000-6-4 (Emissions) EN 61000-6-2 (Immunity)

Authorised signature:



Name:

R Whadcoat

Date:

9 May 2007



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

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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



(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
REQUIREMENTS :

Unchanged.

Fontenay-aux-Roses, le 30 septembre 2004

Le Directeur de l'organisme certificateur
Manager of the certification body

Michel BRÉNON

Timbre professionnel

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LCIE	35, av. du Général Leclerc	Tel. : +33 (0) 95 60 60	Société Anonyme
Laboratoire Central	BP 100	Fax : +33 (0) 95 80 56	au capital de 15 745 984 €
des Industries Electriques	92200 Fontenay-aux-Roses Cedex	contact@lcie.fr	RCS Nanterre B 408 563 171
Une société de Bureau Veritas	Page 1	www.lcie.fr	

EC DECLARATION OF CONFORMITY

Issued in accordance with the

ATEX Directive 94/9/EC

HEATEX LIMITED

of

Thrextton Road Industrial Estate, Watton, Norfolk, IP25 6NG, UK

Declare 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):	Increased Safety 'e'
Marking:	 II 2 G Ex e II T4 to T2
Harmonised standards applied:	EN 60079-0 (2006) EN 60079-7 (2003)
Other applicable Directives:	2006/95/EC Low Voltage Directive 89/336/EEC Electromagnetic Compatibility Directive (As amended by 92/31/EEC & 93/68/EEC)
Other standards applied:	EN 60519-2 (Safety) EN 61000-6-4 (Emissions) EN 61000-6-2 (Immunity)

Authorised signature:



Name:

R Whadcoat

Date:

9 May 2007



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



(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 :

(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 .

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.

(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 LCIE

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EC DECLARATION OF CONFORMITY

Issued in accordance with the

ATEX Directive 94/9/EC

HEATEX LIMITED

of

Thrextan Road Industrial Estate, Watton, Norfolk, IP25 6NG, UK.

Declare 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):	Increased Safety 'e'
Marking:	 II 2 G Ex e II T4 to T2
Harmonised standards applied:	EN 60079-0 (2006) EN 60079-7 (2003)
Other applicable Directives:	2006/95/EC Low Voltage Directive 89/336/EEC Electromagnetic Compatibility Directive (As amended by 92/31/EEC & 93/68/EEC)
Other standards applied:	EN 60519-2 (Safety) EN 61000-6-4 (Emissions) EN 61000-6-2 (Immunity)

Authorised signature:



Name: R Whadcoat

Date: 9 May 2007



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

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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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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

13-c



(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
		- 60 °C ≤ T _{amb} ≤ + 60°C	T2
	1,35 W/cm ²	- 60 °C ≤ T _{amb} ≤ + 40°C	T4
Compacte / Compact	1,1 W/cm ²	- 60 °C ≤ T _{amb} ≤ + 40°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

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LCIE	33, rue du Général Leclerc	Tel : +33 (0) 1 40 95 60 60	Société Anonyme
Laboratoire Central	BP 5	Fax : +33 (0) 1 40 95 86 56	au capital de 15 715 984 €
des Industries Electriques	11200 Fontenay-aux-Roses cedex	contact@licie.fr	RCS Nanterre B 408 364 171
Une société de Bureau Veritas	France	www.licie.fr	

EC DECLARATION OF CONFORMITY

Issued in accordance with the

ATEX Directive 94/9/EC

HEATEX LIMITED

of

Thrextan Road Industrial Estate, Watton, Norfolk, IP25 6NG, UK

Declare 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):	Increased Safety 'e'
Marking:	 II 2 G Ex e II T4 to T2
Harmonised standards applied:	EN 60079-0 (2006) EN 60079-7 (2003)
Other applicable Directives:	2006/95/EC Low Voltage Directive 89/336/EEC Electromagnetic Compatibility Directive (As amended by 92/31/EEC & 93/68/EEC)
Other standards applied:	EN 60519-2 (Safety) EN 61000-6-4 (Emissions) EN 61000-6-2 (Immunity)

Authorised signature:



Name:

R Whadcoat

Date:

9 May 2007

Certificate of Conformity

Batch Code: 24243

Item	Code	Description
1	S99000207	(S99000207) FAW 1000 Hazardous Area Air Warmer Rated 1KW on 240/415v 1/3ph 50hz : Floor Mounted : Dimensions 1221mm x 160mm x 186mm : Certified Ex 'e' II T3 Zone 1 or 2 IP67

TESTS

- 1 Resistance check within 7.5% of rated value.
- 2 High voltage flash test (cold) @ 1830 volts for 1 minute.
- 3 Insulation Resistance (cold) > 999M @ 500 volts D.C.
- 4 Earth Continuity Check
- 5 Dimensional Check
- 6 Hydraulic Pressure Test @ Bar.g for minutes.
- 7 Serial no's. 081041 to 081050.

"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 to the specifications and drawings thereto."

Signed:



For and on behalf of Heatex Ltd.

Date: 26/02/2008

EXHEAT LTD

Threxton Road Industrial Estate • Watton • Thetford • Norfolk • IP25 6NG • UK
Tel: +44 (0) 1953 886200 • Fax: +44 (0) 1953 886222 • Email: sales@heatex.co.uk • Web Site: www.exheat.com
Registered office: Dyke Beck House • Wymondham • Norfolk • NR18 9PL Registered in England 2624818

Certificate of Conformity

Batch Code: 23974

Item	Code	Description
2	S99000103	(S99000103) FAW 1000 /110/ T3 Hazardous Area Air Warmer Rated 1KW on 110v 1ph 50hz : Floor Mounted : Dimensions 1221mm x 160mm x 186mm : Certified Ex'e' II T3 Zone 1 or 2 IP67

TESTS

- 1 Resistance check within 7.5% of rated value.
- 2 High voltage flash test (cold) @ 1500 volts for 1 minute.
- 3 Insulation Resistance (cold) > 999M @ 500 volts D.C.
- 4 Earth Continuity Check
- 5 Dimensional Check
- 6 Hydraulic Pressure Test @ Bar.g for minutes.
- 7 Serial no's. 074994 to 074998.

"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 to the specifications and drawings thereto."

Signed:

For and on behalf of Heatex Ltd.

Date: 07/02/2008

EXHEAT LTD

Threxton Road Industrial Estate • Watton • Thetford • Norfolk • IP25 6NG • UK
Tel: +44 (0) 1953 886200 • Fax: +44 (0) 1953 886222 • Email: sales@heatex.co.uk • Web Site: www.exheat.com
Registered office: Dyke Beck House • Wymondham • Norfolk • NR18 9PL Registered in England 2624818



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

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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

Electrical Test Record

Test Ref No: W/09/114

WO021678 / N/A

Customer Name :

Customer ID :

Customer Reference :

Order Date: 12/06/2015

Item/Group	Qty	Description
S99000103 Ex e Hazardous Area Air	10.000	(S99000103) FAW 1000 /110/ T3 Hazardous Area Air Warmer Rated 1KW on 110v 1ph 50/60hz : Floor Mounted : Dimensions 1221mm x 160mm x 186mm : ATEX / IECEx Certified Ex II 2 G Ex'e' II T3 Gb Zone 1 & 2 IP67 Drawing 3010-01-01 & 3010-01-03 sht 2

Element assembly resistance: Phase to Neutral**Stage 1:** 12.1 TO 12.2 Ohms**Stage 3:** Ohms**Stage 2:** Ohms**Stage 4:** 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:** - 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: M Ohms

(500V dc test between all live points and earth)

Earth bonding resistance: Ohms**Thermostat and cutout continuity:** N/A**ACH circuit resistance:** Ohms**Temperature sensor readings:**(RTD/TC/Temperature Transmitter)

--

Heater Hydraulic test carried out @:**Bar G for:****minutes****Vessel Hydraulic test carried out @:****Bar G for:****minutes**

Comments

--

Tag Number:



Serial Number: 155033N TO 155042N

Name : Green Chris

Signed:

Date : 25/06/2015

For and On behalf of EXHEAT INDUSTRIAL LTD

EXHEAT INDUSTRIAL LTD

Threxton House, Threxton Road Industrial Estate, Watton, Norfolk, IP25 6NG

Tel: +44 (0)1953 886210 Fax: +44 (0) 1953 883853

Email: accounts@exheat.com

Web Site: www.exheat-industrial.com

Certificate of Conformity**WO021678 / N/A**

Customer Name :

Customer ID :

Customer Reference :

Order Date: 12/06/2015

Item/Group	Qty	Description
S99000103 Ex e Hazardous Area Air	10.000	(S99000103) FAW 1000 /110/ T3 Hazardous Area Air Warmer Rated 1KW on 110v 1ph 50/60hz : Floor Mounted : Dimensions 1221mm x 160mm x 186mm : ATEX / IECEx Certified Ex II 2 G Ex'e' II T3 Gb Zone 1 & 2 IP67 Drawing 3010-01-01 & 3010-01-03 sht 2

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. Dimensional Check.
6. Heater Hydraulic Pressure Test @ Bar G for minutes
7. Heater Pneumatic Pressure Test @ PSI for minutes
8. Vessel Pressure Test @ Bar G for minutes
9. Serial Number: 155033N TO 155042N
10. Tag Number:

"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 relevent thereto."



Name : Green Chris

Signed: 

Date : 25/06/2015

For and On behalf of EXHEAT INDUSTRIAL LTD

EXHEAT INDUSTRIAL LTD

Threxton House, Threxton Road Industrial Estate, Watton, Norfolk, IP25 6NG

Tel: +44 (0)1953 886210 Fax: +44 (0) 1953 883853

Email: accounts@exheat.com

Web Site: www.exheat-industrial.com



ELECTRICAL TEST RECORD

Test Procedure Ref No: WII/09/114

Client: Exheat

Order/Contract No:

Exheat Ref: WO008897

Project:

Quantity: 10

Equipment: FAW 1000/110/T3 Air wmr. 1kw 110v 1ph

Tag No:

Enclosure Serial No: 122471 to 122480

Element assembly resistance:	Stage 1:	12.5 to 12.6	Ohms.
Phase to Neutral	Stage 2:		Ohms.
	Stage 3:		Ohms.

Insulation resistance (cold): >999 M Ohms
(500V dc test between all live points and earth)

High voltage flash test: Elements 2000 Volts
(HV applied for 1 minute between all live points and earth)

Thermostat & ACH Circuit N/A Volts

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: <0.02 Ohms

Thermostat and cutout continuity: N/A

ACH circuit resistance: N/A Ohms

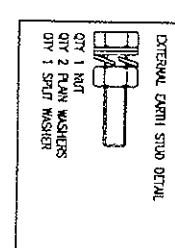
Temperature sensor readings: Tag no. °C
(RTD/TC/Temperature Transmitter)

Hydraulic Pressure test carried out @: Bar g for: Minutes.

Name: Nick Pettman

Signed:

Date: 05/04/2012



ELEMENT TAILS
CONNECTED BY
HEAD.

BUT WANTED POWER
POWER TERMINATION &
INTERNAL CABLE UP
TO 500V REFER TO
DATA SHEET
2006.17.50

CABLE ENTRY
(NOT SUPPLIED
SHIELD)

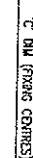
MAKEUP/LATE

WARNING LABEL "SQUATE
ELEMENTS"

WARNING LABEL ELECTROLYTE
CONNECTORS INSIDE DO

CE LABEL

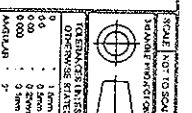
EXTENSIVE CABLE STUD DETAIL



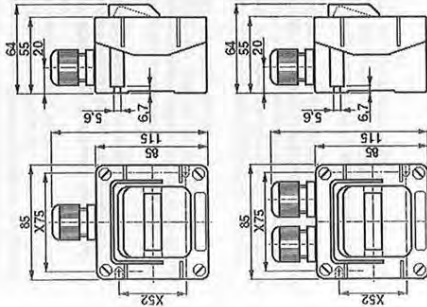
ITEM	MODEL	T-CLASS	WATTS	VOLTS	DIM A"	DIM B"	DIM C"	WEIGHT
1	FAM-250	T3	250	254	971	161	650	8kg
2a	FAM-500	T3	500	254	971	161	860	10kg
2b	FAM-500	T3	500	110	1741	272	1640	15kg
3	FAM-750	T3	750	254/440 or 110	971	161	860	12kg
4	FAM-1000	T3	1000	254/440 or 110	1225	161	1145	14kg
5	FAM-1500	T3	1500	254/440 or 110	1741	161	1640	20kg
6	FAM-2000	T3	2000	254 or 110	1741	272	1640	32kg
7	FAM-2500	T3	2500	254	1741	272	1640	38kg
8	FAM-3000	T3	3000	254/440	1741	272	1840	42kg
9	FAM-250	T4	250	254	1886	161	1784	13kg
10	FAM-500	T4	500	254	1886	181	1784	17kg
11	FAM-750	T4	750	254/440	1886	161	1784	21kg
12	FAM-1000	T4	1000	254	1886	272	1784	33kg
13	FAM-1250	T4	1250	254	1886	272	1784	38kg
14	FAM-1500	T4	1500	254/440	1886	272	1784	42kg

1. HEATING ELEMENTS :
UP TO 8 ELEMENTS MAXIMUM
- COMPONENT CERTIFIED Ex II
BASEEFA CERTIFICATE NO. EX 99030360
REFER TO DRAWING 3010.01.24 FOR DETAILS
MAXIMUM DISTANCE BETWEEN ELEMENT SUPPORTS - 800
2. CABLE ENTRIES :
EXHAUST TO DRILL CABLE ENTRIES PRIOR TO DELIVERY.
3. POWER TERMINATION :
CONNECTION IS MADE VIA A MAXIMUM OF 4 OFF (PLUS
EARTH) EX TERMINALS OR 1 OFF EX BLOCK (REFER TO
DATA SHEET 2000.17.80). ELEMENT PINS MAY BE LINKED
USING A 9.5mm SECTION COPPER LINKS. THESE LINKS ARE
LIMITED TO 28.9 A.
4. HEATER MOUNTING :
HEATER IS ORIENTATED FOR FLOOR MOUNTING BY
MANUFACTURER AND MUST BE USED IN DESIGNATED
ORIENTATION ONLY. FOR WALL MOUNTING T SHAPED
MOUNTING BRACKETS MUST BE USED.
5. MAXIMUM HEATER RATING :
4kW SINGLE OR POLYPHASE UP TO 660V
6. HEATER SPECIFICATION :
Exe II T3 INCREASED SAFETY HEATER
EN50014 & EN50019 1977
7. ELECTRICAL CLEARANCE :
10mm MINIMUM CLEARANCE DISTANCE SHALL BE
MAINTAINED BETWEEN LIVE CONDUCTING PARTS
AND LIVE CONDUCTING PARTS AND EARTHED METAL.
8. ASSOCIATED DRAWINGS :
NAME PLATE - 2000.17.41
SCHEDULE OF ROUTINE ELECTRICAL TESTS - 2000.17.8
FINAL INSPECTION TO WIN08/30
ADDITIONAL DATA SHEET - 2000.17.90
WIRING DIAGRAM - 3010.01.03
HEATING ELEMENT - 3010.01.04
ELEMENT SUPPORT DRAWING - 3010.01.94
TERMINAL BOX AND LID DRAWING - 3010.01.24
NAME PLATE DRAWING - 3010.01.41
GUARD & BOX ASSEMBLY DRAWING - 3010.02.91
GUARD DETAIL DRAWING - 3010.01.93
COVER GASKET SIZE 1 - 3010.01.96
COVER GASKET SIZE 2 - 3010.01.97
TOP DO NOT COVER LABEL DRAWING - 3010.01.99

HARVEST CLASSIFICATION AND WEIGHT CLASSIFICATION OF THE VARIETY		OTHER INDIQUE ATTRIBUTES IDENTIFIED BY THE VARIETY SPECIAL INQUIRY		1-12. SECOND INQUIRY NOT IDENTIFIED BY THE VARIETY	
1	2	3	4	5	6
UNCLASSIFIED TO SUBVARIETY		7	LINE UPWARD	8	9
14.02.17	K	07/00/08	K	K	K
10-11. FIRST AND SECOND COUNTRY AND COUNTRY CODE		10	COUNTRY	11	12
23/10/87	K	K	K	K	K
DATE	SPINNING	DATE	SPINNING	DATE	SPINNING

[illegible]

Dimensions in mm



X = Fixing dimensions

1 Technical data

Marking acc. to 94/9/EC and Directive:	II 2 G Ex II C T6
EC type examination certificate:	II 2 D Ex II 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
Speed versions permit dividing temperature ranges	
Permit. storage temperature in original packing:	-20° C up to +40° C (catalogue version)
Protection category acc. to EN/IEC 60529:	-40° C bis +80° C
Insulation class acc. to EN/IEC 61140:	IP 66 (catalogue version)
Cable entry (catalogue version):	1 - 8 (complied with by the installation switches)
Supply terminal:	1x M25 or 2x M25 (Ø 8 - 17mm)
PE - terminal:	2x drilling M20
Test torques:	4x 1.5 - 2.5 mm²
Cap nut of the M25 entry	3.5 Nm
Cover screws	2.0 Nm
Terminals	2.5 Nm
Weight (catalogue version):	approx. 0.32 kg

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.

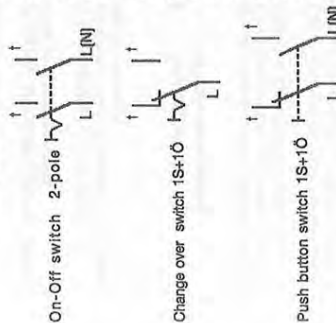
The requirements of the EN 61241-0 and -1 regarding excessive dust deposits and temperature to be considered from the user.

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).

Fig. 1

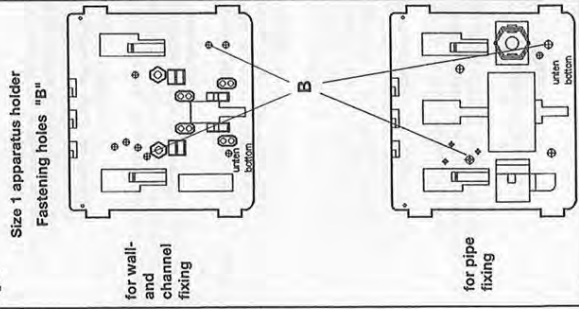
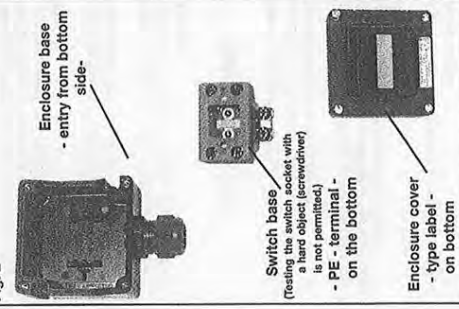
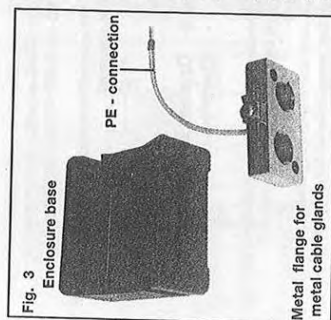


Fig. 2





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; CIMDEL), 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.



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

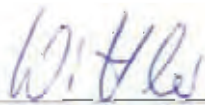
(17) Special conditions for safe use

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

Signed: Dr. Eickhoff

Certification body

Special services unit

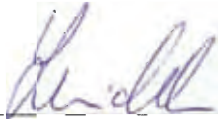
We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

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

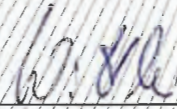
The lighting fixtures that contain luminaires of 38 mm diameter can only be used in special conditions (mechanically protected mounting of the fixture) and are marked accordingly. In areas with excess condensation of paint spray or dirt a protective foil type "SLIME", manufactured by 3M, may be used 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

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.



(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



(13)

SCHEDULE

(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

M 20 x 1,5

M 25 x 1,5

M 32 x 1,5

M 40 x 1,5

M 50 x 1,5

M 63 x 1,5

to be used for cable and conduit diameters

from 8,0 mm to 13,0 mm

from 11,0 mm to 16,0 mm

from 15,0 mm to 20,0 mm

from 19,0 mm to 27,0 mm

from 28,0 mm to 34,0 mm

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

Braunschweig und Berlin

SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 3121

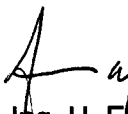
(18) Essential health and safety requirements

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

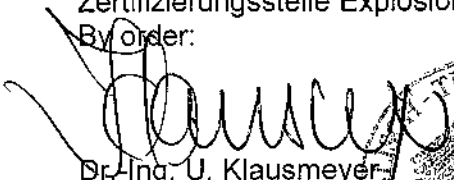
The notes for manufacturing and operation equally apply to this supplement.

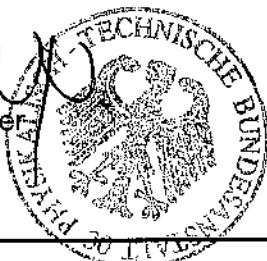
Test report: PTB Ex 04-14028

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.

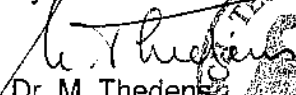
Applied standards

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

Junction Box Certificates

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

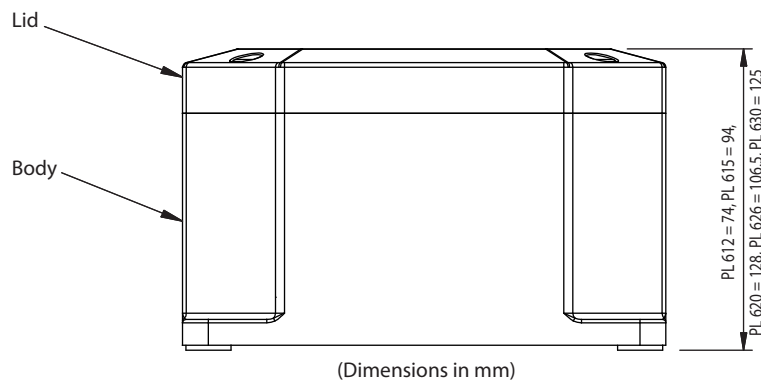
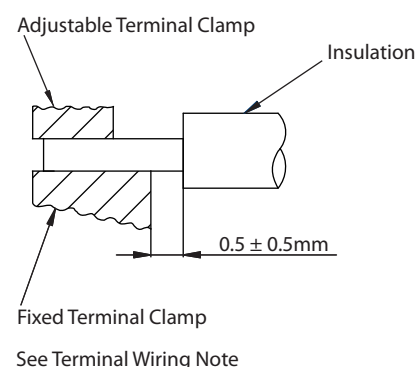
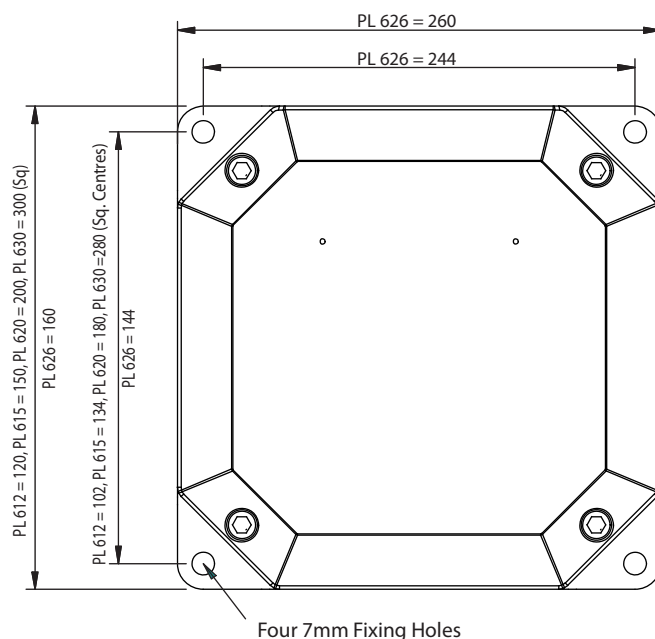
Certification Details

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***	T*	T**	T***	T*	T**	T***	T*	T**	T***	T*	T**	T***	T*		T**	T***
	T6	80°C	-60°C +40°C	T6	80°C	-60°C +55°C	T6	80°C	-60°C +65°C	T5	80°C	-60°C +40°C	T5	80°C	-60°C +55°C	T5		80°C	-60°C +65°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

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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

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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.



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 _{rating}	T _{rating}	T _{rating}	T _{rating}	T _{rating}	T _{rating}	T _{rating}	T _{rating}	T _{rating}	T _{rating}	T _{rating}	T _{rating}	T _{rating}	T _{rating}	T _{rating}	T _{rating}	T _{rating}		
	T ₆	80°C	-60/+40°C	T ₆	80°C	-60/+55°C	T ₆	80°C	-60/+65°C	T ₅	80°C	-60/+40°C	T ₅	80°C	-60/+55°C	T ₅	80°C	-60/+85°C	
PL612		4.1			2.5			1.5			5.6			4.1			3.0		0.127
PL615		5.4			4.0			2.4			8.8			5.4			4.8		0.175
PL620		11.4			7.1			4.2			15.6			11.4			8.5		0.240
PL628		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

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



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



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: **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
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/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



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: **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 IIIC 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
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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 IIIC 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**

This document is issued by the Company subject to its General Conditions for Certification Services accessible at <http://www.sgs.com/cn/Tcrms-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

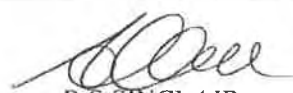
Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ

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


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

BOX TYPE	Maximum Power Dissipation (Watts)																		Max. Cable Length per Terminal (M)
	T _{amb} T6	T _{amb} 80°C	T _{amb} -60 +40°C	T _{amb} T6	T _{amb} 80°C	T _{amb} -60 +55°C	T _{amb} T6	T _{amb} 80°C	T _{amb} -60 +55°C	T _{amb} 15	T _{amb} 80°C	T _{amb} -60 +30°C	T _{amb} 15	T _{amb} 80°C	T _{amb} -60 +55°C	T _{amb} T5	T _{amb} 80°C	T _{amb} -60 +65°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

Plug and Socket Certificates



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: **Baseefa12ATEX0095X**
- 4 Equipment or Protective System: **Type 375 Range of Stopping Plugs**
- 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, 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**
- 9 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.
- 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 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.

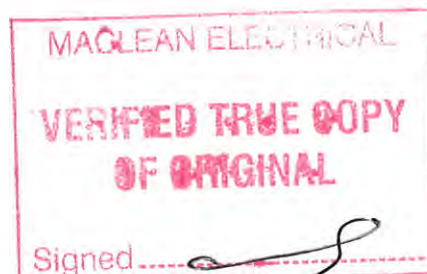
19 Drawings and Documents

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.

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.

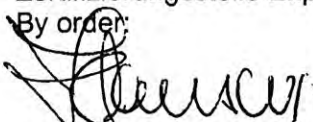
(12) The marking of the equipment shall include the following:

 **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

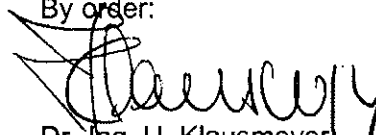
not applicable

(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.

Physikalisch-Technische Bundesanstalt • Bundesallee 100 • D-38116 Braunschweig

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.

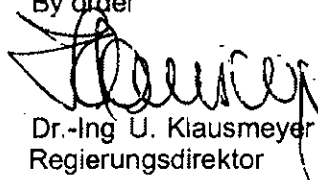
Rated frequency	up to	400 Hz
Rated cross-section	max.	2.5 mm ² finely stranded
		4 mm ² stranded
Ambient temperature		-55 °C to 55 °C

Test report: PTB Ex 00-19253

Zertifizierungsstelle Explosionsschutz

By order

Braunschweig, January 15, 2001


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.

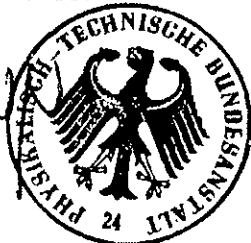
Test report: PTB Ex 02-11086

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

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Electrical data

$\text{sup } \text{formax} = \text{SEON}' \wedge C' / \text{SEON} \cap C$
 $\text{SEON} \cap \text{formax} = \text{SEON}' = CC$

Radio frequency: $f_{RF} = 517500 \text{ Hz}$
isochronal version: $= 4000 \text{ Hz}$

Wind action size: $pl_{1g} = up to 2.5 mm^2$
 ice action size: $pl_{ice} = up to 4 mm^2$

Plug-and-socket system type: CHGENT, 5-year (3-pole + N + PE)

Platex Wolfmanex up to 500W/240

Rated current: up to 15/2 DA

Switching to dependency AWC-3. up to 1 EA

Plug and socket system, type CHC-H-1, 4-core (C-P-B-N-PB)

Rating: Violence up to 600,000

Ratio: current: 100 to 1000 A.

Startleblinding equipment: the AC-3 unit to 73A

Pin and socket system, type G-H-I, 3-coat (1-pole # 2 - PD)

Patterson Co. Inc. WFO to 2:30 PM WFO

Patient's name _____ who do "M/D" A.

See following regarding AIC-300 and the 7E A.

Plug-and-socket system J-code, type G/G 5113

Ref: 60-10879
Re: JAMES EARL RAY

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED
DATE 5-27-82 BY SP-4 DCD/STW

Postlet's curriculum was the same as the curriculum of the other schools.

Switching capacity: AC-30 with the 75A

Something explicitly, Doc-~ wic to ~E A.

Switching capacity: DOC-110 up to 100 A.

Plug-and-socket system 2-core, type G1-C 513; ..

Rated voltage: 51W 4.0 H DC

Rated current up to 15/20A.

Switching capacity, A/C-E: 100 to 120 A

Symbolic capacity, DCC-1, with 75 A.

Switching capacity, DCC-7 is: up to 10 A.

Transmission charge, type G-1-G-33 II, 4-pole, 7-pole, etc.

Rated voltage: _____ from any _____ up to _____ AC.

12V 2.4A 36V 2.4A 230V

2:00 PM 6EVA

01.1 Type code

Type:	GHG 51	R
Type =	GHG 51, 16A/20A	
Current & voltage		
1 =	16 A 110 V - 600 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 *

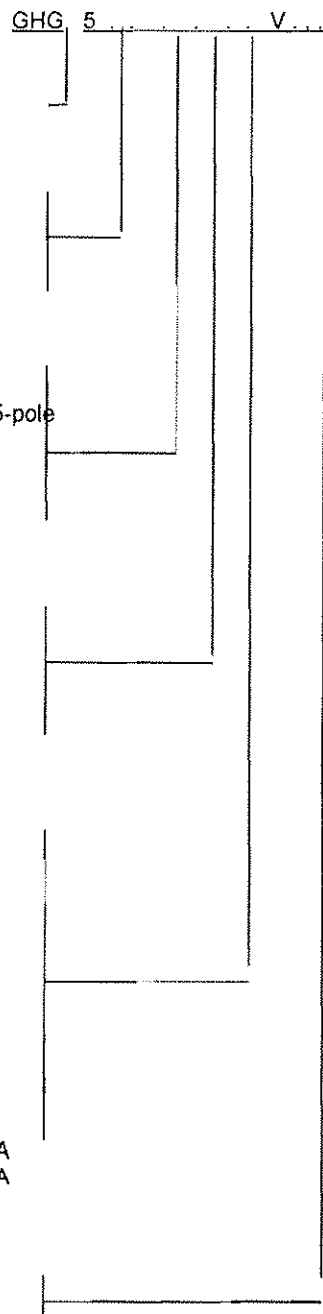
36 = 6h fused plug 6.3 A

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

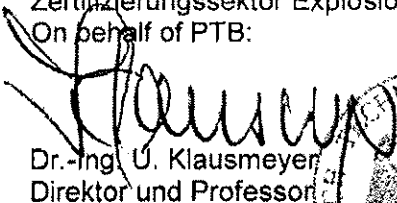
With the application of the above standards, the marking changes to:

 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: 3.5-3536 /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).

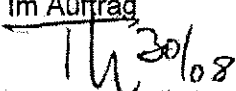
The signal lamp optionally fulfills one of the two following functions: one is as an operating control lamp for the On / Off - function display, the other as a standby indicating signal if there is voltage on the socket switch.

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

Eexd Enclosure Certificates

Customer : Blue Manta International Ltd
Purchase Order No : 0000013039
Project Reference : Q2014101
Serial No : 20141-2



PDC | Systems Limited

Electrical and Instrumentation Systems,
Project Design, Manufacture and Installation

Scarborough House
Craigearn Business Park
Morrison Way
Kintore
Aberdeenshire
United Kingdom
AB51 0TH

Tel: +44(0)1467 633355 Fax: +44(0)1467 632440
www.pdcsystems.co.uk

Exd Rated DB Panel

ATEX-IECEX Approved

Contents



Section	Description
1	Enclosure Installation & Safety Instructions
2	Certificate of Conformity
3	CE Declaration of Conformity
4	Quality Test Certificate
5	Drawings : CPFG Panel • General Arrangement • Bill of Materials
6	ATEX Certification/IECEX Certification

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Company Registered No:- SC400732

Scarborough House
Craigearn Business Park
Morrison Way
Kintore
Aberdeenshire
AB51 0TH

Tel: +44 (0)1467 633355
Fax: +44 (0)1467 632440
Mobile: 07850 796037
Home: +44 (0)1467 622965

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Enclosure Installation and Safety Instructions



Equipment : Enclosures, Switchgears and Rack Assemblies for Hazardous Areas.

Series : EJB

Note : Please read these instructions carefully before installing, taking into operation and maintaining this equipment.

Safety Notice : The Enclosures covered by this operating instructions are cast during manufacture and are to be considered as heavy, care is to be taken whilst handling or installing enclosures.

Reference to material handling and lifting is the responsibility of the personnel handling the enclosures.

Contents:-

1. Safety instructions
2. Conformity with Standards
3. Technical Data
4. Installation
5. Taking into Operation
6. Maintenance

1. Safety Instructions

These operating instructions shall not be kept inside the enclosures during operations.

Unauthorised Changes of the Design and Modifications to the Enclosures are **NOT** permitted.

Whilst undertaking any servicing on the equipment enclosures, switchgear or rack assemblies, the National Safety rules and regulations for Prevention of Accidents have to be observed as well as the Safety Instructions Included in these operating instructions and set in Italics the same as this text!

These enclosures are suitable for use in Zone I and Zone II hazardous areas acc. To IEC 60079-17.

Not to be used in Zone 0!

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Scarborough House
Craigearn Business Park
Morrison Way
Kintore
Aberdeenshire
AB51 0TH

Tel: +44 (0)1467 633355
Fax: +44 (0)1467 632440
Mobile: 07850 796037
Home: +44 (0)1467 622965

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2. Conformity with Standards

Compliance with the Essential Health & Safety Requirements has been assured by compliance with the following standards :

BS EN 60079-0:2012 (IEC 60079-0:2007)

BS EN 60079-1:2007 (IEC 60079-1:2007)

BS EN 60079-11:2012 (IEC 60079-11:2006)

It also complies with the EC Directive for "Apparatus and protective systems for use in explosive atmospheres" (94/9/EC)

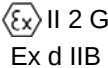
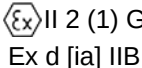
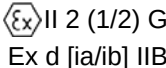
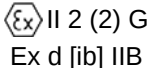
It has been designed, manufactured and tested in accordance to the state of the art and according to EN29001 (ISO9001)

This apparatus is suitable for use in explosive atmospheres, Zone 1 & Zone 2 according to IEC60079-10

3. Technical Data

These enclosures can include the following:

Bus –Bar	Control & Operation Circuits
Terminals	Servomotors without ventilation
Low Voltage Transformers	Starters & Ballasts for Discharge Lamps
Air Circuit Breakers	Electronic Apparatus
Automatic Circuit Breakers	Associated Intrinsic Safety Apparatus

Protection Mode	 II 2 G Ex d IIB	 II 2 (1) G Ex d [ia] IIB	 II 2 (1/2) G Ex d [ia/ib] IIB	 II 2 (2) G Ex d [ib] IIB
Thermal Class	According to power dissipation of the internal components, see label in the supplied equipment.			
Protection	IP65 acc. EN60529			
Certificate of conformity	LOM 03ATEX2046 X The mark X indicates that the equipment or protective system is subject to special conditions for safe use. (See Certificate)			
Ambient Temperature	-20 to +55°C			
Storage Temperature In original packing	-40 to +60°C			
Rated Voltage	< 750V			
Rated Current	< 1200A			
Material	Copper Free Aluminium Coated in Grey Epoxy Double Component			
Cable Entries	Up to M100 according to needs, different types of threads according to needs.			

Only Ex d IIB minimum certified cable glands or seals suitable for the kind of cable, to be used for handling and installing these accessories, instructions supplied by manufacture must be followed.

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Scarborough House
Craigearn Business Park
Morrison Way
Kintore
Aberdeenshire
AB51 0TH

Tel: +44 (0)1467 633355
Fax: +44 (0)1467 632440
Mobile: 07850 796037
Home: +44 (0)1467 622965

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4. Installation

When mounting and operating electrical apparatus for hazardous areas, the relevant national regulations as well as the general rules of engineering will have to be observed.

Transport and store in original packing only.

Opening and closing of enclosures

The opening of enclosures shall always be without Voltage.

To slacken or tighten the stainless steel screws of the cover with a torque as follows: - M6=9,9Nm, M8=24Nm and M10=30Nm.

Cable entries

To mount the cable glands or seals selected according to the kind and size of the feeding cable, the instructions supplied by the manufacturer must be followed.

Unused cable entries have to be closed by an Ex d IIB minimum certified plug, which has to be installed according to the manufacturer instructions.

Main Connection

Connect in accordance with the technical documentation of the supplied equipment.

5. Taking into Operation

Prior to operation, check the equipment enclosure, switchgear or rack assembly for its proper functioning and electrical installation 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 1 kV AC/DC Max

Terminal insulation 5MΩ

Then the enclosures have to be tightly closed.

6. Maintenance

The user is responsible for the luminaire safe use (applies to luminaries only)

The national regulations applicable to the maintenance test and repairing of the apparatus for hazardous areas and the general rules of engineering will have to be observed.

Maintenance

The enclosure shall be maintained at regular intervals in accordance with the national regulations. It is recommended to establish an inspection plan in accordance with IEC 60079-17.

During inspection the parts of protection mode must be inspected with special attention.

-do the body, covers and windows have cracks or damages?

-Ensure that the flange flameproof joint is clean, greased and free from damage and/or corrosion.

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Scarborough House
Craighearn Business Park
Morrison Way
Kintore
Aberdeenshire
AB51 0TH

Tel: +44 (0)1467 633355
Fax: +44 (0)1467 632440
Mobile: 07850 796037
Home: +44 (0)1467 622965

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-Ensure that there is no corrosion on the threads in the cable entries.

-Ensure that all the cable entries, blanking plugs and terminals are well tightened and free from damage and/or corrosion.

Flameproof joints have to be permanently greased in order to ensure their protection against corrosion, water tightness and blocking problems.

To clean remains of grease and corrosion without using sharp metallic tools (these can damage the joint surface) and to grease with greases thermally and chemically stable with drop point >200 Deg C.

I.e. MOLYKOTE BR2 Plus by Dow Corning.

If interstice of flange flameproof joint is higher the 0,2mm the equipment has to be sent to the factory for repairing.

The reparation of the glass seal has to be done by manufacturer. User is unauthorised for replacing this kind of glass-seal.

When enclosure requires repainting, you will have to be careful to ensure that the flameproof joints are completely free from paint.

Inspection

To observe the national regulations. The tasks of inspection must be done by qualified personnel.

Repair

For any equipment reparation use original spare parts from manufacturer.

To observe the national regulations. The tasks of reparation must be done by qualified personnel.

In case of doubt check with the technical services of PDC Systems, or CEAG Nortem.

Spare Parts and Accessories.

-Stainless steel screw	M6 x 15 - DIN933,	ref 502112911
	M8 x 20 - DIN933,	ref 444112203
	M10 x 35 DIN933,	ref 501112237
-Hinge Screw,		ref 111117198
-Grease – Molykote BR2 Plus (100g)		ref BR2

Fig1

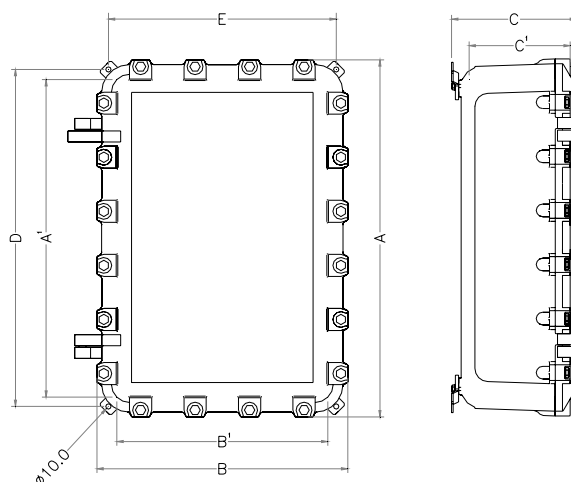
Enclosure Type	External Dimension's			Internal Dimension's			Fixings		Weight
	A	B	C	A ¹	B ¹	C ¹	D	E	
EJB 12 R	215	131	102	178	89	57	242	188	3,00
EJB 12 A	215	131	162	178	89	110	242	188	3,60
EJB 14 R	412	150	143	358	103	85	436	178	8.30
EJB 23 R	336	217	212	276	163	152	316	202	11,00
EJB 110	373	373	230	305	305	162	310	310	22,00
EJB 120	474	373	230	405	305	162	414	310	28.50
EJB 121	474	373	295	405	305	235	414	310	32,00
EJB 130	577	373	230	518	305	162	520	310	35,30
EJB 131	577	373	295	518	305	235	520	310	39,00
EJB 240	680	474	230	619	405	162	624	414	53,20
EJB 241	680	474	295	619	405	235	624	414	58,80

EJB 241 M1 with transparent window cover Dimension's 230 x 255

EJB 241 M2 with transparent window cover Dimension's 465 x 255

EJB 120 M3 with transparent window cover Dimension's 110 x 75

EJB 120 M4 with transparent window cover Dimension's 180 x 140



Document No:- PDC-010 (Enclosure Installation Safety)
 Date:- 01/12/2011
 Revision:- 03

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Company Registered No:- SC400732

Scarborough House
 Craighearn Business Park
 Morrison Way
 Kintore
 Aberdeenshire
 AB51 0TH

Tel: +44 (0)1467 633355
 Fax: +44 (0)1467 632440
 Mobile: 07850 796037
 Home: +44 (0)1467 622965

VAT Registered Number:- 115 1685 31
 PDC-Safety-Rev 01

Certificate of Conformity



Combined Pressurisation, Fire & Gas Panel

Serial No: - 20141-2

Date	14/02/13
Contract Reference	Q2014101
Customer	Blue Manta International Ltd
Client Purchase Order	0000013039
Location	Dyce
PDC Systems Serial No.	20141-2
CEAG Reference	29870919-008
Equipment	As Detailed Within This Manual
Products Supplied	Refer to Section 'Bill of Materials'
Certificates of Conformity	Refer to Section 'Certificates of Conformity'

PDC Systems Ltd. hereby certifies that all material and equipment furnished on the subject's order(s) are in conformance with applicable specifications as outlined in your purchase order(s), as agreed, by **PDC Systems Ltd.** All material used in the construction of the equipment in question is new and not used, and its quality is in accordance with mutually accepted specifications.

Further all material and equipment have been subjected to and passed the original equipment manufacturers standard inspection and performance tests, in addition to Factory Acceptance Testing, carried out to **PDC Systems Ltd** Standard Tests.

Richard Cowling,
Manager.



PDC Systems Limited
Electrical & Instrumentation Systems,
Project Design, Management,
Manufacture and Installation.

Company Registered No:- SC400732

Scarborough House
Craigearn Business Park
Morrison Way
Kintore
Aberdeenshire
AB51 0TH

Tel: +44 (0)1467 633355
Fax: +44 (0)1467 632440
Mobile: +44 (0)7850 796037
Home: +44 (0)1467 622965

VAT Registered Number:- 115 1685 31

Declaration of Conformity - CE

CE - Declaración de conformidad

CE - Déclaration de conformité

EG - Konformitätserklärung

SIRA 10ATEX1239X



We	PDC Systems Ltd Scarborough House, Craigearn Business Park Morrison Way Kintore, Aberdeenshire AB51 0TH, UK
-----------	---

Hereby declare in our sole responsibility,
that the product:

(EJB 12A) II 2 G Exd IIB T6
(Serial No:- 20141-2)

Notified Body - Notification Number
Address

SIRA 0518 - SIRA 03 ATEX M269
Rake Lane, Eccleston, Chester, CH4 9JN. UK.

Which is the subject of this declaration, is in conformity with the following standards or
normative documents:

Terms of the directive

**Title and/or No. And date of issue of the
standards**

Which is the subject of this declaration, is in
conformity with the following standards or
normative documents:

94/9/CE: and EMC Directive 2004/108/EC

EN 60079-0:2012

**Equipment and protective systems intended
for use in potentially explosive atmospheres**

EN 60079-1:2007

EN 60079-11:2012

Kintore : 14th February 2013	R. Cowling	P. Cowling
Place and date	Authorised Person	Head of quality assurance dept.



PDC Systems Limited
Electrical & Instrumentation Systems,
Project Design, Management,
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Company Registered No:- SC400732

VAT Registered Number:- 115 1685 31

Quality Test Certificate

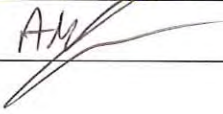


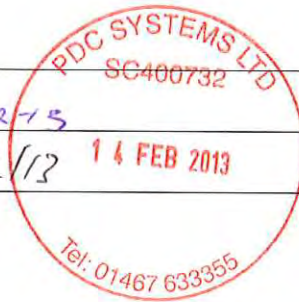
Ex Rated Distribution Board

Serial No: - 20141-2

Date	14/02/13
Contract Reference	Q2014101
Customer	Blue Manta International Ltd
PDC Systems Serial No.	20141-2
Nortem Enclosure Reference	29870919-008
Enclosure Type	EJB12A
Reference Drawing (GA/Drilling/Layout/Wiring)	Ex-D2014101 & 80

Test Made	Test Settings	Result (Pass / Fail)	Checked By
Hydraulic Test for duration >10 Seconds	Refer ATEX Cert.	✓	AM
Exd Mechanisations According to Drawings	Visual	✓	AM
Enclosure Dimensional Check	Visual	✓	AM
Check Flame Path for Damage	Visual	✓	AM
Check Flame Path for Trueness	Visual	✓	AM
Check Flame Path Gap	Feeler Gauge	✓	AM
Check MCB's Operation	Switch On/Off	✓	AM

Comments:	
Signed: 	Date: 14-02-13
Approved: 	Date: 14/2/13



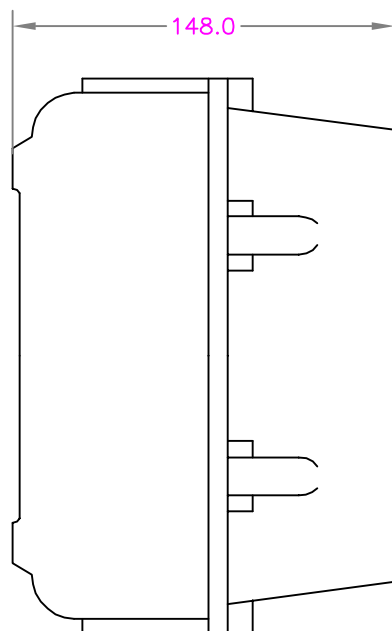
PDC Systems Limited
Electrical & Instrumentation Systems,
Project Design, Management,
Manufacture and Installation.

Company Registered No:- SC400732

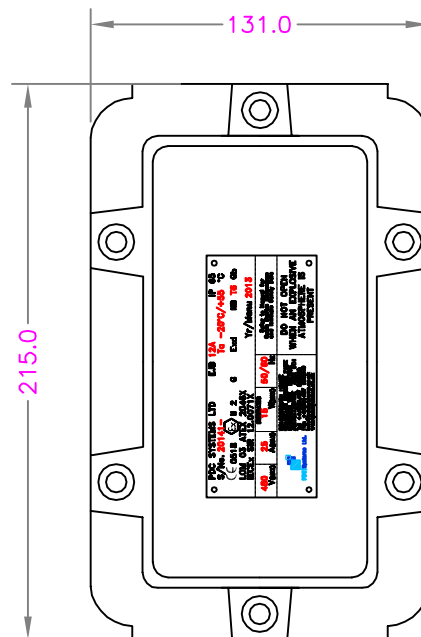
Scarborough House
Craigearn Business Park
Morrison Way
Kintore
Aberdeenshire
AB51 0TH

Tel: +44 (0)1467 633355
Fax: +44 (0)1467 632440
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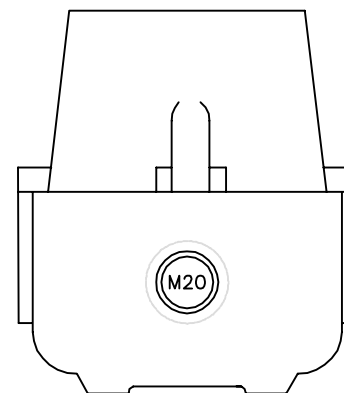
VAT Registered Number:- 115 1685 31



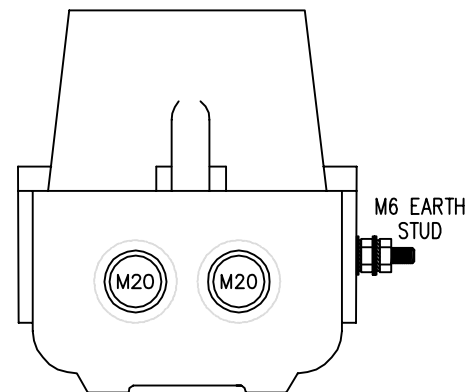
END VIEW



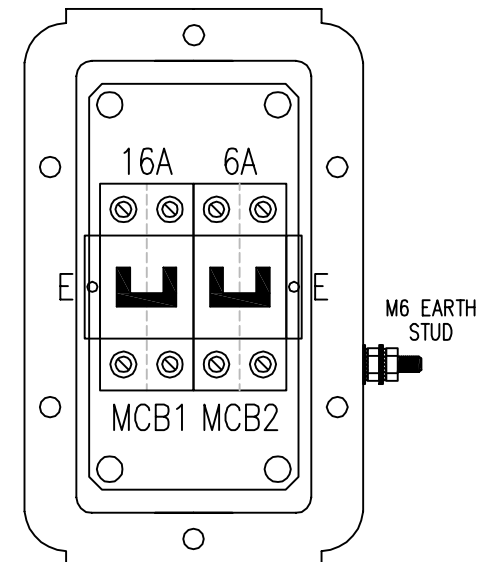
FRONT VIEW



TOP VIEW



BOTTOM VIEW



INTERNAL LAYOUT

CERTIFICATION
LOM03ATEX2046X
IIECEX SIR12.0071X

SIRA NOTE

THE PARTS LISTED IN THE BoM AND THE CIRCUIT DIAGRAMS CONTAINED WITHIN THIS DRAWING ARE ALL CONTAINED WITHIN FLAMEPROOF Ex d ENCLOSURES. THE AFOREMENTIONED Ex d ENCLOSURES ARE CERTIFIED BY SIRA UNDER CERTIFICATE NUMBER: - SIRA 10ATEX1239X

NOTE: INSTALL IN AREAS OF LOW RISK IF ADE-6FC TYPE GLANDS ARE USED

ENCLOSURE TYPE: -
NORTEM EJB 12A
Exd IIB T6 RATED

CERTIFIED PRODUCT

DRAWING RELATED TO CERTIFIED PRODUCT. REFER TO AUTHORISED PERSON PRIOR TO MODIFICATION


PDC Systems Ltd.

SCARBOROUGH HOUSE, CRAIGEARN BUSINESS PARK,
MORRISON WAY, KINTORE, ABERDEENSHIRE, AB51 0TH

THE DRAWING AND INFORMATION CONTAINED WITHIN THE DRAWING IS CONFIDENTIAL AND THE PROPERTY OF PDC SYSTEMS LTD. AND MUST NOT BE USED, COPIED OR REPRINTED WITHOUT WRITTEN PERMISSION OF PDC SYSTEMS LTD. WHERE THIS INFORMATION HAS BEEN TRANSMITTED ELECTRONICALLY PERMISSION MUST BE AS ABOVE

TEL. 01467 633355
FAX. 01467 632440
www.pdcsystems.co.uk

REV.	DESCRIPTION	DRAWN	CHECKED	DATE
0	As Built	AN	RC	15/02/13
1	Issued For Construction	AN	RC	13/02/13
2	Issued For Comment	AC	RC	---
PDC SYSTEMS LTD. - ESTABLISHED 1993				

CLIENT	Blue Manta	CLIENT REF.	0000013039
TITLE	Exd MCB Enclosure General Arrangement		
PROJECT No.	Q2014101	SCALE	NTS
DRAWING No. (AUTOCAD INDEX)	Ex-D2014101	SHEET	1 OF 1
		REV.	0

tem	Description	Qty	Vendor	Part #	Atex	IECEX
1	Enclosure Aluminium Alloy H215 x W131 x 162mm	1	CEAG	NOR 000 001 170 446	Lom 03ATEX2046X	IECEX SIR 12.0071X
2	2 Pole 16A MCB Type D	1	ABB	S202-D16		
3	2 Pole 6A MCB Type D	1	ABB	S202-D6		
4	Earth Terminal Block EK2,5/35	2	Weidmueller	0661-6		
5						
6						

CERTIFICATION
SIRA 10ATEX1239X
IECEX SIR12.0071X

SIRA NOTE
THE PARTS LISTED IN THE BoM AND THE CIRCUIT
DIAGRAMS CONTAINED WITHIN THIS DRAWING ARE
ALL CONTAINED WITHIN FLAMEPROOF Ex d
ENCLOSURES. THE AFOREMENTIONED Ex d
ENCLOSURES ARE CERTIFIED BY SIRA UNDER
CERTIFICATE NUMBER: – SIRA 10ATEX1239X

CERTIFIED PRODUCT

DRAWING RELATED TO CERTIFIED
PRODUCT. REFER TO AUTHORISED
PERSON PRIOR TO MODIFICATION



PDC Systems Ltd.
SCARBOROUGH HOUSE, CRAIGEARN BUSINESS PARK,
MORRISON WAY, KINTORE, ABERDEENSHIRE, AB51 0TH

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FAX. 01467 632440
www.pdcsystems.co.uk

REV.	DESCRIPTION	DRAWN	CHECKED	DATE
0	As Built	AN	RC	15/02/13
1	Issued For Construction	AN	RC	13/02/13
2	Issued For Comment	AC	RC	---
PDC SYSTEMS LTD. – ESTABLISHED 1993				

CLIENT	Blue Manta	CLIENT REF.	0000013039
TITLE	Exd MCB Enclosure Bill Of Materials		
PROJECT No.	Q2014101	SCALE	N/A
DRAWING No. (AUTOCAD INDEX)	Ex-D2014180	SHEET	1 OF 1
		REV.	0

(1) **EC-TYPE EXAMINATION CERTIFICATE SUPPLEMENT**(2) Equipment or protective system intended for use in potentially explosive atmospheres.
Directive 94/9/EC(3) Supplement nr. 1 of EC-Type Examination Certificate: **LOM 03ATEX2046 X**(4) Equipment or protective system
Boxes for electrical apparatus
Type EJ...(5) Manufacturer
PDC Systems Ltd.(6) Address
Scarborough House
Craigearn Business Park
Morrison Way Kintore
Aberdeenshire AB51 0TH
United Kingdom(7) Test report nr.: **LOM 09.484 UP**(8) Variations included in this certificate

- 1 Update to the standards EN 60079-0:2006, EN 60079-1:2007 and EN 60079-11:2007
- 2 Update of the manufacturer address

(9) Changes in marking II 2 G Ex d IIB T4..T6 II 2(2) G Ex d[ib] IIB T4..T6 II 2(1) G Ex d[ia] IIB T4..T6 II 2(1/2) G Ex d[ia/ib] IIB T4..T6

Temperature classes and ambient temperature ranges are indicated in the base certificate.

(10) Descriptive documents

- Description nr: EJB-Ext. Nr. 1
- Drawings nr.: IEC60079 Ex Label

Rev.	Date
0	2009-01-09
2	2009-01-09

Madrid, 2010-01-26


Carlos Fernández Ramón
DIRECTOR OF THE LABORATORY
Angel Vega Remesal
Head of ATEX AreaThis supplement must be an inseparable part together with the base certificate **LOM 03ATEX2046 X**

This Certificate is a translation from the original in Spanish. The LOM liability applies only on the Spanish text

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Page 1 / 1





(1) SUPLEMENTO DE CERTIFICADO DE EXAMEN CE DE TIPO

(2) Equipos y sistemas de protección destinados a ser utilizados en atmósferas potencialmente explosivas.
Directiva 94/9/CE

(3) Suplemento nº 1 del Certificado de Examen CE de Tipo **LOM 03ATEX2046 X**

(4) Equipo o sistema de protección Cajas de apartamentada eléctrica
Type EJ...

(5) Fabricante PDC Systems Ltd.

(6) Dirección Scarborough House
Craigearn Business Park
Morrison Way Kintore
Aberdeenshire AB51 0TH
Reino Unido

(7) Informe de ensayos nº: **LOM 09.484 UP**

(8) Variaciones incluidas en el certificado

- 1 Actualización las normas EN 60079-0:2006, EN 60079-1:2007 y EN 60079-11:2007
- 2 Actualización de la dirección del fabricante

(9) Cambios en el marcado



II 2 G Ex d IIB T4..T6



II 2(2) G Ex d[ib] IIB T4..T6



II 2(1) G Ex d[ia] IIB T4..T6



II 2(1/2) G Ex d[ia/ib] IIB T4..T6

Las clases de temperatura y rangos de temperatura ambiente están indicadas en el certificado base.

(10) Documentos descriptivos

- Descripción nº: EJB-Ext. Nr. 1
- Planos nr.: IEC60079 Ex Label

Rev.

Fecha

0

2009-01-09

2

2009-01-09

OFICIAL



J.M. MADARIAGA

Madrid, 2010-01-26

Carlos Fernández Ramón

DIRECTOR DEL LABORATORIO

Angel Vega Remesal

Responsable del área ATEX Area

Este suplemento deberá formar parte inseparable del certificado base **LOM 03ATEX2046 X**

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Pág. 1 / 1

RPCER 07.4/3
Rev. 0

UNIVERSIDAD POLITÉCNICA DE MADRID
ENSAYOS E INVESTIGACIONES DE MATERIALES Y EQUIPOS PARA ATMÓSFERAS EXPLOSIVAS Y MINERÍA
(Real Decreto 334/1992 de 3 de Abril - BOE 1992-04-29)





(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 **LOM 03ATEX2046 X**

(4) Equipment or Protection System Boxes for electrical apparatus
Type EJ...

(5) Applicant: PDC Systems Ltd,

(6) Address: Unit 12, Harlaw Way
Harlaw Industrial Estate, Inverurie
Aberdeen, Scotland, AB51 4SG
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) Laboratorio Oficial J.M. Madariaga (LOM), notified body number 0163 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament 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 nr. **LOM 03.308 GP**

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- Standards **EN 50014:1997 + A1:1999 + A2:1999**
EN 50018:2000 + A1:2002
EN 50020:2002

(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 the Directive applies to the manufacture 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 2G EEx d IIB T4..T6

 II 2(2) G EEx d [ib] IIB T6

 II 2(1) G EEx d [ia] IIB T6

 II 2(1/2) G EEx d [ia/ib] IIB T6

Ta: -20 °C / +55 °C


Carlos Fernández Ramón
DIRECTOR OF THE LABORATORY



Madrid, 17 June 2003

Angel Vega Remesal
Head of TEX area

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(1) CERTIFICADO DE EXAMEN CE DE TIPO

(2) Equipos y sistemas de protección destinados a ser utilizados en atmósferas potencialmente explosivas.
Directiva 94/9/CE

(3) Certificado de Examen CE de Tipo **LOM 03ATEX2046 X**

(4) Equipo o sistema de protección Cajas de aparamenta eléctrica
Tipo EJ...

(5) Solicitante PDC Systems Ltd.

(6) Dirección Unit 12, Harlaw Way
Harlaw Industrial Estate, Inverurie
Aberdeen, Scotland, AB51 4SG
Reino Unido

(7) Este equipo o sistema de protección y sus variantes eventualmente aceptadas está descrito en el anexo del presente certificado y en los documentos descriptivos citados en dicho anexo

(8) El Laboratorio Oficial J.M. Madariaga (LOM), organismo notificado bajo la referencia nº 0163, conforme al artículo 9 de la Directiva 94/9/CE del Parlamento Europeo y del Consejo del 23 de Marzo de 1994, certifica que este equipo o sistema de protección es conforme a los Requisitos Esenciales de Seguridad y Salud relativos al diseño y construcción de equipos y sistemas destinados a ser utilizados en atmósferas potencialmente explosivas, indicados en el Anexo II de la Directiva. La verificaciones y ensayos se recogen en el protocolo confidencial **LOM 03.308 GP**

(9) El cumplimiento con los Requisitos Esenciales de Seguridad y Salud está basado en la conformidad a los siguientes documentos:

- Normas **EN 50014:1997 + A1:1999 + A2:1999**
EN 50018:2000 + A1:2002
EN 50020:2002

(10) Si el signo X aparece después del número de certificado indica que este material o sistema de protección está sometido a las condiciones especiales de utilización que figuran en el anexo del presente certificado.

(11) Este Certificado de Examen CE de Tipo se refiere únicamente al diseño y construcción del equipo o sistema de protección especificado, conforme a la Directiva 94/9/CE. Podrán ser aplicables exigencias suplementarias de esta Directiva para la fabricación y suministro de este equipo o sistema de protección. Éstas no están cubiertas por este certificado.

(12) El marcado del equipo o sistema de protección deberá incluir, entre otras indicaciones relevantes, lo siguiente:

 II 2G EEx d IIB T4..T6

 II 2(2) G EEx d [ib] IIB T6

 II 2(1) G EEx d [ia] IIB T6

 II 2(1/2) G EEx d [ia/ib] IIB T6

Ta: -20 °C / +55 °C

Carlos Fernández Ramón
DIRECTOR DEL LABORATORIO



Madrid, 17 de junio de 2003

Angel Vega Remesal
Responsable del área ATEX

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LABORATORIO OFICIAL J. M. MADARIAGA

(A1) SCHEDULE

(A2) EC-Type Examination Certificate: **LOM 03ATEX2046 X**

(A3) Description of equipment or protective system

Boxes for electrical apparatus based on empty boxes with same denomination that include the same external accessories and having got the component certificate LOM 02ATEX3060U of Cooper, Crouse-Hinds Division, CEAG, C EAG Nortem, S.A..

Types and sizes are the same as indicated in the component certificate

These boxes can include the following electrical devices and apparatus:

- Bus bars
- Terminals
- Low voltage transformers
- Air circuit-breakers
- Automatic circuit-breakers
- Control and operation circuits
- Servomotors without ventilation
- Starters and ballasts for discharge lamps
- Electronic apparatus
- Associated intrinsic safety apparatus

Thermal class is determined according dissipated power (in W) inside the enclosure as show in following table:

Type	Ta: -20 / + 40 °C			Ta: -20 / + 55 °C		
	T4	T5	T6	T4	T5	T6
EJB 12.	100	60	30	83	43	18
EJB 14.	240	140	80	200	100	50
EJB 23.	240	140	60	200	100	35
EJB 110	295	170	125	245	120	75
EJB 120	480	270	150	400	195	90
EJB 121	500	280	150	415	200	90
EJB 130	590	340	200	490	245	125
EJB 131	610	350	200	505	250	125
EJB 240/241.	700	400	250	580	290	155
EJW 250	560	340	250	465	250	155
EJW 251	850	520	380	700	380	235
EJW 350	850	520	380	700	380	235
EJW 351	1000	600	450	840	450	280
EJW 561	1000	730	600	400	600	1000

OFICIAL



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LABORATORIO OFICIAL J. M. MADARIAGA

(A1) ANEXO

(A2) Certificado de Examen CE de Tipo: **LOM 03ATEX2046 X**

(A3) Descripción del equipo o sistema certificado

Cajas para aparamenta eléctrica basadas en las cajas vacías de la misma denominación, incluyendo accesorios externos, con certificado de componente LOM 02ATEX3060U.

Los tipos y tamaños son los recogidos en el certificado de componente.

Los elementos eléctricos que el fabricante puede incluir son los siguientes:

- Trenes de barras
- Bornes
- Transformadores de baja tensión
- Aparatos de corte al aire
- Interruptores automáticos
- Elementos de mando y control
- Motores con servomecanismo sin ventilación
- Equipos de encendido de lámparas de descarga
- Aparatos electrónicos
- Equipos asociados de seguridad intrínseca

La clase térmica está determinada según la potencia disipada (en W) en el interior de acuerdo a la siguiente tabla:

Tipo	Ta: -20 / + 40 °C			Ta: -20 / + 55 °C		
	T4	T5	T6	T4	T5	T6
EJB 12.	100	60	30	83	43	18
EJB 14.	240	140	80	200	100	50
EJB 23.	240	140	60	200	100	35
EJB 110	295	170	125	245	120	75
EJB 120	480	270	150	400	195	90
EJB 121	500	280	150	415	200	90
EJB 130	590	340	200	490	245	125
EJB 131	610	350	200	505	250	125
EJB 240/241.	700	400	250	580	290	155
EJW 250	560	340	250	465	250	155
EJW 251	850	520	380	700	380	235
EJW 350	850	520	380	700	380	235
EJW 351	1000	600	450	840	450	280
EJW 561	1000	730	600	400	600	1000



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LABORATORIO OFICIAL J. M. MADARIAGA

(A1) SCHEDULE

(A2) EC-Type Examination Certificate: **LOM 03ATEX2046 X**

(A3) Description of equipment or protective system (continue)

Enclosures can include commercial intrinsically safe associated apparatus based on 94/9/EC directive. Wiring and apparatus distribution is detailed in applicant descriptive documents. Ambient temperature will be $T_a: -20^\circ\text{C} / +55^\circ\text{C}$. This temperature will be restrained to standard range $T_a: -20^\circ\text{C} / +40^\circ\text{C}$ when at least one apparatus is not foreseen for extended ambient temperature.

Enclosures that include electronic devices containing batteries of up to 1/100 of the free volume or capacitors will attach the label "DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT".

Enclosures that include capacitors will attach the label "DON NOT OPEN BEFORE xx s AFTER POWER OFF", where xx is the discharge time.

Electrical characteristics: Maximum voltage: 750 V Maximum current: 1200 A

(A4) Test report nr: **LOM 03.308 GP**

(A5) Special conditions for safe use

- This boxes require special quality fasteners.
- Glass windows are only valid for temperature class T5 and T6.
- The special conditions for safe use indicated in the certificates of intrinsically safe associated apparatus.
- The manufacturer will have to determine, when there are combined different circuits of intrinsic safety, the specific parameters of the type of protection as indicated in standards EN 50020 and EN 50039.
- Only there is allowed the incorporation of electrical equipment and intrinsic safety associate apparatus, and execution of the wired up boarder by the manufacturer.

(A6) Individual tests

Each manufactured unit must be submitted to a static overpressure test after mechanising of holes for accessories and cable entries holes according 15.1.3.1 of EN 50018:2000. Test pressures will be:

1170 kPa in types EJB 12, 110, 120, 130 and 240

1280 kPa in types EJB 121, 131 and 241

1320 kPa in el types EJB 23

1440 kPa in el types EJB 14

1250 kPa in el types EJW...

(A7) Essential Health and Safety Requirements

Explosion safe requirements are covered by application of the standards indicated in page 1/3 of this certificate and the specific conditions indicated in paragraph D.2.2 of EN 50018:2000 related to assembling electrical components inside enclosure.

(A8) Descriptive documents:

	Rev.	Date
- Technical description	0	2003-05-30
- Drawing nr. N1171112-0004.en	0	2003-03-03
N601114-0117	0	2003-06-16

and the documents listed in component certificate LOM 02ATEX3060U given by the manufacturer of the component.



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LABORATORIO OFICIAL J. M. MADARIAGA

(A1) ANEXO

(A2) Certificado de Examen CE de Tipo: **LOM 03ATEX2046 X**

(A3) Descripción del equipo o sistema certificado (continuación)

Las envolturas pueden incluir equipos asociados comerciales de seguridad intrínseca basados en la directiva 94/9/CE. La distribución de equipos y cableado se recoge en los documentos descriptivos. La temperatura ambiente Ta: -20 °C / +55 °C estará restringida al rango normal Ta: -20 °C / +40 °C cuando al menos un equipo no esté previsto para un rango extendido de temperatura.

Las envolturas que incluyan dispositivos electrónicos conteniendo baterías de hasta 1/100 del volumen libre o condensadores llevarán la etiqueta "NO ABRIR EN PRESENCIA DE UNA ATMÓSFERA EXPLOSIVA"

Las envolturas que incluyan condensadores llevarán la etiqueta "NO ABRIR ANTES DE PASADOS xx s DESPUÉS DE LA DESCONEXIÓN", siendo xx el tiempo de descarga.

Características eléctricas: Tensión máxima: 750 V Corriente máxima: 1200 A
Corriente máxima en barras: 1200 A

(A4) Protocolo de ensayos nº LOM 03.308 GP

(A5) Condiciones especiales para una utilización segura

- Las envolturas requieren tornillería de calidad especial
- Las mirillas de vidrio solo son aptas para clases de temperatura T5 y T6
- Las condiciones especiales para una utilización segura indicadas en los certificados de los equipos asociados de seguridad intrínseca
- El fabricante deberá determinar, cuando se combinen circuitos de seguridad intrínseca, los parámetros específicos del modo de protección tal como se indica en las normas EN 50020 y EN 50039.
- Solo está permitida la incorporación de equipos eléctricos y de seguridad intrínseca y realización de cableado por el fabricante del equipo.

(A6) Ensayos individuales

Cada unidad fabricada deberá ser sometida a una prueba de presión estática tras la mecanización de orificios para accesorios y entradas de cable de acuerdo al apartado 15.1.3.1 de EN 50018:2000. Las presiones de ensayo serán:

1170 kPa en los tipos EJB 12, 110, 120, 130 y 240
1280 kPa en los tipos EJB 121, 131 y 241
1320 kPa en el tipo EJB 23
1440 kPa en el tipo EJB 14
1250 kPa en los tipos EJW...

(A7) Requisitos esenciales de seguridad y salud

Los requisitos de seguridad frente a la explosión están cubiertos por aplicación de las normas que aparecen en la página 1/3 de este certificado y las condiciones específicas indicadas en el apartado D.2.2 de EN 50018:2000 relativas al montaje de equipos eléctricos en el interior de la envoltura.

(A8) Documentos descriptivos:

	Rev.	Fecha
- Memoria descriptiva	0	2003-05-30
- Planos nº:	0	2003-03-03
N601114-0118	0	2003-06-16

y los documentos indicados en el certificado de componente LOM 02ATEX3060U proporcionados por el fabricante del componente.

(Este documento solo puede reproducirse íntegramente y sin cambio alguno)



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 SIR 12.0071X

issue No.:0

Certificate history:

Status:

Current

Date of Issue:

2012-08-15

Page 1 of 4

Applicant:

PDC Systems Limited
Scarborough House
Craigearn Business Park
Morrison Way
Kintore
Aberdeenshire AB51 0TH
United Kingdom

Electrical Apparatus:
Optional accessory:

A Range of Flameproof Control Panels

Type of Protection:

Flameproof and intrinsic safety

Marking:

Ex d IIB T6 Gb (Ta = -20°C to +55°C)
Ex d [ia] IIB T6 Gb (Ta = -20°C to +55°C)
See description for the marking applicable to specific products

Approved for issue on behalf of the IECEx
Certification Body:

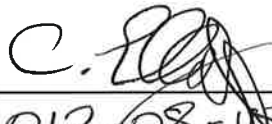
C Ellaby

Position:

Deputy Certification Manager

Signature:
(for printed version)

Date:


2012-08-15

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:

SIRA Certification Service
Rake Lane
Eccleston
Chester
CH4 9JN
United Kingdom

sira
CERTIFICATION



IECEx Certificate of Conformity

Certificate No.: IECEx SIR 12.0071X

Date of Issue: 2012-08-15

Issue No.: 0

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Manufacturer: **PDC Systems Limited**
Scarborough House
Craigearn Business Park
Morrison Way
Kintore
Aberdeenshire AB51 0TH
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 : 2007-10 Edition: 5	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1 : 2007-04 Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

*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/SIR/ExTR12.0209/00](#)

Quality Assessment Report:

[GB/SIR/QAR10.0011/02](#)



IECEx Certificate of Conformity

Certificate No.: IECEx SIR 12.0071X

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The electrical panels are cast aluminium or stainless steel flameproof enclosures with flanged covers. The enclosures utilised are certified enclosures certified under IECEx TSA 06.0011 and IECEx BKI 07.0018. The enclosures are populated with electrical and electronic equipment as described below:

860 A Contactor Panel (CCFE 6): Ex d IIB T6 Gb (Ta = -20°C to +55°C)

The 860 A Contactor panel is a CCFE 6 enclosure containing power isolation circuitry.

Battery Supply Isolation Panel (EJB23R): Ex d IIB T6 Gb (Ta = -20°C to +55°C)

The Battery Supply Isolation Panel is an EJB23 enclosure containing isolation circuitry. The enclosure is coupled to a stainless steel increased safety terminal box which is not within the scope of this assessment, cables pass through flameproof bushings.

Combined Pressure, Fire and Gas (CPFG) Panel (EJB241): Ex d [ia] IIB T6 Gb (Ta = -20°C to +55°C)

The CPFG Panel is an EJB241 enclosure containing a PLC, HMI and associated control circuitry. The equipment also contains intrinsic safety barriers. The cover is fitted with five isolator switches, pushbutton and window. The enclosure is coupled to a stainless steel increased safety terminal box which is not within the scope of this assessment, cables pass through flameproof bushings.

Power Distribution Panel (EJB240): Ex d IIB T6 Gb (Ta = -20°C to +55°C)

The Power Distribution Panel is an EJB240 enclosure containing power distribution circuitry. The cover is fitted with two isolator switches.

Fan Contactor Panel (EJB23R): Ex d IIB T6 Gb (Ta = -20°C to +55°C)

The Fan Contactor Panel is an EJB23 enclosure containing two isolation circuits. The cover is fitted with two isolator switches.

CONDITIONS OF CERTIFICATION: YES as shown below:

1. The user/installer shall install the panels taking into account any restrictions or special conditions for safe use that are applicable to the previously certified devices that are fitted in them.
2. The CPFG panel contains Pepperl and Fuchs type KFD2-STC4-EX1.*, type KFDO-CS-EX2.51P and KCD2-SR-Ex2 intrinsically safe barriers, the safety parameters as detailed in IECEx TUN 03.0000, IECEx BAS 05.0004 and IECEx BAS 06.0025 shall be observed:

RPM Monitoring Safety Barrier (KFD2-DWB-EX1.1D)	Fire & Gas Loop Isolator (KFDO-CS-EX2.51P)	Switch Amplifier Relay (KCD2-SR-Ex2)
Uo = 10.1 V Io = 13.5 mA Po = 34 mW Characteristic line: Linear Ci = Negligibly small Li = Negligibly small	Uo = 25.2 V Io = 46.5 mA Po = 292 mW Ci = 0 Li = 0	Uo = 10.5 V Io = 17.1 mA Po = 45 mW Ci = Li = 0



IECEx Certificate of Conformity

Certificate No.: IECEx SIR 12.0071X

Date of Issue: 2012-08-15

Issue No.: 0

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EQUIPMENT(continued):

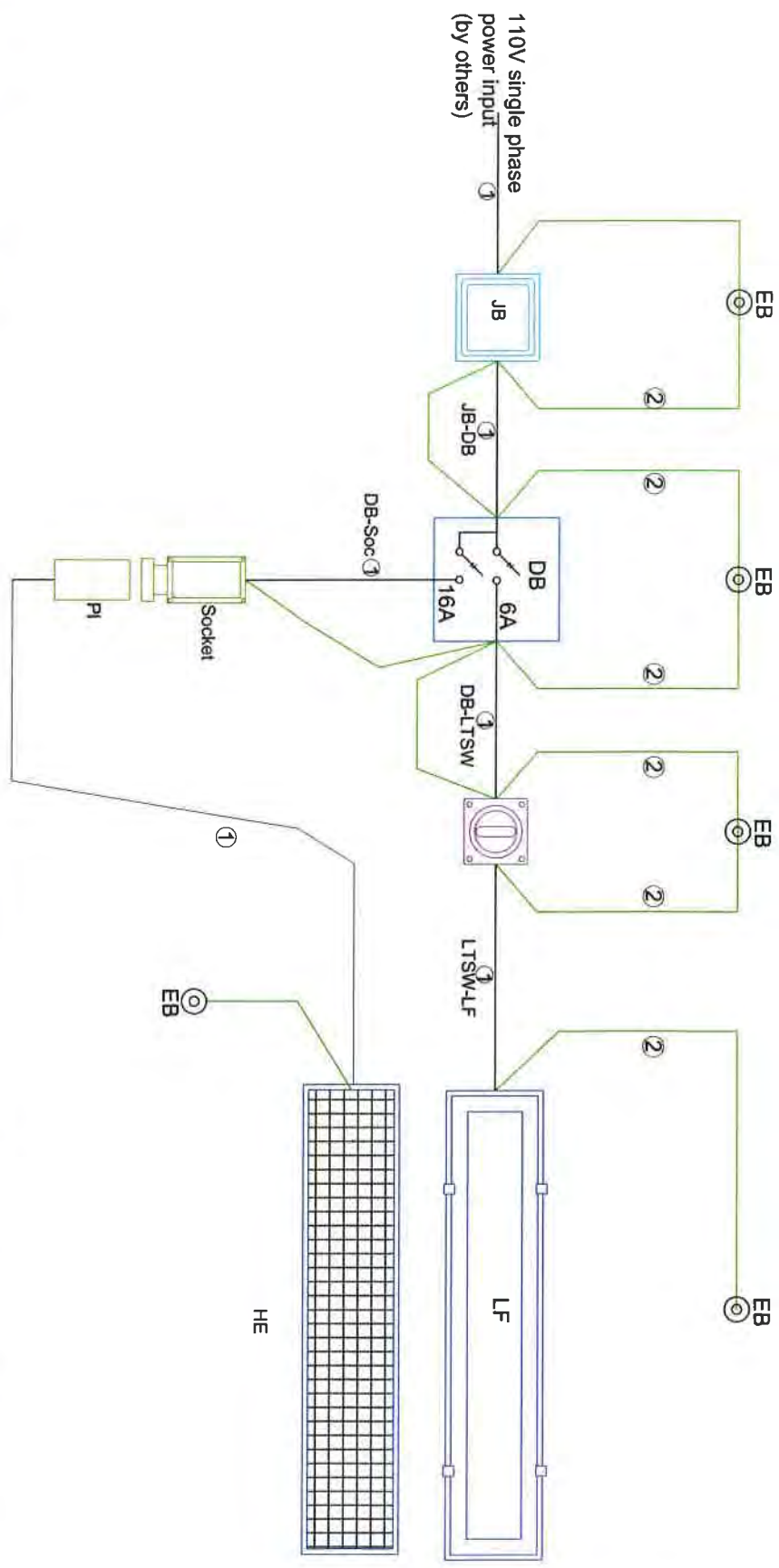
Conditions of manufacture

The Manufacturer shall comply with the following:

1. Each 860 A Contactor Panel (CCFE-6) shall be subjected to a routine overpressure test of 11.9 bar. In all cases the pressure shall be maintained for at least 10 seconds as required by clause 16 of IEC 60079-1:2007. There shall be no permanent deformation or damage to the enclosure.
2. The manufacturer shall take all reasonable steps to ensure that the user/installer complies with the special conditions for safe use associated with the panels; in addition, the manufacturer shall provide the user/installer with an appropriate copy of the certificate for each certified device that is fitted in them.
3. The products covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of their products.
4. When equipment is fitted with ADE-6FC barrier cable glands, an additional label shall be added to ensure equipment is installed in areas with low risk of mechanical impact.

Electrical Drawing

REVISION HISTORY							
REV	BY	DESCRIPTION	DATE	CHKD	APPR	EXT AP	CL APP
1	BR		02.04.13	BR	1H	-	-
2	MR	Inclusion of 110V Heater	21.02.17	MR	FB		



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
PI	110V Plug	1

Cable Types BS6883		
Item	Description	
1	3 x 2.5mm (tcu/ep/risw/4gswb/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: ± 3.0mm Machining: ± 0.25mm Concentric: ± 0.05mm Angular: ± 0.05mm	Machined corner radii. Inside: ± 0.50mm UNO Outside: ± 0.65mm UNO
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Description:		Electric Schematics
Part no:	BM-C-1050	Drawing No: BMD-950
Client:	Blue Manta	Scale: NTS @ A4
		 Third angle projection