



Mining And Surface Certification (Pty) Ltd

2015/021934/07

THIS CERTIFICATE IS ISSUED AS AN I.A. CERTIFICATE IN TERMS OF THE MINE HEALTH AND SAFETY ACT, ACT NO 29 OF 1996 (AND REGULATIONS), THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993) AND REGULATION 17 OF THE ELECTRICAL MACHINERY REGULATIONS

IA CERTIFICATE	MASC S/21-9001X	Issue	2
Issue Date	26 January 2022	Expiry Date	27 January 2031
** Based on Certificate No	IECEX CML15.0072X	Issue / Variations / Amendment	3
Requested by	CCG Cable Terminations (Pty) Ltd 33-37 Forge Road, Spartan Industrial Area, Kempton Park, 1619, South Africa		
Manufacturer	CCG Cable Terminations (Pty) Ltd 33-37 Forge Road, Spartan Industrial Area, Kempton Park, 1619, South Africa		
Description	Equipment and systems covered by this Certificate are as follows: The Posi Fit enclosures are non-metallic enclosures are manufactured from DMC (Dow Moulding Compound). The enclosures and have a cylindrical shaped body with a screw-on cover, which is secured with a special tool that engages into the spines on the cover enclosure and have an O-ring between the housing and cover to maintain the IP rating. Refer to Schedule for full description.		
Equipment	Posi Fit Junction Boxes	Type	Refer to Schedule below
MARKING: Original marking as per certificate ** remains applicable. IA number must be added.	Type:	Refer to Annex	
	Ex Marking:	Ex eb I Mb Ex eb IIC T6 Gb Ex tb IIIC T70°C Db Ex ec IIC T6 Gc Ex tc IIIC T70°C Dc Ta = -60°C to +40°C/55°C IP66/IP67/IP68 (2m cont.)	
	IA Number:	MASC S/21-9001X (To be additionally marked on equipment)	
	Warnings:	See Base Certificate ** (original marking must be applied)	
Quality Assurance report (QAR) / Notification (QAN) Expiry date:	ZA/ICS/QAR14.0001/07		
Compliance:	The equipment as described above has been allocated the rating <u>Explosion Protected 'as above'</u> utilizing the SANS/IEC Standards: <ul style="list-style-type: none"> SANS (IEC) 60079-0: 2019 (2017) Equipment - General requirements SANS (IEC) 60079-7: 2019 (2015) Equipment protection by Equipment protection by increased safety "e" SANS (IEC) 60079-31: 2014 (2013) Equipment dust ignition protection by enclosure "t" <i>Note: This certificate covers only the listed standards and does not imply compliance to any other standard, related or inferred. It is up to the manufacturer to ensure that the product complies to all relevant standards for the application.</i>		
Special conditions of safe use "X":	<ul style="list-style-type: none"> Refer to Annex A below for more details. 		
Conditions of manufacture:	<ul style="list-style-type: none"> Refer to Annex A below for more details. 		
 Terine Orsmond PROJECT MANAGER		 Regardt Zeelie TECHNICAL SPECIALIST	
<small>This certificate covers all units sold as long as the QAR/QAN remains valid. According to the relevant requirements of the MHS Act and the OHS Act, production units of explosion protected equipment are required to comply with third party quality assurance (an approved mark scheme or batch testing by an accredited test laboratory).</small>			

Apparatus in hazardous locations is subject to the following provisions as applicable, which shall be adhered to:
 SANS 10086 requirements;
 Any conditions mentioned in the above certificate;
 Any relevant requirements of the MHS Act;
 Any restrictions and conditions enforced by the chief inspector of mines, principal inspector (Group I equipment) or chief inspector of factories (Group II equipment).

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IA CERTIFICATE: MASC S/21-9001X
Equipment: Posi Fit Junction Boxes
 (Rev 2 – Expiry date 27 January 2031)

ANNEX A

This document is based on and must be read in conjunction with certificate IECEx CML15.0072X																																																								
Description (According to Base Certificate) **																																																								
"Refer to description in Base Certificate ** (and any applicable schedules/issues/variations)."																																																								
Revision 1: Dimensional update to 3 Way Bottom Entry Box.																																																								
Revision 2: Update to include Multi Box PosiFit Assembly C.																																																								
Standard compliance	See Base Certificate **																																																							
Special conditions of safe use ("X")	<p>The following conditions relate to safe installation and/or use of the equipment.</p> <ul style="list-style-type: none"> i. For enclosures that do not utilise locking screws on the cover / lid, only the CCG tool supplied shall be used for opening and closing. ii. Under certain extreme circumstances, the polycarbonate (clear) cover incorporated in the enclosure may generate an ignition - capable level of electrostatic charge. Therefore, the enclosure shall not be installed in a location where the external conditions are conducive to the build - up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth. iii. When fitted with the polycarbonate (clear) cover, the enclosure shall be installed to prevent direct UV exposure of internal components. iv. Suitably certified cable glands and/or plugs shall be used in the enclosures threaded entries. v. The Posi Fit Junction boxes shall only be used with the following terminals. Specific installation conditions as set by the terminal manufacturer / terminal certification, shall be considered. This includes considering the use of the applicable partitions and end plates for the terminal blocks, conductor installation, tightening down of terminal block screws etc. <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th style="width: 20%;">Manufacturer</th> <th style="width: 20%;">Certificate No.</th> <th style="width: 20%;">Ex coding</th> <th style="width: 20%;">Type</th> <th style="width: 20%;">Size</th> </tr> </thead> <tbody> <tr> <td>Weidmuller</td> <td>IECEX TUR 18.0024U</td> <td>Ex e II</td> <td>AKZ4 and AKE4</td> <td>4 mm²</td> </tr> <tr> <td>Weidmuller</td> <td>IECEX TUR 18.0024U</td> <td>Ex e II</td> <td>AKZ 2.5</td> <td>2.5 mm²</td> </tr> <tr> <td>Weidmuller</td> <td>IECEX ULD 14.0005U</td> <td>Ex eb IIC Gb</td> <td>WDU & WPE 2.5, 4, 6, 10, 16, 35 and 70N</td> <td>2.5 mm², 4 mm², 6 mm², 10 mm², 35 mm² and 70mm²</td> </tr> </tbody> </table> <ul style="list-style-type: none"> vi. Terminal blocks shall only be utilised on the applicable rail and shall allow sufficient space to make connections and to close the cover / lid. vii. The creepage and clearance between terminal blocks and from the terminal block to any earthed / bonded metallic part shall comply with the IEC 60079-7 / IEC 60079-15 requirements for the applicable voltage of the terminal blocks viii. The current per circuit in the junction box is limited by the size of the conductor and shall not exceed the following: <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th colspan="2" style="text-align: center;">Max. current</th> <th rowspan="2" style="text-align: center;">Conductor / terminal block size</th> </tr> <tr> <th style="text-align: center;">≤55°C ambient</th> <th style="text-align: center;">≤40°C ambient</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">8.34 A</td><td style="text-align: center;">11.90 A</td><td style="text-align: center;">2.5 mm²</td></tr> <tr><td style="text-align: center;">11.12 A</td><td style="text-align: center;">15.86 A</td><td style="text-align: center;">4 mm²</td></tr> <tr><td style="text-align: center;">14.25 A</td><td style="text-align: center;">20.33 A</td><td style="text-align: center;">6 mm²</td></tr> <tr><td style="text-align: center;">19.81 A</td><td style="text-align: center;">28.26 A</td><td style="text-align: center;">10 mm²</td></tr> <tr><td style="text-align: center;">26.42 A</td><td style="text-align: center;">37.68 A</td><td style="text-align: center;">16 mm²</td></tr> <tr><td style="text-align: center;">43.46 A</td><td style="text-align: center;">61.98 A</td><td style="text-align: center;">35 mm²</td></tr> <tr><td style="text-align: center;">52.50 A</td><td style="text-align: center;">74.88 A</td><td style="text-align: center;">50 mm²</td></tr> <tr><td style="text-align: center;">66.75 A</td><td style="text-align: center;">95.21 A</td><td style="text-align: center;">70 mm²</td></tr> <tr><td style="text-align: center;">82.75 A</td><td style="text-align: center;">-</td><td style="text-align: center;">95 mm²</td></tr> <tr><td style="text-align: center;">94.57 A</td><td style="text-align: center;">-</td><td style="text-align: center;">120 mm²</td></tr> </tbody> </table> <ul style="list-style-type: none"> ix. The equipment/components have been subjected to impact tests equating to low risk of mechanical danger for Group I equipment in accordance with IEC 60079-0 clause 26.4.2. When the equipment/components are used in Group I explosive atmospheres, the user shall ensure that they are additionally protected or installed in an area where they are at low risk of mechanical impact. x. The equipment/components have not been subjected to the tests for resistance to chemical agents for Group I equipment in accordance with IEC 60079-0 clause 26.11. The user shall ensure that the equipment is not exposed to oils, greases, hydraulic fluids or any other chemical agents that may damage the equipment or invalidate the type of protection. 	Manufacturer	Certificate No.	Ex coding	Type	Size	Weidmuller	IECEX TUR 18.0024U	Ex e II	AKZ4 and AKE4	4 mm ²	Weidmuller	IECEX TUR 18.0024U	Ex e II	AKZ 2.5	2.5 mm ²	Weidmuller	IECEX ULD 14.0005U	Ex eb IIC Gb	WDU & WPE 2.5, 4, 6, 10, 16, 35 and 70N	2.5 mm ² , 4 mm ² , 6 mm ² , 10 mm ² , 35 mm ² and 70mm ²	Max. current		Conductor / terminal block size	≤55°C ambient	≤40°C ambient	8.34 A	11.90 A	2.5 mm ²	11.12 A	15.86 A	4 mm ²	14.25 A	20.33 A	6 mm ²	19.81 A	28.26 A	10 mm ²	26.42 A	37.68 A	16 mm ²	43.46 A	61.98 A	35 mm ²	52.50 A	74.88 A	50 mm ²	66.75 A	95.21 A	70 mm ²	82.75 A	-	95 mm ²	94.57 A	-	120 mm ²
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Conditions of manufacture	<p>The following conditions are required of the manufacturing process for compliance with the certification.</p> <ul style="list-style-type: none"> i. The Junction boxes 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 																																																							

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	<p>these devices. The manufacturer shall inform CML of any modifications of the devices that impinge upon the explosion safety design of their products.</p> <p>ii. A copy of the certificate and instructions shall be supplied / made available to the end user.</p>
Conditions of Certification	<ul style="list-style-type: none"> • This Certificate covers all units sold from the date of this approval and covered by a valid QAR and/or South African Markscheme / Batch testing. • The apparatus must be additionally marked with the MASC marking details above. • This approval only covers the equipment as certified above and does not include any scheduled additions or variations / amendments / new issues to the certificate(s), made after the above date. • The equipment does not need to be re-tested when used on the conditions and with such restrictions as prescribed by the certificate on which this IA Certificate is based and any other conditions in this IA Certificate. • The certification on which this IA Certificate is based must remain valid. • The extent of the requirements in the ARP 0108 (or regulations), SANS 10108 and any other applicable regulations on the certification of the equipment must remain unchanged. • The Ex quality assurance notification/report for the equipment must remain valid.
Conclusion:	<ul style="list-style-type: none"> • From the above and the selective examination of the documentation, nothing contrary to the requirements of the applicable standards was found, provided that the equipment / component is used as described in the above document / certificate and according to the MASC conditions below. A MASC IA certificate is issued based on the work done as per the Base Certificate **. • The routine tests for production units according to the Base Certificate ** must be complied with (if applicable).

This document is issued based on Mining And Surface Certification's Standard Contract terms and conditions available on request.

While every endeavour is made to ensure that a test / assessment / inspection is representative and accurately performed, and that a report / certificate is accurate in the quoted results and conclusions drawn from the test / assessment / inspection, MASC or its directors/employees shall in no way be liable for any error made in carrying out the test / assessment or for any erroneous statement, whether in fact or in opinion, contained in a report / certificate issued pursuant to a test / assessment / inspection.

MASC takes no responsibility for any non-conformances, exclusions or any results / assessments / inspections not in compliance with the standards. By marking the equipment in accordance with the documentation / standard, the manufacturer / applicant attests on his own responsibility that the equipment / installation has been designed and constructed in accordance with the applicable requirements of the relevant standards and documentation, that the routine verifications / routine tests have been correctly completed and the equipment / installation complies with the documentation and standard(s).

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Mining And Surface Certification (Pty) Ltd Reg No: 2015/021934/07
 Directors: Roelof Viljoen & Francoius du Toit
 Unit #5, Lelyta Park, 45 Jurg Avenue, Hennopspark Ext 87, Centurion, 0157
 P.O. Box 14344, Clubview, 0014
 Tel: 012 653 2959 ♦ Fax: 086 605 8568
 e-mail: info@masc-ex.co.za

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SCHEDULE

Description

The Posi Fit Junction boxes comprise of a non-metallic Posi Fit enclosure component certified under IECEx CML 15.0072X that is fitted with terminals, as detailed in table 1 below:

Type and size	Dimensions (Dia. x height)	Gland entry sizes (1.5mm pitch)	Max. amount of terminals and size	Max. No. of cable gland entries and arrangement
Posi Fit / Tx box Size 0	100 x 78	M16-M20	9 x 4 mm ² mini terminals, 12 x 2.5 mm ² terminals or 12 x 2.5 mm ² mini terminals	CCG Posi Fit 4 Way box 4 entries positioned orthogonal around the side walls with multiple gland entry sizes
Posi Fit / Tx box Size 1	118 x 91	M16-M20	10 x 2.5 mm ² , 8 x 4mm ² , 6 x 6 mm ² , 5 x 10 mm ² , 4 x 16 mm ² terminals or 8 x 4 mm ² mini terminals	CCG Posi Fit 4 Way box 4 entries positioned orthogonal around the side walls with multiple gland entry sizes
Posi Fit / Tx box Size 2	140 x 114	M16-M25	12 x 2.5 mm ² , 10 x 4 mm ² , 8 x 6 mm ² , 7 x 10 mm ² , 6 x 16 mm ² , 3 x 35 mm ² terminals or 10 x 4 mm ² mini terminals	CCG Posi Fit 4 Way box 4 entries positioned orthogonal around the side walls with multiple gland entry sizes
Posi Fit / Tx box Size 3	203 x 142	M16-M32	20 x 2.5 mm ² , 16 x 4 mm ² , 12 x 6 mm ² , 12 x 10 mm ² , 10 x 16 mm ² , 6 x 35 mm ² , 5 x 70 mm ² terminals or 14 x 4 mm ² mini terminals	CCG Posi Fit 4 Way box 4 entries positioned orthogonal around the side walls with multiple gland entry sizes
Posi Fit / Tx box Size 4	298 x 186	M16-M40	46 x 2.5 mm ² , 32 x 4 mm ² , 28 x 6 mm ² , 23 x 10 mm ² , 18 x 16 mm ² , 14 x 35 mm ² , 10 x 70 mm ² terminals or 35 x 4 mm ² mini terminals	CCG Posi Fit 4 Way box 4 entries positioned orthogonal around the side walls with multiple gland entry sizes
Bottom entry angle box Size 1	118 x 98	M16-M20	8 x 4 mm ² mini terminals	CCG Bottom entry angle box 3 entries positioned at the bottom of the box. One entry closest to the rim of the box and two entries to the base of the box
Bottom entry angle box Size 2	140 x 105	M16-M25	12 x 2.5 mm ² , 10 x mm ² , 8 x 6 mm ² , 7 x 10 mm ² terminals or 8 x 4 mm ² mini terminals	CCG Bottom entry angle box 3 entries positioned at the bottom of the box. One entry closest to the rim of the box and two entries to the base of the box
Bottom entry angle box Size 3	202 x 140	M16-M32	20 x 2.5 mm ² , 16 x 4 mm ² , 12 x 6 mm ² , 12 x 10 mm ² , 10 x 16 mm ² , 6 x 35 mm ² terminals or 14 x 4 mm ² mini terminals	CCG Bottom entry angle box 3 entries positioned at the bottom of the box. One entry closest to the rim of the box and two entries to the base of the box
3 way bottom entry box Size 1	132 x 124	M16-M20	8 x 4 mm ² mini terminals	CCG Bottom entry box 3 entries positioned at the bottom of the box. One entry closest to the base of the box and two entries to the rim of the box
3 way bottom entry box Size 2	162 x 160	M16-M25	12 x 2.5 mm ² , 10 x 4 mm ² , 8 x 6 mm ² , 7 x 10 mm ² , 6 x 16 mm ² , 3 x 35 mm ² terminals or 12 x 4 mm ² mini terminals	CCG Bottom entry box 3 entries positioned at the bottom of the box. One entry closest to the base of the box and two entries to the rim of the box
Y box Size 0	102 x 81	M16-M20	6 x 4 mm ² mini terminals	CCG Posi Fit Y box – 2 entries positioned on the side of the box and 1 entry positioned on the opposite side of the box
Y box Size 1	118 x 111	M16-M20	10 x 2.5 mm ² , 8 x 4 mm ² , 6 x 6 mm ² , 5 x 10 mm ² or 8 x 4 mm ² mini terminals	CCG Posi Fit Y box – 2 entries positioned on the side of the box and 1 entry positioned on the opposite side of the box
Y box Size 2	138 x 123	M16-M25	12 x 2.5 mm ² , 10 x 4 mm ² , 8 x 6 mm ² , 7 x 10 mm ² , 6 x 16 mm ² , 3 x 35 mm ²	CCG Posi Fit Y box – 2 entries positioned on the side of the box

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			terminals or 10 x 4 mm ² mini terminals	and 1 entry positioned on the opposite side of the box
Y box Size 3	200 x 150	M16-M32	20 x 2.5 mm ² , 16 x 4 mm ² , 12 x 6 mm ² , 12 x 10 mm ² , 10 x 16 mm ² , 6 x 35 mm ² , 5 x 70 mm ² terminals or 14 x 4 mm ² mini terminals	CCG Posi Fit Y box – 2 entries positioned on the side of the box and 1 entry positioned on the opposite side of the box
H box Size 1	118 x 94	M16-M20	10 x 2.5 mm ² , 8 x 4 mm ² , 6 x 6 mm ² , 5 x 10 mm ² , 4 x 16 mm ² terminals or 8 x 4 mm ² mini terminals	CCG Posi Fit H box – 2 entries positioned on the side of the box and 2 entries positioned on the opposite side of the box
H box Size 2	138.5 x 100	M16-M25	12 x 2.5 mm ² , 10 x 4 mm ² , 8 x 6 mm ² , 7 x 10 mm ² , 6 x 16 mm ² , 3 x 35 mm ² terminals or 10 x 4 mm ² mini terminals	CCG Posi Fit H box – 2 entries positioned on the side of the box and 2 entries positioned on the opposite side of the box
ST Box Strut box Size 1	100 x 96	M16-M20	4 x 2.5 mm ² or 6 x 4 mm ² mini terminals	CCG Posi ST Box strut box – 2 entries positioned on opposite sides with multiple gland entry sizes.
Angle Box Size 2	121 x 100	M20-M25	12 x 2.5 mm ² , 10 x 4 mm ² , 8 x 6 mm ² , 7 x 10 mm ² , 6 x 16 mm ² , 3 x 35 mm ² terminals or 10 x 4 mm ² mini terminals	CCG Angle Box 3 entries positioned at the bottom of the box.
Multi Box PosiFit Assembly B	(Rectangular) 196 x 132 x 109	See entry amount and arrangement	20 x 2.5 mm ² , 16 x 4 mm ² , 12 x 6 mm ² , 12 x 10 mm ² , 10 x 16 mm ² , 6 x 35 mm ² , 6 x 50 mm ² , 5 x 70 mm ² terminals or 14 x 4 mm ² mini terminals.	The entries could vary, with the A/C of the gland being the min distance between the entries.
Multi Box PosiFit Assembly C	(Rectangular) 278 x 200 x 117	See entry amount and arrangement	46 x 2.5mm ² , 32 x 4mm ² , 28 x 6mm ² , 23 x 10mm ² , 14 x 16mm ² , 6 x 35mm ² , 12 x 50mm ² , 10 x 70mm ² , 8 x 95/120mm ² terminals or 35 x 4mm ² mini terminals.	The entries could vary, with the A/C of the gland being the min distance between the entries.

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