





# 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

|                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                               |               |
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| <b>IA CERTIFICATE</b>                                                                                                                                                                                                                                                                                                                                           | MASC S/18-0737X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Issue</b>                                                                                                                                                                  | 2             |
| <b>Issue Date</b>                                                                                                                                                                                                                                                                                                                                               | 30 April 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Expiry Date</b>                                                                                                                                                            | 30 April 2027 |
| <b>** Based on Certificate No</b>                                                                                                                                                                                                                                                                                                                               | IECEx BVS 10.0022X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Issue / Variations / Amendment</b>                                                                                                                                         | 2             |
| <b>Requested by</b>                                                                                                                                                                                                                                                                                                                                             | <b>Pepperl+Fuchs (Pty) Ltd</b><br>Zerwick Forum, 8 Glen Eagle Office Park Cnr Monument Rd and Braambos St,<br>Glen Erasmia, Kempton Park 1619, South Africa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                               |               |
| <b>Manufacturer</b>                                                                                                                                                                                                                                                                                                                                             | <b>Pepperl+Fuchs SE</b><br>Lilienthalstrasse 200, 68307 Mannheim, Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                               |               |
| <b>Description</b>                                                                                                                                                                                                                                                                                                                                              | The terminator consists of a tubular enclosure made of stainless steel. One end of the tube is a closed end. The other end of the tube is open and machined to form a threaded nipple. The electrical and electronic components are inserted into the tubular enclosure and then the free volume is potted with a compound. The electrical connection conductors protrude from the compound. The enclosure of the terminator fulfils the applicable requirements of the type of protection Flameproof enclosure. The compound fulfils the applicable requirements of the type of protection Encapsulation. The electronics fulfils the applicable requirements of the type of protection Intrinsic safety.<br><br>See Base Certificate** for full description.          |                                                                                                                                                                               |               |
| <b>Equipment</b>                                                                                                                                                                                                                                                                                                                                                | Terminator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Type</b>                                                                                                                                                                   | F*-FT-Ex1*    |
| <b>MARKING:</b><br><b>Original marking as per certificate ** remains applicable.</b><br><b>IA number must be added.</b>                                                                                                                                                                                                                                         | <b>Type:</b><br><b>Ex Marking:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Terminator type F*-FT-Ex1*<br>Ex ia IIC T6...T4 Ga or Ex ia IIC T6...T4<br>Ex db ia IIC T6...T4 Gb or Ex db ia IIC T6...T4<br>Ex db mb IIC T6...T4 Gb or Ex db mb IIC T6...T4 |               |
|                                                                                                                                                                                                                                                                                                                                                                 | <b>IA Number:</b><br><b>Warnings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MASC S/18-0737X (To be additionally marked on equipment)<br>See Base Certificate ** (original marking must be applied)                                                        |               |
| <b>Quality Assurance report (QAR) / Notification (QAN):</b>                                                                                                                                                                                                                                                                                                     | DE/PTB/QAR06.0008/20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                               |               |
| <b>Compliance:</b>                                                                                                                                                                                                                                                                                                                                              | The equipment as described above has been allocated the rating <u>Explosion Protected 'as above'</u> utilizing the SANS/IEC Standards:<br><ul style="list-style-type: none"> <li>• SANS (IEC) 60079-0: 2012 Equipment - General requirements</li> <li>• SANS (IEC) 60079-1: 2015 Equipment protection by flameproof enclosures "d"</li> <li>• SANS (IEC) 60079-11: 2012 Equipment protection by intrinsic safety "i"</li> <li>• SANS (IEC) 60079-18: 2016 Equipment protection by encapsulation "m"</li> </ul> <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> |                                                                                                                                                                               |               |
| <b>Special conditions of safe use "X":</b>                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• Refer to Annex A below for more details.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                               |               |
| <b>Conditions of manufacture:</b>                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Refer to Annex A below for more details.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                               |               |
| <br><b>C. WELTHAGEN</b><br><b>TECHNICAL SPECIALIST</b>                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <br><b>N. VILOJEN</b><br><b>TECHNICAL OFFICER</b>                                         |               |
| <small>This certificate covers all units sold as long as the QAR/QAN remains valid.<br/>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/18-0737X**  
**Equipment: Terminator type F\*-FT-Ex1\***  
**(Expiry date: 30 April 2027)**

**ANNEX A**

|                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| This document is based on and must be read in conjunction with certificate IECEx BVS 10.0022X.  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Description (According to Base Certificate) **</b>                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| "Refer to description in Base Certificate ** (and any applicable schedules/issues/variations)." |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Issue</b>                                                                                    | Issue 1: Supplemented for review as per ARP 0108.<br>Issue 2: Supplemented for review as per ARP 0108.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Standard compliance</b>                                                                      | See Base Certificate **                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Special conditions of safe use ("X")</b>                                                     | <ul style="list-style-type: none"> <li>• The Terminator has to be screwed secured against loosening or twisting into the wall of a suitable equipment in type of protection flameproof enclosure, increased safety or intrinsic safety. The terminator has to be included into local potential equalization by installation.</li> <li>• When screwed into an enclosure in type of protection increased safety or an enclosure in type of protection flameproof enclosure: Because of the capacitors (energy storages) inside the terminator, the enclosure in which the terminator is installed must not be opened inside explosive atmospheres even after the external voltage supply is switched off.</li> <li>• When screwed into an enclosure in type of protection increased safety: The necessary degree of protection by enclosure (IP54) at the thread of the terminator has to be ensured by suitable tightness measures (see manual) by the user. The wires of the terminator have to be connected inside the enclosure under consideration of the requirements of IEC 60079-7. When appropriate, the wires have to be mechanically protected or secured.</li> <li>• When screwed into an enclosure in type of protection flameproof enclosure: The installation is only permissible for enclosures, which have a reference pressure not exceeding 20 bar. The threaded joint between terminator and enclosure wall has to comply with the requirements of clause 5.3 of IEC 60079-1:2014. This flameproof threaded joint has to be considered as part of the flameproof enclosure within the type tests of the respective enclosure. Therefore, it is not necessary to perform these type tests with the terminator.</li> <li>• For connection to an intrinsically safe circuit, the following applies additionally: The connection terminals of the intrinsically safe circuit have to be separated from the connection terminals of non-intrinsically safe circuits or other intrinsically safe circuits or from earthed metal parts in accordance with clause 6.2.1 of IEC 60079-11:2011.</li> <li>• The terminator is suitable for use in the following ambient temperature ranges:<br/> Temperature class T6 -50 °C up to +60 °C<br/> Temperature class T5 -50 °C up to +75 °C<br/> Temperature class T4 -50 °C up to +85 °C</li> </ul> |
| <b>Conditions of manufacture</b>                                                                | <ul style="list-style-type: none"> <li>• None.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Conditions of Certification</b>                                                              | <ul style="list-style-type: none"> <li>• This IA Certificate covers all units sold from the date of this document to the expiry date of this certificate.</li> <li>• As per ARP 0108 a maximum three yearly review is required on this IA Certificate (expiry is determined as per the QAR/QAN/QMS expiry date).</li> <li>• The apparatus must be additionally marked with the MASC marking details above.</li> <li>• 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.</li> <li>• 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.</li> <li>• The certification on which this IA Certificate is based must remain valid.</li> <li>• 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.</li> <li>• The Ex-quality assurance notification/report for the equipment must remain valid.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Conclusion:</b>                                                                              | <ul style="list-style-type: none"> <li>• 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 **.</li> <li>• The routine tests for production units according to the Base Certificate ** must be complied with (if applicable).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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**IA CERTIFICATE: MASC S/18-0737X**  
**Equipment: Terminator type F\*-FT-Ex1\***  
**(Expiry date: 30 April 2027)**

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