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 MS/21-8048X	**Issue**	1
Issue Date	30 April 2024	**Expiry Date**	30 April 2027
**** Based on Certificate No**	IECEx CML 17.0016X	**Issue / Variations / Amendment**	4
Requested by	Pepperl+Fuchs (Pty) Ltd Zerwick Forum, 8 Glen Eagle Office Park Cnr Monument Rd and Braambos St, Glen Erasmia, Kempton Park 1619, South Africa		
Manufacturer	Pepperl+Fuchs SE Lilienthalstrasse 200, 68307 Mannheim, Germany		
Description	The Smart Transmitter Isolator Type KFD2-STC(V)5-Ex1.2O... and KFD2-STC(V)5-Ex2... are Intrinsically Safe Associated Apparatus / Associated Apparatus Transmitter Power Supplies that transfer monitoring signals from a hazardous area to a safe area and communication signals in both directions. The Safe Area connections are the Power Supply and Outputs. The Hazardous Area Connections (Input Circuits) are for Sink Input, Source Input or Three Wire Input dependant on the model type.		
Equipment	Smart Transmitter Isolator	**Type**	KFD2-STC(V)5-Ex1.2O... and KFD2-STC(V)5-Ex2...
MARKING: **Original marking as per certificate ** remains applicable.** **IA number must be added.**	**Type:** **Ex Marking:**	Smart Transmitter Isolator Type KFD2-STC(V)5-Ex1.2O... and KFD2-STC(V)5-Ex2... [Ex ia Ga] IIC [Ex ia Da] IIIC [Ex ia Ma] I Ex ec IIC T4 Gc Tamb: -20 °C to +70 °C Note: An upper ambient temperature within the range +40 °C to +70 °C may be marked.	
	IA Number: **Warnings:**	MASC MS/21-8048X (To be additionally marked on equipment) See Base Certificate ** (original marking must be applied)	
Quality Assurance report (QAR) / Notification (QAN):		DE/PTB/QAR06.0008/20	

Compliance:

The equipment as described above has been allocated the rating Explosion Protected 'as above' utilizing the SANS/IEC Standards:

- SANS (IEC) 60079-0: 2019 Equipment - General requirements
- SANS (IEC) 60079-7: 2019 Equipment protection by increased safety "e"
- SANS (IEC) 60079-11: 2012 Equipment protection by intrinsic safety "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.

Special conditions of safe use "X":

- Refer to Annex A below for more details.

Conditions of manufacture:

- Refer to Annex A below for more details.

C. WELTHAGEN
TECHNICAL SPECIALIST

N. VILOJEN
TECHNICAL OFFICER

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).

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).

Mining And Surface Certification (Pty) Ltd
Unit 5 Lelyta Park, 45 Jurg Avenue, Hennopspark, Ext 87
Centurion 0157

ANNEX A

<table>
<tr><td colspan="2">This document is based on and must be read in conjunction with certificate IECEx CML 17.0016X</td></tr>
<tr><td colspan="2">Description (According to Base Certificate) **</td></tr>
<tr><td colspan="2">“Refer to description in Base Certificate ** (and any applicable schedules/issues/variations).”</td></tr>
<tr><td>Issue</td><td>Issue 1: Supplemented for review as per ARP 0108.</td></tr>
<tr><td>Standard compliance</td><td>See Base Certificate **</td></tr>
<tr><td>Special conditions of safe use (“X”)</td><td><u>Non incendive</u>
• The equipment shall be installed in an enclosure that provides a degree of protection not less than IP54 in accordance requirements of IEC 60079-0 unless the equipment is intended to be afforded an equivalent degree of protection by location. In addition, the pollution level shall be limited to pollution degree 2 or better as defined in IEC 60664-1 (Pollution degree 2 can be achieved when the installation is in a controlled environment with suitably controlled condensation or airborne pollution). For some types of enclosure, additional certification will be required to permit the installation of the module within the enclosure. Reference should be made to the enclosure certificate. The installer shall ensure that the maximum ambient temperature of the module when installed is not exceeded.
• When the device is mounted in a zoned area, connection and disconnection whilst live is only permitted if the potentially explosive atmosphere is shown to be absent.
<u>Intrinsically Safe</u>
• The equipment shall be installed in an enclosure that provides a degree of protection not less than IP54 in accordance requirements of IEC 60079-0 unless the equipment is intended to be afforded an equivalent degree of protection by location. In addition, the pollution level shall be limited to pollution degree 2 or better as defined in IEC 60664-1 (Pollution degree 2 can be achieved when the installation is in a controlled environment with suitably controlled condensation or airborne pollution). For some types of enclosure, additional certification will be required to permit the installation of the module within the enclosure. Reference should be made to the enclosure certificate. The installer shall ensure that the maximum ambient temperature of the module when installed is not exceeded.</td></tr>
<tr><td>Conditions of manufacture</td><td><u>Non-incendive</u>
• Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.
<u>Intrinsically Safe</u>
• Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.
• All transformers shall be subjected to IEC 60079-11 CL 11.2 Routine Tests for Infallible Transformers with an applied voltage of 1 500 V applied between the input and output windings. The test voltage shall be applied for a period of at least 60 s. Alternatively, the test may be carried out at 1,2 times the test voltage, but with reduced duration of at least 1 s. The applied voltage shall remain constant during the test. The current flowing during the test shall not increase above that which is expected from the design of the circuit and shall not exceed 5 mA r.m.s. at any time. During these tests, there shall be no breakdown of the insulation between windings or between any winding and the core.</td></tr>
<tr><td>Conditions of Certification</td><td>• This IA Certificate covers all units sold from the date of this document to the expiry date of this certificate.
• 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).
• 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.</td></tr>
<tr><td>Conclusion:</td><td>• 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).</td></tr>
</table>

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**