



Mining And Surface Certification (Pty) Ltd

2015/021934/07

THIS CERTIFICATE IS ISSUED AS AN I.A. CERTIFICATE IN TERMS OF THE RELEVANT REGULATIONS OF THE MINERALS ACT (INCORPORATING THE MINE HEALTH AND SAFETY ACT) AND THE ELECTRICAL MACHINERY REGULATIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT.

IA CERTIFICATE	MASC S/20-9018X	Issue	0
Issue Date	14 May 2020	Expiry Date	14 May 2023
** Based on Certificate No	IECEX KIWA 19.0014X	Issue / Variations / Amendment	0
Requested by	VEGA Grieshaber KG, Am Hohenstein 113, 77761 Schiltach, Germany		
Manufacturer	VEGA Grieshaber KG, Am Hohenstein 113, 77761 Schiltach, Germany		
Additional Manufacturing Location(s)	VEGA Americas, Inc., 4241 Allendorf Drive, Cincinnati, Ohio 45209, United States of America		
Description	<p>Radar sensors types VEGAPULS C 21, C 22, C 23 for use in explosive atmospheres caused by the presence of combustible gases or dusts, are used for monitoring and control of filling levels by means of microwave technology. The electronics, mounted in a plastic enclosure converts the reflected microwave echo, indicating the filling level, into a 2-wire 4-20mA HART or 4-wire Modbus signal. Operation and control of the sensor can either be through the wired connection or via smart phone and VEGA Tools-App (Bluetooth).</p> <p>The sensor is equipped with a fixed cable of 5m, 10 m, 25m or selectable length with a G1", 1" NPT or R1" threaded connection.</p> <p>Ambient and process temperature range for Ex ib mb, Ex tb: -20 to 80°C Ambient and process temperature range for Ex ta, ta/tb: -20 to 67°C</p> <p>Electrical Data 2-wire 4-20 mA HART: Supply and output circuit (+ (Brown wire), - (Blue wire)): $U_N = 12 \dots 35 \text{ V}, < 1 \text{ W}$ 4-wire Modbus: Supply (+ (Brown wire), - (Blue wire)) and output circuit (+ (Black wire), - (White wire)): $U_N = 8 \dots 30 \text{ V}, < 1 \text{ W}$</p>		
Equipment	Radar sensors	Type	VEGAPULS C 21, C 22, C 23
MARKING: Original marking as per certificate * remains applicable. IA number must be added.	<p>Type: VEGAPULS C 21, C 22, C 23</p> <p>Ex Marking: Ex ib mb IIC T4 Gb 2-wire 4-20 mA HART: Ex ta, ta/tb IIIC T₂₀₀ 121°C Da, Da/Db Ex tb IIIC T₂₀₀ 134°C Db 4-wire Modbus: Ex ta, ta/tb IIIC T₂₀₀ 142°C Da, Da/Db Ex tb IIIC T₂₀₀ 155°C Db</p> <p>IA Number: MASC S/20-9018X (To be additionally marked on equipment)</p> <p>Warnings: See Base Certificate ** (original marking must be applied)</p>		
Quality Assurance report (QAR) / Notification (QAN) Expiry date:	DE/TUN/QAR06.0002/09		

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 report
Any restrictions and conditions enforced by the chief inspector of mines or chief inspector of factories
Any relevant requirements of the MHS Act.

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



IA CERTIFICATE: MASC S/20-9018X

Equipment: Radar Sensors types VEGAPULS C 21, C 22, C 23

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<p>Compliance: The equipment as described above has been allocated the rating <u>Explosion Protected</u> Ex ib mb IIC T4 Gb; 2-wire 4-20 mA HART: Ex ta, ta/tb IIC T₂₀₀ 121°C Da, Da/Db, Ex tb IIC T₂₀₀ 134°C Db 4-wire Modbus: Ex ta, ta/tb IIC T₂₀₀ 142°C Da, Da/Db, Ex tb IIC T₂₀₀ 155°C Db utilizing the SANS/IEC Standards:</p> <ul style="list-style-type: none"> • SANS (IEC) 60079-0: 2019 (2017) Equipment - General requirements • SANS (IEC) 60079-11: 2012 (2011) Equipment protection by Intrinsic Safety 'i' • SANS (IEC) 60079-18: 2016 (2014) Equipment with Equipment Protection Level (ELP) Ga • SANS (IEC) 60079-31: 2014 (2013) Equipment dust ignition protection by enclosure "t" 	
<p>Special conditions of safe use "X":</p> <ul style="list-style-type: none"> • For electrical and thermal data refer to the general product information. • The equipment shall be installed and maintained such that hazards caused by electrostatic discharge are excluded and that there is a low risk of mechanical danger. 	
<p>Conditions of manufacture:</p> <ul style="list-style-type: none"> • No additional conditions as may be applicable for the base certificate ** 	
 Terine Orsmond TECHNICAL OFFICER	 Regardt Zeelie TECHNICAL SPECIALIST
<p><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></p>	

ANNEX A

This document is based on and must be read in conjunction with certificate IECEX KIWA 19.0014X	
Description (According to Base Certificate *)	
"Refer to description in Base Certificate ** (and any applicable schedules/issues/variations)."	
Standard compliance	See Base Certificate **
Special conditions of safe use ("X")	<ul style="list-style-type: none"> • As above
Conditions of manufacture	<ul style="list-style-type: none"> • As above
Conditions of Certification	<ul style="list-style-type: none"> • 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.
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).

This document is only for use and application in South Africa. It is issued based on National interpretations and accepted practices.

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Mining and Surface Certification (Pty) Ltd Reg No: 2015/021934/07
 Directors: Roelof Viljoen & Francoius du Toit
 Unit #5, Lelyla Park, 45 Jurg Avenue, Hennospark 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

