



Certificate of Compliance

Certificate: 80043162

Master Contract: 153857

Project: 80043162

Date Issued: 2020-09-30

Issued To: Vega Grieshaber KG
Am Hohenstein 113
Schiltach, Baden-Württemberg, 77761
Germany

Attention: Markus Dieterle

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: Hossein Saleh
Hossein Saleh

PRODUCTS

CLASS 2258 02 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations

CLASS 2258 03 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations

CLASS 2258 82 - PROCESS CONTROL EQUIPMENT - For Hazardous Locations - Certified to US Standards

CLASS 2258 83 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations - Certified to U.S. Standards

Class I, Division 2, Groups A, B, C, D T4

Class II, Division 1, Groups E, F, G T4; Class III

Ta: -20°C to +80°C

Radar sensors type 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





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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).

The sensor is equipped with a fixed cable of 5m, 10 m, 25m or selectable length with a 1" NPT or 1/2" NPT threaded connection. Threaded connection at the antenna side can be of G1 1/2", R1 1/2" or NPT 1 1/2" (for VEGAPULS C 21, C 22 only).

For 2-wire 4-20mA HART, supply and output circuit (+ (Brown wire), - (Blue wire)): 12-35VDC, 1W max.

For 4-wire MODBUS, supply and output circuit (+ (Brown wire), - (Blue wire)) and output circuit (+ (Black wire), - (White wire)): 8-30VDC, 1W max.

Process temperature range: Same as ambient.

Process pressure: -1...+3bar

Enclosures are Type 4X/6P, IP66/68 3bar, 24hrs.

Safety Instructions document: 64735.

Class I, Division 2, Groups A, B, C, D T4

Class II, Division 1, Groups E, F, G T4; Class III

Ex ib mb IIC T4 Gb

Class I, Zone 1 AEx ib mb IIC T4 Gb

2-wire 4-20mA HART:

Ex ta, ta/tb IIIC T121°C Da, Da/Db

Zone 20, 20/21 AEx ta, ta/tb IIIC T121°C Da, Da/Db

Ex tb, IIIC T134°C Db

Zone 21, AEx tb IIIC T134°C Db

4-wire MODBUS:

Ex ta, ta/tb IIIC T142°C Da, Da/Db

Zone 20, 20/21 AEx ta, ta/tb IIIC T142°C Da, Da/Db

Ex tb, IIIC T155°C Db

Zone 21, AEx tb IIIC T155°C Db

Ta: -20°C to +67°C for EPL Da, Da/Db

Ta: -20°C to +80°C for EPL Gb, Db, Class1, Division 2, Class 2, Division 1, and Class III

Radar sensors types VEGAPULS C 21, 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).

The sensor is equipped with a fixed cable of 5m, 10 m, 25m or selectable length with a 1" NPT threaded connection. Threaded connection at the antenna side (applicable to VEGAPULS C21 only) can be of G1 1/2", R1 1/2" or NPT 1 1/2".

For 2-wire 4-20mA HART, supply and output circuit (+ (Brown wire), - (Blue wire)): 12-35VDC, 1W max.

For 4-wire MODBUS, supply and output circuit (+ (Brown wire), - (Blue wire)) and output circuit (+ (Black wire), - (White wire)): 8-30VDC, 1W max.



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Process temperature range: Same as ambient.
Process pressure: -1...+3bar
Enclosures are Type 4X/6P, IP66/68 3bar, 24hrs.
Safety Instructions document: 64735.

PULS C 21S, C 23S

Radar sensors types PULS C 21S, 23S are identical to VEGAPULS C 21, C 23 in every aspect and are only different in enclosure shape, color, and type of connection cable.
Safety Instructions document: 62428.

Conditions of Acceptability:

1. To be supplied by a Class 2 or Limited Energy Source in accordance with CSA 61010-1-12 and UL 61010-1 Third Edition.
2. 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.
3. The equipment shall be wired using NPT threads identified on the enclosure using the 1 NPT threads for Zones, either the 1 NPT or ½ NPT threads for Divisions, and in accordance with the applicable area electrical code. The integral cable shall be mechanically protected and terminated in a suitably rated terminal or junction box.

APPLICABLE REQUIREMENTS

Standard Number	Issue Date / Edition	Title
CAN/CSA C22.2 No. 61010-1-12	2012 / UPD1: 2015, UPD2: 2016, AMD1: 2018	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1 General Requirements
CAN/CSA C22.2 No. 94.2	2015 / 2 nd Edition	Enclosures for Electrical Equipment, Environmental Considerations
CAN/CSA C22.2 No. 60529	2016 / 2 nd Edition	Degrees of protection provided by enclosures (IP Code)
CSA C22.2 No. 25	2017 / 4 th Edition	Enclosures for Use in Class II, Division 1, Groups E, F and G Hazardous Locations
CSA C22.2 No 213	2017 / 3 rd Edition	Nonincendive electrical equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2 hazardous (classified) locations
CSA C22.2 No. 60079-0	2019 / 4 th Edition	Explosive Atmospheres - Part 0: Equipment - General Requirements
CAN/CSA C22.2 No. 60079-11	2014 / 2 nd Edition	Electrical apparatus for explosive gas atmospheres - Part 11: intrinsic safety "i"
CAN/CSA C22.2 No. 60079-18	2016 / 2 nd Edition	Explosive atmospheres - Part 18: Equipment protection by encapsulation "m"



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Standard Number	Issue Date / Edition	Title
CAN/CSA C22.2 No. 60079-31	2015 / 2 nd Edition	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
UL 61010-1	2012 / 3 rd Edition, AMD1: 2018	Standard for Safety - Electrical Equipment for Measurement, Control, and Laboratory use; Part 1: General requirements
UL Standard No. 50E	2015 / 2 nd Edition	Enclosures for Electrical Equipment, Environmental Considerations
ANSI/IEC 60529	2011	Degrees of protection provided by enclosures (IP Code)
UL 121201	2017 / 9 th Edition	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Division 1 and 2 Hazardous (Classified) Locations
ANSI/UL 60079-0	2019 / 7 th Edition	Explosive Atmospheres - Part 0: Equipment - General Requirements
ANSI/UL 60079-11	2018 / 6 th Edition	Explosive Atmospheres - Part 11: Equipment Protection by Intrinsic Safety "i"
ANSI/UL 60079-18	2019 / 4 th Edition	Explosive atmospheres - Part 18: Equipment protection by encapsulation "m"
ANSI/UL 60079-31	2015 / 2 nd Edition	Equipment dust ignition protection by enclosure "t"
FM Class 3600	2018	Electrical Equipment for Use in Hazardous (Classified) Locations - General Requirements
FM Class 3616	2011	Dust-Ignitionproof Electrical Equipment - General Requirements



Supplement to Certificate of Compliance

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The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
80043162	2020-09-30	Original CSA certification of VEGAPULS C21, C22, C23 Radar Sensors for marking Cl I, Div 2, Grp ABCD T4; Cl II, Div 1, Grp EFG T4; Cl III; Cl I, Zn 1, A/Ex ib mb IIC T4 Gb; Zn 20, 20/21 A/Ex ta, ta/tb IIC T*°C Da, Da/Db; Zn 21, A/Ex tb IIC T*°C Db based on acceptance of IECEx certificate and report by notified body and FM reports for enclosure assessments and DIP method of protection.

