Safety instructions
VEGAMET 624, 625
VEGASCAN 693

[Zone 0] [Ex ia] IIC, [Zone 20] [Ex ia D]

Document ID: 33582

Contents

Supplementary documentation:

- Operating Instructions VEGAMET 624, 625
- Operating Instructions VEGASCAN 693
- Certificate of Conformity IECEx TUN 04.0013 (Document ID: 29651)

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1 Area of applicability

These safety instructions apply to the controllers VEGAMET 624, 625 and VEGASCAN 693 according to the Certificate of Conformity IECEx TUN 04.0013 (certificate number on the type label) and to all instruments with the safety instruction 33582.

2 General information

The controllers VEGAMET 624, 625 and VEGASCAN 693 are accessory electrical devices used to process intrinsically safe 4 … 20 mA/HART signals as well as to supply intrinsically safe sensors with power. They are also used to galvanically isolate intrinsically safe circuits from non-intrinsically safe circuits.

If the controllers VEGAMET 624, 625 and VEGASCAN 693 are used for powering intrinsically safe sensors that are installed and operated in hazardous areas, the general Ex mounting instructions IEC 60079-14 as well as these safety instructions must be observed.

The operating instructions as well as the installation regulations or standards that apply for explosion protection of electrical systems must generally be observed.

The installation of explosion-protected systems must always be carried out by qualified personnel.

3 Technical data

The VEGAMET 624, 625 and VEGASCAN 693 includes non-intrinsically safe circuits and an intrinsically safe circuit.

Non-intrinsically safe circuits
Power supply: (terminals 17/ 18)

Operating voltage	24 … 65 V DC (-15 … +10 %)
	24 … 230 V AC (-15 … +10 %)
	50/60 Hz
Reference voltage Um	253 V AC

Relay outputs: (terminals 6/7/8, 20/21/22, 23/24/25, 26/27/28)	
Switching voltage	min. 10 mV DC, max. 250 V AC/DC
Switching current	min. 10 µA DC, max. 3 A AC, 1 A DC
Breaking capacity	min. 50 mW, max. 750 VA, 18 W at U = 60 V DC, 40 W at U ≤40 V DC

Current outputs: (terminals 11/12, 13/14, 15/16)	
Range	0/4 … 20 mA
Reference voltage U_m	253 V AC/DC

Ethernet interface	
Reference voltage U_m	50 V AC/DC

RS232 interface	
Reference voltage U_m	50 V AC/DC

I^2C bus interface	
For connection of VEGACONNECT versions	PTB 01 ATEX 2007 X, PTB 07 ATEX 2013 X

3.1 Intrinsically safe circuit

Sensor input (terminals 1/2)	
Input type	
– Active	Sensor is powered by the controller
Max. terminal voltage U_o:	23.9 V
Max. current I_o:	108 mA
Max. power P_o:	645 mW
Characteristics	Linear
Effective internal capacitance C_i	0 nF
Effective internal inductance L_i	0 mH
Permissible external inductance/capacitance Ex ia IIC	
– External inductance L_o	0.5 mH, 0.3 mH, 0.2 mH
– External capacitance C_o	84 nF, 100 nF, 120 nF
Permissible external inductance/capacitance Ex ia IIB	
– External inductance L_o	2 mH, 1 mH, 0.5 mH
– External capacitance C_o	430 nF, 470 nF, 560 nF
Separation of intrinsically safe - non intrinsically safe circuits	
– Peak value of nominal voltage	375 V

Note:
In case of failure the maximum voltage on the non-intrinsically safe circuits may not excced 253 V resp. 50 V.

Application conditions
Ambient conditions

Ambient temperature	-20 … +60 °C (-4 … +140 °F)

Electrical protective measures	
Protection rating	
– Instrument	IP30
– Terminal socket	IP20

4 Installation

The controllers VEGAMET 624, 625 and VEGASCAN 693 must be operated outside the hazardous area. The separating wall included in the shipment should be mounted prior to setup and the instrument coding should be carried out. Please observe the notes in the operating instructions.

The controllers VEGAMET 624, 625 and VEGASCAN 693 must only be operated in areas that allow protection class IP20. Otherwise, they must be mounted in a housing with the required protection class.

If the intrinsically safe circuit is lead into dust-explosive areas of zone 20 or 21, please make sure that the instruments which are connected to these circuits meet the requirements of zone 20 or 21 and are certified respectively.

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