



(1) EC-Type Examination Certificate

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC
- (3) No. of EC-Type Examination Certificate: **BVS 15 ATEX E 067 X**
- (4) Equipment: **Transmitter type UMF3**
- (5) Manufacturer: **Heinrichs Messtechnik GmbH**
- (6) Address: **Robert-Perthel-Straße 9, 50739 Köln, Germany**
- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this type examination certificate.
- (8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive. The examination and test results are recorded in the Test and Assessment Report BVS PP 16.2017 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:
- | | |
|-----------------------------------|------------------------------------|
| EN 60079-0:2012 + A11:2013 | General requirements |
| EN 60079-1:2007 | Flameproof enclosure "d" |
| EN 60079-7:2007 | Increased Safety "e" |
| EN 60079-11:2012 | Intrinsic Safety "i" |
| EN 60079-31:2013 | Protection by Enclosure "t" |
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.
- (11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment shall include the following:



II 2G (1G) Ex d e ib [ia IIC Ga] IIB T4/T3 Gb	With mounted sensor and IS outputs
II 2D (1D) Ex tb ib [ia Da] IIIC T125°C/T150°C Db	With mounted sensor and non-IS outputs
II 2G Ex d e ib IIB T4/T3 Gb	With connection box and IS outputs
II 2D Ex tb ib IIIC T125°C/T150°C Db	With connection box and non-IS outputs
II 2G (1G) Ex d e [ib Gb] [ia Ga] IIB T4/T3 Gb	With fixed sensor cable and IS outputs
II 2D (1D) Ex tb [ib Db] [ia Da] IIIC T125°C/T150°C Db	With fixed sensor cable and non-IS outputs
II 2G Ex d e [ib] IIB T4/T3 Gb	
II 2D Ex tb [ib] IIIC T125°C/T150°C Db	
II 2G (1G) Ex d ib [ia IIC Ga] IIB T4/T3 Gb	
II 2D (1D) Ex tb ib [ia Da] IIIC T125°C/T150°C Db	
II 2G Ex d ib IIB T4/T3 Gb	
II 2D Ex tb ib IIIC T125°C/T150°C Db	

DEKRA EXAM GmbH
Bochum, dated 2016-02-08



Certification body



Special services unit

Page 2 of 5 of BVS 15 ATEX E 067 X
This certificate may only be reproduced in its entirety and without any change.

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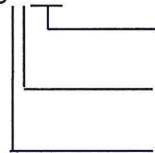
- (13) Appendix to
 (14) **EC-Type Examination Certificate**
BVS 15 ATEX E 067X
 (15) 15.1 Subject and type

Transmitter type UMF3

Type UMF3-*****

Instead of the *** numerals or letters will be inserted which characterize variations:

Type UMF- 3*****



Without influence of explosion protection

Letter for approval

Numerical 1 or 2 for supply voltage

15.2 Description

The transmitter UMF3, in connection with a magnetic inductive flow rate sensor, is used for the signal processing and data transfer.

By means of the standard installed control panel, the transmitter can be programmed by the operator making it flexible and adaptable to the user's needs. Whereas the fundamental configuration of the device, e.g. the calibration, are factory set, many other parameters and adjustments which effect the assessment of the measurement and the output data, can be carried out by the user.

The transmitter will be separately installed (Connection of sensors / Sensor over Ex d / tb – enclosure) with Flow Sensor PIT * according to BVS 03 ATEX E 150 X or Induction sensor type IS X.1XXEx according to FTZU 14 ATEX0160X or directly installed with Flow Sensor PIT * according to BVS 03 ATEX E 150X or Induction sensor type IS X.1XXEx according to FTZU 12 ATEX0139U.

Listing of all components used referring to older standards

Subject and type	Certificate	Standards
Enclosure ² Limatherm type XD-ID100win	FTZU 04 ATEX 0332U	EN 60079-0:2009 EN 60079-1:2007 EN 60079-31:2009
Terminal enclosure ² Limatherm type XD-JBA	FTZU 07 ATEX 0134U	EN 60079-0:2009 EN 60079-1:2007 EN 60079-31:2009
Induction sensor ² type IS X.1XXEx	FTZU 12 ATEX0139U	EN 60079-0:2012 EN 60079-1:2007 EN 60079-11:2012 EN 60079-31:2009
Terminal ² WAGO type 236	PTB 06 ATEX 1061U	EN 60079-0:2006 EN 60079-1:2007

¹ No applicable technical differences

² Technical differences evaluated and found satisfactory

15.3 Parameters

Electrical parameters

15.3.1	Supply circuit					
15.3.1.1	Type UMF 3-1**** (terminals KL7)					
	Voltage max. voltage	Um	AC AC	90 – 253 253	V V	
15.3.1.2	Type UMF 3-2**** (terminals KL14)					
	Voltage max. voltage	Um	DC DC	24 ± 20% 60	V V	
15.3.2	Sensor circuits					
15.3.2.1	Non-intrinsically safe Field coil circuit (terminals X2)					
	Max. voltage		DC	30	V	
	Nominal current			200	mA	
	Max. current	Flow Sensor PIT		250	mA	
	Max. current	induction sensor type IS X.1XXEx		200	mA	
15.3.2.2	Intrinsically safe electrode circuit level of protection Ex ib (terminals X1)					
	Input E1 to GND (FE) and E2 to GND (FE)					
	Voltage	Uo	DC	29.7	V	
	Current	Io		6.6	mA	
	Power	Po		49	mW	
	For types UMF 3-*C***, UMF 3-*D***, UMF 3-*E*** and UMF 3-*F*** is valid: Connection of the sensor with a cable with a max. length of 10 m					
15.3.3	Signal outputs					
15.3.3.1	Non-intrinsically safe signal circuits at type UMF 3-*B***, type UMF 3-*D*** and type UMF 3-*F***					
	Voltage	Um	AC/DC	30	V	
	Current			500	mA	
15.3.3.2	Intrinsically safe signals, type UMF 3-*A***, type UMF 3-*C*** and type UMF 3-*E*** (passive), Level of protection Ex ia					
15.3.3.2.1	Binary outputs 1 (terminals KL4), 2 (terminals KL1) and 3 (terminals KL5) Values for each circuit					
	Voltage	Ui	DC	30	V	
	Current	Ii		200	mA	
	Power	Pi		3	W	
	Effective internal inductance	Li		negligible		
	Effective internal capacitance	Ci		negligible		
15.3.3.2.2	Current output (terminals KL2)					
	Voltage	Ui	DC	30	V	
	Current	Ii		150	mA	
	PowerPi			1.3	W	
	Effective internal inductance	Li		0.1	mH	
	Effective internal capacitance	Ci		20	nF	
15.3.3.2.3	Binary input (terminals KL6)					
	Voltage	Ui	DC	30	V	
	Current	Ii		200	mA	
	Power	Pi		3	W	
	Effective internal inductance	Li		negligible		
	Effective internal capacitance	Ci		negligible		
15.3.3.3	Temperatures					
	Ambient temperature range		Ta	-35 °C to +60 °C		
	Surface temperature for Dust application			T125 °C / T150 °C		
	Temperature class			T4/T3		

The temperature class and the related surface temperature for dust application are listed in the instruction manual according the process temperature, the ambient temperature, the adapter temperature and the type of lining.

(16) Test and Assessment Report

BVS PP 16.2017 EG as of 2016-02-08

(17) Special conditions for safe use

The intrinsically safe circuits are connected to earth; along the intrinsically safe circuits (between transmitter and sensor) potential equalization must exist.

The cable glands shall be certified for the type of protection listed in the marking and IP 65.

The wiring and the connection of the wires if directly installed with Flow Sensor PIT * or induction sensor type IS X.1XXEx shall be performed according to 4.5, 4.7.2 and 4.8 of IEC 60079-7 mechanical protected and corresponding to the temperature resistance of the wire.

The cable in variant with fixed sensor cable has to be mechanically protected.

The apparatus, in variant with fixed sensor cable including cable, has to be installed in dust hazardous areas in such a way that high level electrostatic charges, which could lead to propagating brush discharge, can be excluded.

The induction sensor type IS X.1XXEx shall be fully floated at all times.

It shall be ensured that there are no detrimental effects to the materials of the sensor caused by the fluids.