

Translation

1 **EU-Type Examination Certificate**

2 **Equipment intended for use in potentially explosive atmospheres**  
**Directive 2014/34/EU**

3 EU-Type Examination Certificate Number: **BVS 21 ATEX E 063 X**

4 Product: **Mass flow transmitter type UMC4-RM**

5 Manufacturer: **Heinrichs Messtechnik GmbH**

6 Address: **Robert-Perthel-Straße 9, 50739 Köln, Germany**

7 This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA Testing and Certification GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential Report No. BVS PP 21.2098 EU.

9 The Essential Health and Safety Requirements are assured in consideration of:

**EN IEC 60079-0:2018**                      **General requirements**  
**EN IEC 60079-7:2015 + A1:2018**   **Increased Safety "e"**  
**EN 60079-11:2012**                      **Intrinsic Safety "i"**

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

 **II (1)3G Ex ec [ia Ga] IIC T6...T3 Gc**

For details see clause 15.3 "Parameters"

DEKRA Testing and Certification GmbH  
Bochum, 2021-09-14

Signed: Jörg-Timm Kilisch

Managing Director

13 **Appendix**

14 **EU-Type Examination Certificate**

**BVS 21 ATEX E 063 X**

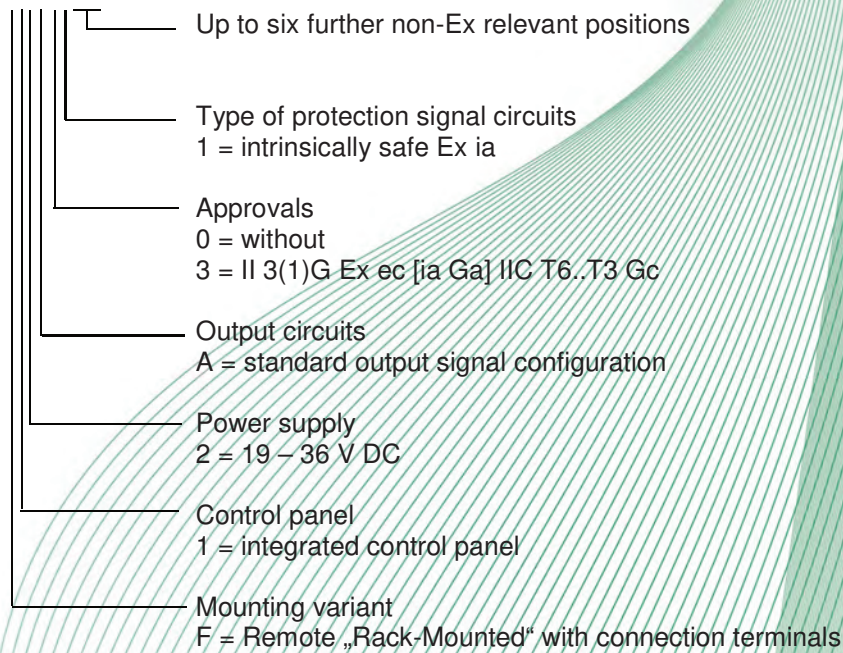
15 **Product description**

15.1 **Subject and type**

Mass flow transmitter type UMC4-RM

The model code of the UMC4-RM consists of the fixed prefix UMC4- followed by letters and numbers that indicate the different versions:

Type UMC4-\*\*\*\*\*



15.2 **Description**

The mass flow transmitter is used in combination with a mass flow sensor for measurement of mass flow of liquids and gases in pipes and is designed in type of protection Increased Safety “ec”. The electronics are protected by a sheet metal housing with protection class IP20.

The transmitter shall be installed in an enclosure that provides a minimum ingress protection of IP54 in accordance with EN IEC 60079-0.

The connection to the sensor is made via a ten-core cable.

The signal output circuits (terminals 11 – 20) are designed in type of protection Intrinsic Safety “ia”.

The Exciter circuit (terminals 9 and 10), the temperature sensor circuit (terminals 5 up to 8) and the sensor circuits (terminals 1 - 2 and 3 - 4) are also designed intrinsically safe “ia”.

### 15.3 Parameters

#### 15.3.1 Power circuit (terminals L, N and PE)

Nominal voltage	$U_m$	DC	19 - 36	V
Max. voltage		DC	60	V

#### 15.3.2 Sensor circuits type of protection Ex ia IIC

##### 15.3.2.1 Exciter circuit (terminals 9 and 10)

Linear output characteristic

Voltage	$U_o$	DC	12.15	V
Current	$I_o$		90	mA
Power	$P_o$		271	mW
Max. external inductance	$L_o$		5	mH
Max. external capacitance	$C_o$		1320	nF

##### 15.3.2.2 Temperature sensor circuit (terminals 5 up to 8)

Linear output characteristic

Voltage	$U_o$	DC	12.15	V
Current	$I_o$		3.84	mA
Power	$P_o$		12	mW
Max. external inductance	$L_o$		1000	mH
Max. external capacitance	$C_o$		1305	nF

##### 15.3.2.3 Sensor circuit (terminals 1 - 2 and 3 - 4)

Linear output characteristic (values for each circuit)

Voltage	$U_o$	DC	12.15	V
Current	$I_o$		16	mA
Power	$P_o$		48	mW
Max. external inductance	$L_o$		140	mH
Max. external capacitance	$C_o$		1305	nF

#### 15.3.3 Current output 1 (terminals 11 - 12) and Current output 2 (terminals 13 - 14)

Passive circuit in type of protection Ex ia IIC (values for each circuit)

Voltage	$U_i$	DC	30	V
Current	$I_i$		150	mA
Power	$P_i$		1.3	W
Effective internal inductance	$L_i$		0.1	mH
Effective internal capacitance	$C_i$		20	nF

#### 15.3.4 Impuls output (terminals 16 - 17) and Status output (terminals 19 - 20)

Floating optocoupler output circuit type of protection Ex ia IIC

Voltage	$U_i$	DC	30	V
Current	$I_i$		50	mA
Power	$P_i$		700	mW
Effective internal inductance	$L_i$		negligible	
Effective internal capacitance	$C_i$		negligible	

15.3.5 Ambient temperature range  $T_a$

Allowed temperature at the place of installation depending on the temperature class as shown in the following table:

Temperature at the place of installation	Temperature class
$-20\text{ °C} \leq T_a \leq 30\text{ °C}$	T6
$-20\text{ °C} \leq T_a \leq 45\text{ °C}$	T5
$-20\text{ °C} \leq T_a \leq 60\text{ °C}$	T4
$-20\text{ °C} \leq T_a \leq 60\text{ °C}$	T3

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17 **Special Conditions for Use**

The correlation between ambient temperature range and temperature class is shown in clause 15.3 "Parameters".

It must be ensured that between sensor and transmitter potential equalisation is guaranteed.

All cables are to be installed in such a way that the connection terminals are protected against tensile load.

The control panel shall only be operated when a potentially explosive atmosphere can be excluded.

The mass flow transmitter shall be installed in an appropriate enclosure that provides a minimum ingress protection of IP54 in accordance with EN IEC 60079-0.

18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.  
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH  
Bochum, 2021-09-14  
BVS-Hn/Mu A20200537



Managing Director