




# Data sheet

## UniEx-Analogue level measurement combinable with temperature measurement

### Type: UniEx.ANM...

-  II 1/2G Ex ia IIC T3...T6 Ga/Gb
-  II 1/- D Ex ia IIIC T\* °C Da
-  II 1 D Ex ia IIIC T\* °C Da

To be operated in  
intrinsically safe circuits  
- Type of protection Ex i

UniEx.ANM devices have ATEX approval and are therefore suitable for the use in explosive environment. The magnet equipped float activates in relation to the level of fluid a reed chain in the sliding tube. The offer of an extensive range of designs makes it possible for our customers to have customised products according to their specifications in all fields of applications

**Devices of the UniExANM series may only be used in connection with an Ex-barrier according to the ATEX 2014/34/EU directive Switching amplifiers are operated. This is not included in the scope of delivery, but can be ordered separately**

#### Features:

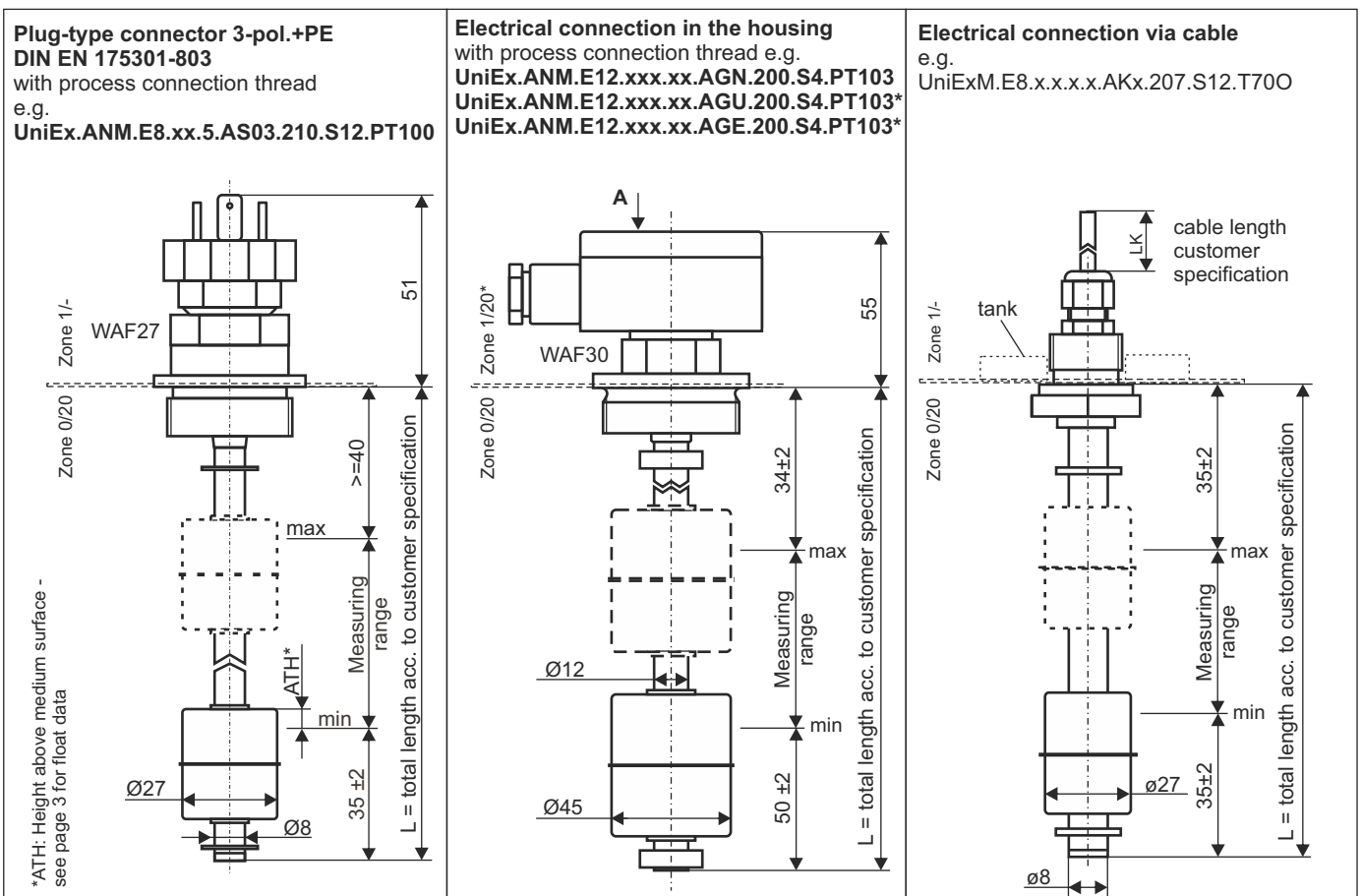
- ATEX approval according to EN 60079-11, EN 60079-26, EN IEC 60079-0
- Several electrical connections, process connections and materials are available
- A large field of application due to the proven functional principle
- Long life span

#### Applications:

- Level measurement in many liquid media
- Monitoring of processes, predetermined levels as well as pumps and level controls
- Fields of application: chemical, petrochemical, mechanical engineering, shipbuilding industry, offshore facilities, energy plants ...

#### Safety note:

- The UniEx.ANM... may only be operated with certified intrinsically safe circuits with the permissible maximum values.
- The device must be included in the periodic test of the container pressure.
- The UniEx.ANM... must be electrically connected to the equipotential bonding system of the plant.



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**Order key**

UniExANM. **E12**. 200. 5. **AGN**. 200. **S4** . **PT100**

**Type UniExANM**

**Material tube**  
stainless steel tube ø8 -- **E8**  
resolution ø8 tube: 5mm  
stainless steel tube ø12 -- **E12**  
resolution ø12 tube: 2,5/5/10mm

Tube length L: e.g. 200mm

Resolution of reed chain  
RM see float data

**Electrical connection** see table 1  
alu housing painted (II 1/2 G Ex ia IIC T3...T6 Ga/Gb) --- **AGN**  
alu housing unpainted  
(II 1 D Ex ia IIC T°C Da und II 1/2 G Ex ia IIC T3...T6 Ga/Gb) --- **AGU**  
stainless steel housing 1.4571  
(II 1 D Ex ia IIC T°C Da und II 1/2 G Ex ia IIC T3...T6 Ga/Gb) --- **AGE**

the following apply to II 1/2 G Ex ia IIC T3...T6 Ga/Gb and II 1/- D Ex ia IIC T°C Da  
plug-type connection 3 pole + PE DIN --- **AS03**  
plug-type connection M12 4 pole --- **AS04**  
plug-type connection M12 5 pole --- **AS05**  
plug-type connection M12 6 pole --- **AS06**  
plug-type connection M12 8 pole --- **AS07**  
sheathed cable (length in mm) --- **AK**, e.g. AK2500 = cable length 2500mm

**Process connections** see table 1

- 200 > G1 ½" thread, DIN 3852 Form A, stainless steel 1.4301
- 201 > G2" thread, DIN 3852 Form A, stainless steel 1.4301
- 203 > Standard flange OD120 PCD100, stainless steel 1.4301
- 204 > Standard flange OD120 PCD100, stainless steel with conduit 1.4301
- 205 > Standard flange OD74 PCD60, stainless steel 1.4571
- 206 > G1 ½" thread, stainless steel 1.4571, 90° right-angled
- 207 > G1/2" thread, stainless steel 1.4571(only in connection with AK)
- 208 > G3/8" thread, stainless steel 1.4571(only in connection with AK)
- 210 > G1" thread, stainless steel 1.4301
- 214 > G1/4" thread, stainless steel 1.4571(only in connection with AK)

Further process connections on demand

**Optional\***

Temperature sensor PT100 / PT1000  
PT100 2 wire --- **PT100**  
PT100 3 wire --- **PT103**  
PT100 4 wire --- **PT104**  
PT1000 2 wire --- **PT1000**  
PT1000 3 wire --- **PT1003**  
PT1000 4 wire --- **PT1004**

**only applicable with a tube with Ø12mm**  
Temperature switch and further options on demand

**Float**

**S4** - ø45x52mm material stainless steel (ø12 tube, resolution RM 2,5/5/10mm)  
**S7** - ø52mm bullet material stainless steel (ø12 tube, resolution RM 2,5/5/10mm)  
**S12** - ø27x31mm material stainless steel (ø8 tube, resolution RM 5mm)

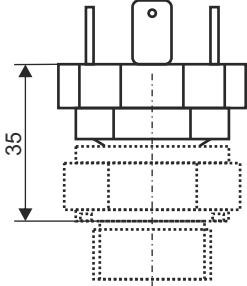
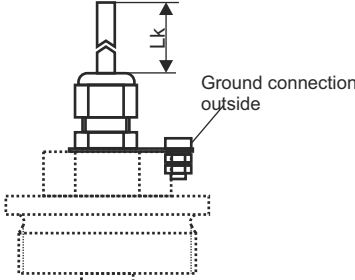
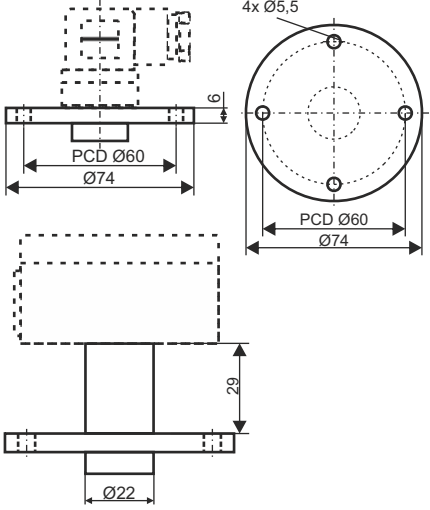
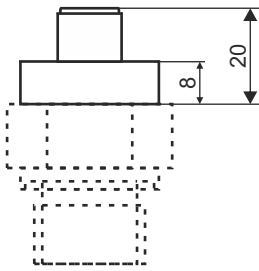
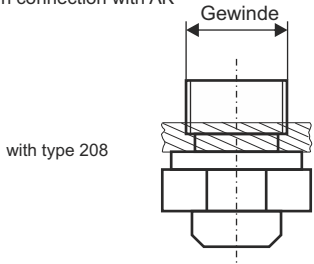
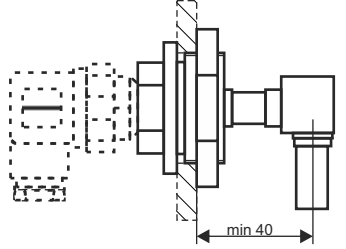
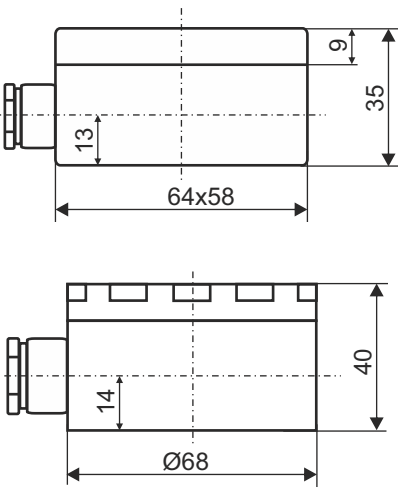
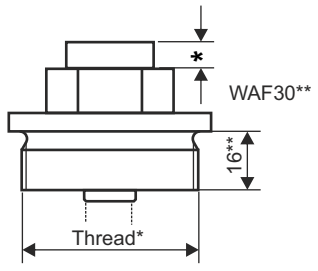
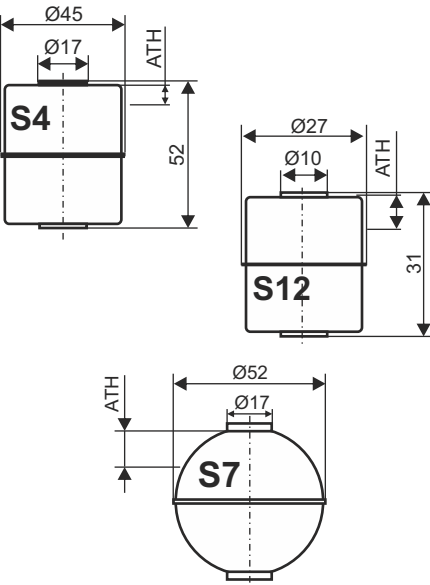
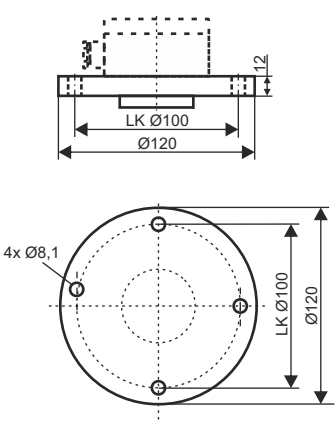
\* The variety of configuration options cannot be shown in full. Each device combination must be approved by the company Engler checked and confirmed

Table 1	Electrical connection								
Process connection	AS03	AS04	AS05	AS06	AS07	AGN	AGU	AGE	AK
200	X	X	X	X	X	X	X	X	X
201	X	X	X	X	X	X	X	X	X
203	X	X	X	X	X	X	X	X	X
204	X	X	X	X	X	X	X	X	X
205	X	X	X	X	X	X	X	X	X
206	X	X	X	X	X	X	X	X	X
207									X
208									X
210	X	X	X	X	X	X	X	X	X
214									X

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### Type: UniEx.ANM...

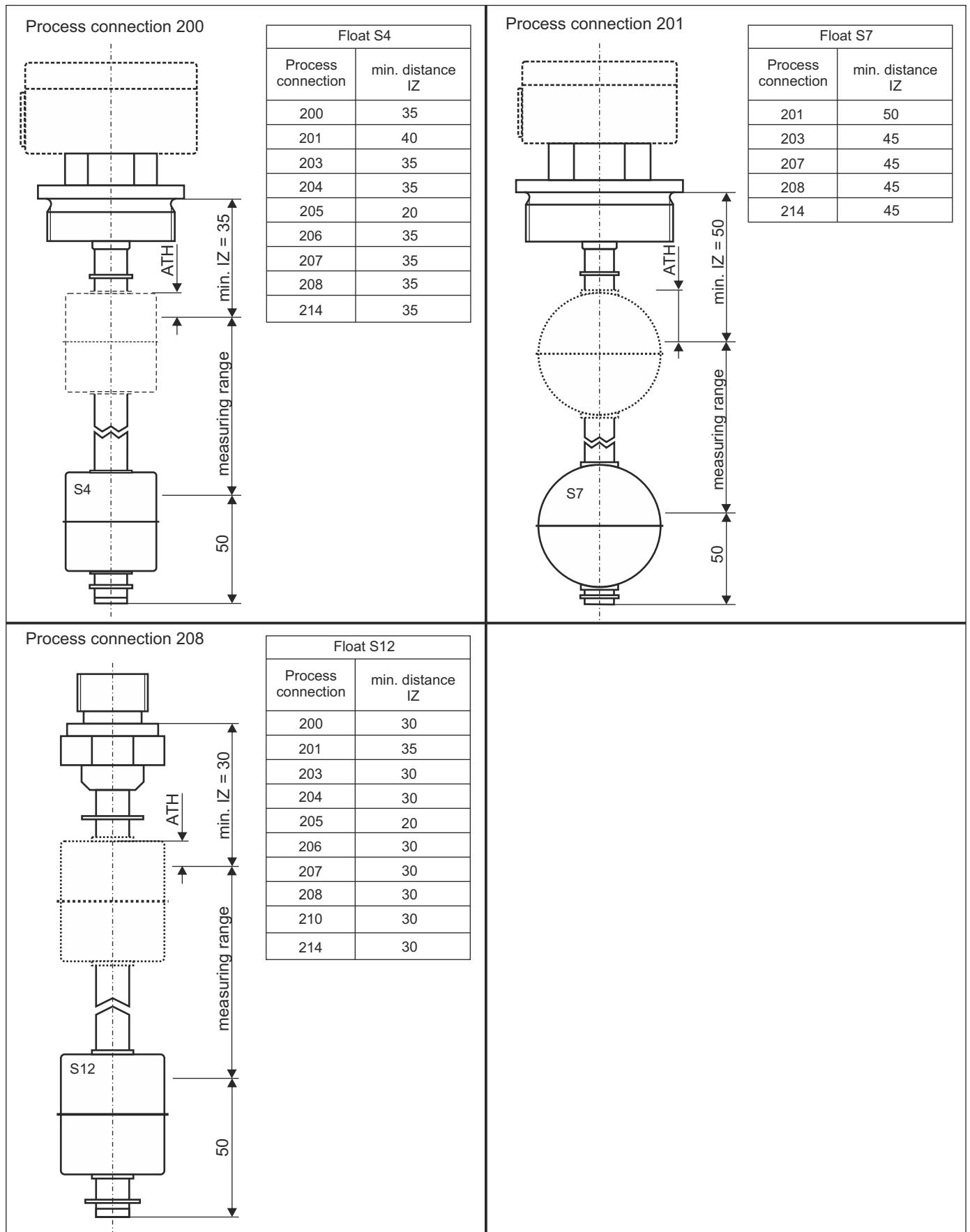
<p><b>Electrical connections</b></p> <p><b>Connection: AS03</b> plug-type connector 3-pol. + PE, DIN EN 175301-803</p> 	<p><b>Connection: AK</b> with sheathed cable e.g. Ak2500 = Lk 2500mm</p> <p>Cable length Lk according to customer specification</p>  <p>Equipotential bonding via housing/process connection</p>	<p><b>Standard flange stainless steel</b> 205 - OD74 PCD4/60</p> 
<p><b>Connection: AS04 to AS07</b> plug-type connector M12x1</p>  <p>Equipotential bonding via housing / process connection</p>	<p><b>Process connections</b></p> <p><b>Thread with cable outlet:</b> 207 - G1/2" / 208 - G3/8" / 214 - G1/4" only in connection with AK</p>  <p>Mounted on the inside of the tank Equipotential bonding via housing/process connection</p>	<p><b>Thread: 206 - G1 1/2" angled</b></p>  <p>Equipotential bonding via housing/process connection</p>
<p><b>Connection: AGN, AGU or AGE</b> in the housing circuit board with terminals 1.5mm<sup>2</sup></p>  <p>AGU = connection housing alu 64x58x35 unpainted with screw gland metal AGN = connection housing alu 64x58x35 painted with screw gland plastic / blue AGE = connection housing stainless steel Ø68x40 with screw gland metal</p>	<p><b>Thread: 200 - G1 1/2"/201 - G2" / 210 - 1"</b></p>  <p>**Value only valid for thread type 200</p>	<p><b>Float</b></p> <p><b>Cylindrical and bullet float material stainless steel</b> - ATH: Height above medium surface: 0,998 g/cm<sup>3</sup> S4: 12mm S7: 21mm S12: 6mm Limiting density <math>\rho \geq 0.75 \text{ g/cm}^3</math></p> 
<p><b>Standard flange</b> 203 - OD120 PCD100 stainless steel 204 - stainless steel with protective tube</p> 		

Dimensions in mm

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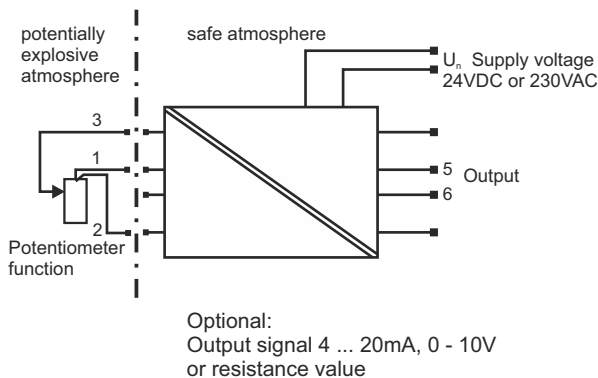
### Type: UniEx.ANM...

#### Technical data

Connection: see electrical connections above, further electrical connections on demand  
 Process connection: see respective design, special mounting on demand  
 Tube:  $\varnothing 8\text{mm}$ ,  $\varnothing 12\text{mm}$  - material stainless steel 1.4571, brass on demand  
 Tube length: length L  $\pm 1\text{mm}$  according to specification, max. 3000mm  
 Float:  $\varnothing 45 \times 52\text{ mm}$ , material stainless steel 1.4571, type S4  
 $\varnothing 52\text{ mm}$  bullet, material stainless steel 1.4571, type S7  
 $\varnothing 27 \times 31\text{ mm}$ , material stainless steel 1.4571, type S12  
 Analogue output: potentiometer function, via measuring transducer 4-20mA or 0-10V measuring range - see sketch on page 1  
 Resolution: 2,54 mm; 5,0 mm or 10,0 mm  
 Pressure: atmospheric, max. 6bar, higher pressures on request  
 Protection rating: IP 65  
 Operating temperature:  $-20^\circ\text{C}$  to  $105^\circ\text{C}$  in medium,  $-20^\circ\text{C}$  to  $70^\circ\text{C}$  above mounting  
 Limit density:  $\rho \geq 0,75\text{g/cm}^3$

#### Ex-Barrier / Switch amplifier\*

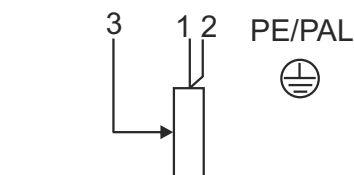
sketch exemplary



\*can be ordered optionally

#### Terminal diagram

sketch exemplary



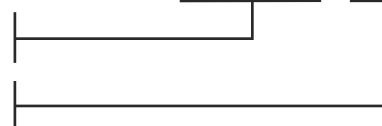
Passive - without measuring transducer, potentiometer function

\*Connection diagrams can be found in the data sheet

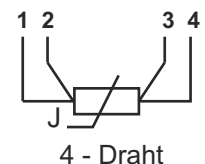
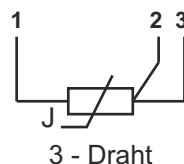
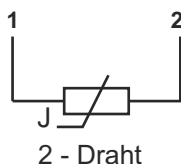
#### Formular types

Type - see page 2  
 float switch  
 Temperature sensor  
 e.g. PT100-3-wire

UniExANM...PT103



#### Terminal diagrams PT100/PT1000



#### Technical data - Temperature sensor

Temperature sensor: platinum resistor PT100 / PT1000 according DIN EN 60751, class B  
 Nominal resistance  
     PT100: 100 Ohm  
     PT1000: 1000 Ohm  
 Temperature coefficient: 0.00385  
 Tolerance class: DIN EN 60751, class B  
 Self-heating  
     PT100: 0,4 K/mW  
     PT1000: 0,2 K/mW  
 Long-term stability after 1000h at  $150^\circ\text{C}$ : R0 Drift < 0.06 %

Temperature sensors are only possible in tube with  $\varnothing 12\text{mm}$