

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:

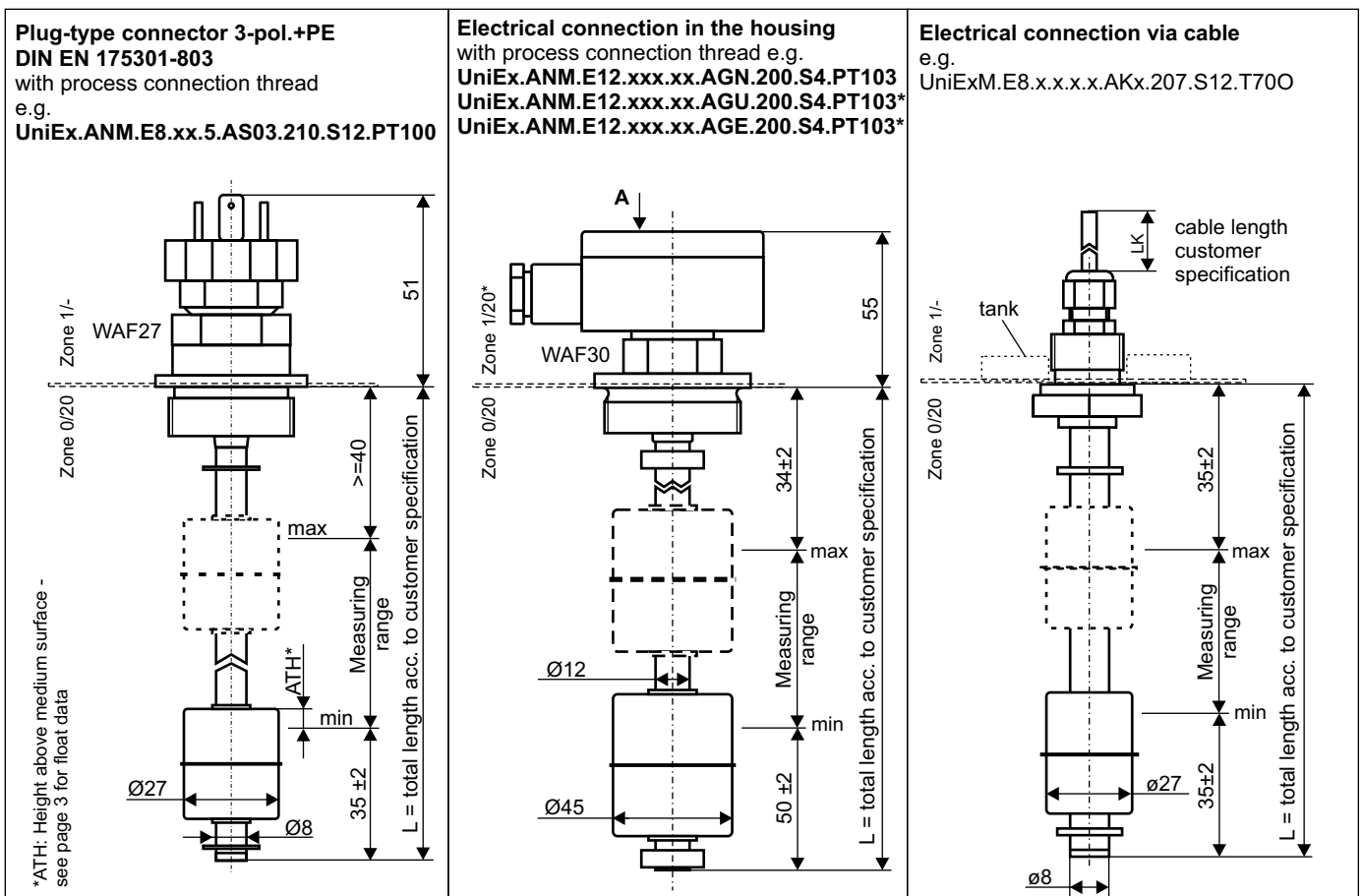
- ATEX approval according to EN 60079-11, EN 60079-26, EN IEC 60079-0
- Several electrical connections, process connections and materials are available
- A large field of application due to the proven functional principle
- Long life span

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)

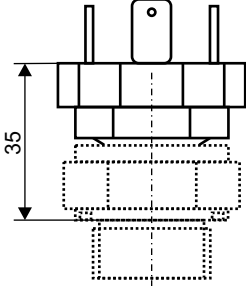
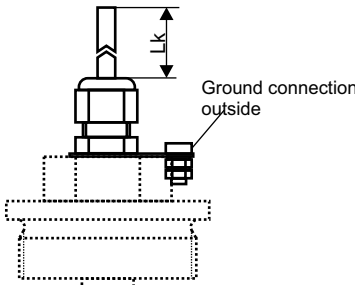
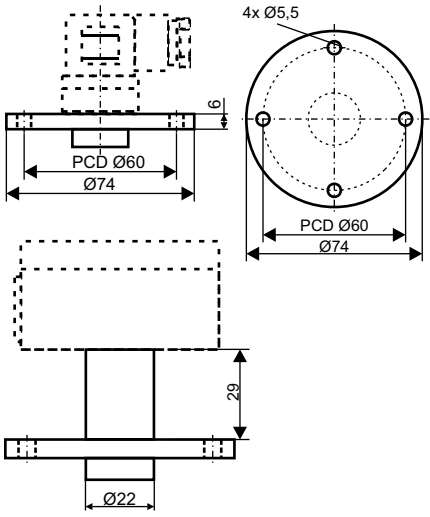
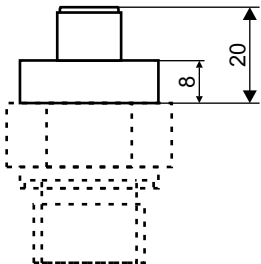
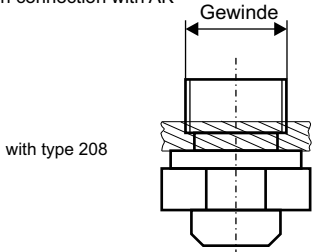
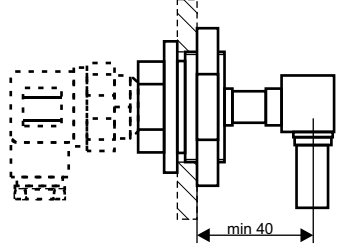
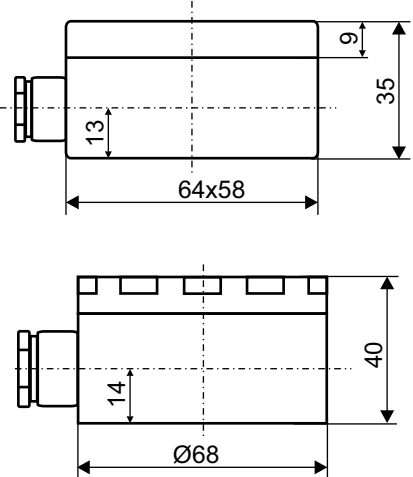
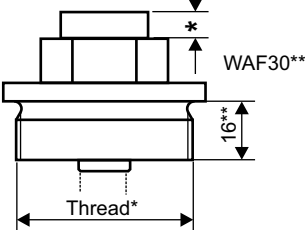
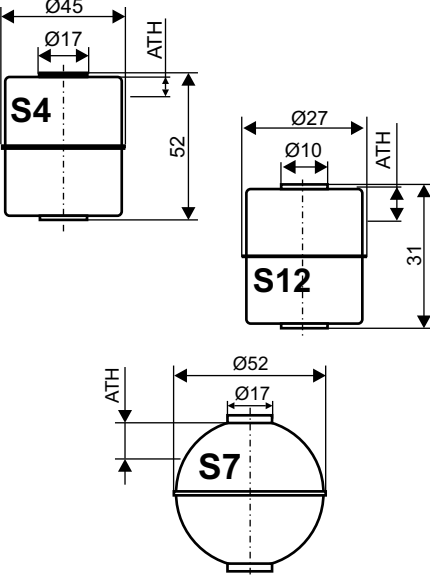
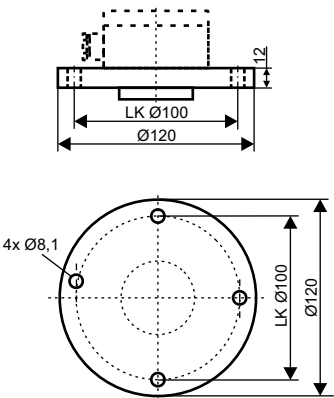
* The variety of configuration options cannot be shown in full. Each device combination must be approved by the company Engler checked and confirmed

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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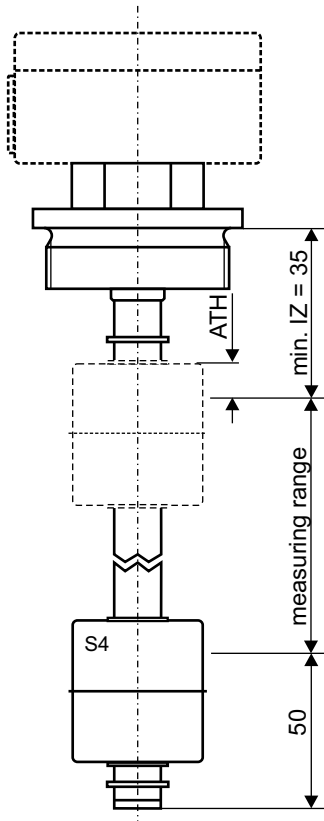
Electrical connections Connection: AS03 plug-type connector 3-pol. + PE, DIN EN 175301-803 	Connection: AK with sheathed cable e.g. Ak2500 = Lk 2500mm  Cable length Lk according to customer specification Ground connection outside Equipotential bonding via housing/process connection	Standard flange stainless steel 205 - OD74 PCD4/60 
Connection: AS04 to AS07 plug-type connector M12x1  Equipotential bonding via housing / process connection	Process connections Thread with cable outlet: 207 - G1/2" / 208 - G3/8" / 214 - G1/4" only in connection with AK  with type 208 Mounted on the inside of the tank Equipotential bonding via housing/process connection	Thread: 206 - G1 1/2" angled  Equipotential bonding via housing/process connection
Connection: AGN, AGU or AGE in the housing circuit board with terminals 1.5mm²  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	Thread: 200 - G1 1/2"/201 - G2" / 210 - 1"  WAF30** 16** Thread* **Value only valid for thread type 200	Float Cylindrical and bullet float material stainless steel - ATH: Height above medium surface: 0,998 g/cm³ S4: 12mm S7: 21mm S12: 6mm Limiting density $\rho \geq 0.75 \text{ g/cm}^3$ 
	Standard flange 203 - OD120 PCD100 stainless steel 204 - stainless steel with protective tube 	Dimensions in mm

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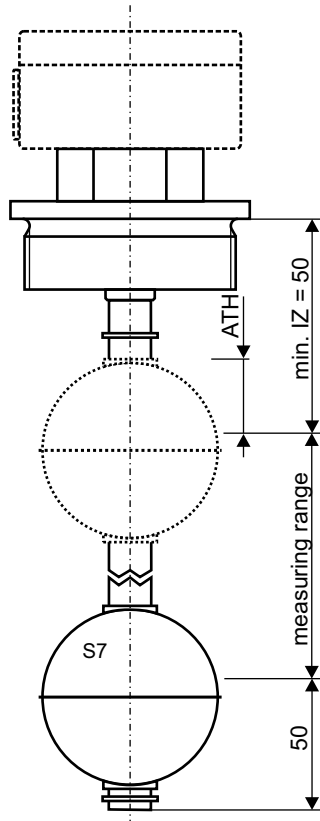
Type: UniEx.ANM...

Process connection 200



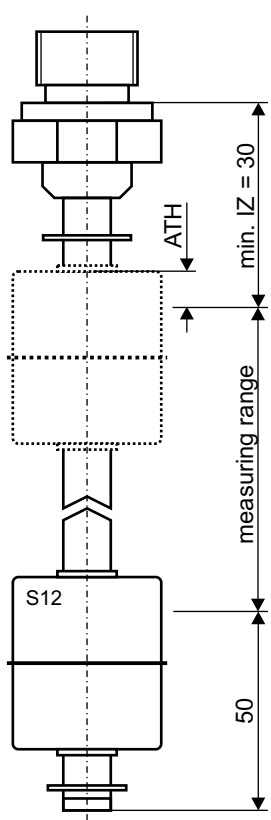
Float S4	
Process connection	min. distance IZ
200	35
201	40
203	35
204	35
205	20
206	35
207	35
208	35
214	35

Process connection 201



Float S7	
Process connection	min. distance IZ
201	50
203	45
207	45
208	45
214	45

Process connection 208



Float S12	
Process connection	min. distance IZ
200	30
201	35
203	30
204	30
205	20
206	30
207	30
208	30
210	30
214	30

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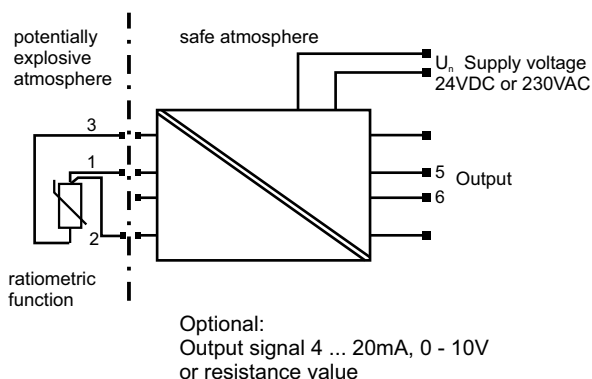
Type: UniEx.ANM...

Technical data

Connection:	see electrical connections above, further electrical connections on demand
Process connection:	see respective design, special mounting on demand
Tube:	ø8mm, ø12mm - material stainless steel 1.4571, brass on demand
Tube length:	length L ±1mm according to specification, max. 3000mm
Float:	ø45x52 mm, material stainless steel 1.4571, type S4 ø52 mm bullet, material stainless steel 1.4571, type S7 ø27x31 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°C to 105°C in medium, -20°C to 70°C above mounting
Limit density:	$\rho \geq 0,75 \text{ g/cm}^3$

Ex-Barrier / Switch amplifier*

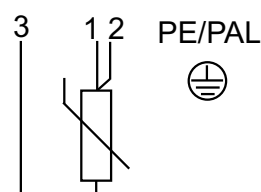
sketch exemplary



*can be ordered optionally

Terminal diagram

sketch exemplary



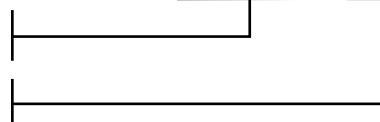
Passive - without measuring transducer,
ratiometric function

*Connection diagrams can be found in the data sheet

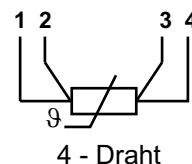
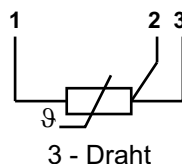
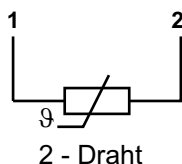
Formular types

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°C:	R0 Drift < 0.06 %

**Temperature sensors are only possible
in tube with Ø12mm**