




Data sheet

UniEx-Temperature switch / temperature sensor

Type: UniEx.T...

-  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

Temperature switches and temperature sensors with ATEX approval are suitable for use in explosive environment. UniEx.T temperature switches measure temperature using a bimetallic switch.

PT100 and PT1000 temperature sensors are platinum resistors manufactured according to DIN EN 60751 - class B. They are designed in 2-, 3- and 4-wire technology.

UniEx.T temperature measuring devices are manufactured according to customer specifications and are therefore used in the most diverse applications.

Devices of the UniExT 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:

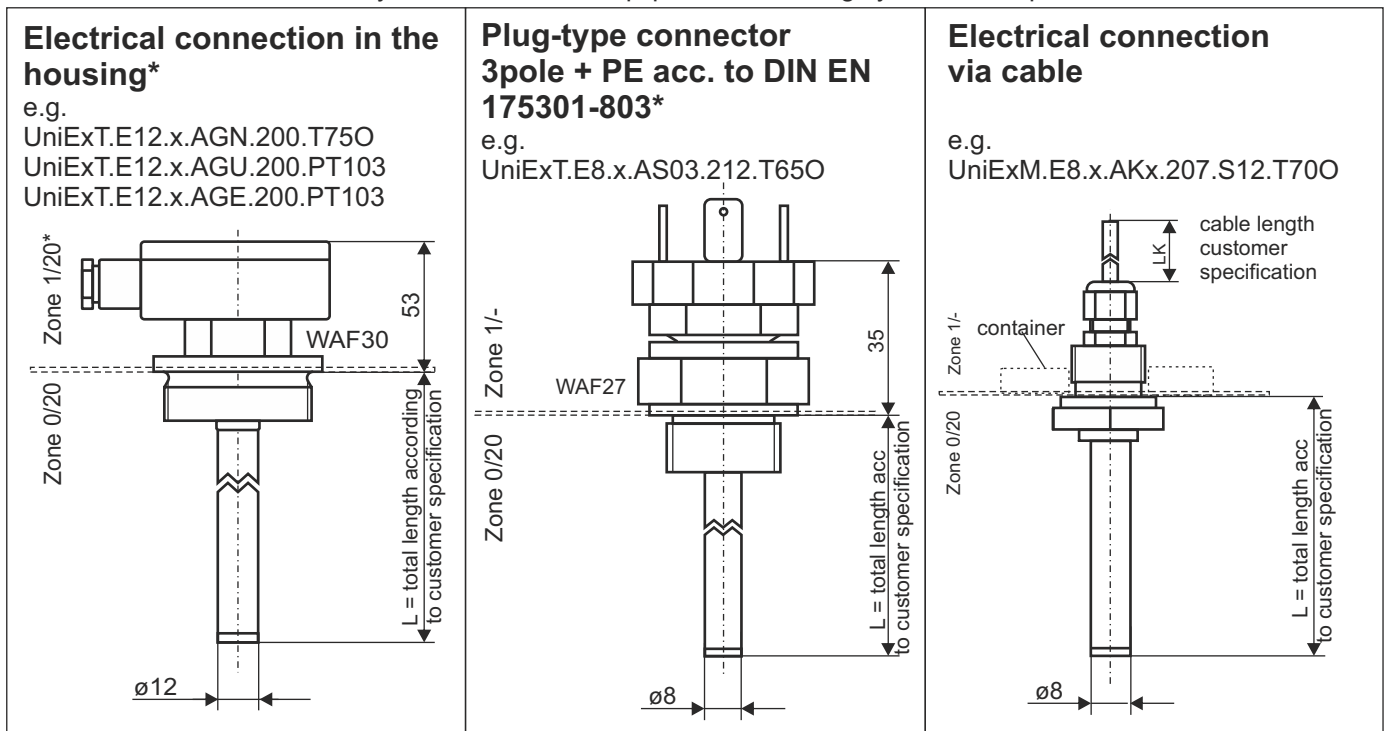
- ATEX approval according to EN 60079-11, EN 60079-26, EN IEC 60079-0
- Several electrical connections, process connections and materials are available
- Low susceptibility to faults ensures high process safety
- High measuring accuracy

Applications:

- Temperature measurement in many liquid, gas and pasty media
- Monitoring of processes
- Fields of application: chemical, petrochemical, mechanical engineering, shipbuilding industry, offshore facilities, energy plants ...

Safety note:

- The temperature measuring device 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 device must be electrically connected to the equipotential bonding system of the plant.






*Further connection on page 3

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Order key

UniExT. E12. 200. AGN. 200. T600

Type UniExT

Material tube
Stainless steel tube ø8 -- E8
Stainless steel tube ø12 -- E12

Length of tube L in mm e.g. 200mm

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 IIIC 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 IIIC 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 IIIC T*°C Da

plug-type connector 3pole + PE DIN --- AS03
plug-type connector M12 4pole --- AS04
plug-type connector M12 5pole --- AS05
plug-type connector M12 6pole --- AS06
plug-type connector M12 8pole --- 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
- 205 > standard flange OD74 PCD60, stainless steel 1.4571
- 207 > G1/2" thread stainless steel 1.4571(only in combination with AK)
- 208 > G3/8" thread stainless steel 1.4571(only in combination with AK)
- 210 > G1" thread stainless steel 1.4301
- 211 > G3/8" thread stainless steel 1.4571
- 212 > G1/2" thread stainless steel 1.4571
- 213 > M20x1,5 thread stainless steel 1.4571
- 214 > G1/4" thread stainless steel 1.4571(only in connection with AK)

further process connections on demand

Temperature switch:
60°C n.c. /n.o. contact --- T600/T60S
65°C n.c. /n.o. contact --- T650/T65S
70°C n.c. /n.o. contact --- T700/T70S
75°C n.c. /n.o. contact --- T750/T75S
80°C n.c. /n.o. contact --- T800/T80S
85°C n.c. /n.o. contact --- T850/T85S

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

further designs on demand

Table 1	Electrical connection								
Process connections	AS03	AS04	AS05	AS06	AS07	AGN	AGU	AGE	AK
200	X	X	X	X	X	X	X	X	X
205	X	X	X	X	X	X	X	X	X
207									X
208									X
210	X	X	X	X	X	X	X	X	X
211	X	X	X	X	X	X	X	X	X
212	X	X	X	X	X	X	X	X	X
213	X	X	X	X	X	X	X	X	X
214									X

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Terminal diagrams		Terminal diagrams PT100/PT1000		
1 2 PE/PAL Temp. switch - n.c. contact	1 2 PE/PAL Temp. switch - n.o. contact	1 2 PE/PAL 2-wire	1 2 3 PE/PAL 3-wire	1 2 3 4 PE/PAL 4-wire

Electrical connections			
Connection: AS03 plug-type connection 3-pol. + PE DIN EN 175301-803 	Connection: AS04 to AS07 plug-type connector M12x1 	Connection: AGN, AGU or AGE in the housing circuit board with terminals 1.5mm² 	Connection: AK with sheathed cable e.g. Ak2500 = Lk 2500mm

Process connections		
Thread with cable outlet: 207 - G1/2" 208 - G3/8" 214 - G1/4" only in connection with AK 	Thread: 200 - G1 1/2" 210 - G1" 212 - G1/2" 211 - G3/8" 	Standard stainless steel 205 - OD74 PCD4/60

Technical data	
Connection:	see electrical connections above, further electrical connections on demand
Process connection:	see respective design, customised mounting on demand
Tube:	ø8mm, ø12mm, length acc.spec., material stainless steel 1.4571, further materials on demand
Operating temperature:	-20°C to 105°C in medium, -20°C to 70°C above mounting
Pressure:	atmospheric, max. 6bar, higher pressures on request
Protection rating:	IP65
Temperature switch e.g. T60S	
Temperature switch:	bi-metal
Switching function:	normally closed/ normally open contact
Accuracy:	±5°C, smaller tolerances on demand reset-temperature = temperatur switching point - 30°C±15°C
Number of contacts:	max. 2 temperature switch
Switching capacity:	Ui:30V Ii: 10 mA - Pi gemäß Baumusterprüfbescheinigung BVS 15 ATEX E086 X
Temperature sensor e.g. PT103, PT1000	
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-termstability after >1000h at 150°C:	R0 Drift< 0,02 %

Subject to change