

Data sheet

UniEx-Float switch combinable with temperature measurement

Type: UniEx.SS...

 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

Float switches with ATEX approval are suitable for the use in explosive atmosphere.

The magnet equipped float activates in relation to the level of fluid a reed contact in the sliding tube.

UniEx float switches are manufactured according to customer specifications and are therefore used in the most diverse applications.

Our devices of the UniExSS series may only be operated in connection with an EX barrier / switch amplifier

Features:

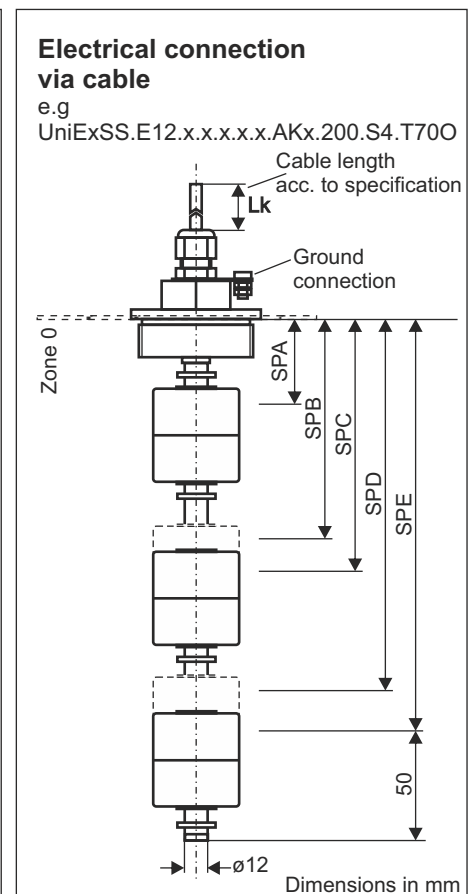
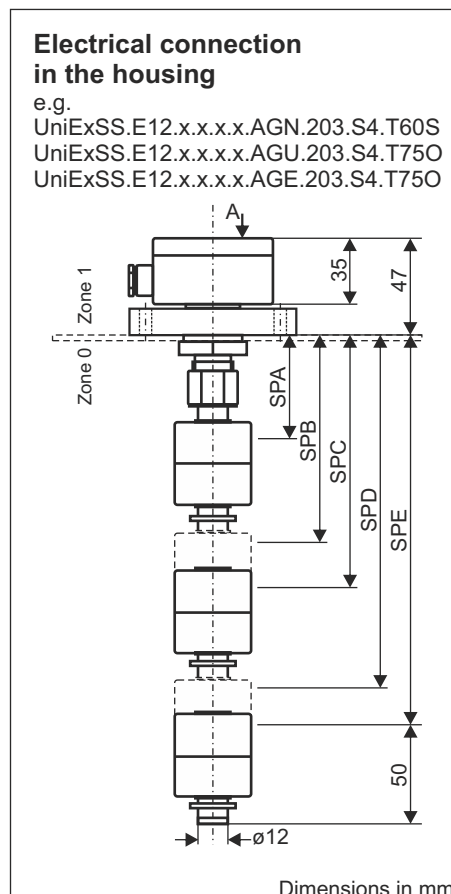
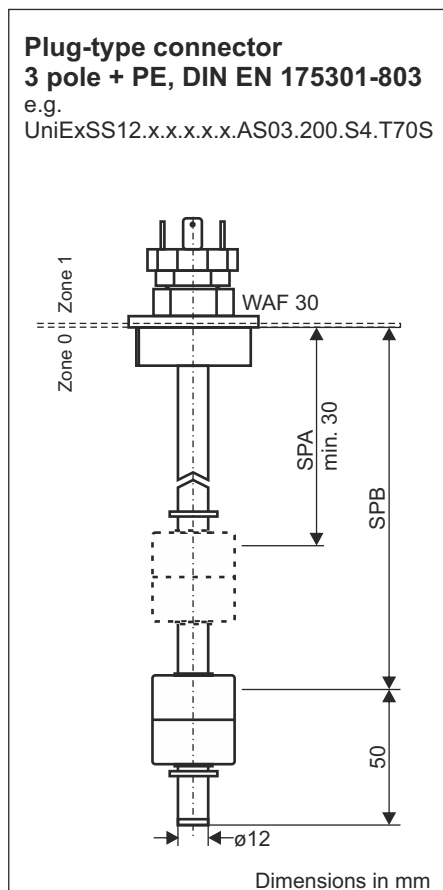
- ATEX approval
- Several electrical connections, process connections and materials are available
- A large field of application due to the proven functional principle
- Long life span

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 float switch 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 float switch must be electrically connected to the equipotential bonding system of the plant.



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Order key

Example for 2 switching points: UniExSS. E12 . A1 . B4 . 100 . 200 .AGN. 200 . S4 . T600

Type UniExSS

Material tube

Stainless steel tube ø12 -- E12

Further materials on demand

Function of switching point A 30V/100mA

closes on level rise --- A1
opens on level rise --- A2
closes on level drop --- A3
opens on level drop --- A4
change-over contact -- A5

Function of switching point B 30V/100mA

closes on level rise --- B1
opens on level rise --- B2
closes on level drop --- B3
opens on level drop -- B4
change-over contact - B5

Note:
For a device with
only one switching point
use switching point B
e.g.: UniExSS.E12.B4.100.AGN.201.S4

Switching length SPA

in mm, acc. to customer specification

Switching length SPB

in mm, acc. to customer specification

For further switching points

SPC, SPD, SPE... follow the method above
AGU / AGN housing max. 5SP possible
AGE housing max. 3SP possible

Electrical connection see table 1

alu housing painted (II 1/2 G Ex ia IIC T3...T6 Ga/Gb) --- AGN

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

(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 3 pole + PE DIN --- AS03

plug-type connector M12 4 pole --- AS04

plug-type connector M12 5 pole --- AS05

plug-type connector M12 6 pole --- AS06

plug-type connector M12 8 pole --- AS07

sheathed cable (length in mm) --- AK, e.g. AK2500 = cable length 2500mm

Optional*

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

*Max. 2x additional options
further options on demand

Float

ø45x53mm material stainless steel ----- S4

ø52mm bullet material stainless steel --- S7

ø52mm bullet material titanium----- S22

Process connections see table 1

- 200 > 1 1/2" thread, stainless steel 1.4301

- 201 > 2" thread, stainless steel 1.4301

- 203 > standard flange OD120 PCD100,
stainless steel 1.4301

- 204 > standard flange OD120 PCD100, stainless steel
1.4301 with conduit

- 205 > standard flange OD74 PDC60, stainless steel 1.4404

- 206 > 1 1/2" thread, stainless steel 1.4571, 90° right-angled

- 207 > 1/2" thread, stainless steel 1.4571

(only in connection with AK)

- 208 > 3/8" thread, stainless steel 1.4571

(only in connection with AK)

- 214 > 1/4" thread stainless steel 1.4571

(only in connection with AK)

further process connections on demand

Table 1 Process connection	Electrical 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
214									X

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Terminal diagrams		Further terminal diagrams on demand	
<p>1x change-over contact</p> <p>B5</p>	<p>2x change-over contact</p> <p>A5 B5</p>	<p>1x n. o. contact/n. c. contact</p> <p>B1/B3; B2/B4</p>	<p>2x n. o. contacts/n. c. contacts</p> <p>A1/A3; A2/A4 B1/B3; B2/B4</p>
<h3>Electrical connections</h3> <p>Connection: AS03 plug-type connector 3-pol. + PE, DIN EN 175301-803</p>		<h3>Float</h3> <p>Cylindrical and bullet float material stainless steel - ATH: Height above medium surface: 0,998 g/cm³ S4:12mm / S7:21mm</p>	
<p>Connection: AS04 to AS07 plug-type connector M12x1</p> <p>Equipotential bonding via housing / process connection</p>		<h3>Process connections</h3> <p>Thread with cable outlet: 207 - 1/2" 208 - 3/8" 214 - 1/4" only in connection with AK</p> <p>WAF22 with type 207</p> <p>Equipotential bonding via housing / process connection</p>	
<p>Connection: AGN, AGU or AGE in the housing circuit board with terminals 1.5mm²</p> <p>AGU = connection housing alu 64x58x35 unpainted with screw connection metal AGN = connection housing alu 64x58x35 painted with screw connection plastic / blue AGE = connection housing stainless steel Ø68x40 with screw connection metal</p>		<p>Thread: 200 - 1 1/2" 201 - 2"</p> <p>WAF 30**</p> <p>**value valid for thread type 200</p>	
<p>Connection: AK with sheathed cable e.g. Ak2500 = Lk 2500mm</p> <p>Cable length Lk acc. to customer specification</p> <p>Ground connection outside</p> <p>Equipotential bonding via housing / process connection</p>		<p>Thread: 206 - 1 1/2" angled</p> <p>Equipotential bonding via housing / process connection</p> <p>min 40</p>	
		<h3>Standard flange</h3> <p>203 - OD120 PCD100 stainless steel 204 - stainless steel with conduit</p>	
		<h3>Standard flange stainless steel</h3> <p>205 - OD74 PCD60</p>	

Dimensions in mm

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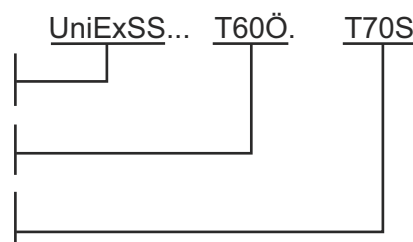
To be operated in
intrinsically safe circuits
- Type of protection Ex i

Technical data

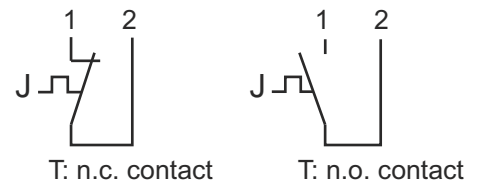
Connection: see electrical connection above, further electrical connections on demand
 Pross connection: see respective design, special mounting on demand
 Tube: ø12mm - material stainless steel 1.4571, further materials on demand
 Tube length: according to specification, max. 3000mm
 Float: ø45x52mm cylinder, material stainless steel 1.4571, type S4
 ø52mm bullet, material stainless steel 1.4571 or titanium, type S7
 Reed contacts: max. 6x normally open/ normally closed contacts or change-over contacts
 Switching capacity: 36V / 100mA - **to be operated in intrinsically safe circuits - type of protection Ex ii**
 Pressure: max. 6 bar
 Protection rating: IP 65
 Operating temperature: -20°C to 105°C in medium, -20°C to 70°C oabove mounting

formular types

Type - see page 2
float switch
 Temperature switch 1
e.g 60°C n.c. contact
 Temperature switch 2
e.g. 70°C n.o. contact



Terminal diagram



Technical data temperature switch

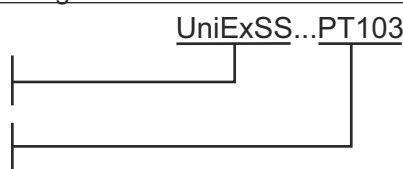
Temperature switch: Bi-Metal
 Switching function: normally closed / normally open contact
 Accuracy: ±5°C, smaller tolerances on demand
 reset-temperature = Temp.-switching point - 30°C±15°C
 Number of contacts: max. 2 temperature switches
 Switching capacity: 30V / 100mA

Platinum Resistors according to DIN EN 60751 - class B are used in all float switches with **PT100 / PT1000 temperature sensors.**

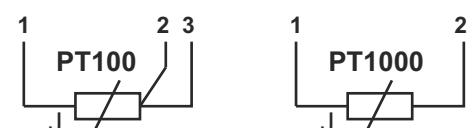
PT100 / PT1000 temperature sensors are designed in 2-, 3- and 4-wire technology. When combined with float switches it provides a space-saving and cost-effective solution.

formular types

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



Terminal diagram



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 %

Subject to change