Data sheet for temperature range -40°C to 180°C
UniEx-Float switch combinable with temperature measurement
Type: UniEx.SS...BT18

II 1/2G Ex ia IIC T3…T6 Ga/Gb

II 1 D Ex ia IIIC T* °C Da

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

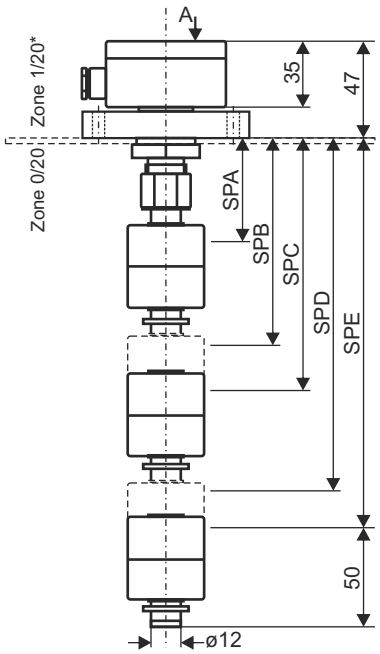
Float switches with ATEX approval are suitable for the use in explosive environment.
The magnet equipped float activates in relation to the level of fluid a reed contact in the sliding tube.
UniEx float switches are manufactured according to customer specifications and are therefore used in the most diverse applications.
Devices of the UniEXSS series may only be operated in connection with an Ex-barrier/switching amplifier according to the ATEX 2014/34/EU directive. This is not included in the scope of delivery, but can be ordered separately

Features:
- ATEX-Zulassung nach 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
- Temperature range from -40°C to 180°C (temperature range -20°C ... 105°C see all other data sheets)

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.

Electrical connection in the housing
e.g. UniExSS.E12.x.x.x.x.AGA.203.S4.T160S
UniExSS.E12.x.x.x.x.AGC.203.S4.T160O*



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Order key

Example for 2 switching points: UniExSS. E12 . A1 . B4 . 100 . 200 .AGC. 200 . S4 . T60O . BT18

Type UniExSS

Material tube
stainless steel tube ø12 -- E12

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, nach Kundenangabe

Switching length SPB
in mm, acc. to customer specification

For further switching points
SPC, SPD, SPE... follow the method above

Electrical connection *see table 1*
alu housing painted
(***II 1/2 G Ex ia IIC T3...T6 Ga/Gb***) --- AGA, AGC
alu housing unpainted
(***II 1 D Ex ia IIIC T*°C Da*** and ***II 1/2 G Ex ia IIC T3...T6 Ga/Gb***) --- AGB, AGD

Operating temperature
-40°C to 180°C --- BT18

Optional*
Temperature switch:
60°C n.c. contact/n.o. contact
--- T60O/T60S
in 5°C - steps up to 180°C
Temperature switch 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

Float
ø45x53mm material stainless steel --- S4
ø52mm bullet material stainless steel --- S7
ø52mm bullet material titanium --- S22

Process connection *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 with conduit stainless steel 1.4301
- 205 > standard flange OD74 PCD60, stainless steel 1.4404

further process connections on demand

Function	Connection
n.c. contact / n.o. contact	2
change-over contact	3
Temperature switch	2
PT100 / PT1000 2 - wire	2
PT103 / PT1003 3 - wire	3
PT104 / PT1004 4 - wire	4

-the number of connections is added up for each desired function
-the AGA, AGB, AGC, AGD housings can be used up to and including 6 connections
-from 7 connections, AGC or AGD must be used
-maximum of 10 connections can be used

Example: UniExSS.E12.A1.B5.100.200.AGC.S4.T130O.BT18

1 n.o. contact 2 Connection
1 change-over contact 3 Connection
1 Temperature switch 2 Connection

= 7 connection = AGC or AGD

Technical data

Connection:	Housing with clamps
Process connection:	see respective design, special fastenings on request
Tube:	ø12mm - material stainless steel 1.4571, other materials on request
Tube length:	according to instructions, max. 3000mm
Float:	ø45x52mm cylinder, material stainless steel 1.4571, type S4 ø52mm bullet, material stainless steel 1.4571 or titanium, type S7
Switching capacity:	Ui:30V Ii: 100mA / Pi according to type examination certificate BVS 15 ATEX E 086 X
Pressure:	atmospheric, max. 20bar (float S4), max 40bar (float S7)
Protection rating:	IP 66
Operating temperature:	-40°C to 180°C in medium, -40°C to 180°C above process connection
Limit density	ρ≥0,75g/cm³

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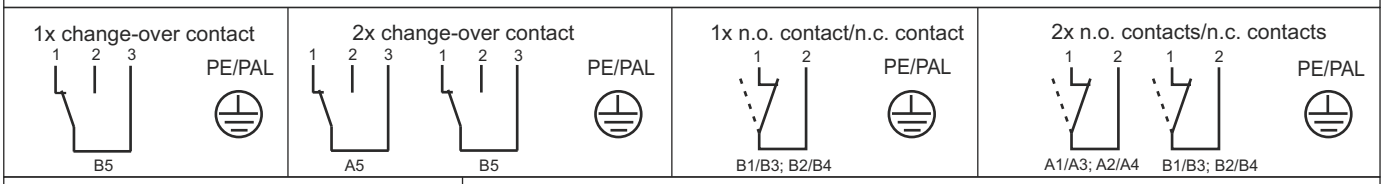
Connection

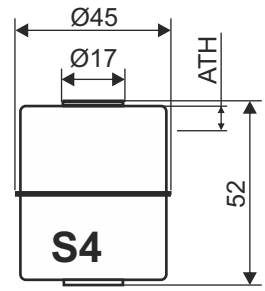
Further terminal diagrams on demand

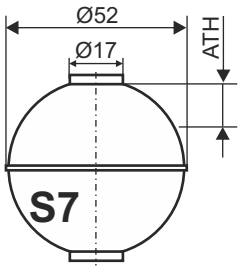


Float

Cylindrical and bullet float material stainless steel
- ATH: Height above medium
  bsurface: 0,998 g/cm³

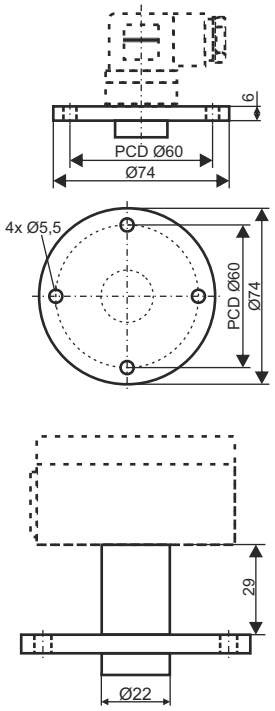
S4:12mm / S7:21mm
Limiting density ρ≥0.75g/cm³



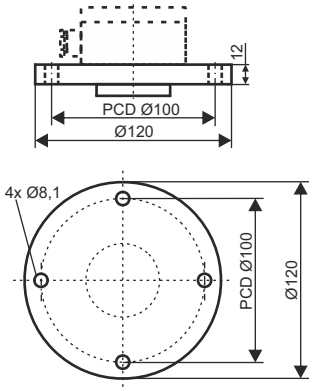


Process connection

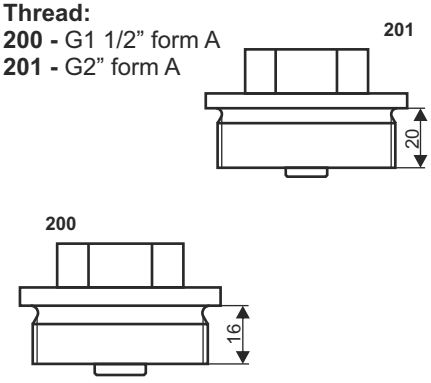
Standard flange stainless steel
205 - OD74 PCD4/60



Standard flange
203 - OD120 PCD4/100 stainless steel
204 - stainless steel with conduit

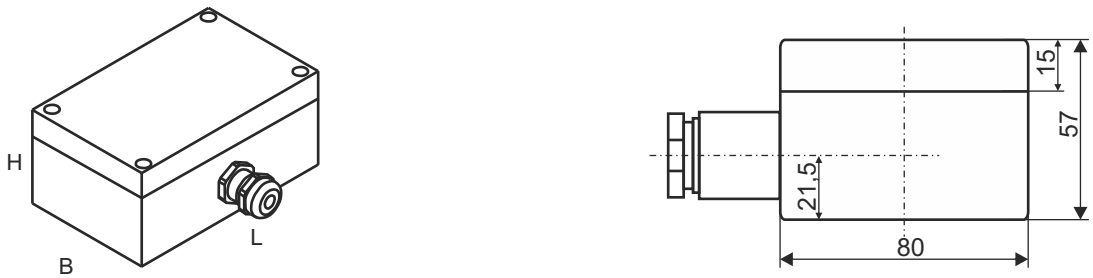


Thread:
200 - G1 1/2" form A
201 - G2" form A



Connections

Connections housing: AGA, AGB, AGC, AGD
in the housing circuit board with terminals 1.5mm²



AGA=connection housing alu L80xW75xH57 **painted** with screw gland metall II 1/2 G Ex ia IIC T3...T6 Ga/Gb
AGB=connection housing alu L80xW75xH57 **unpainted** with screw gland metall
II 1 D Ex ia IIIC T*°C Da and II 1/2 G Ex ia IIC T3...T6 Ga/Gb
AGC=connection housing alu L125xW80xH57 **painted** with screw gland metall II 1/2 G Ex ia IIC T3...T6 Ga/Gb
AGD=connection housing alu L125xW80xH57 **unpainted** with screw gland metall
II 1 D Ex ia IIIC T*°C Da and II 1/2 G Ex ia IIC T3...T6 Ga/Gb

Dimensions in mm

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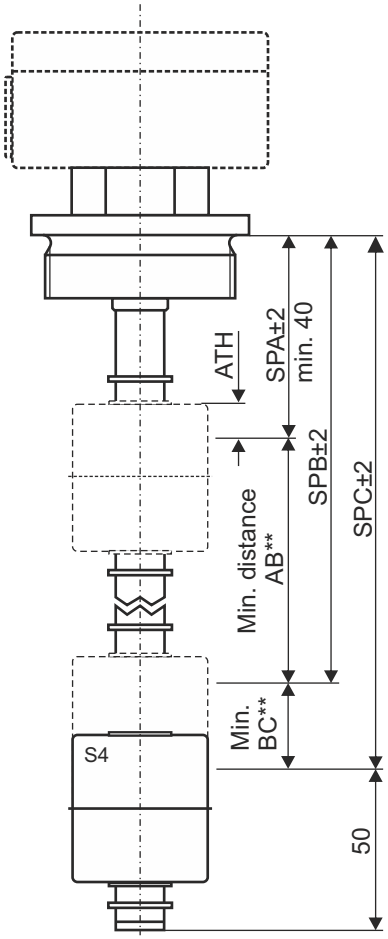
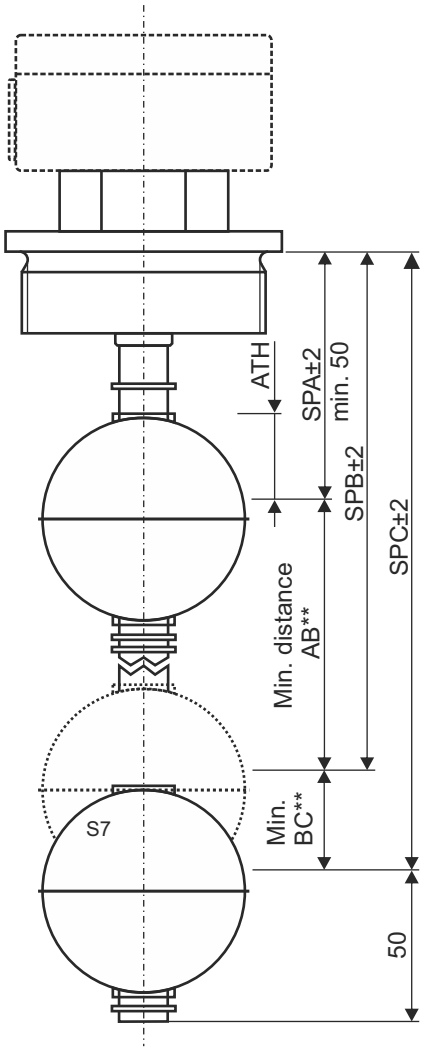
Process connection 200



Float S4	
Process connectio	minimum distance SPA
200	40
201	45
203	35
204	35
205	35

S4	Distances between the switching points	
Number switching points	**AB:** min. distance between SPA and SPB	**BC:** min distance between SPB and SPC
2	10	–
3	70	10
3	10	70

Process connection 201



Float S7	
Process connection	minimum distance SPA
201	50
203	35

S7	Distances between the switching points	
Number switching points	**AB:** min. distance between SPA and SPB	**BC:** min. distance between SPA and SPB
2	10	–
3	70	10
3	10	70

Data sheet for temperature range -40°C to 180°C
UniEx-Float switch combinable with temperature measurement
Type: UniEx.SS...BT18

Formular types

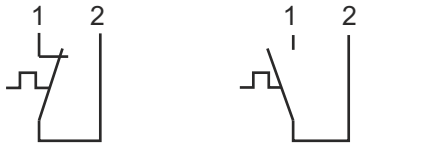
UniExSS... T60Ö. T70S

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



J T: n.c. contact J T: n.o. contact

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 - 30K±15K
Number of contacts:	max. 2 temperature switches
Switching capacity:	Ui: 30V Ii: 100mA - Pi gemäß Baumusterprüfbescheinigung BVS 15 ATEX E086 X

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.

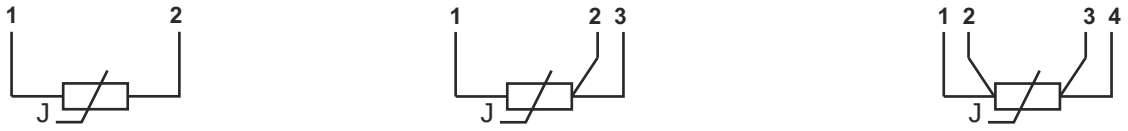
formular types

UniExSS...PT103

Type - see page 2
float switch

Temperature sensor
e.g. PT100-3-wire

Terminal diagrams PT100/PT1000



2 - wire 3 - wire 4 - wire

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	0,4 K/mW
PT100:	0,2 K/mW
PT1000:	
Long-term stability after 1000h at 150°C:	R0 Drift < 0.06 %