

Level Switches

UNS2000

The multi Level Switch Series UNS2000 can be supplied with up to 6 switchpoints (see max. switchpoints) and with a length of max 3000 mm.

Besides the float operated reed contacts to detect liquid levels, the UNS 2000 can be supplied also with a temperature sensor and/ or temperature contact(s), which are to handle as switchpoint(s) - please note max. switchpoints! A wide selection of mounting elements, electrical connections, various materials and options allow you to "design" your own switch, within the given dimension limits, for your particular application. Very long units or large flanges can cause high shipping and installation costs and "split" versions might be the answer. Consult us for the best combination. The min. dimensions are based upon the medium water.

Depending on the density of other fluids this dimension can vary several millimetres. The contact modes (NO or NC) are defined on the basis of an empty tank and for installation through the top or through the bottom (when specified as "-U"). When not specified otherwise we will set the switch position for density 1 (water) and the switch action to be on moving upward. Temperature sensor (PT100) and/ or the temperature switch, a Bi-metall hermetically sealed element, are installed only in the bottom of the stem.

That means:

Dimensions B + 10 mm with temperature sensor PT100) = B_{PT}

Dimensions B + 40 mm temperature switch (TP) = B_{TP}



Technical Data

Max. Operating Pressure:	40 bar, depends on mounting element and float
Max. Temperature Range:	-10 °C...+105 °C, PVC-cable -40 °C...+150 °C, Silicone cab.(-HT) and KL6 / KL12
Min. Fluid Specific Gravity:	See specifications below
Mounting Position:	Vertical, ±30°, through top or bottom
Protection Class:	IP65 for ST-, KL- and PG-design, IP67, IP68 on request IP54 for K-design
Weight:	Depends on length and design
Options:	See order code

Switch Point Dimensions

Dimensions	Min. distances in mm										
	A	F	AT	A	D	B	BPT	BTP	BDR	C	D
VA52, VA44	32	52	44	55	65	95	75	85	55		
BN30	30	60	52	39	49	79	59	77	55		
VA80	63	83	75	60	70	100	80	115	55		
BPT = first switch point with option PT100 (mounting on bottom)											
BTP = first switch point with option TPxx/2 (mounting on bottom)											

Max. Switchpoints

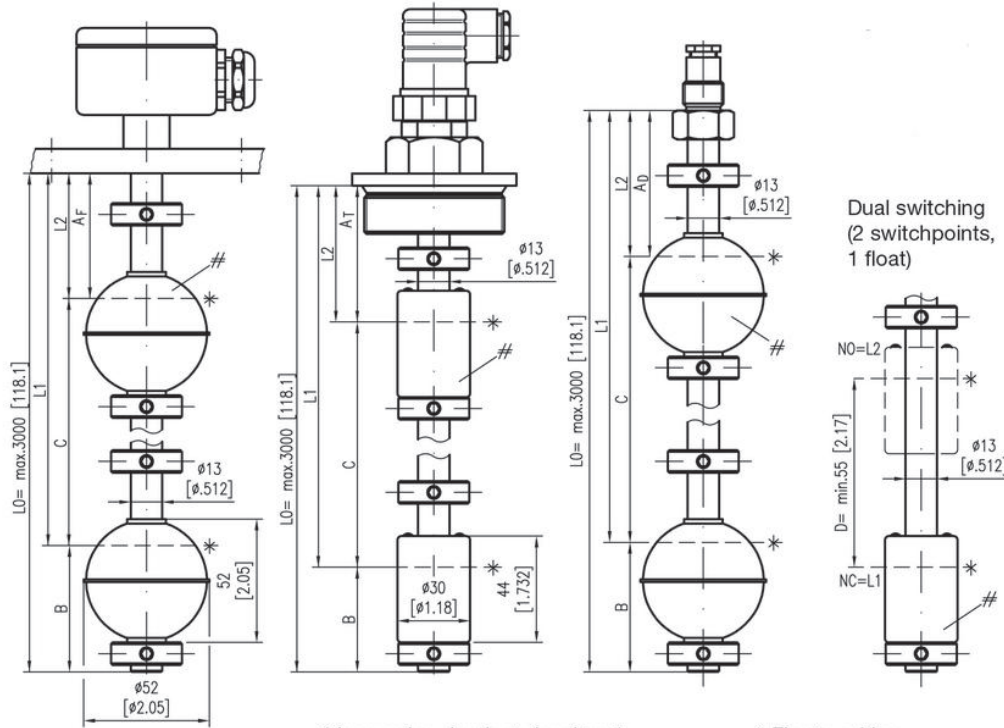
	KL6	KL12	ST1	ST1	Pg Cable connect.
Connect. group 1	5	6	2	5	6
Connect. group 2	2	4	1	2	4
Connect. group 3	3	4	1	3	4
Connect. group 4	2	3	1	2	3

*not valid for "HT" option

Level Switches

UNS2000

Dimensions (mm / inch)



- Length tolerance ± 3 mm
 - L0 = max. 3000 mm
- For NPT thread tank fittings all lengths from bottom edge.

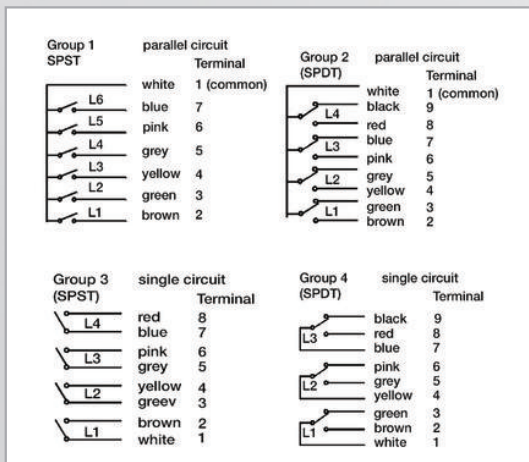
* Immersion depth at density 1:

- VA52 = 36 ± 2 mm
- BN30 = 20 ± 2 mm
- VA44 = 36 ± 2 mm (52 mm high)
- VA80 = 36 ± 2 mm (80 mm high)

Float position

- VA52 = NO/NO \Rightarrow see float marking
- WE \Rightarrow NO-function
- BN30 = NO \Rightarrow compound points at bottom
- NC \Rightarrow compound points at top
- WE \Rightarrow compound points at bottom

Contact Wiring and Colour Code



Level Switches

UNS2000

Brass Version

Order Code

Type:
UNS2000

Material of Stem and Mounting Element:

MS = Brass, CW614N / CW508L (former Ms58 / Ms63)

Mounting Element (other on request)

3/8 - G3/8" mounting thread for inside mounting: only with PG

T1 - G1" Tank screw (only with BN18 float)

T2 - G2" Tank screw (not with VA80 float)

T2NPT - 2"NPT-Tank screw (not with VA80 float)

Electrical Connection (see table max. Switchpoints)

ST1 - Cube Plug DIN EN 175301-803-A (former DIN 43650), 3-pin + ground, IP65 with mating plug

ST2 - Angle Plug DIN 43651, 6-pin + ground, IP54 with mating plug

M12x1 - M12x1 mm plug, 4-pin, IP65 without mating plug

KL6 - Aluminum Terminal Box, 6 Terminals, IP65

KL12 - Aluminum Terminal Box, 9 Terminals, IP65

PG - Cable Gland with 1 m PVC-cable, -HT with silicon cable, other length on request, IP65

K - PVC-Cable sealed, specify length at order, IP65

(Others on request)

Float type	min.Density Medium	Material	Form	Dia-meter	max. Temp.	max. Pressure (+20 °C)
BN30	0,6 g/cm ³	NBR foamed	Cylinder	30 mm	100 °C (oil) 80 °C (water)	15 bar

Number of Switchpoints

L1 = 1 Switchpoint

L2 = 2 Switchpoint

L3 = 3 Switchpoint

L4 = 4 Switchpoint

L5 = 5 Switchpoint

L6 = 6 Switchpoint

See also "Connections Groups" in table "Max. Switchpoints"

Contact Modes

Contact Rating

Order:L1, L2, L3, L4, L5, L6

1 - SPST (NO) 250 V AC / DC, 3 A, 100 VA / W

2 - SPST (NC) 250 V AC / DC, 3 A, 100 VA / W

3 - SPDT (WE) 140 V AC / DC, 1 A, 60 VA / W

Total Length: L0 = ...mm (max. 3000 mm)

Specify with your order: L1 = ...mm, L2 = ...mm, etc

Basic: empty tank

UNS2000 - MS/ T1 -KL6 -BN30 -L2/ 2.1 (Example)

Options:

U = Mounting through bottom

HT = High Temperature Application (-40 °C...+150 °C), cable and wires in silicone

DR = Damping Tube

VV = Vertical Adjustment (max. 5 bar)

PT100 = Pt100-Sensor

TPxx/2 = Temperature Switch TP, Contact Rating: 3A, 12 or 24 V DC

xx = Standard: +50 °C, +60 °C, +70 °C, +80 °C, +90 °C

/2 = NC

Exi = ATEX Ex ia (intrinsically safe) Approval, see www.barksdale.de

Needed order information e.g.:

L0 = 200 mm

L1 = 161 mm NC

L2 = 85 mm NO

Connection group: 3

(see table "max. Switching point/Connection code")

VA Version Order Code

Type: UNS2000						
Material of Stem and Mounting Element: VA = stainless steel 1.4571 (316 Ti)						
Mounting Element (other on request)						
3/8	- G3/8" mounting thread for inside mounting: only with PG					
T1	- G1" Tank screw (only with BN30 float)					
T2	- G2" Tank screw (not with VA80 float)					
FL4	- Flange DIN 2527, DN 65/PN16 (not with VA80 float)					
	- Flange DIN 2527, DN 80/PN16					
FL5						
	- Flange DIN 2527, DN 100/PN16					
FL6						
FLA3	- Flange ASME B16.5, 2" 150lbs, RF (not with VA80)					
FLA5	- Flange ASME B16.5, 3" 150lbs, RF (not with VA80)					
FLA6	- Flange ASME B16.5, 4" 150lbs, RF					
T2NPT	- 2"NPT-Tank screw (not with VA80 float)					
Electrical Connection (see table max. Switchpoints)						
ST1	- Cube Plug DIN EN 175301-803-A (former DIN 43650), 3-pin + ground, IP65 with mating plug					
ST2	- Angle Plug DIN 43651, 6-pin + ground, IP54 with mating plug					
M12x1	- M12x1 mm plug, 4-pin, IP65 without mating plug					
KL6	- Aluminum Terminal Box, 6 Terminals, IP65					
KL12	- Aluminum Terminal Box, 9 Terminals, IP65					
PG	- Cable Gland with 1 m PVC-cable, -HT with silicon cable, other length on request, IP65					
K	- PVC-Cable sealed, specify length at order, IP65					
(Others on request)						
Float type	min.Density Medium	Material	Form	Dia-meter	max. Temp.	max. Pressure (+20 °C)
VA44	0,84 g/cm ³	SS 1.4571 (316 Ti)	Cylinder	44 mm	150 °C	15 bar
VA52	0,78 g/cm ³	SS 1.4571 (316 Ti)	Ball	52 mm	150 °C	40 bar
VA80	0,54 g/cm ³	SS 1.4571 (316 Ti)	Ball	80 mm	150 °C	17 bar
Number of Switchpoints						
L1	= 1 Switchpoint					
L2	= 2 Switchpoint					
L3	= 3 Switchpoint					
L4	= 4 Switchpoint					
L5	= 5 Switchpoint					
L6	= 6 Switchpoint					
			See also "Connections Groups" in table "Max. Switchpoints"			
Contact Modes		Contact Rating		Order:L1, L2, L3, L4, L5, L6		
1 - SPST (NO)		250 V AC / DC, 3 A, 100 VA / W				
2 - SPST (NC)		250 V AC / DC, 3 A, 100 VA / W		Basic: empty tank		
3 - SPDT (WE)		140 V AC / DC, 1 A, 60 VA / W				
Total Length: L0 = ...mm (max. 3000 mm)						
Specify with your order: L1 = ...mm, L2 = ...mm, etc						
UNS2000	- VA/	T2	-KL6	=-VA52	-L2/	2.1 (Example)

Options:

U =	Mounting through bottom
HT =	High Temperature Application (-40 °C...+150 °C), cable and wires in silicone
DR =	Damping Tube
VV =	Vertical Adjustment (max. 5bar)
PT100 =	Pt100-Sensor
TPxx/2 =	Temperature Switch TP, Contact Rating: 3A, 12 or 24 V DC
	xx = Standard: +50 °C, +60 °C, +70 °C, +80 °C, +90 °C
	/2 = NC
Exi =	ATEX Ex ia (intrinsically safe) Approval, see www.barksdale.de

Needed order information e.g.:

L0 = 200 mm
L1 = 145 mm NC
L2 = 60 mm NO
Connection group: 3
(see table "max. Switching point/Connection code")