

Level Switches

UNS1000

Function

The multi Level Switch Series UNS1000 can be supplied with up to 5 switchpoints (see "Max. Switchpoints"). Besides the float operated reed contacts to detect liquid levels, the UNS1000 can be supplied also with a PT100 temperature sensor or with a temperature switch TS.

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. (see "Order code") The min. dimensions are based upon the medium water. Depending on the density of other fluids this dimension can vary several millimeters. 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.

Max. temperature range: -10°C...+105°C (Standard),
Option: -40°C...+150°C, Silicone cable (-HT)

The mounting position should be vertical, $\pm 30^\circ$, though top or bottom.



Technical Data

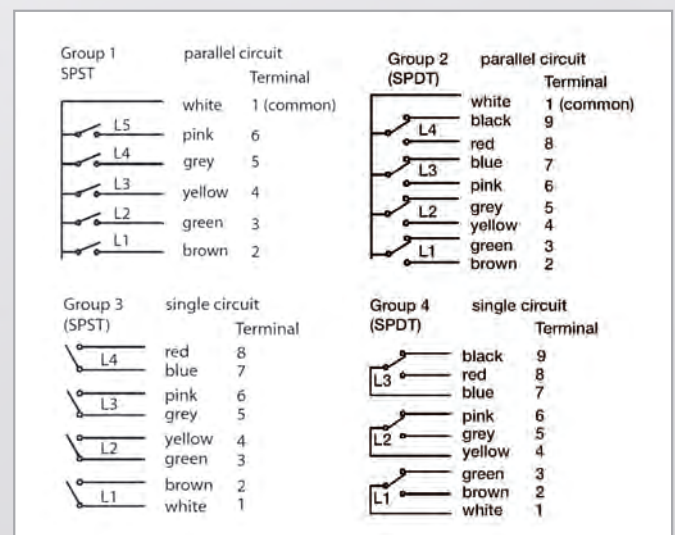
Max. Operating Pressure:	15 bar, BN25, VA27 and VA44 float, 4 bar, BN18 float
Max. Temperature Range:	-10 °C...+105 °C, PVC-cable -40 °C...+150 °C, Silicone cab. (-HT)
Min. Fluid Specific Gravity:	See specifications below
Mounting Position:	Vertical, $\pm 30^\circ$, through top or bottom
Protection Class:	IP54: ST2, K (Si-cable) IP65: ST1, KL6, KL12, PG, K (PVC cable) IP67, IP68: on request
Weight:	Depends on length and design
Options:	See order code

Max. Switchpoints

	KL6	KL12	ST1	ST2	Pg Cable connect.
Connect. group 1	5	5	2	5	3
Connect. group 2	2	4	1	2	1
Connect. group 3	3	4	1	3	2
Connect. group 4	2	3	1	2	1

*not valid for "HT" option

Contact Wiring



Level Switches

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Dimensions (mm / inch)

For NPT tank screw connections dimensions from bottom of thread

LO = max. 1000 mm

* Immersion depth at density 1:
 VA27 = 21 ±2 mm (30 mm high)
 BN25 = 13 ±2 mm (30 mm high)
 VA44 = 22 ±2 mm (42 mm high)
 BN18 = 15 ±2 mm (25 mm high)

Float position:
 VA27 = NO/NC → see float marking
 (VA44) SPDT → NO-function
 BN25 = NO, WE (SPDT) → compound points at bottom
 NC → compound points at top
 (BN18) NO, WE (SPDT) → magnet ring at bottom
 NC → magnet ring at top

Switch Point Dimensions

Dimensions	Min. distances in mm								
	A _F	A _{T1}	A _D	B	B _{PT}	B _{TS}	B _{DR}	C	D
VA27	26	42	38	40	50	55	60	65	32
BN25/BN18	22	37	34	25	35	40	45	45	32
VA44	36	52	48	35	45	50	55	70	32

B_{PT} = first switch point with option PT100 (mounting on bottom)

B_{TS} = first switch point with option TSxx/2 (mounting on bottom)

Level Switches

UNS1000

Brass Version

Order Code

Type:

UNS1000

Material of Stem and Mounting Element:

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

Mounting Element (other on request)

- 1/8 - G1/8" mounting thread for inside mounting: only with cable (K)
 3/8 - G3/8" mounting thread for inside mounting: only with (PG) or (K)
 T1/2 - G1/2" tank screw, only with BN18 float
 T1 - G1" Tank screw (not with VA44 float)
 M20x1,5 - Tank screw M20x1,5 mm (only BN18)
 T1NPT - 1"NPT-Tank screw (not with VA44 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
 KL6 - Aluminum Terminal Box, 6 Terminals, IP65
 KL12 - Aluminum Terminal Box, 9 Terminals, IP65
 KM12 - Cable with M12x1 mm plug, 4-pin, IP65
 PG - Cable Gland with 1 m PVC-cable, other length on request, IP65
 K - PCV-Cable sealed, specify length at order, IP54

(Others on request)

Float type	min.Density Medium	Material	Form	Dia-meter	max. Temp.	max. Pressure (+20 °C)
BN25	0,57 g/cm ³	NBR foamed	Cylinder	25 mm	100 °C	15 bar
BN18	0,64 g/cm ³	NBR foamed	Cylinder	18 mm	100 °C	4 bar

Number of Switchpoints

- L1 = 1 Switchpoint
 L2 = 2 Switchpoints
 L3 = 3 Switchpoints
 L4 = 4 Switchpoints
 L5 = 5 Switchpoints
- See also "Connections Groups" in table "Max. Switchpoints"

Contact Modes	Contact Rating	max. contact rating for
1 - SPST (NO)	230 V AC / DC, 2 A, 40 VA / W	"Exi" level switches:
2 - SPST (NC)	230 V AC / DC, 2 A, 40 VA / W	U _i = 28 V
3 - SPDT (WE)	150 V AC, 100 V / DC, 0.2 A, 3 VA / W	I _i = 50 mA
Basic: empty tank		P _i = 1 W
Total Length: L ₀ = ...mm (max. 1000 mm)		C _i = 13 pF
Specify with your order: L ₁ = ...mm, L ₂ = ...mm, etc		L _i = 0.29 μH

UNS1000 - MS/ - T1 -KL6 -BN25 L2/ 2.1 (Example)

Needed order information, e.g.:

Options:

- U = Mounting through bottom
 VV = Vertical Adjustment (max. 5bar)
 PT100 = Pt100-Sensor
 TSxx/2 = Temperature Switch TS, Contact Rating: 24 V AC/DC 1A, 20 VA / W
 xx = Standard: +60 °C, +70 °C, +80 °C, +90 °C
 /2 = NC
 Exi = ATEX Ex ia (intrinsically safe) Approval, IECEx TUN 17.0039 X, TÜV 18 ATEX 214370 X (see www.barksdale.de)
 DR = Damping Tube
 HT = High Temperature Application (-40 °C...+100 °C), cable and wires in silicone
 DUAL = one float with two level witch points
- L₀ = 215 mm
 L₁ = 185 mm NC
 L₂ = 140 mm NO
 Connection group: 3
 (see table "max. Switching point/Connection code")

Level Switches

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VA Version

Order Code

Type:

UNS1000

Material of Stem and Mounting Element:

VA = stainless steel 1.4571

Mounting Element (other on request)

- 1/8 - G1/8" mounting thread for inside mounting: only with cable (K)
- 3/8 - G3/8" mounting thread for inside mounting: only with (PG) or (K)
- T1/2 - G½" Tank screw, only with BN18 float
- T1 - G1" Tank screw (not with VA44 float)
- T1.5 - G1½" Tank screw
- FL2 - Flange DIN 2527, DN 32/PN16, (not with VA44 float)
- FL3 - Flange DIN 2527, DN 50/PN16
- FLA3 - Flange ASME 16.5, 2" 150lbs, RF
- T1NPT - 1"NPT-Tank screw (not with VA44 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
- KM12 - Cable with M12x1 mm plug, 4-pin, IP65
- PG - Cable Gland with 1 m PVC-cable, other length on request, IP65
- K - PCV-Cable sealed, specify length at order, IP54

(Others on request)

Float type	min.Density Medium	Material	Form	Dia-meter	max. Temp.	max. Pressure (+20 °C)
VA27	0,71 g/cm3	Stainl. Steel 1.4571	Cylinder	27 mm	150 °C	15 bar
VA44	0,67 g/cm3	Stainl. Steel 1.4571	Ball	44 mm	150 °C	15 bar

Number of Switchpoints

- L1 = 1 Switchpoint
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- L3 = 3 Switchpoints
- L4 = 4 Switchpoints
- L5 = 5 Switchpoints

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

Contact Modes	Contact Rating	max. contact rating for
1 - SPST (NO)	230 V AC / DC, 2 A, 40 VA / W	"Exi" level switches:
2 - SPST (NC)	230 V AC / DC, 2 A, 40 VA / W	UI = 28 V
3 - SPDT (WE)	150 V AC, 100 V / DC, 0.2 A, 3 VA / W	Ii = 50 mA
Basic: empty tank		Pi = 1 W
Total Length: L0 = ...mm (max. 1000 mm)		Ci = 13 pF
Specify with your order: L1 = ...mm, L2 = ...mm, etc		Li = 0.29 µH

UNS1000 - VA/ - T1 -KL6 =-VA27 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
- Exi = ATEX Ex ia (intrinsically safe) Approval, IECEx TUN 17.0039 X, TÜV 18 ATEX 214370 X (see www.barksdale.de)
- DUAL = One float with two level switch points

Needed order information e.g.:

- L0 = 200 mm
- L1 = 150 mm NC
- L2 = 85 mm NO
- Connection group: 3 (see table "max. Switching point/Connection code")