

# 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, ±30°, though top or bottom.



## Technical Data

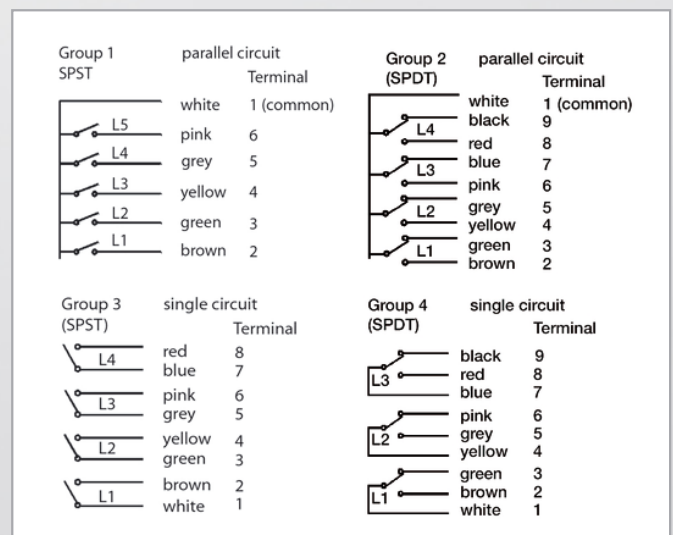
|                                     |                                                                                              |
|-------------------------------------|----------------------------------------------------------------------------------------------|
| <b>Max. Operating Pressure:</b>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

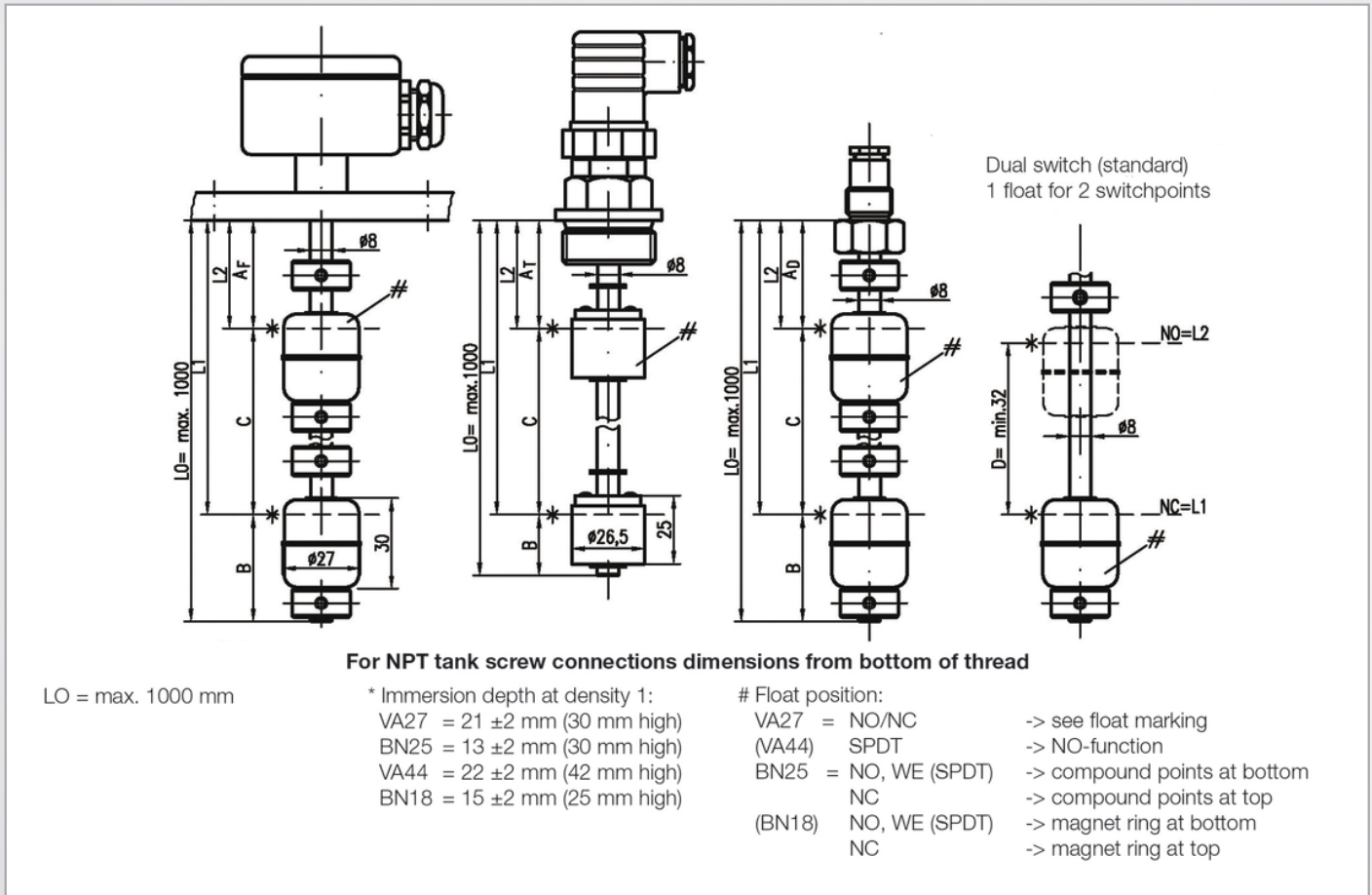
## Contact Wiring



## Level Switches

## UNS1000

### Dimensions (mm / inch)



### Switch Point Dimensions

| Dimensions | Min. distances in mm |                 |                |    |                 |                 |                 |    |    |
|------------|----------------------|-----------------|----------------|----|-----------------|-----------------|-----------------|----|----|
|            | A <sub>F</sub>       | A <sub>T1</sub> | A <sub>D</sub> | B  | B <sub>PT</sub> | B <sub>TS</sub> | B <sub>DR</sub> | 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<sub>PT</sub> = first switch point with option PT100 (mounting on bottom)

B<sub>TS</sub> = 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, without mating plug
- KL6 - Aluminum Terminal Box, 6 terminals, not ATEX Ex ia approved, IP65
- KL12 - Aluminum Terminal Box, 9 terminals, not ATEX Ex ia approved, IP65
- PG - Cable Gland with 1 m PVC-cable, other length on request, IP65
- K - PCV-Cable sealed, specify length at order, IP54
- KX4 - Aluminium Terminal Box, 4 terminals, ATEX Ex ia approved, IP67
- KX8 - Aluminium Terminal Box, 8 terminals, ATEX Ex ia approved, IP67

| Float type | min.Density Medium | Material   | Form     | Dia-meter | max. Temp. | max. Pressure (+20 °C) |
|------------|--------------------|------------|----------|-----------|------------|------------------------|
| BN25       | 0,57 g/cm3         | NBR foamed | Cylinder | 25 mm     | 100 °C     | 15 bar                 |
| BN18       | 0,64 g/cm3         | NBR foamed | Cylinder | 18 mm     | 100 °C     | 4 bar                  |

**Number of Switchpoints**

- L1 = 1 Switchpoint
- L2 = 2 Switchpoint
- L3 = 3 Switchpoint
- L4 = 4 Switchpoint
- L5 = 5 Switchpoint

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

**Contact Modes**

- 1 - SPST (NO) 230 V AC / DC, 2 A, 40 VA / W
- 2 - SPST (NC) 230 V AC / DC, 2 A, 40 VA / W
- 3 - SPDT (WE) 150 V AC, 100 V / DC, 0.2 A, 3 VA / W

**Contact Rating**

Total Length: L0 = ...mm (max. 1000 mm)

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

Basic: empty tank

UNS1000 - MS/ - T1 -KL6 -BN25 L2/ 2.1 (Examp

**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, 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

\* Others electrical connections upon request

Needed order information, e.g.:

L0 = 215 mm

L1 = 185 mm NC

L2 = 140 mm NO

Connection group: 3

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

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
- PG - Cable Gland with 1 m PVC-cable, other length on request, IP65
- K - PCV-Cable sealed, specify length at order, IP54
- KX4 - Aluminium Terminal Box, 4 terminals, ATEX Ex ia approved, IP67
- KX8 - Aluminium Terminal Box, 8 terminals, ATEX Ex ia approved, IP67

| 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
- L2 = 2 Switchpoint
- L3 = 3 Switchpoint
- L4 = 4 Switchpoint
- L5 = 5 Switchpoint

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

#### Contact Modes

#### Contact Rating

Order:L1, L2, L3, L4, L5

- 1 - SPST (NO) 230 V AC / DC, 2 A, 40 VA / W
- 2 - SPST (NC) 230 V AC / DC, 2 A, 40 VA / W
- 3 - SPDT (WE) 150 V AC, 100 V / DC, 0.2 A, 3 VA / W

Basic: empty tank

Total Length: L0 = ...mm (max. 1000 mm)

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

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, 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")

\* Other electrical connections upon request