



Capacitive Level Limit Switches for Bulk Goods



measuring
•
monitoring
•
analysing



- Switching accuracy:
 ± 3 mm (6 mm)
- Pressure: max. 25 bar
- Temperature: max. 120 °C
- Connection: R 1
option: adapter R 1½
or G 1½
- Material: PPS
- Maintenance-free
- Deposit compensation



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Model:
NTS



Description

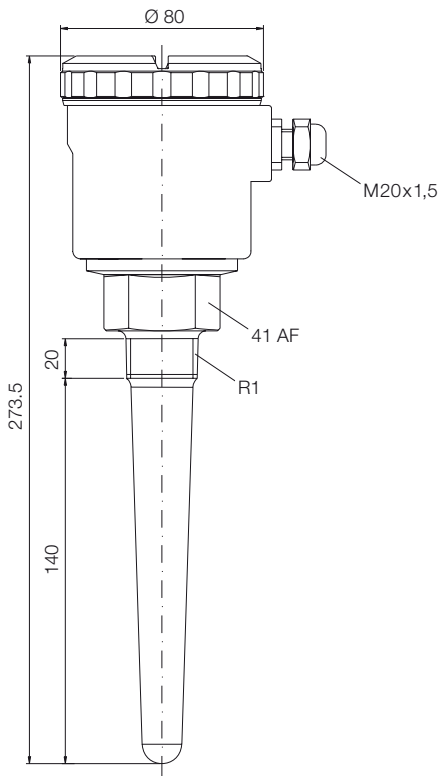
The KOBOLD NTS level limit switch for bulk goods operates on the capacitive measuring technique. The measuring probe, tank or vessel wall form a capacitor. The capacitance depends on the medium between probe and wall. If air is present (tank empty), the capacitance is low. As soon as product touches the probe, the capacitance increases. This change in capacitance is detected electronically and converted to a switching signal when the capacitance rises above or drops below the limit. The instrument has a changeover feature for minimum/maximum safety. The switch point is always accurately maintained by the "deposit compensation" even with deposit formation. The effect of deposit compensation depends on the density of the coating on the probe, the conductance of the coating as well as the adjustable sensitivity. The NTS is adjusted at the factory; the sensitivity can be re-adjusted however. For non-conductive vessels the earth connection must be attached to nearby conductive and earthed objects.

Applications

NTS are suitable for level monitoring in powdery and fine-grained bulk materials, for example:

- Chalk, gypsum
- Flour, milk powder
- Cement
- Mixed animal feed
- Grain

Dimensions



Technical Details

- Housing: plastic
- Probe: PPS (polyphenylene sulphide)
- Medium: DK value $\epsilon_r \geq 1.6$
bulk materials upto grain size 30 mm
- Connection: R 1 male thread 2999/ISO 7
option: installation coupling R 1½ or G 1½
- Auxiliary power: **DC version**
10.8 to 45 V_{DC}/max. 30 mA
AC/DC version
20 to 253 V_{AC} or
20 to 55 V_{DC} max. 130 mA
- Output: **DC version**
PNP/I_{max} 200 mA
overload and short-circuit proof
AC/DC version
relay:
I_{max} 4 A ; I_{min} 1 mA; U_{max} 253 V
U_{min} 6 V; P_{max} 1000 VA
- Failure signal: DC-PNP < 100 µA
AC/DC relay dropped out
- Switch delay: 0.5 s becoming uncovered / becoming covered
- Error of measurement: horizontal ± 3 mm
vertical ± 6 mm
- Hysteresis: horizontal 4 mm
vertical 7 mm
- Switch point: horizontal middle of probe -5 mm
vertical 40 mm
- Electrical connection: terminal connection
- Protection: IP 66
- Medium temperature: -40 to 120 °C
- Ambient temperature: -40 to +70 °C
- Operating pressure: -1 to 25 bar

Order Details (Example: NTS-1000 R25)

Connection male thread	Order number	
	20-55 V _{DC} 20-253 V _{AC}	10.8-45 V _{DC}
Standard R 1 male thread	NTS-1000 R25	NTS-1001 R25
Option: with installation coupling R 1½	NTS-1000 R40	NTS-1001 R40
Option: with installation coupling G 1½	NTS-1000 G40	NTS-1001 G40