



Deep-Well Probes



measuring
• monitoring
• analysing

NTB



- Measuring range:
0-1 ... 0-200 m water column
- Linearity: $\pm 0.25\%$
- Material: stainless steel, polyurethane (cable)
- Reliable
- Compact
- Dirt resistant

N2



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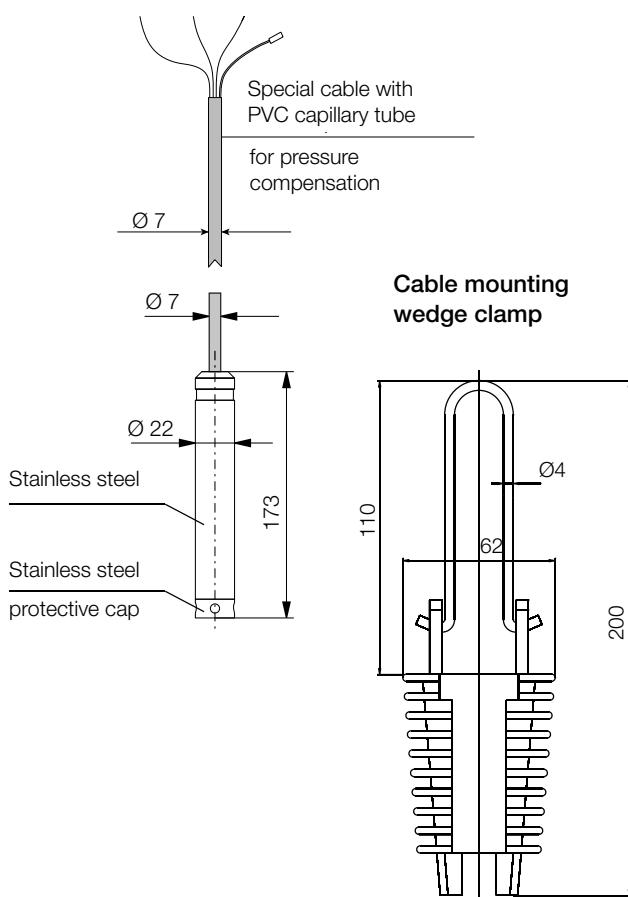
Description

The immersion probe comprises a measuring cell, two-wire transmitter and a special cable with capillary tube. The housing comprises stainless steel with a pressure-sensitive diaphragm that is protected with a stainless steel cap. The level signal is determined by the pressure difference between the water column over the probe and atmospheric pressure which is transferred to the probe through the capillary tube. This differential pressure is converted to a 4...0 mA analogue signal by the piezo-resistive cell and the fitted electronics.

Application

The NTB deep-well probe is used for hydrostatic level measuring in wells, reservoirs, clarification plants and other vessels. Due to its small physical size, it is very easy to install and is ideally suited for protecting submersible pumps in deep wells.

Dimensions, Electrical Connection [mm]



Technical Details

Hydrostatic sensor

Measuring range
NTB-1: 0...200 m water column

Material

Sensor:	stainless steel 1.4404
Probe:	stainless steel 1.4571
Cable:	polyurethane
Sealing:	FPM
Cap:	stainless steel 1.4571
Overload capacity:	3x measuring range
Output signal:	4...20 mA HART®, 2-wire
Linearity:	± 0,25%
Effects of ambient temperature:	± 0,1%/10 K
Auxiliary power:	12...30 V _{DC}
Load:	$R_{min} = \frac{U_t - 12 V}{0,02 A} \Omega$, U _t = auxiliary power
Protection:	IP 68
Operating temperature:	-30 ... +60 °C (+75 °C on request)
Dimensions of probe:	Ø 22 x 173 mm
Wire cross-section:	0.34 mm ²
Cable length:	up to 300 m (see order details)

Overvoltage protection

NTB-OVP12: field mounting
NTB-OVP32: rail DIN 46277-3

Maximum voltage (peak value)

Slow:	90 V pp
Fast:	30 V pp
Series resistor:	13 Ω ±10%
Pulse power:	600 W / 1 ms
Protection:	IP 54 (NTB-OVP 12) IP 20 (NTB-OVP 32)

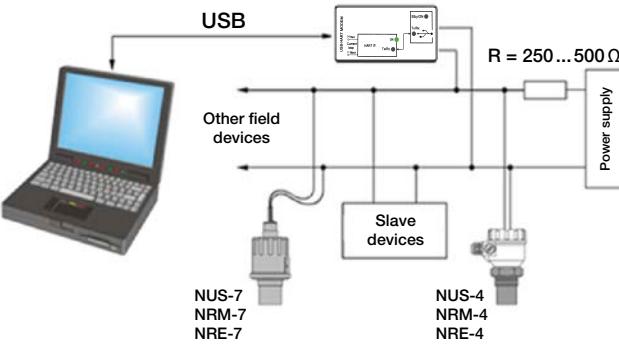
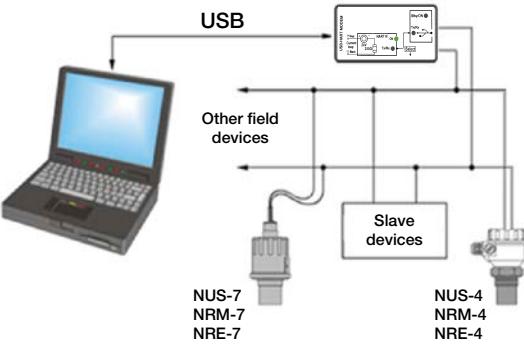
NTB in systems with PC

Using a PC and HART® modem (e.g. model HARTCOM), it is possible to create your own multi-drop HART® network, where the PC displays all NTB measurement data and also allows reprogramming of the units as necessary. In this way the outputs derived from the displayed data can be programmed via the PC, which acts as the master. A maximum of 15 transmitters can be connected to one HART® modem and KOBOLD's NUS-NTB-NRM-SW software can be used for configuration.

Order Details (Example: NTB-1301 01)

Deep-well probe		
Measuring range	Order no.	Cable length
1 mWC	NTB-1301...	
2 mWC	NTB-1302...	
5 mWC	NTB-1305...	
10 mWC	NTB-1310...	...01 = 1 m
20 mWC	NTB-1320...	...10 = 10 m
50 mWC	NTB-1350...	...3H = 300 m
100 mWC	NTB-131H...	...YY = other
200 mWC	NTB-132H...	
other	NTB-13YY...	

Order Details HART® modem

Order no. HART® modem: HARTCOM-0	Order no. HART® modem: HARTCOM-1
with external 24 V _{DC} transmitter supply and 250 Ω resistor	Loop Powered 24 V _{DC} and 250 Ω integrated resistor
	
Wiring examples	
	

Download of configuration software NUS-NTB-NRM-SW at www.kobold.com

Accessories housing	Order no.
Overvoltage protection field mounting	NTB-OVP12
Overvoltage rail mounting	NTB-OVP32
Cable mounting wedge clamp	NTB-NAA209