

SURFACE SENSOR HART, MAGNET



- PT100 · 4...20 MA HART
- MAGNET 66 N
- 2 LIMITS, NO DISPLAY
- MEDIUM UP TO +200 °C
- IP 65



KEY DATA

Property	Value	Property	Value
Input	Pt100, 4-wire	Medium	-50 ... +200 °C
Output	4 ... 20 mA HART, 2-wire	Ambient	-20 ... +80 °C (1)
Accuracy	0.3 % of span	Supply	12 ... 40 VDC
Process connection	clamping magnet, 66 N	Limit contacts	2x PNP or NPN
Setting	software only (HART) (2)	Product code	NW

Surface temperature sensor on a clamping magnet with two limit contacts, without display and without keys — it is set over HART only. Otherwise identical to TMMA, the version with display.



TECHNICAL DATA

INPUT AND OUTPUT

Sensor	Pt100, 4-wire
Range	-50 ... +200 °C, smallest span 50 K
Higher range	up to -50 ... +250 °C on request
Classes	A · B · AA (B 1/3 DIN)
Output	4 ... 20 mA with HART, 2-wire loop
Current range	3.8 ... 20.5 mA
Fault signal low	3.6 mA on short circuit or underrange
Fault signal high	21 mA on break or overrange
Transfer characteristic	linear to temperature
Response time	20 ms, switch-on delay < 5 s

PERFORMANCE

Accuracy amplifier	0.3 % of span, 16 bit
Filter	0 ... 99 s
Measuring rate	10 measurements/s
Setting	by software over HART only (2)
Limit contacts	2× PNP or NPN, 30 VDC, 200 mA
Option	2× PNP or NPN, 30 VDC, 1000 mA
Voltage drop	< 1 V
Setting range	switch point and hysteresis over the whole span
Switching delay	0.0 ... 999.9 s, failsafe adjustable
Separation	switching outputs separated from the amplifier (3)

SUPPLY AND ENVIRONMENT

Supply	HART current loop 12 ... 40 VDC
Load	$R = (U_B - 12 \text{ V}) / 21 \text{ mA}$
Reverse polarity	protected, no destruction
Ambient	-20 ... +80 °C (1)
Medium	-50 ... +200 °C
Storage	-40 ... +100 °C
Condensation	harmless
Weight	approx. 259 g

MECHANICS

Process connection	clamping magnet, holding force 66 N
Measuring face	Ø 6 mm, spring-loaded (travel 1.5 mm)
Magnet	Alnico 500
Sensor body	stainless steel 1.4571
Mounting position	any
System pressure	PN 25
Protection	at least IP 65 at the electronics
Housing	PBT GF30
Connection position	at the side or on top

(1) The ambient temperature is not the medium temperature: the measuring face is rated up to +200 °C, the electronics in the head only up to +80 °C. Temperatures above +85 °C can destroy the electronics.

(2) This device has no display and no keys. Whoever needs a display orders TMMB.

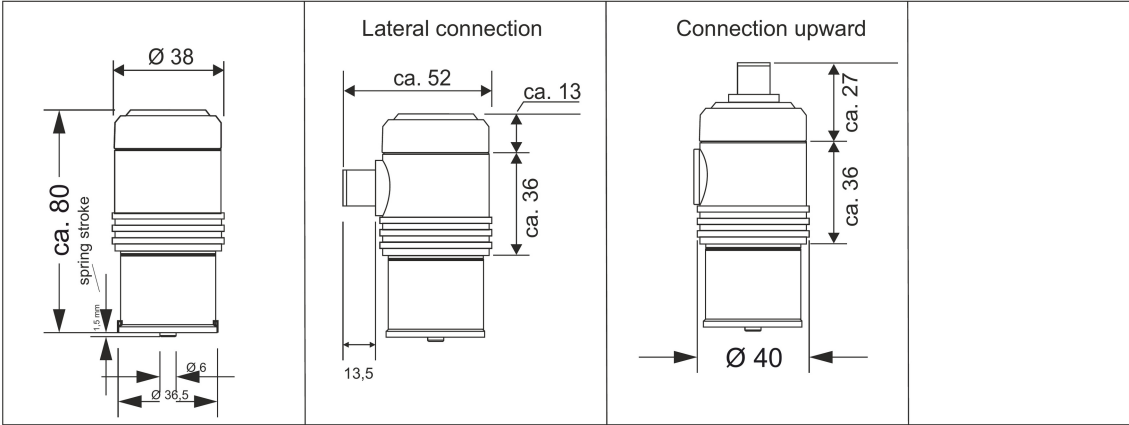
(3) The galvanic separation applies between switching outputs and measuring amplifier only.

ELECTRICAL CONNECTION

Ten electrical connections are available: M12x1 four-, five- and eight-pole, Deutsch DT04 three- and four-pole, Super Seal 1.5 three-pole, bayonet (DIN) four-pole, valve plug four-pole, MIL six-pole and cable four-pole. Two limit contacts are available on M12 five- and eight-pole, on MIL and on the cable only; Deutsch DT04 four-pole and Super Seal carry none.



DIMENSIONS



Dimensions in mm.



CONFORMITY

Protection	at least IP 65, boards potted
Material to the surface	stainless steel 1.4571, magnet Alnico 500

ORDER INFORMATION

Accessories

- HART interface with USB and software, order number 01310-00220. The HART tool is a menu-driven operating program for commissioning, configuration, signal analysis, data backup and documentation; it runs under Windows 2000, XP, 7, 8.1 and 10. When communicating through a HART modem a resistance of 250 Ω has to be taken into account.

ORDER KEY

Field	Value	Meaning
Product code	NW	stands at the beginning of every order code
Input	0	Pt100, 4-wire
Sensor class	0 · 1 · 3	class A · class B · class AA (B 1/3 DIN)
Process connection	0	clamping magnet
Limit contact	0 ... 8	2x or 1x PNP/NPN, 30 VDC, 200 mA or 1000 mA · 2 = none
Electrical connection	0 ... A	M12 4/5/8-pole · Deutsch DT04 3/4-pole · Super Seal 3-pole · bayonet · valve · MIL = 9 · cable 4-pole = A
Configuration	0 · 1	factory setting -50...200 °C, damping 0 s · customer-specific, please state
Other	0	special model

The order code is formed from the product code and the fields of the key.

