

TEMPERATURE LIMIT SWITCH



- PT100 · RELAY CHANGEOVER
- SWITCH POINT BY MAGNET
- ± 0.5 K
- MEDIUM UP TO $+200\text{ }^{\circ}\text{C}$
- IP 65



KEY DATA

Property	Value	Property	Value
Input	Pt100, 3-wire, class B	Medium	$-50 \dots +200\text{ }^{\circ}\text{C}$
Output	relay, changeover	Ambient	$-40 \dots +80\text{ }^{\circ}\text{C}$ (1)
Contact rating	1 A / 30 VDC · 0.3 A / 125 VAC	Supply	24 ... 30 VDC
Accuracy	$\pm 0.5\text{ }^{\circ}\text{C}$	Switch point	$100\text{ }^{\circ}\text{C}$ ex works (2)
Setting	by magnet or HART (3)	Product code	NT

Screw-in limit switch with a Pt100 and a relay output that needs no evaluation unit and goes, for example, to a digital input of a PLC. The switch point is set in the field with a magnet — without a tool and without opening the housing.



TECHNICAL DATA

INPUT AND OUTPUT

Sensor	Pt100, 3-wire
Range	-50 ... +200 °C
Class	B, class A as an option
Output	relay, changeover
Switching current	1 A at 30 VDC, resistive load
	0.3 A at 125 VAC, resistive load
Switching capacity	30 W or 37.5 VA, resistive load
Switching cycles	> 100,000
Response time	20 ms, switch-on delay < 5 s
Measuring rate	10 measurements/s

PERFORMANCE

Accuracy	±0.5 °C
Switch point ex works	100 °C
Switch point setting	with a magnet, recalibration (2)
Hysteresis standard	0.1 °C
Hysteresis over HART	adjustable above 0.1 °C
Switching delay	0 s, over HART 0 ... 99.9 s
Damping	0 s, over HART 0 ... 99.9 s
Signalling	LED red, visible over 360°
Relay active	LED lit
Relay inactive	LED dark

SUPPLY AND ENVIRONMENT

Supply	24 ... 30 VDC
Current consumption	approx. 35 mA maximum, with the relay circuit
Reverse polarity	protected, no destruction
Ambient	-40 ... +80 °C (1)
Medium	-50 ... +200 °C
Storage	-40 ... +100 °C
Condensation	harmless
Weight	approx. 140 g

MECHANICS

Process connection	1/4" · 3/8" · 1/2" · 3/4" · 1" · 1 1/4"
	1/4NPT · 3/8NPT · 1/2NPT
Sheath	1.4571, Ø 6 mm standard · Ø 9 mm
Neck tube	100 mm, 1.4571 (option)
Process connection material	1.4571
Housing, cover	PBT GF30, lens PMMA
Mounting position	any
System pressure	PN 25
Protection	at least IP 65, boards potted

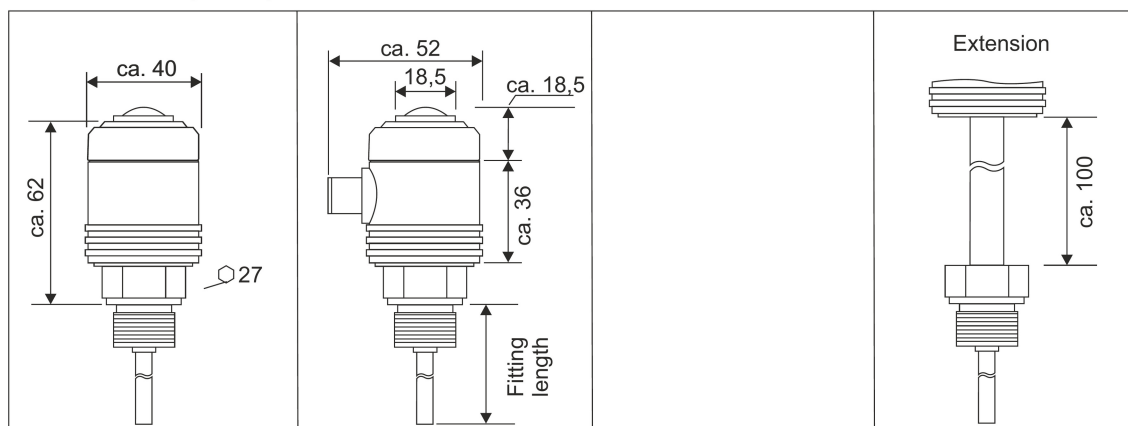
- (1) The ambient temperature is not the medium temperature: the medium may reach +200 °C, the electronics in the head only +80 °C.
- (2) The switch point is set to 100 °C ex works and recalibrated in the field with a magnet.
- (3) Hysteresis, switching delay, damping and the switch point itself can be changed over the HART tool only; the magnet alone changes the switch point.

ELECTRICAL CONNECTION

One single connection: M12x1, eight-pole. Pin 1 = U+ (24 VDC), pin 8 = U-, pin 3 = C, pin 2 = NC, pin 4 = NO. Configuration over HART is wired differently: pin 5 carries the HART signal through a resistance of 250 Ω — and in that wiring the relay has no function. Measuring and configuring are therefore not possible at the same time.



DIMENSIONS



Dimensions in mm.



CONFORMITY

Protection	at least IP 65, boards potted
Material to the medium	stainless steel 1.4571

ORDER INFORMATION

Accessories

- HART interface with USB and software, order number 01310-00220, interface DEV-HM. 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	NT	stands at the beginning of every order code
Input	1	Pt100, 3-wire
Accuracy	2 · 1	class B · class A as an option
Connection Pt100	2	3-wire
Sheath	6 · 9 · L · O	Ø 6 mm · Ø 9 mm · Ø 6 with 100 mm neck · Ø 9 with 100 mm neck
Fitting length	050 ... A00	50 · 100 · 200 · 250 · 400 · 600 · 1000 mm (A00)
Process connection	1 ... 9	1/4" · 3/8" · 1/2" · 3/4" · 1" · 1/4NPT · 3/8NPT · 1/2NPT
Electrical connection	3	M12, 8-pole — the only possibility
Configuration	1 · 2	factory setting 100 °C, ± 0.5 K, hysteresis 0.1 °C · customer-specific
Special model	0 · 1	no · yes, please state

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

