



Limit Switch Temperature TES

Screw-in temperature switch



D-EN-TES-20191023

- Open Collector temperature switch
- Easy on-site switching point adjustment
- Supply 24 - 30 VDC



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Applications

The temperature switch is for use in the whole range of industrial application and is connected e. g. to the digital input of a SPS. With the different types and the very simple in-situ switch point adjustment the temperature switch is also suitable for applications with higher requirements.

Technical features

- Sensor: RTD Pt 100
- Potting: Electronics potted
- Material towards medium: stainless steel 1.4571
- Process connection: 1/4", 3/8", 1/2", 3/4", 1", 1/4" NPT, 3/8" NPT, 1/2" NPT
- Output: open collector, 30 V, 200 mA
- Indication: LED red
- Accuracy: 0,5 °C / 0,2 °C
- Switch point adjustment: with magnet
- Electrical connection: M12x1, 8-pole
- Protection: at least IP65

Characteristics

Input	RTD PT100 maximum range -50...+200 °C
Output	Relay with change over contact
Voltage supply	24...30 VDC
Accuracy	±0,5 °C
Process connection	Several options
Electrical connection	M12x1, 8-pole
Indication	LED red
Temperature range	-40...+80 °C (ambient)
Switch point adjustment	By magnet / with HART tool
Material	Stainless steel 1.4571 (medium contact)
Protection	At least P65

HART communication and configuration

The HART-Tool is a graphical user interface for these series with menu-driven program for configuration. It can be used for putting into operation, configuration, analysis of signals, data backup and documentation of the device. Connection via HART interface DEV-HM for operating systems: Windows XP, Windows 7, 8.1 and 10.

Possible settings are:

Filter function, limits of nominal measuring range (URL, LRL), limits of used measuring range (URV, LRV), HART address, hysteresis, switching delay, switching point, damping

Please note: When using communication via a HART modem, a communication resistance of 250 Ω has to be taken into account.

Important instructions!

Technical changes and errors reserved.

Pictures can be similar.

The operating instructions belonging to this device must be observed! Download at www.schmidt-messtechnik.com.



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Technical data			
Input	Sensor	Type	RTD PT100, 3-wire
		Range	-50...200 °C
		Connection	3-wire
Output	Relay	Type	Wechsler
		Switching capacity	1 A , 30 VDC (resistive load) 3 A, 125 VAC (resistive load)
		Switching power	30 W or 37,5 VA (resistive load)
		Switching cycles	> 100000
Performance	Sensor	RTD PT100	Class B (class A optional)
	Switching amplifier	Accuracy	±0,5 °C
		Switching delay	0 s (standard), with HART configuration: 0...99.9 s
		Hysteresis	0,1 °C (standard), with HART configuration: >0,1 °C
		Damping	0 s (standard), with HART configuration: 0...99,9 s
		Measuring rate	10 measurements/s
		Response time	20 ms
		Switching point	100 °C (standard)
		Switch point adjustment	With magnet (recalibration)
	Turn-on delay time	<5 s	
	Indication	LED	red, 360°
		Relay active	LED lights
		Relay inactive	LED off
Programmable features	Switching amplifier	With magnet	Switching point adjustment (recalibration)
		With HART Tool	Hysteresis, switching delay, switching point, damping



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Technical data				
Supply	Voltage	24...30 VDC		
	Current consumption	Approx. 35 mA maximum		
	Reverse battery protection	available (no function, no damage)		
Ambient conditions	Temperature	Operating range	-40...+80 °C (ambient)	
		Medium	-50...+200 °C	
		Storing	-40...+100 °C	
	Condensation	uncritical		
Mechanics	Dimensions	See page 5		
	Process connection	1/4" / 3/8" / 1/2" / 3/4" / 1" / 1/4NPT / 3/8NPT / 1/2NPT		
	Protecting tube	Ø6 mm (standard), 9 mm, other on request		
	Extension	100 mm (option)		
	Electrical connection	M12x1, 8-pole		
	Material	Protecting tube	Stainless steel 1.4571	
		Extension	Stainless steel 1.4571	
		Process connection	Stainless steel 1.4571	
		Body	PBT GF30	
		Cover	PBT GF30	
		Lens	PMMA	
	Weight	Approx. 140 g		
	Fitting position	Any		
	System pressure	PN 25		
Protection of device	Ingress protection	At least IP65 (Electronics)		
	PCB	potted		

Electrical connection



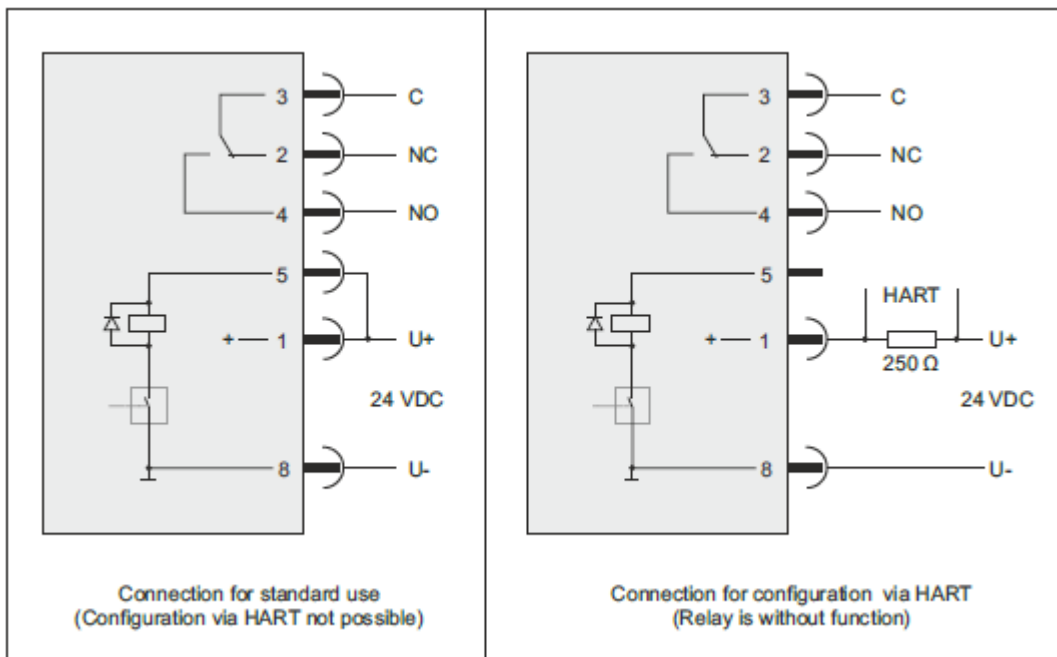
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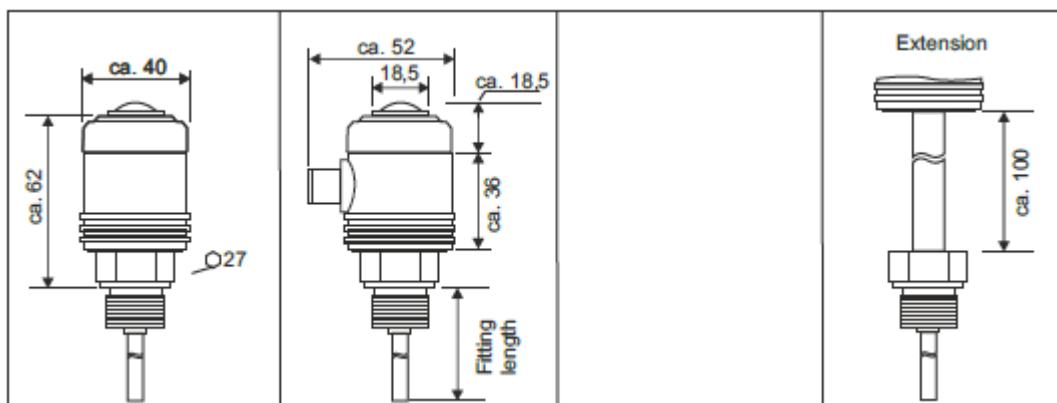
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Pin assignment



Dimensions (mm)



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Order code

		TES											
		X	X	X	X	-	X	-	X	X	X	X	X
Input:	RTD Pt100, 3-wire	1											
Accuracy:	Class B		2										
	Class A (option)			1									
Connection RTD:	3-wire			2									
Protecting tube:¹⁾	Ø6 mm				6								
	Ø9 mm				9								
	Ø6 mm with extension 100 mm				L								
	Ø9 mm with extension 100 mm				O								
Fitting length:²⁾	50 mm						050						
	100 mm						100						
	200 mm						200						
	250 mm						250						
	400 mm						400						
	600 mm						600						
	1000 mm						A00						
Process connection:	1/4"								1				
	3/8"								2				
	1/2"								3				
	3/4"								4				
	1"								5				
	1/4NPT								7				
	3/8" NPT								8				
	1/2" NPT								9				
Electr. connection:	M12, 8-polig									3			
Configuration:	Factory configuration ³⁾										1		
	Customized (to specify) ⁴⁾										2		
Special model:	No											0	
	Yes (to specify)											1	

1) Protecting tube: Other diameter on request

2) Fitting length: Other fitting lengths on request or see price list

3) Factory configuration: Switching point: 100 °C, Accuracy: ±0,5 K, Hysteresis: 0,1 °C, Switching delay: 0 s
Filter: 0 s, RTD Pt100: 3-wire

4) Customized configuration: Please specify, for options see technical data

Accessories

Interface HART, USB, software