

Electrical 2-wire temperature switch clamp-on technology measurement of pipe surface Type Series GP2610



Application area

- Food industry
- Pharmaceuticals
- Biotechnology

Features

- Electrical 2-wire temperature switch for connecting to a digital PLC I/O
- Various clamping elements for process connection:
 - clamping block (for pipe-Ø 4...17.2 mm)
 - clamping shoe (for pipe-Ø 10...300 mm)
 - clamping bracket (for pipe-Ø 4...17.2 mm)
- Hygienic temperature measurement for pipe diameters of 4...300 mm
- Measuring system patented
- High accuracy, fast response
- Easy installation
- No welding, no process interruption
- No additional isolation required
- Measuring insert can be recalibrated
- Temperature switch with output signal 4 or 33 mA, 2-wire technology, switching functionality (max. makers):
 - OFF = 4 mA
 - ON = 33 mA
- Switch point setting by using a magnet; range from -40 to +150 °C
- Switching point accuracy $\pm 0,5$ K
- Switching delay: 0 sec
- Hysteresis 0.1 K
- Switch state indicator with 2 LEDs (green light)
- Electrical connection M12

Optionen

- Continuous flashing of the LEDs indicating: sensor break or short circuit
- Switching point accuracy ± 0.1 K (factory calibration)
- Switching delay 0...99 sec (factory calibration)
- Hysteresis > 0.1 K

Applications

The temperature switch GP2610 in clamp-on technology is intended for measuring the surface temperature of pipes especially in food/pharmaceutical/biotechnology applications. The output signal is connected to a digital PLC I/O port.

Case design

Design	fully encapsulated electronics unit
Material	case st. steel mat.-no. 1.4301 (304),
Degree of protection	IP 67 per DIN EN 60529
Electrical connection	circular connector M12, 4 pin

Temperature detecting element

Measuring insert	material stainless steel Ø 6 mm, screwed into the connection head under spring tension measuring insert can re calibrate, though replaceable. Installation arrangements are unchanged. Measuring element from silver, thermally isolated with plastic insert
Measuring resistor	Pt 100 in thin layer technology

Temperature ranges

Ambient temperature	-20...85 °C
Process temperature	-40...150 °C
Allowed storage temperature	-40...100 °C

other temperature ranges upon request

Pipe collar

Material	temperature-resistant high performance plastics with integrated isolating system
Degree of protection	IP 65 per DIN EN 60529

Pipe nominal sizes

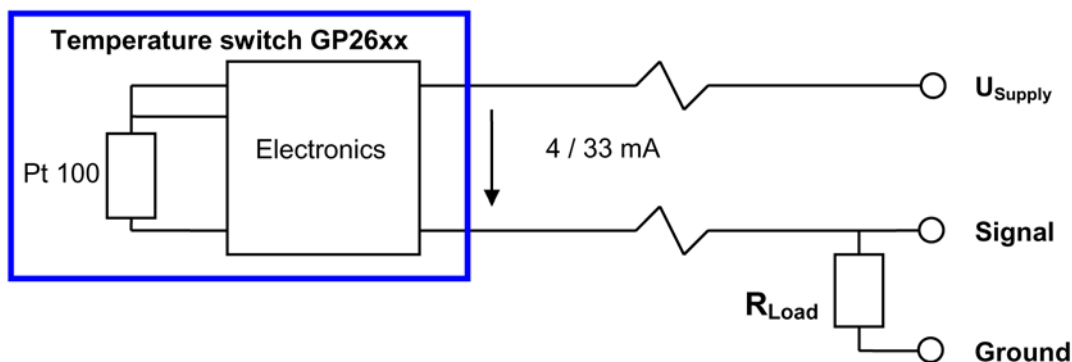
Suited for all standard nominal sizes. Dimensions see order code.

Switching output

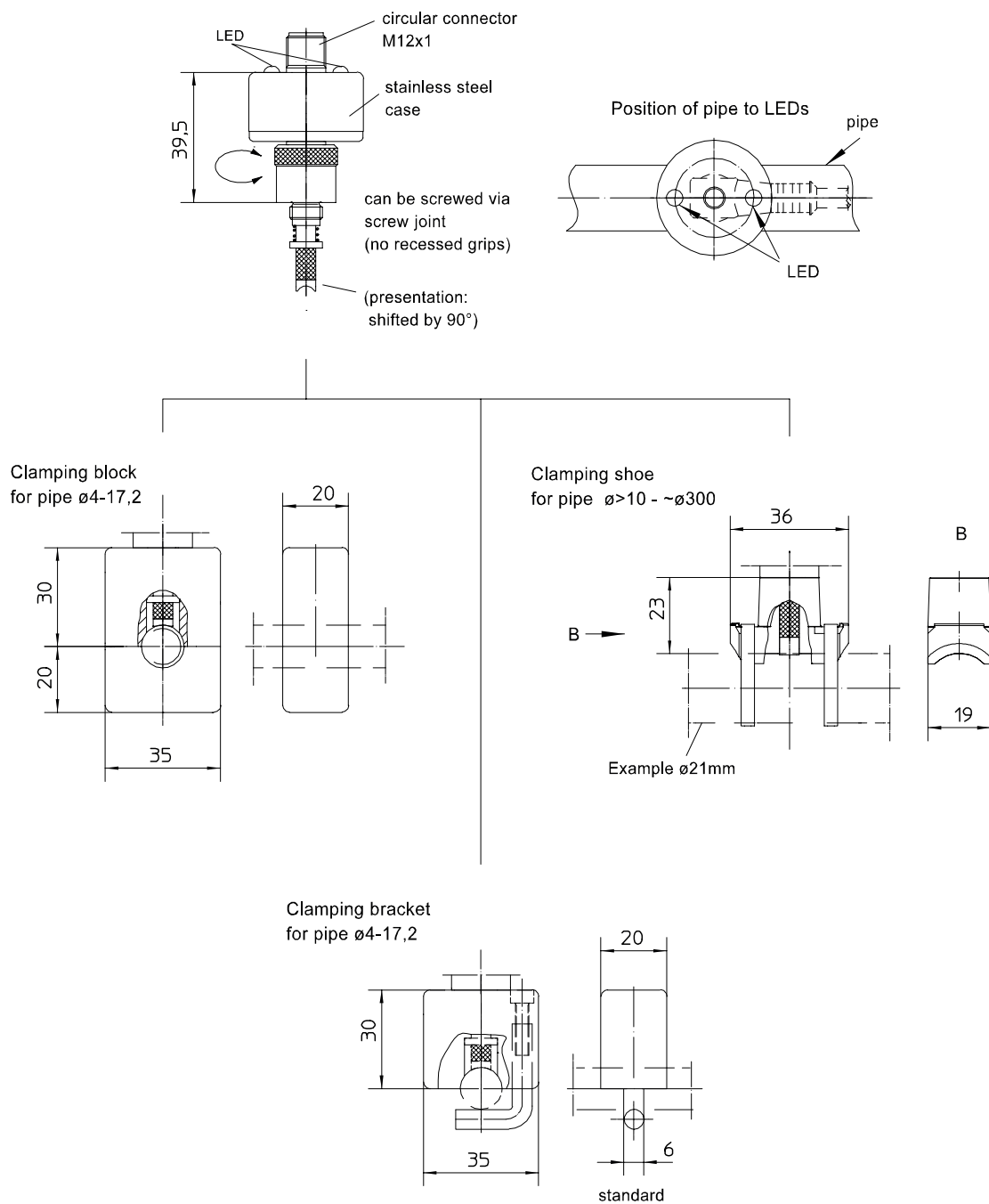
Type	Electrical 2-wire temperature switch, output signal 4 or 33 mA OFF: 4 mA ON: 33 mA
Switch point setting	range from -40 to +150 °C (factory settings, re-adjustable by customer by holding a magnet to the setting point)
Switching function	max. makers
Switching delay	0 s, optional 0...99,9 s
Output state indicator	green LED per switching output, 360° light
Supply	24 V DC -0V + 6 V DC
Switching cycles	> 10 millions
Switching accuracy	± 0.5 K; optional ± 0.1 K after calibration
Hysteresis	0.1 K (higher on request)

Functional description

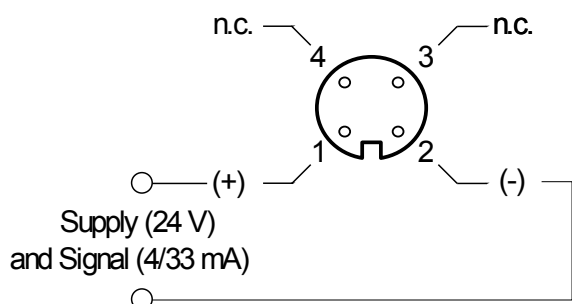
The device converts a temperature signal into a high/low information. Above the switch-point the device generates a current of 33 mA, below the switch-point of 4 mA. You can use a digital PLC input to convert the current into an on/off signal with an appropriate load resistor R_{Load} as shown below.



Dimensions



Connection diagram



Electrical 2-wire temperature switch Clamp-on technology						GP2610								
clamping elements	· clamping block installation					A4 ...								
	· clamping shoe installation with hose clamps for pipe Ø 10 mm or bigger					B5 ...								
	· clamping bracket installation	· clamping bracket standard				C3 ...								
		· clamping bracket flat				C4 ...								
pipe external diameter mm	pipe external diameter	collar size												
		50 x 35 x 20 A4 ...	23 x 36 x 19 B5 ...	30 x 35 x 20 C3 ...										
	4	x	-	x		040								
	6	x	-	x		060								
	6.35	x	-	x		063								
	8	x	-	x		080								
	9.35	x	-	x		093								
	10	x	x	x		100								
	10.2	x	x	x		102								
	10.3	x	x	x		103								
	12	x	x	x		120								
	12.7	x	x	x		127								
	13	x	x	x		130								
	13.5	x	x	x		135								
	13.7	x	x	x		137								
	14	x	x	x		140								
	15.88	x	x	x		158								
	16	x	x	x		160								
	17.2	x	x	x		172								
	different Ø 4.0 - 17.2	x	-	x		997								
	18.0	-	x	-		180								
	19.0	-	x	-		190								
	19.05	-	x	-		195								
	20.0	-	x	-		200								
	21.3	-	x	-		213								
	22.0	-	x	-		220								
	23.0	-	x	-		230								
	24.0	-	x	-		240								
	25.0	-	x	-		250								
	25.4	-	x	-		254								
	26.7	-	x	-		267								
	26.9	-	x	-		269								
	28.0	-	x	-		280								
	29.0	-	x	-		290								
	30.0	-	x	-		300								
	31.8	-	x	-		318								
	32.0	-	x	-		320								
	33.4	-	x	-		334								
	33.7	-	x	-		337								
	34.0	-	x	-		340								
	35.0	-	x	-		350								
	36.0	-	x	-		360								
	38.0	-	x	-		380								
	38.1	-	x	-		381								
	41.0	-	x	-		410								
	42.4	-	x	-		424								
	44.5	-	x	-		445								
	48.3	-	x	-		483								
	50.8	-	x	-		508								
	53.0	-	x	-		530								
	54.0	-	x	-		540								
	57.0	-	x	-		570								
	different 10.0-300 mm	-	x	-		991								
process temperature	· -40...+150 °C					M23								
	· as in writing					M99								
switching output	supply	· 24 V DC - 0 V + 6 V DC				F1 ...								
	switching functions	max. function	output signal	· OFF = 4 mA · ON = 33 mA										
	switch point setting	· 121 °C, standard				2								
		· factory settings in the range -40.0...150.0°C, as in writing				9								
	switching delay	· 0 s, standard				3								
		· upon request				9								
hysteresis	· 0.1 K, standard				4									
	· upon request				9									
switching point accuracy	· ± 0.5 K, standard					G1								
	· ± 0.1 K					G2								
switch state indicator	green LED, 360° light	· LEDs off, switching status OFF				L10								
sensor break signal	· without					K1								
	· continuous flashing off the LEDs indicating: sensor break or short circuit					K2								
electrical connection	· circular connector M12x1 (4 pin). IP 67					T30								
additional features (to be indicated in case of need, only)														
reverse voltage protection	· without					V2								
order code (example):						GP2610	A4040	M23	F1234	G1	L10	K1	T30	V2