

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



Application area

- Pharmaceutical industry
- Food industry
- Biotechnology

Features

- Electrical 2-wire temperature switch for connecting to a digital PLC I/O
- Patented measuring system for hygienic temperature measurement without contact to media, for pipe diameter 4...300 mm
- Measuring insert can be recalibrated and is replaceable; the installation arrangements are unchanged
- High accuracy, fast response
- Quick and cost efficient installation, also for subsequent installation
- No welding, no process interruption
- No additional isolation required
- Temperature switch with output signal 4 und 33 mA, 2-wire technology, switch function (makers)
 - OFF = 4 mA
 - ON = 33 mA
- Switch point setting by using a magnet, range from -40...150 °C
- Switch point accuracy ± 0.5 K
- Hysteresis 0.1 K
- Switch state indicator with 2 green LEDs
- Electrical connection M12

Options

- Switch point accuracy ± 0.1 K (factory calibration)
- Hysteresis > 0.1 K

Application

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

Technical data

Constructional design

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

Measuring insert

Design:	Special measuring insert: Ø 6 mm; hygienic design. Measuring insert screwed into the clamping element under spring tension.
Material:	Stainless steel Measuring element from silver, thermally isolated via PEEK element.
Measuring resistor:	Pt100 per EN 60751, in thin layer technology

Process connection

Design:	Clamping element designed for installation with : <ul style="list-style-type: none">■ Clamping block for pipes Ø 4...17.2 mm■ Clamping shoe for pipes Ø 10...300 mm■ Clamping bracket for pipes Ø 4...17.2 mm
Material:	Temperature resistant plastics (PVDF) with integrated isolation system, hygienic design
Degree of protection per EN 60529:	IP 65
Pipe diameter:	See order code

Switching output

Type:	Electrical 2-wire temperature switch
Output signal:	OFF: 4 mA ON: 33 mA
Switch point setting:	Range from -40...150 °C (factory settings, re-adjustable by customer by holding a magnet to the setting point)
Output state indicator:	2 green LEDs, 360° light
Switch function:	makers
Switching delay:	0 s
Supply:	24...30 V DC
Switching cycles:	> 10 millions
Switching accuracy:	± 0.5 K optional ± 0.1 K after calibration
Hysteresis:	0.1 K (higher upon request)

Temperature ranges

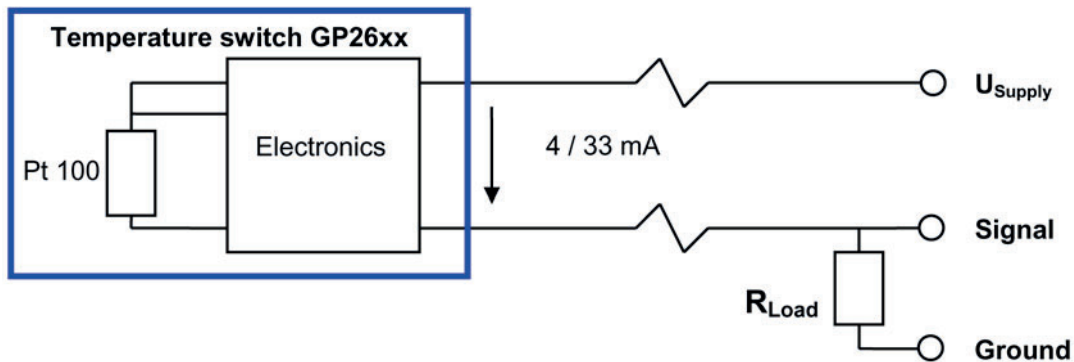
Ambient:	-20...85°C
Media:	-40...150°C
Storage:	-40...100°C

Extended temperature ranges upon request.

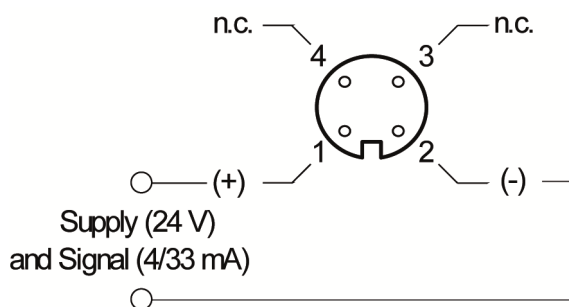
Functional description

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.

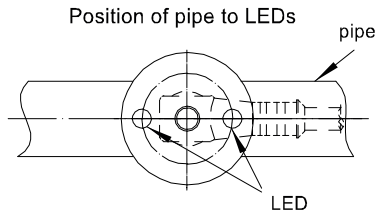
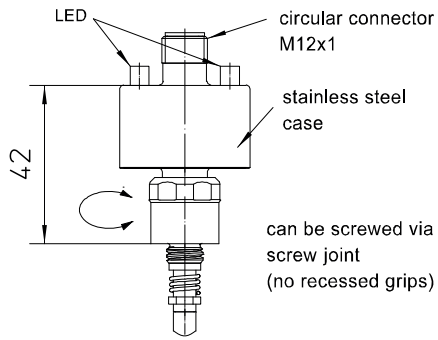
You can use a digital PLC input to convert the current into an on/off signal with an appropriate load resistor R_{Load} as shown below.



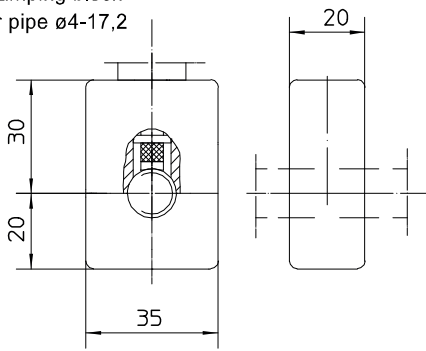
Connection diagram



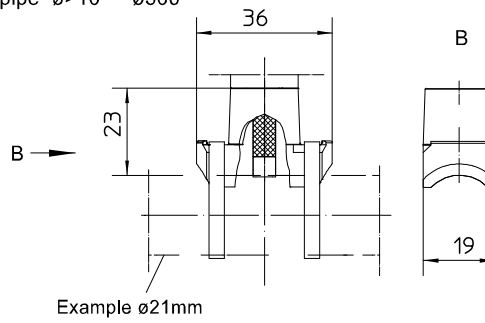
Dimensions



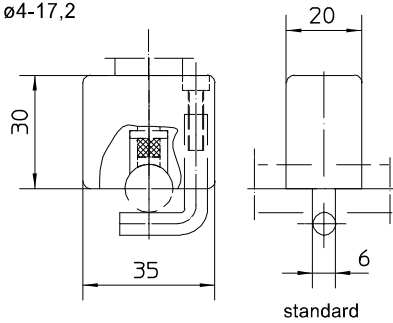
Clamping block for pipe $\varnothing 4-17,2$



Clamping shoe for pipe $\varnothing > 10 - \sim \varnothing 300$



Clamping bracket for pipe $\varnothing 4-17,2$



Order details

Electrical 2-wire temperature switch, clamp-on technology for measurement of pipe surface Type series GP2610

Order details GP2610					
GP2610	Electrical 2-wire temperature switch clamp-on technology				
A4	clamping elements	for clamping block installation			
B5		for clamping shoe installation	with hose clamps for pipe Ø 10 mm or bigger		
C3		for clamping bracket installation	standard		
	outside pipe diameter [mm]		collar size		
			50 x 35 x 20	23 x 36 x 19	30 x 35 x 20
			A4 . . .	B5 . . .	C3
040		4.0	x	-	x
060		6.0	x	-	x
063		6.35	x	-	x
080		8.0	x	-	x
093		9.35	x	-	x
100		10.0	x	x	x
102		10.2	x	x	x
103		10.3	x	x	x
120		12.0	x	x	x
127		12.7	x	x	x
130		13.0	x	x	x
135		13.5	x	x	x
137		13.7	x	x	x
140		14.0	x	x	x
158		15.88	x	x	x
160		16.0	x	x	x
172		17.2	x	x	x
997		different Ø 4.0-17.9	x	-	x
180		18.0	-	x	-
190		19.0	-	x	-
195		19.5	-	x	-
200		20.0	-	x	-
213		21.3	-	x	-
220		22.0	-	x	-
230		23.0	-	x	-
240		24.0	-	x	-
250		25.0	-	x	-
254		25.4	-	x	-
267		26.7	-	x	-
269		26.9	-	x	-
280	28.0	-	x	-	
290	29.0	-	x	-	
300	30.0	-	x	-	
318	31.8	-	x	-	
320	32.0	-	x	-	
334	33.4	-	x	-	
337	33.7	-	x	-	
340	34.0	-	x	-	
350	35.0	-	x	-	
360	36.0	-	x	-	
380	38.0	-	x	-	
381	38.1	-	x	-	

			collar size			
			50 x 35 x 20	23 x 36 x 19	30 x 35 x 20	
			A4 . . .	B5 . . .	C3 . . .	
410	outside pipe diameter [mm]	41.0	-	x	-	
424		42.4	-	x	-	
445		44.5	-	x	-	
483		48.3	-	x	-	
508		50.8	-	x	-	
530		53.0	-	x	-	
540		54.0	-	x	-	
570		57.0	-	x	-	
991		different Ø 10.0-300	-	x	-	
M23		process temperature	-40..150 °C (material PVDF)			
M99			as in writing			
F1 . . .	switching output	supply	24...30 V DC			
		switch function	makers	output signal	OFF = 4 mA ON = 33 mA	
		switch point setting	121 °C, standard factory settings in the range -40...150 °C, as in writing			
		switching delay	0 s			
		hysteresis	0.1 K, standard upon request			
		G1	switch point accuracy	± 0.5 K, standard		
		G2		± 0.1 K		
L10	switch state indicator	green LED, 360° light	LED off, switching status off			
K1	sensor break signal	without				
T30	electrical connection	circular connector M12, 4 pin, IP 67				

Order code (example): GP2610 - A4060 - M23 - F1234 - G1 - L10 - K1 - T30