



- \* temperature sensor with analogue and/or switching output
- \* temperature switch with low hysteresis
- \* low lance dimensions
- \* low reaction time
- \* infinitely rotatable cable outlet for precise alignment
- \* sleek construction

**PRINCIPLE**

The temperature sensor consists of a platinum resistance sensing element and the downstream evaluation electronics. The integrated microcontroller outputs the measuring result as an analogue signal or signals that a set limit value was exceeded or not reached using an electronic switch. Even combinations of an analogue output and a limit switch are available. The switching output can be designed alternatively as a frequency output. For further options, see page 3. The robust all-metal construction makes the sensor universally applicable in industrial situations.

Resistance sensing elements are available in various designs:

**Lance construction:** in various lengths (50, 100, 150 und 200 mm); lance welded to screw-in body; very good dynamic behaviour due to small diameter.

**Compact construction:** With seamless, G1/2A screw-in thread, manufactured for high pressure loads

**MOUNTING**

The temperature sensors are installed into a connection piece or T-piece of the pipeline together with suitable sealing material (Teflon tape, Sikurit seal, etc. To tighten the sensor, please use only the fixed spanner provided for this purpose (width against flats of SW27). In every operating situation, the tip should be completely covered by medium. Avoid installation sites with high temperatures in which the sensor housing and the plug are exposed to the convection heat of the pipeline.

After sealing, you can turn the sensor into the correct cable outlet position. Due to an overtightening stop, you cannot turn it a complete 360°.

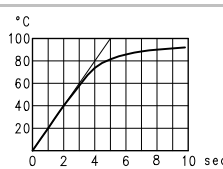
By using a gooseneck, you can operate the temperature sensor at a media temperature up to 250°C. During installation, make sure that the head and the plug are exposed to no more than 80°C.

**PROGRAMMING**

Designs with a limit switch have a magnetic contact by means of which the current measurement value can be assumed as a limit value. It is programmed by applying a magnet to the marking on the type plate for 0.5 to 2 seconds. If the contact time is too short or too long, no programming will take place (protection against magnetic fields). Immediately after programming, the switching output enters the OK state (LED on, output switched through, e.g. PNP = high or NPN = low).



**TECHNICAL DATA**

<b>measurement range</b>	0..100°C, 0..250 °C with goose-neck
<b>optional</b>	temperatures <0°C
<b>precision</b>	1% F.S. (full scale)
<b>hysteresis</b>	0.5 % F.S.
<b>dynamics (τ)</b>	5 sec. 
<b>operating pressure</b>	lance construction: max. 25 bar compact construction: max. 100 bar
<b>materials</b>	in contact with media: 1.4571 other: 1.4305
<b>supply voltage</b>	18..30 V DC
<b>output</b>	PNP, NPN, or NPN o.c.
<b>output current</b>	max. 100 mA
<b>electrical connection</b>	at locking plug M 12x1, 4-pole
<b>protection class</b>	IP67
<b>operating temperature of electronics</b>	0..70°C
<b>media temperature</b>	max. 100°C (with optional gooseneck 250°C)
<b>storage temperature</b>	-20..80°C



**NOMENCLATURE**

**Example:** Flex-T- K 015 H 050 I P L O  
A B C D E F G H I

<b>A</b> sensor family:	Flex-T- temperature sensor	●
<b>B</b> material (in contact with media):	K stainless steel 1.4571	●
<b>C</b> connection size:	015 G1/2A	●
<b>D</b> type of connection:	H outer thread	●
<b>E</b> length of sensing element:	050 50 mm (lance construction)	●
	100 100 mm (lance construction)	●
	150 150 mm (lance construction)	●
	200 200 mm (lance construction)	●
	029 29.6 mm (compact construction)	○
	045 45 mm (compact construction)	○
<b>F</b> analogue output:	I current output 4..20 mA	●
	U voltage output 0..10 V	●
	K no analogue output	●
<b>G</b> switching output:	P switching output PNP	●
	N switching output NPN	●
	M switching output NPN (open collector)	○
	K no switching output	●
<b>H</b> switching signal:	L minimum switch	●
	H maximum switch	○
	R frequency output	●
	K no switching output	●
<b>I</b> inversion of output:	O standard output	●
	I inverted output	●

**Options:**

<b>working range of analogue output:</b> (standard: up to 100°C, not greater than 250°C)	<input type="text"/> <input type="text"/> <input type="text"/> °C
<b>working range of frequency output:</b> (standard: up to 100°C, not greater than 250°C)	<input type="text"/> <input type="text"/> <input type="text"/> °C
<b>end frequency (max. 2000 Hz)</b>	<input type="text"/> <input type="text"/> <input type="text"/> Hz
<b>turn-on delay</b> (from alarm to OK)	<input type="text"/> <input type="text"/> s
<b>turn-off delay</b> (von OK zu Alarm)	<input type="text"/> <input type="text"/> s
<b>power-on delay</b> (time after the supply is created; in this time the switching output is not activated)	<input type="text"/> <input type="text"/> s
<b>switching output with permanent setting</b>	<input type="text"/> <input type="text"/> <input type="text"/> °C
<b>special hysteresis</b> (standard = 2% F.S.)	<input type="text"/> <input type="text"/> %
<b>goose-neck</b> (recommended for application temperatures over 70°C)	<input type="checkbox"/>

*In case of empty fields, the standard setting will be selected automatically.*

**ACCESSORIES**

**Locking plug M12x1**

K	PU-	02	S	G	S	basic type specification
K						● assembled
KB04						● self makable cable 4-pole
	PU-					● material PUR
		02				● length 2 m
		05				● length 5 m
		10				● length 10 m
			S			● moulded-on plug
				G		● straight plug
				W		● angled plug 90°
					S	● shielded

All technical changes reserved

●BASIC Standard ○BASIC Programme option □VARIO Special option ⊕ PLUS Accessories ✗not recommendable