

**Product information**

**Temperature**

**Clamp-on temperature sensor GTL720/GTL723**



- Simple mounting via clamp-on adapter without media contact
- High accuracy even without thermal compound
- Fast response time
- Replacing/cleaning of the sensor without process interruption
- Pt100 Sensor 3-wire connection of transmitter 4..20 mA, 2-wire connection
- Transmitter programmable via GTL Configuration tool
- GTL720 applicable for Ex areas

**Characteristics**

Clamp-on temperature sensors GTL720 and GTL723 are specified to measure temperatures without media contact. The measuring tip is directly located at the pipe wall and will be fixed by the clamp-on adapter on the pipe. This measuring process provides a high accuracy and a fast response time, which is often better than a measuring principle with media contact.

**Technical data**

Temperature sensor : Pt100, class A acc. to DIN EN 60751  
 GTL720 *without transmitter*  
 Measuring range : -20..+160 °C  
 Working temperature : -20..+85 °C  
 Ex protection : Ex II 2G [Ex ia] IIC T3/T4/T5 (simple apparatus)  
 Ui = 30 V, li = 25 mA, Pi = 30 mW

GTL723 *with transmitter*  
 Measuring range : -20..+100 °C, short time 160 °C < 30 min, (option 01 = max. 160 °C permanent) programmable, minimal measuring span 50 °C

Working temperature : -20..+60 °C

Protection class : IP67 (in connection with mounted M12 plug)

**Electrical connection**

Round plug : 4-pole M12x1  
**GTL720**  
 Pt100 sensor current : max. 10 mA (recommended 0.3..1 mA)  
**GTL723**  
 Supply voltage : 10..30 V DC, 2-wire connection  
 Error indication : programmable

**Response time/accuracy <sup>1)</sup>**

*Data without thermal compound, medium temperature 120 °C*

Response time T<sub>90</sub> : approx. 10 s  
 Accuracy : up to 2.5 % f.s. without pipe wall adjustment  
 : up to 0.6 % f.s. with pipe wall adjustment <sup>2)</sup>

*Data with thermal compound, medium temperature 120 °C*

Response time T<sub>90</sub> : approx. 3 s  
 Accuracy : up to 1 % f.s. without pipe wall adjustment  
 : up to 0.2 % f.s. with pipe wall adjustment <sup>2)</sup>

Temperature coefficient : 0.02 %/°C

<sup>1)</sup> Measurement results depending on the mounting situation. See next page

<sup>2)</sup> Measuring values are valid for GTL723

**Output** : 4..20 mA

**Material**

**Sensor**  
 Spring : 1.4310  
 Sensor usage : PEEK  
 Sensor tip : 935er silver  
 Lid : 1.4305  
 M12 plug : PA/gold plated contacts  
 Weight : 17 g

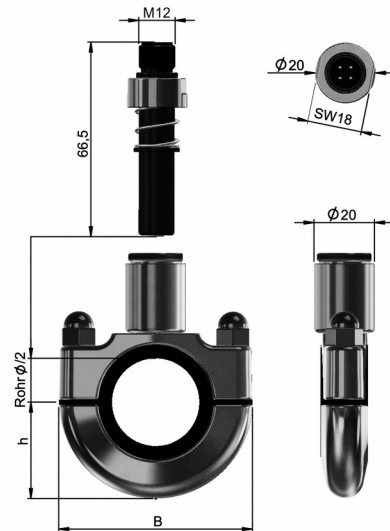
**Clamp-on adapter**

Adapter : 1.4405  
 Housing : 1.4305  
 Adapter insertion : silicone HTV/PTFE

**Weight**

Frame size 1 : 120 g  
 Frame size 2 : 170 g  
 Frame size 3 : 395 g  
 Frame size 4 : 955 g

**Dimensions**



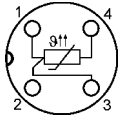
Frame size (Bg)	Pipe Ø [mm]	B [mm]	h [mm]	A/F [mm]
1	13.0..19.9	51	26	11
2	20.0..33.9	64	32	11
3	34.0..53.0	92	46	14
4a	60.3..75.9	133	68	14
4b	76.0..88.9	133	68	14

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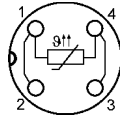
**Product information**

**Connection diagrams**

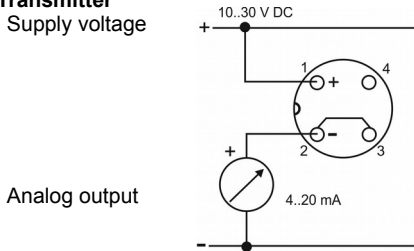
**GTL720 passive sensor**  
**Connection variant 1**  
 (standard)



**Connection variant 2**  
 (customized)



**GTL723 Transmitter**  
 Supply voltage



**Ordering code**

**Note:**

In place order please specify the clamp-on sensor and the clamp-on adapter.

**Order example:**

Clamp-on sensor **GTL** without transmitter,  
 with clamp-on adapter **RLA** for DN32:  
 GTL720-0-00-0-00 + RLA424-00

**Clamp-on temperature sensor**

GTL  1. -  2. -  3. -  4. -  5.

<b>1. Design / input</b>	
720	Pt100 (applicable in Ex-areas)
723	Pt100 with transmitter 4..20 mA
<b>2. Electrical connection</b>	
0	GTL720 variant 1 (standard), M12 plug
1	GTL720 variant 2 (customized), M12 plug
2	GTL723 2-wire, 4..20 mA, M12 plug
<b>3. Transmitter GTL723, default ranges</b> (programmable with GTL - Configuration tool via PC )	
00	without transmitter (only GTL720)
M1	measuring range -10..+40 °C
M2	measuring range 0..50 °C
M3	measuring range 0..100 °C
M4	measuring range 0..150 °C temperatures > 100 °C max. 30 min
MB	transmitter with special measuring range in °C (state special measuring range separately e.g.: 20..130 °C)
<b>4. Pipe wall adjustment for SS-type pipes (only GTL723)</b>	
0	not active
1	without thermal compound
2	with thermal compound
<b>5. Options</b>	
00	without option
01	high temperature version for GTL723; max. permanent temperature 160°C

**Clamp-on adapter**

RLA  1. -  2.

1.	Pipe diameter
120*)	12,0 mm: DN10    DIN 11850 Reihe 1
130*)	13,0 mm: DN10    DIN 11850 Reihe 2
	12,7 mm: ½"        DIN 11866 Reihe C / ASME-BPE
135*)	13,5 mm: DN8      DIN 11866 Reihe B (ISO 1127)
172*)	17,2 mm: DN10    DIN 11866 Reihe B (ISO 1127)
180*)	18,0 mm: DN15    DIN 11850 Reihe 1
190*)	19,0 mm: DN15    DIN 11850 Reihe 2
	19,0 mm: ¾"        DIN 11866 Reihe C / ASME-BPE
213	21,3 mm: DN15    DIN11866 Reihe B
230	23,0 mm: DN20    DIN11850 Reihe 2
254	25,4 mm: 1 "      DIN11866 Reihe C / ASME-BPE
269	26,9 mm: DN20    DIN11866 Reihe B
280	28,0 mm: DN25    DIN11850 Reihe 1
290	29,0 mm: DN25    DIN11850 Reihe 2
337	33,7 mm: DN25    DIN11866 Reihe B
	34,0 mm: DN32    DIN11850 Reihe 1
350	35,0 mm: DN32    DIN11850 Reihe 2
381	38,1 mm: 1 ½ "    DIN11866 Reihe C / ASME-BPE
400	40,0 mm: DN40    DIN11850 Reihe 1
410	41,0 mm: DN40    DIN11850 Reihe 2
424	42,4 mm: DN32    DIN11866 Reihe B
483	48,3 mm: DN40    DIN11866 Reihe B
508	50,8 mm: 2 "      DIN11866 Reihe C / ASME-BPE
520	52,0 mm: DN50    DIN11850 Reihe 1
530	53,0 mm: DN50    DIN11850 Reihe 2
603	60,3 mm: DN50    DIN11866 Reihe B
635	63,5 mm: 2 ½"    DIN11866 Reihe C / ASME-BPE
700	70,0 mm: DN65    DIN11850 Reihe 2
761	76,1 mm: DN65    DIN11866 Reihe B
	76,2 mm: 3"        DIN11866 Reihe C / ASME-BPE
850	85,0 mm: DN80    DIN11850 Reihe 2
889	88,9 mm: DN80    DIN11866 Reihe B
999	customized diameter on request
<b>2. Options</b>	
	00   without option

\*RLA120-190 only for GTL720 and GTL723

**Accessories:**

**Thermal compound**

Type

**WLP10S**, containing silicone,

- high thermal conductivity of 10.0 W/mK
- not drying out, silicone parts not fleeing
- storage time up to 12 months at normal ambient conditions, from production date
- syringe containing 3 ml + pipette
- color: silver-gray

Type:

**GTL – Configuration tool**

- programming the GTL7xx via PC

**Calibration certificate: on request**

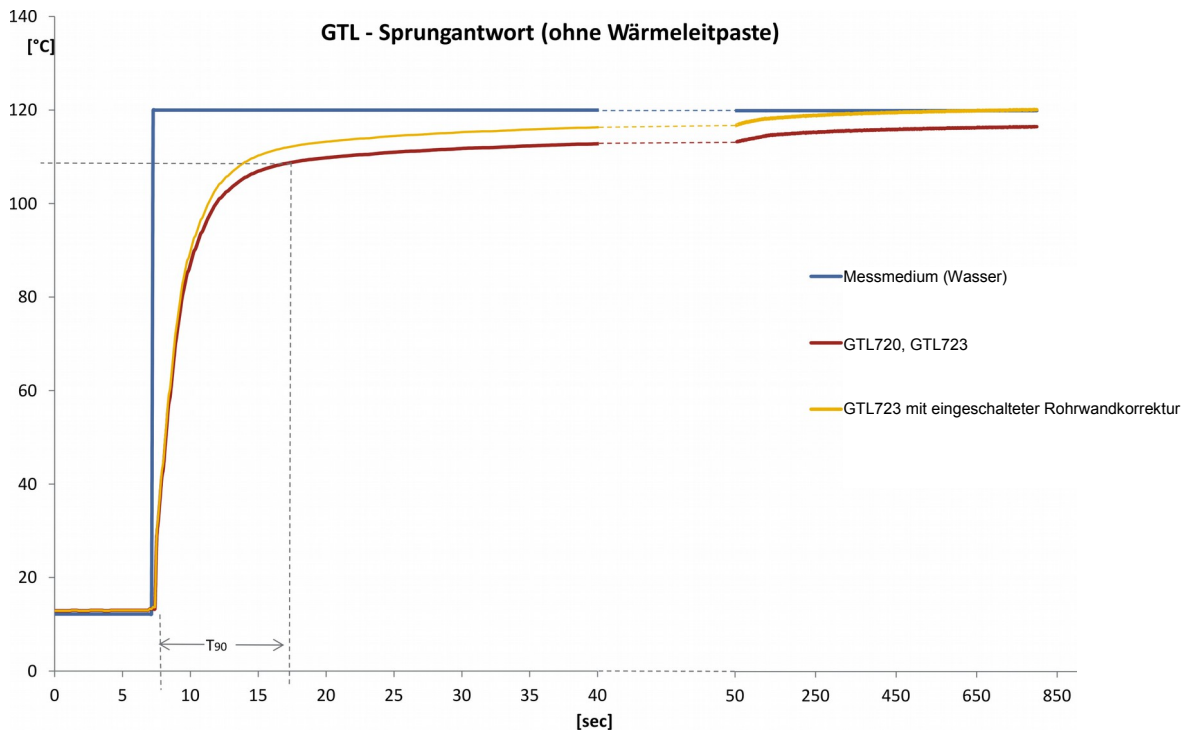
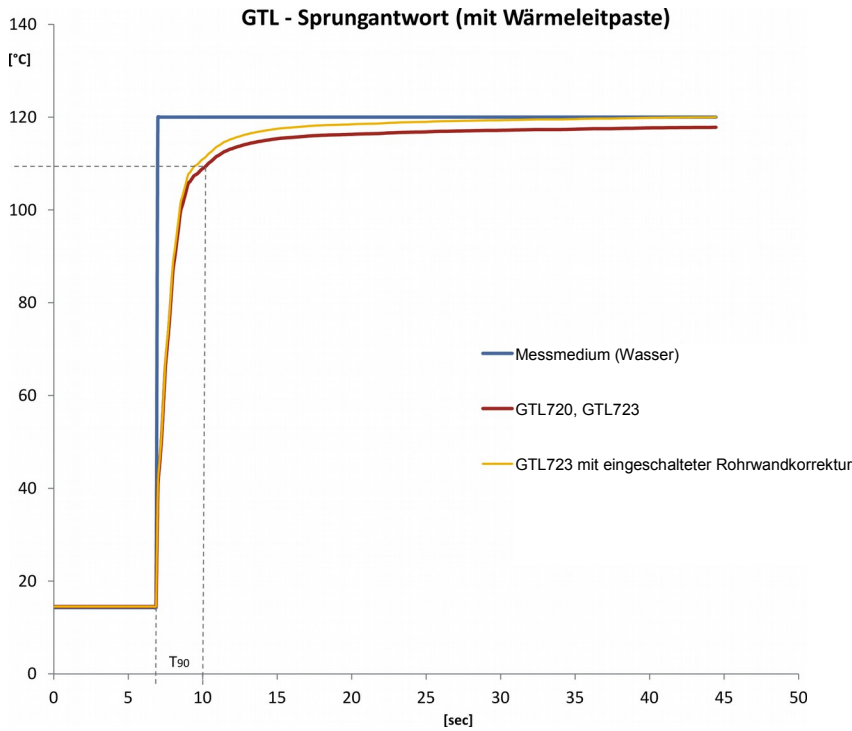
For the evaluation of Pt100 signals we recommend our transmitter and temperature displays (PI-Transmitter, PI-Displays and PI-Temperature).

The temperature curves can be seen next page.

**Product information**

**Response time at different conditions**

Note: measured with SS-type pipe Ø 29 mm, 1.5 mm pipe wall



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