

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

Storing conditions : with yellow protective cap

Temp. : -20..+70 °C
 max. rel. humidity 70%

Ex protection : Ex II 2G [Ex ia] IIC T3/T4/T5

(simple apparatus)
 Ui = 30 V, Ii = 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

Storing conditions : with yellow protective cap

Temp. : -20..+70 °C
 max. rel. humidity 70%

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

Electrical connection

Round plug : 4-pole M12x1
 tightening torque 0,6 Nm

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

Load : (U_b - 10V) / 23 mA

Response time/accuracy¹⁾

Data without thermal compound, medium temperature 120 °C

Response time T₉₀ : approx. 10 s

Accuracy : up to 2.5 % f.s. without pipe wall adjustment

: up to 0.6 % f.s. with pipe wall adjustment²⁾

Data with thermal compound, medium temperature 120 °C

Response time T₉₀ : approx. 3 s

Accuracy : up to 1 % f.s. without pipe wall adjustment

: up to 0.2 % f.s. with pipe wall adjustment²⁾

Temperature

coefficient : 0.02 %/°C

¹⁾ Measurement results depending on the mounting situation.

See next page

²⁾ 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

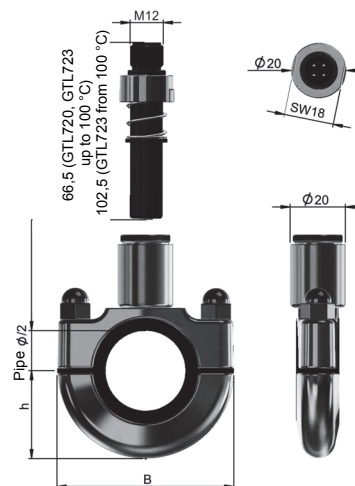
Frame size 1 : 120 g

Frame size 2 : 170 g

Frame size 3 : 395 g

Frame size 4 : 955 g

Dimensions

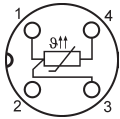


| Frame size (Bg) | Pipe Ø [mm] | B [mm] | h [mm] | A/F [mm] |
|-----------------|-------------|--------|--------|----------|
| 1 | 13.0..19.9 | 51 | 26 | 11 |
| 2 | 20.0..33.9 | 64 | 32 | 11 |
| 3 | 34.0..53.0 | 92 | 46 | 14 |
| 4a | 60.3..75.9 | 133 | 68 | 14 |
| 4b | 76.0..88.9 | 133 | 68 | 14 |

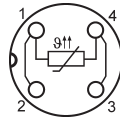
Product information

Connection diagrams

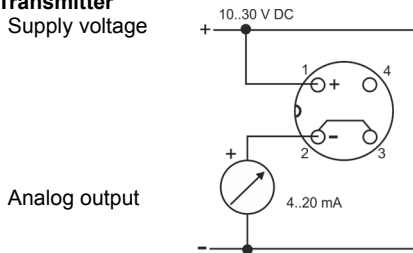
GTL720 passive sensor
Connection variant 1
 (GHM standard)



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

1. 2. 3. 4. 5. 6.
GTL - - - - -

| | |
|--|--|
| 1. Design / input | |
| 720 | Pt100 (applicable in Ex-areas) |
| 723 | Pt100 with transmitter 4..20 mA |
| 2. Electrical connection | |
| 0 | GTL720 variant 1 (GHM standard), M12 plug |
| 1 | GTL720 variant 2 (customized), M12 plug |
| 2 | GTL723 2-wire, 4..20 mA, M12 plug |
| 3. Transmitter GTL723, default ranges (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) |
| 4. Pipe wall adjustment for stainless steel type pipes | |
| 0 | not active |
| 1 | without thermal compound (only GTL723) |
| 2 | with thermal compound (only GTL723) |
| 5. Options | |
| 00 | without option |
| 01 | high temperature version for GTL723; max. permanent temperature 160°C |
| 6. Certificate DIN EN 10204 (indicate only when required, multiple responses possible) | |
| WZ2.2 | factory certification 2.2 |
| APZ3P | acceptance test certificate 3.1 with 3 measuring points (30 / 60 / 90 °C) |

Clamp-on adapter

1. 2.
RLA -

| 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 | |
| 2. Options | | |
| 00 | without option | |

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

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

