

**Product information**

**Temperature - Hygienic Design**

**Temperature sensor  
 GTL 459**



In combination with APH G12



- G 3/8 union nut
- Hygienic design and easy-to-sterilize measuring point
- Sensor completely made of stainless steel

**Characteristic**

The temperature sensor are designed for temperature monitoring in pipes and tanks, temperature measurements in steam and pressure pipes (closed process) and for monitoring of CIP- / SIP- processes.

The sensor can be provided with different electric connections and with or without integrated head transmitter.

**Specifications**

- Temperature ranges : ambience: -40..+80 °C  
 sensor tip: -40..+200 °C  
 CIP- / SIP-temperature: 140 °C < 30 min.
- Measuring resistor : Pt100
- Accuracy : class A, class AA
- Electrical connection : cable gland M16x1.5  
 M12- plug (1.4305)
- Process connection : immersion sleeve, G 3/8 outside thread  
 suitable adapter and weld-in sleeves  
 APHG12, APHK25, APHZ18  
 (see accessories page 64)



- Tightening torque : hand-tight
- Insertion length : 37, 83, 97, 160 mm
- Sensor head : Ø 59 mm

**Thermowell and sensor tip:**

- Ø 3 mm : protection tube Ø 3 mm
- Response time :  $T_{90} \leq 1.5$  s (without immersion sleeve)  
 $T_{90} \leq 15$  s (with immersion sleeve: *The use of heat transfer paste is recommended, because this can reduce the stated time by up to 50 %*)

- Operating pressure : max. 10 bar

**Material**

- Sensor head : 1.4305 (V2A)
- Thermowell and tip : 1.4404 (V4A)
- Union nut : 1.4408 (V4A)

- Protection class : IP67 / IP69K
- CE conformity : EN 61326-1:2013 / -2-3:2013

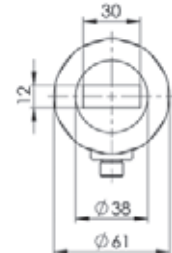
**Transducer GMTL1**

- Measuring range : -10..+40 °C \* / 0..50 °C \* / 0..100 °C \*  
 0..150 °C \* / 0..200 °C \*  
 or freely in range -20..200 °C \*\*
- Power supply : 10..30 V DC
- Output : analog, 4..20 mA, 2-wire
- Output signal in case of error : < **3.75 mA** or > 21.5 mA, selectable \*
- Filter : integrated low-pass, 4-step \*
- Response time : < 150 ms (filter 0), < **300 ms (filter 1)**  
 < 800 ms (filter 2), < 3 s (filter 3)
- Ambient temperature : -40..+70 °C
- Accuracy : < 0.2 % FS
- Temperature drift : < 0.01 % FS / K

**Transducer GTML1 with on-site display**

Transducer with integrated **on-site display (LCD)** only in combination with electric connection: cable connection M12 plug and integrated transducer (for further information see transducer GTML1).

- Display : 4-digit LCD
- Displayed unit : °C or °F, selectable \*
- Resolution : **0.1 °C** or 1 °C, selectable \*
- Background illumination : **activatable**, deactivatable \*
- Ambient temperature : -20..+60 °C



- \* Programmable via GTL - Configuration tool (accessories) or buttons (only with on-site display)
- \*\* Programmable via GTL - Configuration tool (accessories)

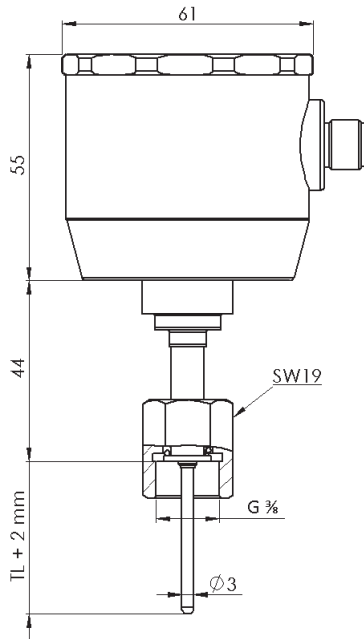
Note: The default settings are marked in **bold**.

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**Dimensions**

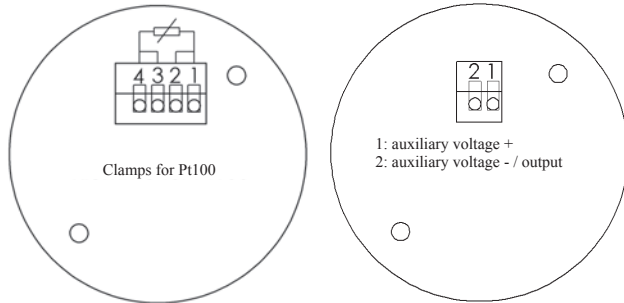


**Connection**

Electrical connection: cable gland M16x1.5

without transducer (4-wire):

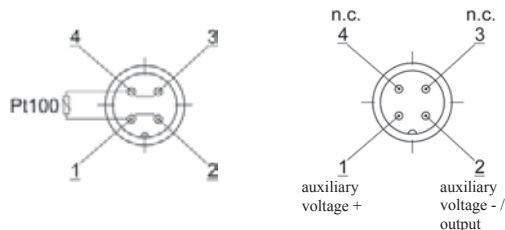
with transducer (2-wire):



Electrical connection: M12-plug (1.4305)

without transducer (4-wire):

with transducer (2-wire):



**Product key**

1. 2. 3. 4. 5. 6. 7. 8. 9.  
 GTL  -  -  -  -  -  -  -

<b>1. Design type</b>	459 G 3/8 with union nut
<b>2. Electrical connection</b>	P cable gland M16x1.5 V V2A cable gland M16x1.5 M M12-plug
<b>3. Immersion length TL</b>	0037 37 mm 0083 83 mm 0097 97 mm 0160 160 mm xxxx any TL in mm: from 200 mm till max. 500 mm, (surcharge from 200 mm for each 100 mm started)
<b>4. Diameter thermowell and sensor tip</b>	3 Ø 3 mm
<b>5. Accuracy class</b>	A class A D class AA (1/3 class B)
<b>6. Transducer</b>	0 without transducer M permanently integrated transducer GTML1, without display V permanently integrated transducer GTML1, on-site display (LCD) R exchangeable head transducer RT420 T exchangeable head transducer T19
<b>7. Measuring range</b>	0 without transducer 1 measuring range -10..+40 °C (-50..+50 °C for head transducer T19) 2 measuring range 0..50 °C 3 measuring range 0..100 °C 4 measuring range 0..150 °C 5 measuring range 0..200 °C B transducer with special measuring range in °C (not possible for head transducer T19), state special measuring range separately e.g.: 0..75 °C or -20..+30 °C Mind the minimum range of 50 °C.
<b>8. Option</b>	00 without Option H With spacer
<b>9. Certificate DIN EN 10204 (indicate only when required, multiple responses possible)</b>	WZ2.2 factory certification 2.2 APZMAT acceptance test certificate 3.1 for material (in contact with products) APZ2P acceptance test certificate 3.1 with 2 measuring points (0°C / 70°C) APZ3P acceptance test certificate 3.1 with 3 measuring points (0°C, 70°C + 1 test point freely selectable)

**Notes on on-site display (LCD):** Permanently integrated transducer GTML1 (programmable) with on-site display only in combination with electrical connection: M12 plug. Information on suitable adapter and weld-in sleeves can be found in section Accessories.