

Application

- Equipment/tank design
- Technological process installations in all branches of industry
- Machine design
- Heating systems, air conditioning and ventilation

Features

- Standard protective tube material: acid resistant steel 1H18N9T (1.4541/AISI321)*
- Measuring range
 - 50 .. +100°C (APTOPGDM-GB)
 - 50 .. +150°C (TOPGDM-GB)
 - 50 .. +400°C (TOPGDM-GN, APTOPGDM-GN)
 - 50 .. +400°C (TOPGDM-GN, APTOPGDM-GN)
- Optionally – local TWR10 type LED display
- Optionally 2-wire transmitter with a 4-20 mA output signal can be installed
- High measurement accuracy
- Compact, economical design
- Resistant to vibrations

The sensor consists of a non-replaceable measuring insert, a welded protection tube with process connection and a Hirschmann brand, GDM type socket. The measuring transmitter is installed in the top part of the casing.

The sensor is connected via a quick release GSP type cable socket connection in accordance with DIN EN 175301-803A.

The sensor with a built-in 4-20mA transmitter can be equipped with a local LED display (TWR10 type). Display input signal range, sampling, °C/°F unit can be programmed with front buttons.

These thermometers are appropriate for a maximum pressure of 40 bar (depending on the length of the immersion part and the diameter). All electrical parts are protected from splash water and are resistant to vibrations.

Immersion length, process connection, length of the thermowell, shape and material of the sheath can be selected depending on the requirements of the application.



TOPGDM-P

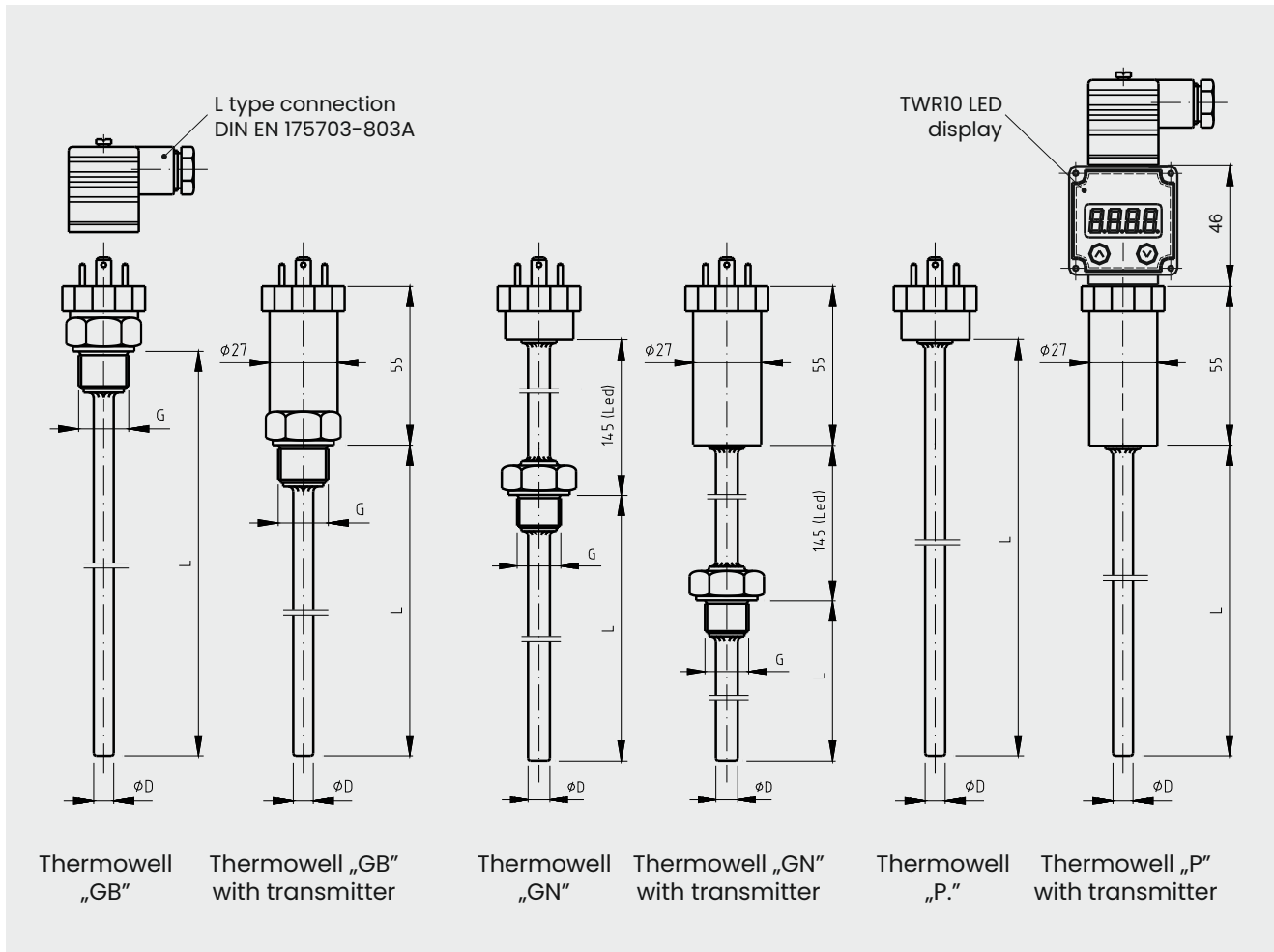
APWTOPGDM-GB

Other versions

This data sheet contains only a small portion of our program of supplying resistance thermometers with an LED display.

Other versions can be supplied upon customer's request.

Designs



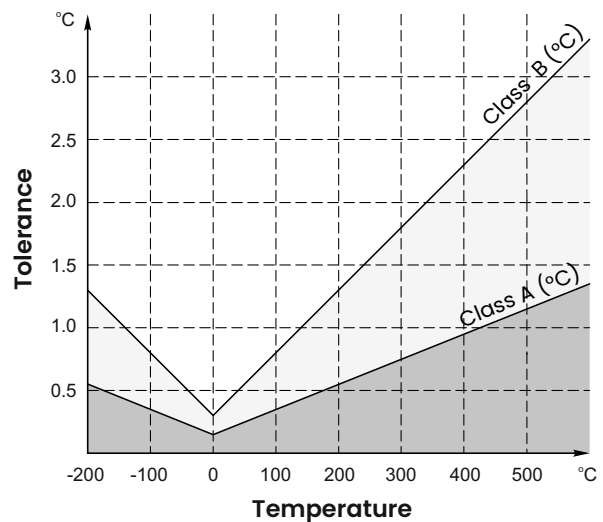
Tolerances

PN-EN 60751 Standard defines the formulas for calculating acceptable measure tolerance. More information in the general resistance thermometer sheet.

Class	Tolerance in °C
A	$\pm 0.15 + (0.002 \times t)$
B	$\pm 0.30 + (0.005 \times t)$

Resistance to vibrations

The standard vibration resistance of these models is 3 g (PN-EN 60751). For high vibration applications there are products of special design available withstanding vibrations of max. 10 g (PN-EN 60751).

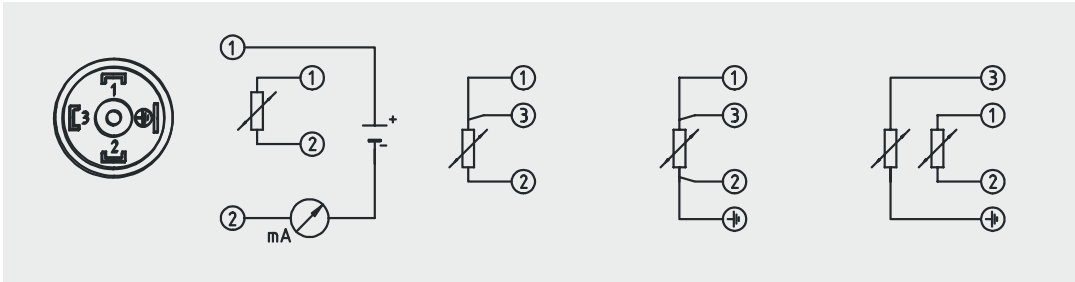


Signal output Pt100

Method of sensor connection:

- 2-wire: consider the wire resistance
- 3-wire: in case of 30 m long wires (or longer) measurements faults may occur
- 4-wire: internal resistance of disconnected wires is irrelevant

Connections



Signal output 4..20 mA

Transmitter 4..20 mA is built-in in the pipe casing of the thermometer.

Transmitter parameters

Power voltage, DC	7.5...45 V
Voltage drop	7.5 VDC
Vibrations	IEC 60068-26, 4 g / 2..150 Hz
Sensor current	nom. 0.2 mA
Accuracy	0.2°C lub 0.08%

Current output

Signal range	4..20 mA
Refresh rate	1 s
Load resistance	$< (U - 7.5) / 0.0208$

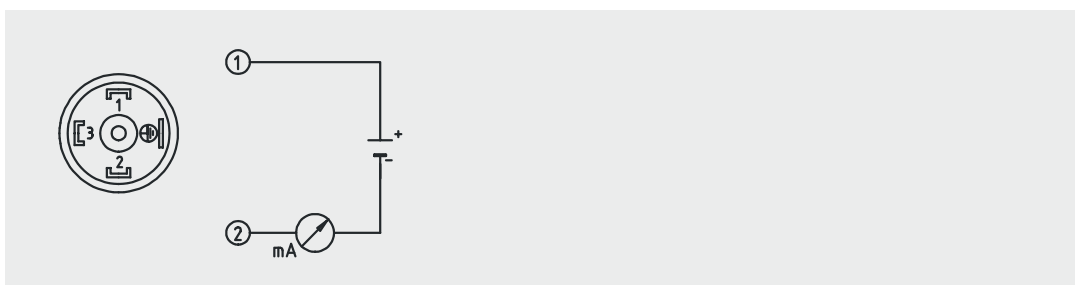
Sensor fault signalization

3.9 mA

Compliance with standards:

EMC 89/336/EEC, emission and resistance:
GB/T17626.2-1998 conforming with IEC 61000-4-3:1995

Connections



Ordering code

1 2 3 4 5 6 7 8
 TOPGDM - - - - - - -

1	<input type="text"/>	Version	
			1 x Pt100
		2	2 x Pt100
		AP	1 x Pt100, with 4..20 mA temperature transmitter
2	<input type="text"/>	Thermowell	
		GB	type GB, with threaded process connection
		GN	type GN, with neck 145mm long and threaded process connection
		P	type P., straight
3	<input type="text"/>	Length L [mm]	
		100	100 mm
		160	160 mm
		200	200 mm
		250	250 mm
		400	400 mm
4	<input type="text"/>	Thermowell diameter D [mm]	
		6	Ø 6 mm
		8	Ø 8 mm
		xxx	other, please specify
5	<input type="text"/>	Process connection (does not apply to thermowell P. type)	
		G3/8"	G3/8"
		G1/2"	G1/2"
		M20x1.5	M20x1.5
6	<input type="text"/>	Tolerance	
		A	Class A according to PN-EN 60751
		B	Class B according to PN-EN 60751
		1/3B	Class 1/3B according to DIN
7	<input type="text"/>	Connection line	
		2	2-wire
		3	3-wire
		4	4-wire
8	<input type="text"/>	Measuring range of temperature transmitter	
		0..100	zakres wejściowy dla sygnału 4..20mA: 0..100°C
		xxx	other, please specify

Example

Temperature sensor TOPGDM-GB-50-6-G3/8"-B-2p
 (sensor 1xPt100, thermowell GB type, length L=50mm, thread G3/8", class B 2-wire)

Temperature sensor APTOPGDM-GN-160-8-G1/2"-B-2p-0..200
 (sensor 1xPt100, thermowell GN type, length L=160mm, thread G1/2", class B 2-wire, measuring range 0..200°C for output signal 4..20 mA).