

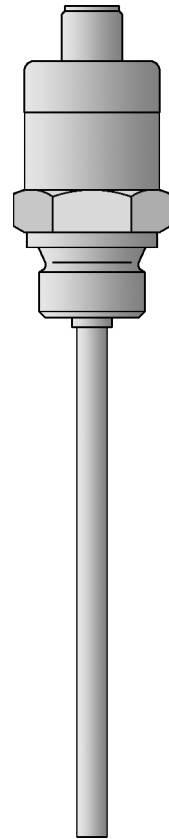
WT081C RTD temperature probe with CANopen output

- For temperatures from -50 to +450°C
- Available as single or double RTD temperature probes
- Vibration-proof design
- Limit value monitoring
- Configuration via standard CANopen software tools

RTD temperature probes are preferentially used for measuring temperatures in liquids and gases. A key feature is the reliable sealing of this installation type for vacuum and overpressure. Areas of application are, amongst others, in medical technology, mechanical engineering, drive technology, utility vehicles, and railroad systems.

The measuring insert is equipped with a Pt 1000 temperature sensor per DIN EN 60 751, Class B, as a standard. The measured temperature value is digitized, linearized and provided via the serial bus protocol CANopen for further processing (CAN slave). A large number of useful additional functions are realized via the DS 404 device profile. All settings are possible via standard CANopen software tools.

Also available, a pressure transducer with CANopen output, please refer to data sheet DMP2055/2056.



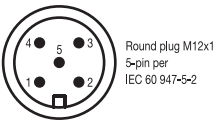
Technical Data

Connection	Round plug M12x1, 5-pin per IEC 60 947-5-2
Process connection	Threaded, stainless steel 1.4571
Sheath	stainless steel 1.4571
Measuring insert	Pt 1000 temperature sensor per DIN EN 60 751, Class B, two-wire circuit
Protection class	IP67, per DIN EN 60 529, with connection plug screwed on
Response time	$t_{0,9} = 12s$, in water 0.2m/s

CAN transducer

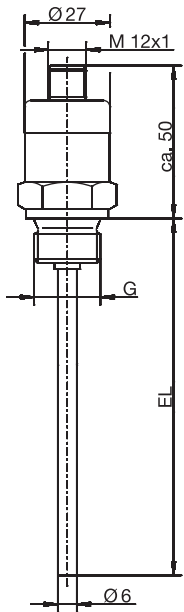
Protocol	CiA DS 301, V4.02, CANopen Slave	
Profile	CiA DS 404, V1.2 Measuring Devices and Closed-Loop Controllers	
Baud rate	20kBaud to 1MBaud, setting via LSS or SDO	
Module ID	1 to 127, setting via LSS or SDO	
PDO	0 Rx, 1 Tx	
SDO	1 Rx, 1 Tx	
Emergency	yes	
Heart Beat	yes	
LSS	yes	
SYNC	yes	
Operation, project planning	All parameters are accessible via the CANopen object directory (EDS) and configurable via standard CANopen software tools.	
Input		
Measurement input	Pt 1000 DIN EN 60 751, Class B	
Measurement range limits	-50 to +150°C / -50 to +450°C	
Measurement rate	250ms	
Output		
Output signal	CANopen per CiA DS 404 V1.2, in °C, can be changed to °F, K Decimal place selectable 0, 1, 2	
Transmission behavior	temperature linear	
Electrical connection	Round plug M12x1, 5-pin per IEC 60 947-5-2	
Voltage supply		
Voltage supply	DC 10 to 30V	
Current consumption	max. approx. 45mA	
Monitoring		
	Measuring circuit - Measured value underrange (freely selectable lower limit) - Measured value overrange (freely selectable upper limit) Probe short-circuit Probe break	
Additional functions		
	min./max. measured value memory	
	Precise adjustment	
	Change-over °C, °F, K	
	Decimal places selectable 0, 1, 2	
Environmental influences		
Operating temperature range	-20 to +85°C	
Storage temperature range	-40 to +85°C	
Temperature influence	≤ ± 0.0025% / K Deviation from 22°C of the measuring range span	
Accuracy	Class B per DIN EN 60 751 max. ± 0.2% of the measuring range span	
EMC	EN 61 326	
Emitted interference, interference resistance	Class B, industrial standard	
Mechanical shock	per DIN IEC 68-2-27 (for type 902910/10)	EL 50mm -> 50g / 3ms; EL 100mm -> 30g / 3ms EL 200mm -> 15g / 3ms
Mechanical vibrations	per DIN IEC 68-2-6 (for type 902910/10)	EL 50mm max. 10g at 10 to 2000Hz EL 100mm max. 5g at 10 to 300Hz EL 200mm max. 2g at 10 to 100Hz
Protection class	IP67, per EN 60 529, with connection plug screwed on	

Connection diagram

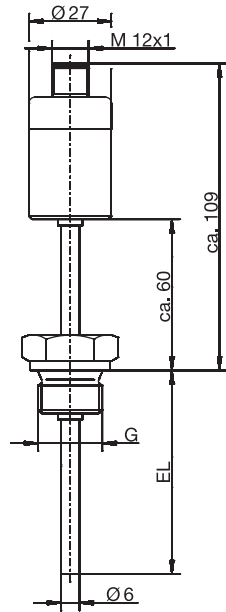


Connection		Connection assignment
Voltage supply	V+	2
DC 10 to 30V	V-	3
Output	Schielding	1
CANopen	CANLH	4
	CANLL	5

Dimensions

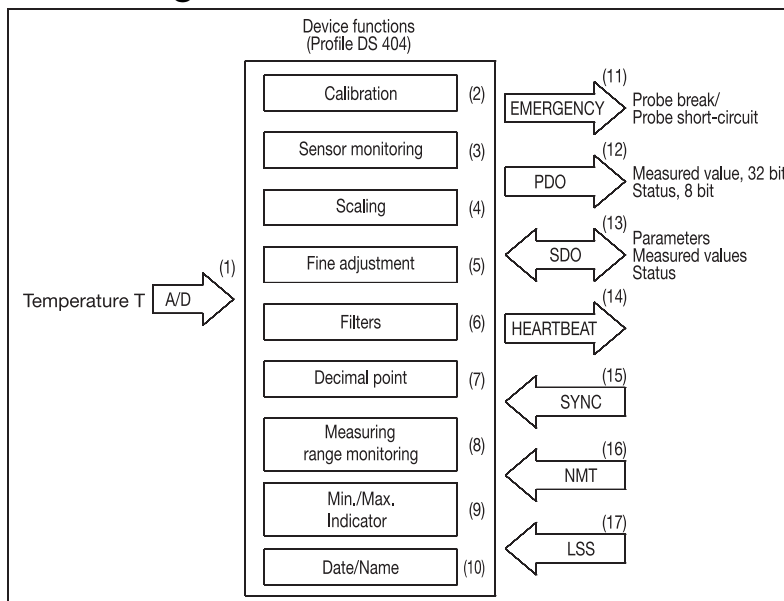


Type 902910/10



Type 902910/12

Block diagram



Function

- (1) The measured temperature value is digitized.
- (2) The temperature signal is digitally factory adjusted.
- (3) The probe monitoring system permanently checks the correct function of the probe signal and initiates high-priority emergency telegrams in the event of an error.
- (4) The measured temperature value can be scaled to any measuring unit (or as % of the measuring range).
- (5) The precise adjustment has a freely settable characteristic curve offset.
- (6) Undesirable signal fluctuations can be suppressed using the configurable filter constant.
- (7) The measured value is transmitted with a freely selectable decimal place.
- (8) The measuring range monitoring has freely selectable upper and lower limits. The result is transmitted as a status byte in addition to the measured value in the PDO telegram.
- (9) The fly back function saves the minimum and maximum measured temperature value.
- (10) Date and name of the last maintenance work can be saved.
- (11) The emergency telegram is initiated in the event of a defective probe.
- (12) The PDO telegram contains the 32 bit measured value and the 8 bit status. The measured value output can be controlled via various trigger conditions.
- (13) SDO telegrams can be used to set parameters as well as request measured values and the status.
- (14) The heartbeat signal can be used to additionally monitor the function of the transducer.
- (15) The Sync command can be used to additionally control measured value transmission.
- (16) The NMT telegrams serve to control the operating status of the transducer.
- (17) The CAN module ID and the CAN baud rate are set optionally via LSS or SDO.

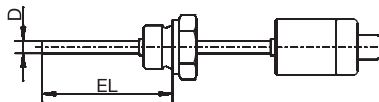
Order details: WT081C RTD temperature probe with CANopen output

(1) Basic type

WT081C/10 RTD temperature probes with CANopen output



WT081C/12 RTD temperature probes with CANopen output, Neck tube for higher temperatures



		(2) Operating temperature in °C
x		370 -50 to +150°C
x	x	404 -50 to +450°C
		(3) Measuring insert
x	x	1005 1x Pt 1000
x	x	2005 2x Pt 1000
		(4) Tolerance class per DIN EN 60 751
x	x	1 Class B (standard)
x	x	2 Class A
		(5) Sheath diameter D in mm
x	x	6 Ø 6mm
		(6) Fitting length EL in mm (50 ≤ EL ≤ 500)
x	x	50 50mm
x	x	100 100mm
x	x	150 150mm
x	x	200 200mm
x	x	250 250mm
x	x	... Please specify in plain text (50mm steps)
		(7) Process connection
x	x	102 Screw connection thread 1/4" pipe
x	x	103 Screw connection thread 3/8" pipe
x	x	104 Screw connection thread 1/2" pipe
x	x	121 Screw connection M14x1.5
x	x	126 Screw connection M18x1.5
x	x	128 Screw connection M20x1.5
x	x	144 Screw connection thread 1/2"-14NPT pipe
		(8) Extra codes
x	x	000 None
x	x	100 Customer-specific factory setting
x	x	310 Sheath stepped down

Order code (1) (2) (3) (4) (5) (6) (7) (8) / ...¹
 Order example WT081C/10 - 370 - 1005 - 1 - 6 - 50 - 102 / 000

¹ List extra codes in sequence, separated by commas.