

**JUMO GmbH & Co. KG**

Delivery address: Mackenrodtstraße 14,  
36039 Fulda, Germany  
Postal address: 36035 Fulda, Germany  
Phone: +49 661 6003-0  
Fax: +49 661 6003-607  
E-mail: mail@jumo.net  
Internet: www.jumo.net

**JUMO Instrument Co. Ltd.**

JUMO House  
Temple Bank, Riverway  
Harlow - Essex CM20 2DY, UK  
Phone: +44 1279 63 55 33  
Fax: +44 1279 63 52 62  
E-mail: sales@jumo.co.uk  
Internet: www.jumo.co.uk

**JUMO Process Control, Inc.**

8 Technology Boulevard  
Canastota, NY 13032, USA  
Phone: 315-697-JUMO  
1-800-554-JUMO  
Fax: 315-697-5867  
E-mail: info@jumo.us  
Internet: www.jumo.us



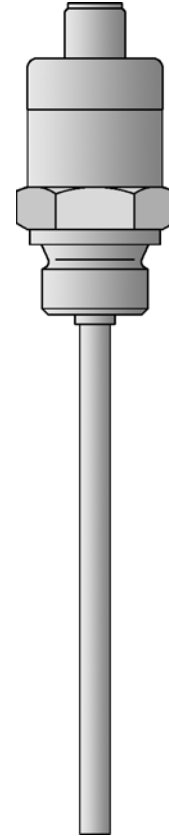
# JUMO CANtrans T RTD temperature probe with CANopen output

- 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 40.2055



## Technical Data

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

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## 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.	
<b>Input</b>		
Measurement input	Pt 1000 DIN EN 60 751, Class B	
Measurement range limits	-50 to +150°C / -50 to +450°C	
Measurement rate	250ms	
<b>Output</b>		
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	
<b>Voltage supply</b>		
Voltage supply	DC 10 to 30V	
Current consumption	max. approx. 45mA	
<b>Monitoring</b>		
	Measuring circuit - Measured value underrange (freely selectable lower limit) - Measured value overrange (freely selectable upper limit) Probe short-circuit Probe break	
<b>Additional functions</b>		
	min./max. measured value memory	
	Precise adjustment	
	Change-over °C, °F, K	
	Decimal places selectable 0, 1, 2	
<b>Environmental influences</b>		
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	

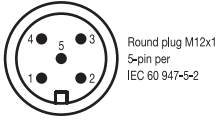
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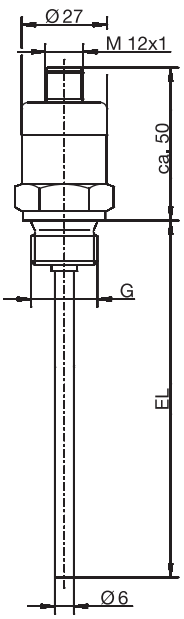


**Connection diagram**

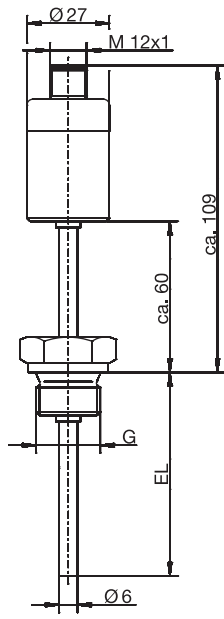


Connection		Connection assignment
Voltage supply DC 10 to 30V	+ -	V+ V- 2 3
Output CANopen		Schielding CAN_LH CAN_LL 1 4 5

**Dimensions**

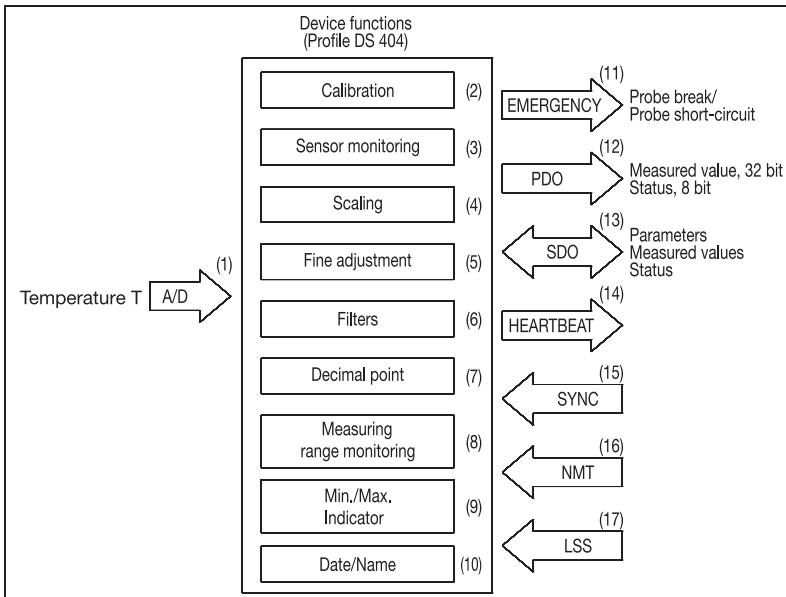


Type 902910/10



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.

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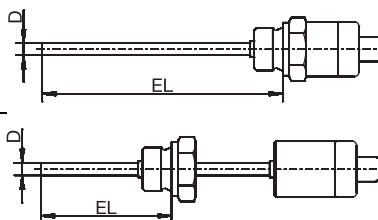
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**Order details: JUMO CANtrans T RTD temperature probe with CANopen output**

**(1) Basic type**

	902910/10	RTD temperature probes with CANopen output
	902910/12	RTD temperature probes with CANopen output, Neck tube for higher temperatures
	<b>(2) Operating temperature in °C</b>	
x	370	-50 to +150 °C
x	404	-50 to +450 °C
	<b>(3) Measuring insert</b>	
x x	1005	1x Pt 1000
x x	2005	2x Pt 1000
	<b>(4) Tolerance class per DIN EN 60 751</b>	
x x	1	Class B (standard)
x x	2	Class A
	<b>(5) Sheath diameter D in mm</b>	
x x	6	Ø 6mm
	<b>(6) Fitting length EL in mm (50 ≤ EL ≤ 500)</b>	
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)
	<b>(7) Process connection</b>	
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
	<b>(8) Extra codes</b>	
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)      , ...<sup>1</sup>  
 Order example      902910/10      -      370      -      1005      -      1      -      6      -      50      -      102      /      000

**Accessories for RTD temperature probe with CANopen output**

5-pin contact box M12x1, straight, with fixed gated connection line, length 5m  
 5-pin contact box M12x1, angled, with fixed gated connection line, length 2m  
 5-pin contact box M12x1, straight, without connection line to be patched by the customer  
 5-pin contact box M12x1, angled, without connection line to be patched by the customer  
 T-shaped piece  
 Termination resistor for CANopen bus, with plug M12x1  
 Extension line, length 2m, 5-pin, with plug and socket M12x1  
 PC-CAN interface for USB interface  
 PC configuration software for CANopen  
 EDS files on disk  
 EDS files, per download (www.jumo.net, see product information)  
 Operating manual, per download (www.jumo.net, see product information)

**Sales No.:**

90/00337625  
 90/00375164  
 90/00419130  
 90/00419133  
 90/00419129  
 40/00461591  
 90/00461589  
 40/00449941  
 40/00449942  
 90/00434520  
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<sup>1</sup> List extra codes in sequence, separated by commas.