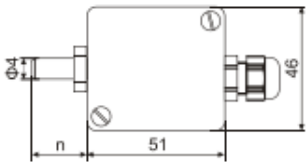
TRANSMITER cu TERMOREZISTENTA TSOP pentru exterior, 4-20 mA

Outdoor RTD Probe (Transmitter) TS(O)P

- **Low cost**
- **Ptx sensitive element**
- **2-wire 4…20 mA output available**
- **IP66 protection class**
- **Robust aluminum enclosure**
- **Ready to use - no adjustments**

The outdoor temperature probes TSP and TSOP measure temperature by means of a Ptx sensitive element mounted in a thin stainless steel stem for fast response. The TSOP model, in addition, converts the measured temperature into standard 4...20 mA 2-wire signal. Both models are enclosed in a freely mountable robust aluminum enclosure with IP66 protection class and are equipped with a PG7 cable gland for stable and protected electrical decoupling. Five different temperature measurement ranges from -50 °C and up to 100 °C as well as customer specified ranges are available. Thanks to their simplicity, small size, and affordable price, TSP and TSOP are applicable for various outdoor applications, environment temperature control, climatic temperature measurement, etc.



Technical specifications

Input	
Incorporated RTD	Pt100 or Pt1000 (w=1.385)
Measurement range	-50...50 °C; 0...50 °C; -20...60 °C; 0...100 °C [1]; -50...100 °C [1]
Range on request	minimum span 50 °C
Output	*(transmitter only)*
Signal type	4...20 mA, 2-wire
Linearity proportional to	measured value
Output at sensor burnout	32 mA
Output at sensor shorted	0.2 mA
Accuracy	*(transmitter only)*
Electronic measurement error	0.2% from span or 0.2 °C [2]
RTD measurement error	according to accuracy class
Non-linearity	within measurement error
Self-heating error	0.02%/mA at 24 V
Temperature drift	0.02% from span for 1 °C

[1] Not available for TSOP
[2] Which is greater

Power supply		
Loop voltage		10...32 VDC
Admissible variations		1 Vp-p at 50 Hz
Maximum line load		750 Ω at 24V/20mA
Operating conditions		
Ambient temperature		-30...65 °C
Ambient humidity		5...95 %RH
EM compatibility		according to EN 61326
Design and materials		
Stem diameter	4 mm	5 mm
Stem length	20...60 mm	60...200 mm
Sensor sheath		stainless steel
Housing material		aluminum
Wiring		PG7 metal cable gland
Mounting		free
Protection class		IP66

Ordering code TS(O)P - G2.G3.G6.G11 - #1

Code	Feature or option	Code values
G2	Sensor [3]	RD - Pt100, RG - Pt1000
G3	Temperature range	T25 - -20...60 °C, T17 - -50...50 °C, T18 - 0...50 °C, T19 - 0...100 °C [1], T12 - -50...100 °C [1], TZ - other (specify, ΔT ≥ 50 °C)
G6	Stem length 'n' [mm]	20…200 (see table above)
G11	Accuracy class	A - 'A', B - 'B', C - '2xB'
#1	Options	X - none, OP - electrochemically polished sheath surface

[3] Do not code for TSOP

TRANSMITER cu TERMOREZISTENTA TSOR pentru interior, 4-20 mA

Indoor RTD Probe (Transmitter) TS(O)R

- **Low-cost variant for budget applications**
- **Ptx sensitive element**
- **2-wire 4...20 mA output available**
- **Easy & Fast connection plug**
- **Ready to use - no adjustments**
- **DIN-rail accessory available**

The indoor temperature probes TSR, TSR1, TSOR, and TSOR1 perform fast temperature measurement by means of a Ptx sensitive element mounted in a copper sheath or inside the housing. The TSOR and TSOR1 variants, in addition, convert the measured temperature into standard 4...20 mA 2-wire signal. All variants are enclosed in a freely mountable small plastic box that may also be mounted on a DIN rail when an optional mounting clamp is installed. TSR and TSOR are also equipped with a 3-pin plug-in terminal that allow fast and easy electrical decoupling. Five different temperature measurement ranges from -50 °C and up to 100 °C as well as customer specified ranges are available. Thanks to their simplicity, small size, and affordable price, TSR, TSR1, TSOR, and TSOR1 are applicable for various indoor applications, room temperature control, control board temperature measurement, etc.

Technical specifications

Input	
Incorporated RTD	Pt100 or Pt1000 (w=1.385)
Measurement range	-50...50 °C; 0...50 °C; -20...60 °C; 0...100 °C [1]; -50...100 °C [1]
Range on request	minimum span 50 °C
Output	*(transmitter only)*
Signal type	4...20 mA, 2-wire
Linearity proportional to	measured value
Output at sensor burnout	32 mA
Output at sensor shorted	0.2 mA
Accuracy	*(transmitter only)*
Electronic measurement error	0.2% from span or 0.2 °C [2]
RTD measurement error	according to accuracy class
Non-linearity	within measurement error
Self-heating error	0.02%/mA at 24 V
Temperature drift	0.02% from span for 1 °C

Power supply	
Loop voltage	10...32 VDC
Admissible variations	1 Vp-p at 50 Hz
Maximum line load	750 Ω at 24V/20mA
Operating conditions	
Ambient temperature	-30...65 °C
Ambient humidity	5...85 %RH
Directives	CE (2004/108/EC), LVD (2006/95/EC)

Design and materials	TS(O)R	TS(O)R1
Sensor sheath	copper	none (hidden sensor)
Housing material	plastic	plastic
Wiring	plug-in terminal	hidden terminal
Mounting	free [3]	free [3]
Dimensions	40x75x26 mm (w/o terminal)	40x75x26 mm
Weight	max. 45 g	max. 30 g
Protection class	IP44 (excl. terminal)	IP20

[1] Not available for TSOR and TSOR1.
[2] Which is greater
[3] DIN-rail mounting accessory is also available (see 'Accessories')

Ordering code TS✱ - G2.G3.G11

Code	Feature or option	Code values
✱	Variant	R - RTD probe, R1 - low-cost RTD probe, OR - temperature transmitter, OR1 - low-cost temperature transmitter
G2	Sensor [4]	RD - Pt100, RG - Pt1000
G3	Temperature range	T25 - -20...60 °C, T17 - -50...50 °C, T18 - 0...50 °C, T19 - 0...100 °C [1], T12 - -50...100 °C [1], TZ - other (specify, $\Delta T \geq 50$ °C)
G11	Accuracy class	A - 'A', B - 'B', C - '2xB'

[4] Do not code for TSOR and TSOR1.

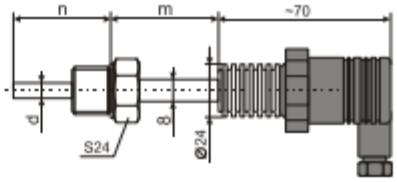
TRANSMITER cu TERMOREZISTENTA TSOK

pentru conditii dificile de vibratii si temperatura ambianta, cu iesire 4-20 mA

RTD Probe with Current Output TSOK

- **Pt100 or Pt1000 sensitive element**
- **2-wire 4...20 mA output**
- **Easy & Fast connection plug**
- **Vibration-proof design**
- **Small dimensions**
- **Extended design for higher temperature available**
- **High protection class - IP65**
- **Local indicator available**

TSOK measures temperature by the means of a Ptx sensitive element and converts it into standard 4...20 mA 2-wire current signal. This transmitter has a robust vibration-proof stainless steel sheath with IP65 protection class, and is equipped with a DIN 43650 connector that allows fast and easy electrical decoupling. The probe interior is filled with special compound, which protects the electronics from the harsh ambient influences. Eight different temperature measurement ranges from -50 °C and up to 400 °C as well as customer specified ranges are available. Various stem diameters and lengths as well as stainless steel types are also available. A local loop-powered indicator TI200 can be optionally mounted between the sheath top and the connector. Thanks to its small size and robust design, TSOK is applicable for cars, rail vehicles, construction machines, and other industrial equipment.



Technical specifications

Input	
Input (RTD) type	Pt100 or Pt1000 (w=1.385), class B
Measurement range	-50...50 °C; -20...60 °C; 0...50 °C; 0...100 °C; -50...100 °C; 0...150 °C; 0...200 °C; 0...300 °C [1]; 0...400 °C [1,5]
Range on request	minimum span 50 °C
Output	
Signal type	4...20 mA, 2-wire
Linearity proportional to	measured value
Output at sensor burnout	32 mA
Output at sensor shorted	0.2 mA
Accuracy	
Electronic measurement error	0.2% from span or 0.2 °C [2]
RTD measurement error	according to accuracy class
Non-linearity	within measurement error
Temperature drift	0.01% from span for 1 °C

Power supply	
Loop voltage	10...32 VDC
Admissible variations	1 Vp-p at 50 Hz
Maximum line load	750 Ω at 24V/20mA
Operating conditions	
Medium pressure	max. 25 bar
Ambient temperature	-40...85 °C
Ambient humidity	0...98 %RH
EM compatibility and safety	according to EN 61000, EN 61010
Design and materials	
Sensor sheath	stainless steel
Wiring	4-pin detachable connector DIN 43650
Mounting thread	M16, M18, M20, 3/8", 1/2", or other
Stem diameter	6 or 8 mm
Stem length	20...300 mm
Extension length [1]	50...100 mm
Protection class	IP65

[1] Only for the extended-design variant!
[2] Which is greater

Ordering code TSO✱ - G3.G4.G6.G7.G9.G10.G14 - #1.#2

Code	Feature or option		Code values
✱	Variant		K - short-design, K1 - extended-design
G3	Temperature range		T17 - -50...50 °C, T25 - -20...60 °C, T18 - 0...50 °C, T19 - 0...100 °C, T12 - -50...100 °C, T20 - 0...150 °C, T7 - 0...200 °C, T23 - 0...300 °C [1], T8 - 0...400 °C [1,5], TZ - other (specify, ΔT ≥ 50 °C)
G4	Stem diameter 'd' [mm]		6, 8
G6	Stem length 'n' [mm]		20 [3]...300 (step 5 mm)
G7	Extension length 'm' [mm] [1]		50...100 (step 5 mm)
G9	Mounting thread	cylindrical (15 mm length)	Q0 - M16x1.5, Q1 - M18x1.5, Q2 - M20x1.5, Q3 - G3/8", Q4 - G1/2", QZ - other (specify!)
		tapered (standard length)	Q9 - 3/8" NPT, Q10 - 1/2" NPT, QZ - other (specify!)
G10	Sheath material		M1 - 1.4301, M2 - 1.4541, M3 - 1.4571, M9 - 1.4404
G14	Tip shape		X - standard closed, N - narrowed
#1	Options		X - none, OP - electrochemically polished sheath surface
#2	Local indicator TI200		X - none, A - local indicator TI200 [4]

[3] Minimum thread length + 5 mm!
[4] See TI200 specifications and order separately!
[5] Contact

TRANSMITER cu TERMOREZISTENTA TSOJ
programabil prin comunicatie seriala RS232, cu iesire 4-20 mA

Programmable RTD Probe with Current Output TSOJ

- **Programmable conversion range**
- **2-wire 4...20 mA output**
- **Easy & Fast connection plug**
- **Straight or angled cable connector**
- **Small dimensions**
- **Vibration-proof design**
- **High protection class - IP65**

TSOJ measures temperature within the -50...200 °C range via a Pt100 sensitive element and converts it into standard 4...20 mA 2-wire signal. The configuration software "TraCon" enables programming of the measurement range and output direction as well as other parameters. The probe has a robust vibration-proof stainless steel sheath with IP65 protection class, and its interior is filled with special compound, which protects the electronics from the harsh ambient influences. TSOJ is equipped with a detachable connector that allows fast and easy electrical decoupling. Various stem diameters and lengths as well as stainless steel types are available. Thanks to its robust design and flexible programming, the TSOJ probe is a fast and convenient solution to varying problems involving temperature measurement and conversion in industrial environments.

Technical specifications

Input	*(programmable)*
Input (RTD) type	Pt100 (w=1.385)
Measurement range	min. -50...max. 200 °C, programmable
Minimum programmable span	50 °C
Output	*(programmable)*
Signal type	4...20 mA or 20...4 mA, 2-wire
Maximum load	800 Ω at 24V/20mA
Sensor failure reaction	< 3.9 or > 20.2 mA, programmable
Accuracy	
Measurement error	0.2% from span or 0.2 °C [1]
RTD error	according to the accuracy class
Non-linearity	within measurement error
Temperature drift	0.01% from span for 1 °C
Power supply	
Loop voltage	10...32 VDC
Admissible variations	1 Vp-p at 50 Hz

Serial interface	
Interface type	RS232, requiring special cable [2]
Configuration software	"TraCon", free
Operating conditions	
Medium pressure	max. 25 bar
Ambient temperature	-20...70 °C
Ambient humidity	0...95 %RH, non-condensing
EM compatibility	according to EN 61326
Design and materials	
Case material	stainless steel
Wiring	4-pin detachable connector M12 or DIN 43650 (incl. female part)
Dimensions	ø30x max. 66 mm (w/o stem and connector)
Mounting thread	M16, M18, M20, 3/8", 1/2", or other
Stem diameter	6 or 8 mm
Stem length	20...300 mm, step 5 mm
Protection class	IP65

[1] Which is greater
[2] Ordered separately

Ordering code **TSOJ - G4.G6.G9.G10.G11.G14.G15 - #1**

Code	Feature or option		Code values
G4	Stem diameter 'd' [mm]		6, 8
G6	Stem length 'n' [mm]		20 [3]...300 (step 5 mm)
G9	Mounting thread	cylindrical (15 mm length)	Q0 - M16x1.5, Q1 - M18x1.5, Q2 - M20x1.5, Q3 - G3/8", Q4 - G1/2", QZ - other (specify!)
		tapered (standard length)	Q9 - 3/8" NPT, Q10 - 1/2" NPT, QZ - other (specify!)
G10	Sheath material		M1 - 1.4301, M2 - 1.4541, M3 - 1.4571, M9 - 1.4404
G11	Accuracy class [4]		A - 'A', B - 'B'
G14	Tip shape		X - standard closed, N - narrowed
G15	Wiring connector		C1A - angled connector M12, C1S - straight connector M12, C7 - DIN 43650 connector
#1	Options		X - none, OP - electrochemically polished sheath surface

[3] Minimum thread length + 5 mm!
[4] Of the built-in Pt100 sensor

TRANSMITER TEMPERATURA TRN cu intrare fixa, pentru termorezistente si termocuple, cu iesire 0/4-20 mA sau 0……1/2/5/10 V, cu montare in cap de conexiuni

Fixed-Input Temperature Transmitter TRN

- **Low cost**
- **2- or 3-wire output line connection**
- **High resistance to electromagnetic disturbances**
- **ZERO and SPAN adjustment**
- **In-head and DIN-rail versions**
- **IP65 box and Ex housing available**

COMECO's current loop transmitter TRN converts the signal from a temperature sensor into standard current or voltage signal that can be safely sent over long distances to remote indicators, data loggers, or controllers. In addition to the most common thermoresistance and thermocouple sensors, TRN may convert linear analog input signals (current or voltage). The transmitter is based on high-tech integral circuits and has fixed input range. Two-wire- and three-wire-output variants are offered. Both are available in case for mounting inside sensor protection head, in watertight box with high protection class, in case for mounting on a DIN rail, and in case prepared for mounting in Ex housings. TRN can withstand considerable electromagnetic disturbances and is a perfect low-cost solution for general-purpose applications.

Technical specifications

Input	
Pt50...1000; 2- or 3-wire	min. -50...max. 500 °C [1]
Cu100; 2- or 3-wire	min. -50...max. 250 °C [1]
Cu50; 2- or 3-wire	min. -50...max. 250 °C [1]
Other thermoresistive	min. -50...max. 500 °C [1]
Thermocouple "E"	min. 0...max. 1000 °C [1]
Thermocouple "J"	min. 0...max. 1000 °C [1]
Thermocouple "K"	min. 0...max. 1300 °C [1]
Thermocouple "L"	min. 0...max. 800 °C [1]
Thermocouple "L - GOST"	min. 0...max. 800 °C [1]
Thermocouple "T"	min. 0...max. 400 °C [1]
Thermocouple "U"	min. 0...max. 600 °C [1]
Linear current	min. 0...max. 20 mA [1]
Linear voltage	min. 0...max. 10 V [1]
Minimum input range width	RTD: 50 °C, T/C: 250 °C
ZERO and SPAN adjustment	± 10%

Output	
2-wire current	4...20 mA
3-wire current	0...5 mA, 0(4)...20 mA
3-wire voltage	0...1/ 2/ 5/ 10 V, 1...5 V, 2...10 V
RTD linearly proportional to	temperature
T/C linearly proportional to	input voltage
Current limits	Low: < 3.5 mA, High: > 23 mA
Reaction at RTD failure	Low or High, depends on terminal
Reaction at T/C failure	High

Accuracy	
Measurement error	0.3% from span
Non-linearity for RTD input	0.3% from span
Self-heating error	0.02%/mA at 24 V
Temperature drift	0.02% from span for 1 °C
Cold junction compensation	automatic hardware, ± 1 °C

Power supply	
Supply voltage:	
- for 2-wire output	8...32 VDC (for RTD / linear input) or 12...36 VDC (for T/C input)
- for 3-wire current output	8...36 VDC
- for 3-wire voltage output	(U_{max}+3)...36 VDC
Consumption	up to 2 mA (3-wire output)
Admissible variations	1 Vp-p at 50 Hz
Maximum line load	620 Ω (750 Ω for T/C) at 24V/20mA

Operating conditions	
Ambient temperature	-20...70 °C
Ambient humidity	0...95 %RH, non-condensing

Design and materials			
Case material			plastic
Wiring			screw terminals
Mounting	in head [2,3,4]	on rail	in box [3]
Dimensions [mm]	ø44x19	18x90x58	80x80x60
Weight	30 g	90 g	170 g
Protection class	IP20	IP20	IP65

[1] Specify lower and upper span ranges when ordering.
[2] Head type "B" or any other with 33 mm distance between centers of the female threaded openings
[3] May be mounted on rail by a special snap-on accessory, which is ordered separately (see 'Accessories').
[4] May be mounted in different, separately ordered Ex housings for field applications (see 'Accessories').

Ordering code TRN✱ - G6'6".G11'11".G12

Code	Feature or option		Code values
✱	Variant		2 - with 2-wire output line, 3 - with 3-wire output line
G6'	Input signal		B - thermoresistance, C - thermocouple, D - linear
G6"	Sensor	RTD	B - Pt50, D - Pt100, F - Pt500, G - Pt1000, H - Cu50, K - Cu100, Z - other
		T/C	J - "J", K - "K", E - "E", L - "L", T - "T", U - "U"
		linear	A - 0...5 mA, B - 0...20 mA, C - 4...20 mA, H - 0...1 V, I - 0...2 V, J - 0...5 V, K - 0...10 V, Z - other
G11'	Output signal [5]		B - 0...5 mA, C - 1...5 mA, D - 2...10 mA, E - 0...20 mA, F - 4...20 mA, G - 0...1 V, H - 0...2 V, I - 0...5 V, J - 1...5 V, K - 0...10 V, L - 2...10 V, Z - other
G11"	Transmission range		(RANGE) (see table above)
G12	Mounting		B - in head [2,3], C - on DIN rail, D - in box IP65 (box included) [3], E - in Ex housing (includes mounting kit only)

[5] For 2-wire output line, output signal can only be 4...20 mA (G11' = "F")!!!

TRANSMITER TEMPERATURA TRA cu intrare selectabila, pentru termorezistente si termocuple, cu iesire 0/4-20 mA sau 0……1/2/5/10 V, cu montare in cap de conexiuni

Transmitter with Selectable Input TRA

- **Low cost**
- **High resistance to electromagnetic disturbances**
- **Up to 10 selectable ranges for Pt100 sensors**
- **Up to 10 selectable thermocouples**
- **In-head and DIN-rail versions**
- **IP65 box and Ex housing available**

COMECO's temperature transmitter TRA is a compromising solution between the analog transmitters with fixed range and the programmable transmitters. TRA allows on-site selection of input range and sensor type (for thermocouples) as well as transmitter reaction to sensor failure by the means of a group of soldering bridges (jumpers). The exact range is adjustable by ZERO and SPAN potentiometers. TRA is available in case for mounting inside sensor protection head, in watertight box with high protection class, in case for mounting on a DIN rail, and in case prepared for mounting in Ex housings. Thanks to its flexibility, excellent resistance against electromagnetic disturbances, and low price, TRA is easy to use and very widely applicable.

Technical specifications

Input	
Pt100 (w=1.385); 3-wire	0…50/ 100/ 150/ 200/ 300/ 400/ 500 °C; -50…50/ 100 °C [1]; 0…250 °C [1]
Thermocouple "E"	0...300/ 400/ 500/ 600 °C
Thermocouple "J"	0...400/ 500/ 600/ 800 °C
Thermocouple "K"	0...600/ 800/ 1000/ 1200 °C
Thermocouple "L" [2]	0...700 °C
Thermocouple "L - GOST" [2]	0...600 °C
Thermocouple "N"	0...800/ 1000/ 1200 °C
Thermocouple "R" [3]	0...1200/ 1400/ 1600 °C
Thermocouple "S" [3]	0...1200/ 1400/ 1600 °C
Thermocouple "T"	0...100/ 200/ 300 °C
Thermocouple "U" [3]	0...100/ 200/ 300/ 400 °C
Range selection	with jumpers
Thermocouple selection	with jumpers
ZERO adjustment	± 50 °C ± 10%
SPAN adjustment	± 10%
Output	
Signal type	4...20 mA
RTD linearly proportional to	temperature
T/C linearly proportional to	input voltage
Current limits	Low: < 3.5 mA, High: > 23 mA
Reaction at RTD failure:	Low or High
- for variant '1'	depends on terminal
- for variant '2'	selectable
Reaction at T/C failure	High

Accuracy	
Measurement error	0.3% from span
Non-linearity	0.3% from span
Self-heating error	0.02%/mA at 24 V
Temperature drift	0.02% from span for 1 °C
Cold junction compensation	automatic hardware, ± 1 °C
Power supply	
Supply voltage	8...32 VDC
Admissible variations	1 Vp-p at 50 Hz
Maximum line load:	
- for variant '1'	620 Ω (800 Ω for T/C) at 24V/20mA
- for variant '2'	700 Ω (800 Ω for T/C) at 24V/20mA
Operating conditions	
Ambient temperature:	
- for variant '1'	-20...70 °C
- for variant '2'	-40...85 °C
Ambient humidity	0...95 %RH, non-condensing
Design and materials	
Case material	plastic
Wiring	screw terminals

Mounting	in head [4,5,6]	on rail [1]	in box [5]
Dimensions [mm]	ø44x19	18x90x58	80x80x60
Weight	30 g	90 g	170 g
Protection class	IP20	IP20	IP65

[1] Available only for variant '1'.
[2] Ask for availability!
[3] Available only when in case for DIN-rail mounting (G12 = "C")!
[4] Head type "B" or any other with 33 mm distance between centers of the female threaded openings
[5] May be mounted on rail by a special snap-on accessory, which is ordered separately (see 'Accessories').
[6] May be mounted in different, separately ordered Ex housings for field applications (see 'Accessories').

Ordering code TRA✱ - G6.G12 - #1

Code	Feature or option	Code values
✱	Variant	1, 2
G6	Input	B - Pt100, C - thermocouple [7]
G12	Mounting	B - in head [4,5], C - on DIN rail [1], D - in box IP65 (box included) [5], E - in Ex housing (includes mounting kit only)
#1	Pre-set transmission range	X - none, (RANGE) (see table above)

[7] Thermocouple type is user selectable by jumpers.

TRANSMITER TEMPERATURA NPT3 cu intrare programabila din PC, prin conexiune USB, pentru termorezistente si termocuple, cu iesire 0/4-20 mA, pentru montare in cap de conexiuni

Transmiterul NPT3 are **intrare universala** si este proiectat pentru a fi montat intr-un cap de conexiuni forma B. Dispozitivul converteşte semnalul de intrare de la senzorul de temperatura, de tip **termocuplu sau termorezistenta**, in semnal de iesire **4-20 mA**. Configurarea este realizată prin intermediul **interfeței USB**. Nu este nevoie de nici un adaptor de programare. **Software-ul de configurare** este inclus în livrare.

Specificatii tehnice

Alimentare	24 (12...36) V DC	
Intrare analogica	1 [termocuplu sau termorezistenta]	
Iesire analogica	1 [4-20 mA]	
Eroare intrinseca	TC	0.50%
	RTD	0.25%
Eroare de liniaritate, max.	±0.2%	
Temperatura ambianta	-40...+85 °C	
Clasa de protectie IP	IP20	
Dimensiuni	Ø 44 x 18 mm	
Greutate	approx. 25 g	

Tip senzori

Senzor	Domeniu de masura °C
Pt50	-200...+750
Pt100	-200...+750
Pt500	-200...+850
Pt1000	-200...+850
Ni100	-60...+180
J	-200...+1200
N	-200...+1300
K	-200...+1300
S	0...+1750
R	0...+1750
B	+200...+1800
T	-200...+400

TRANSMITER TEMPERATURA NPT1 cu intrare programabila din PC, prin conexiune USB, pentru termorezistente si termocuple, cu iesire 0/4-20 mA, pentru montare pe sina DIN

Transmiterul NPT1 are **intrare universala** si este proiectat pentru a fi montat pe sina DIN. Dispozitivul converteşte semnalul de intrare de la senzorul de temperatura, de tip **termocuplu sau termorezistenta**, in semnal de iesire **0/4-20 mA**. Configurarea este realizată prin intermediul **interfeței USB**. Nu este nevoie de nici un adaptor de programare. **Software-ul de configurare** este inclus în livrare.

Caracteristici tehnice

Alimentare	24 (12...36) V DC	
Curent consumat	in operare, max. 35 mA	in configurare, max.50 mA
Intrare Analogica	1	
Iesire Analogica	1 ; semnal 0(4)-20 mA	
Eroare Intrinseca	Termocuplu : 0.50%	Termorezistenta : 0.25%
Eroare Linearitate, max.	±0.1%	
Rezistenta firelor senzorului, per fir	100 ohm	
Sarcina Permisa, max.	la 24 V cc : 600 ohm	la 36 V cc : 1200 ohm
Ambient temperature	-40...+85 °C	
Grad de protectie	IP20	
Dimensiuni	27 x 110 x 78 mm	
Greutate	approx. 100 g	

Tip senzori

Senzor	Domeniu de masura °C
Pt50	-200...+750
Pt100	-200...+750
Pt500	-200...+850
Pt1000	-200...+850
Ni100	-60...+180
J	-200...+1200
N	-200...+1300
K	-200...+1300
S	0...+1750
R	0...+1750
B	+200...+1800
T	-200...+400

TRANSMITER TEMPERATURA SYE2060 pentru termocuple sau termorezistente, cu intrare si iesire programabile din PC, prin comunicatia seriala RS485, cu iesire 4-20 mA sau 0-10 V, pentru montare in cap de conexiuni, pe perete sau pe sina DIN

Sensor input	
Versions E2060-I/U-RTD	Pt100, Pt1000 and other Pt, Ni, Cu RTDs
RTD connection	two-wire or three-wire
RTD current	<0.6 mA
Versions E2060-I/U-TC	B, E, J, K, L, N, R, S, T, U thermocouples
Cold junction compensation	in the range -40...+80 °C
Analog output	
Versions E2060-I-RTD/TC	two-wire, 4-20 mA, R_L < 250 Ohm @ 24 VDC
Supply voltage	9...30 VDC
Versions E2060-U-RTD/TC	three wire 0-10 V, R_L > 10 kOhm
Supply voltage	15...30 VDC
Output scale adjustment range	-100...+1600 °C
Resolution	0.04 % FSO
Accuracy	<(0,2 °C + 0.1% FSO) @ 22 °C
Ambient temperature effect	<0.1% FSO / 10 °C
Supply voltage effect	<0.01% FSO / V
Digital interface module	A2060-485
Communication protocol	Modbus RTU over EIA485 line
Operating conditions	-40...+75 °C, 5...95 %RH