

Low-cost Programmable Transmitter TRC

- ◆ Smallest in-head programmable transmitter!
- ◆ Pt100 and 8 T/C programmable ranges
- ◆ 2- or 3-wire current and voltage output
- ◆ Serial interface for configuration
- ◆ In-head and DIN-rail versions
- ◆ IP65 box and Ex housing available

COMECO's temperature transmitter TRC is part of a revolutionary new project for the smallest (in-head) and cheapest multi-input programmable transmitter. It has a universal input accepting Pt100 RTD and 8 thermocouples and a voltage or current 2- or 3-wire output linearly proportional to the measured temperature. This model allows on-site selection of sensor type, input range and conversion direction as well as sensor failure reaction and no user calibration is necessary to be provided. TRC is available in a case for mounting inside sensor protection head type "B", in a watertight box with high protection class, and in a case for mounting on DIN rail. The RS232 serial interface allows fast and easy configuration. Thanks to the combination of performance, reliability, simplicity, flexibility, and low price, the TRC transmitter is easy-to-use and very widely applicable.

Technical specifications

Input	(programmable)	
Pt100 (w=1.385); 3-wire	min. -200...max. 600 °C	
Thermocouple "B"	min. 200...max. 1800 °C	
Thermocouple "E"	min. -20...max. 600 °C	
Thermocouple "J"	min. -20...max. 600 °C	
Thermocouple "K"	min. -20...max. 1200 °C	
Thermocouple "N"	min. -20...max. 1200 °C	
Thermocouple "R"	min. 0...max. 1700 °C	
Thermocouple "S"	min. 0...max. 1700 °C	
Thermocouple "T"	min. -40...max. 400 °C	
Input / output conversion	direct or reverse, programmable	
Output	'2'	'3'
Voltage	-	0...10 V
- minimum load	-	1 MΩ
Current	4...20 mA	0(4)...20 mA
- maximum load	800 Ω at 24V/20mA	750 Ω at 24V/20mA; 2 kΩ at 10 V
Sensor failure reaction	< 3.8 mA or > 20.2 mA, programmable	< 3.8 mA or > 20.2 mA, programmable
Power supply		
Voltage	8...36 VDC	9...36 VDC ⁽¹⁾
Admissible variations	1 Vp-p at 50 Hz	1 Vp-p at 50 Hz

⁽¹⁾ 12...36 VDC for output 0...10 V

⁽²⁾ Ordered separately

⁽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 TRC★ - G11.G12

Code	Feature or option	Code values
★	Variant	2 - with 2-wire output line, 3 - with 3-wire output line
G11	Output signal ⁽⁵⁾	E - 0...20 mA, F - 4...20 mA, K - 0...10 V, Z - other
G12	Mounting	B - in head type "B" ^(3,4) , C - on DIN rail, D - in box IP65 (box included) ⁽³⁾ , E - in Ex housing (includes mounting kit only)

⁽⁵⁾ For 2-wire output variant only 4...20 mA is available!



Accuracy

Measurement error	0.3% from span
Non-linearity	within measurement error
Self-heating error	0.005 %/mA at 24 V
Temperature drift	0.01% from span for 1 °C
Cold junction compensation	automatic software, ± 0.5 °C
RTD 3-wire line compensation	up to 25 Ω per wire
Serial interface	
Interface type	RS232, requiring special cable ⁽²⁾
Configuration software	"TraCon", free
Operating conditions	
Operating temperature	-30...80 °C
Operating humidity	0...95 %RH, non-condensing
Design and materials	
Case material	plastic
Wiring	screw terminals
Mounting	in head ^(3,4) on rail in box ⁽³⁾
Interface connector	4-pin 3-pin 4-pin
Interface cable type ⁽²⁾	K1, K11U K2, K12U K1, K11U
Dimensions [mm]	ø44x19 18x90x58 80x80x60
Weight	30 g 90 g 170 g
Protection class	IP20 IP20 IP65