

## 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, in a watertight box with high protection class, and in a case for mounting on DIN rail. The 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)	
<b>Pt100 (w=1.385); 3-wire Thermocouple "B"</b>	min. -200...max. 600 °C	
<b>Thermocouple "E"</b>	min. 200...max. 1800 °C	
<b>Thermocouple "J"</b>	min. -20...max. 600 °C	
<b>Thermocouple "K"</b>	min. -20...max. 900 °C	
<b>Thermocouple "N"</b>	min. -20...max. 1200 °C	
<b>Thermocouple "R"</b>	min. 0...max. 1700 °C	
<b>Thermocouple "S"</b>	min. 0...max. 1700 °C	
<b>Thermocouple "T"</b>	min. -40...max. 400 °C	
<b>Input / output conversion</b>	direct or reverse, programmable	
<b>Output</b>	'2'	'3'
<b>Voltage</b>	-	0...10 V
<b>- minimum load</b>	-	1 MΩ
<b>Current</b>	4...20 mA	0(4)...20 mA
<b>- maximum load</b>	800 Ω at 24V/20mA	750 Ω at 24V/20mA
<b>Sensor failure reaction</b>	< 3.9 mA or > 20.2 mA, programmable	downscale or upscale, programmable
<b>Power supply</b>		
<b>Supply voltage</b>	8...36 VDC	9...36 VDC <sup>(1)</sup>
<b>Admissible variations</b>	1 Vp-p at 50 Hz	1 Vp-p at 50 Hz

<sup>(1)</sup> 13...36 VDC for output 0...10 V

<sup>(2)</sup> Ordered separately

<sup>(3)</sup> Head type "B" or any other with 33 mm distance between centers of the female threaded openings

<sup>(4)</sup> May be mounted on rail by a special snap-on accessory, which is ordered separately (see 'Accessories').

<sup>(5)</sup> 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	<b>2</b> - with 2-wire output line, <b>3</b> - with 3-wire output line
<b>G11</b>	Output signal <sup>(6)</sup>	<b>E</b> - 0...20 mA, <b>F</b> - 4...20 mA, <b>K</b> - 0...10 V, <b>Z</b> - other
<b>G12</b>	Mounting	<b>B</b> - in head <sup>(3,4)</sup> , <b>C</b> - on DIN rail, <b>D</b> - in box IP65 (box included) <sup>(4)</sup> , <b>E</b> - in Ex housing (includes mounting kit only)

<sup>(6)</sup> For 2-wire output variant only 4...20 mA is available!



### Accuracy

<b>Measurement error</b>	0.3% from span
<b>Non-linearity</b>	within measurement error
<b>Self-heating error</b>	0.005%/mA at 24 V
<b>Temperature drift</b>	0.01% from span for 1 °C
<b>Cold junction compensation</b>	automatic software, ± 0.5 °C
<b>RTD 3-wire line compensation</b>	up to 25 Ω per wire

### Interface

<b>Interface type</b>	RS232, requiring special cable <sup>(2)</sup>
<b>Configuration software</b>	"TraCon", free

### Operating conditions

<b>Ambient temperature</b>	-20...70 °C
<b>Ambient humidity</b>	0...95 %RH, non-condensing

### Design and materials

<b>Case material</b>	plastic		
<b>Wiring</b>	screw terminals		
<b>Mounting</b>	in head <sup>(3,4,5)</sup>	on rail	in box <sup>(4)</sup>
<b>Interface connector</b>	4-pin	3-pin	4-pin
<b>Interface cable type <sup>(2)</sup></b>	K1, K11U	K2, K12U	K1, K11U
<b>Dimensions [mm]</b>	ø44x19	18x90x58	80x80x60
<b>Weight</b>	30 g	90 g	170 g
<b>Protection class</b>	IP20	IP20	IP65