

## 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

<b>Pt100 (w=1.385); 3-wire</b>	0...50/ 100/ 150/ 200/ 300/ 400/ 500 °C; -50...50/ 100 °C <sup>(1)</sup> ; 0...250 °C <sup>(1)</sup>
<b>Thermocouple "E"</b>	0...300/ 400/ 500/ 600 °C
<b>Thermocouple "J"</b>	0...400/ 500/ 600/ 800 °C
<b>Thermocouple "K"</b>	0...600/ 800/ 1000/ 1200 °C
<b>Thermocouple "L" <sup>(2)</sup></b>	0...700 °C
<b>Thermocouple "L - GOST" <sup>(2)</sup></b>	0...600 °C
<b>Thermocouple "N"</b>	0...800/ 1000/ 1200 °C
<b>Thermocouple "R" <sup>(3)</sup></b>	0...1200/ 1400/ 1600 °C
<b>Thermocouple "S" <sup>(3)</sup></b>	0...1200/ 1400/ 1600 °C
<b>Thermocouple "T"</b>	0...100/ 200/ 300 °C
<b>Thermocouple "U" <sup>(3)</sup></b>	0...100/ 200/ 300/ 400 °C
<b>Range selection</b>	with jumpers
<b>Thermocouple selection</b>	with jumpers
<b>ZERO adjustment</b>	± 50 °C ± 10%
<b>SPAN adjustment</b>	± 10%

#### Output

<b>Signal type</b>	4...20 mA
<b>RTD linearly proportional to</b>	temperature
<b>T/C linearly proportional to</b>	input voltage
<b>Current limits</b>	Low: < 3.5 mA, High: > 23 mA
<b>Reaction at RTD failure:</b>	Low or High
- for variant '1'	depends on terminal
- for variant '2'	selectable
<b>Reaction at T/C failure</b>	High

<sup>(1)</sup> Available only for variant '1'.

<sup>(2)</sup> Ask for availability!

<sup>(3)</sup> Available only when in case for DIN-rail mounting (G12 = "C")!

<sup>(4)</sup> Head type "B" or any other with 33 mm distance between centers of the female threaded openings

<sup>(5)</sup> May be mounted on rail by a special snap-on accessory, which is ordered separately (see 'Accessories').

<sup>(6)</sup> 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 <sup>(7)</sup>
G12	Mounting	B - in head <sup>(4,5)</sup> , C - on DIN rail <sup>(1)</sup> , D - in box IP65 (box included) <sup>(5)</sup> , E - in Ex housing (includes mounting kit only)
#1	Pre-set transmission range	X - none, (RANGE) (see table above)

<sup>(7)</sup> Thermocouple type is user selectable by jumpers.



#### Accuracy

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

#### Power supply

<b>Supply voltage</b>	8...32 VDC
<b>Admissible variations</b>	1 Vp-p at 50 Hz
<b>Maximum line load:</b>	
- 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

<b>Ambient temperature:</b>	
- for variant '1'	-20...70 °C
- for variant '2'	-40...85 °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>(4,5,6)</sup>	on rail <sup>(1)</sup>	in box <sup>(5)</sup>
<b>Dimensions [mm]</b>	ø44x19	18x90x58	80x80x60
<b>Weight</b>	30 g	90 g	170 g
<b>Protection class</b>	IP20	IP20	IP65