

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
- ◆ ATEX approved version
- ◆ 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. An ATEX approved version is also available, and when used with external Zener barrier, all other transmitter versions are applicable for Ex zones. 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 automatic hardware, ± 1 °C
Cold junction compensation	
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	
Operating temperature:	
- for variant '1'	-30...80 °C
- for variant '2'	-40...85 °C
Operating 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	ATEX approval	X - none, EX - ATEX II 1G Ex ia IIB T4-T6 approved ⁽⁸⁾

⁽⁷⁾ Thermocouple type is user selectable by jumpers.

⁽⁸⁾ Available only for variant '2'.