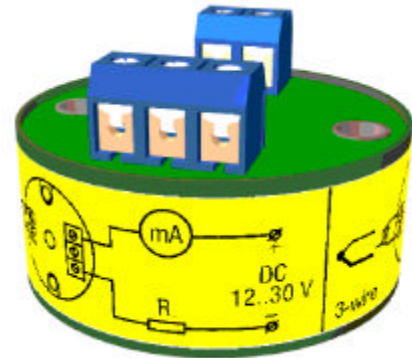


TR

Fixed Input Temperature Transmitters TRN

- ◆ Very low cost
- ◆ Two- and three-wire output line connection
- ◆ High resistance to electromagnetic disturbances
- ◆ Possible adjustment of 'zero' and 'span' settings
- ◆ Can be mounted in a sensor head type "B" or in a box IP-65
- ◆ Rail mounting available with special clamp

TRN current loop transmitters produced by COMECO convert signals from various temperature sensors into standard **current or voltage signal** that can be safely sent over long distances to remote indicators, data loggers or controllers. In addition to most common thermoresistance and thermocouple sensors, TRN transmitters may convert **linear analog input signals** (current or voltage). TRN transmitters are based on high tech integral circuits and have **fixed input range**. **Two-wire or three-wire output** options are available. **Mounting options** include: in the sensor protection head type "B", in a watertight box with high protection class or with a case for mounting on rail. TRN transmitters are **exceptionally low priced** and can withstand considerable electromagnetic disturbances. They are a perfect low cost solution for general-purpose applications.



Technical specifications

| | | |
|---|--|---------------|
| input | 2 or 3 - wire | |
| <i>Pt50 (2 or three wire)</i> | min. -50 to max. +500 °C ⁽¹⁾ | |
| <i>Pt100 (2 or three wire)</i> | min. -50 to max. +500 °C ⁽¹⁾ | |
| <i>Pt500 (2 or three wire)</i> | min. -50 to max. +500 °C ⁽¹⁾ | |
| <i>Pt1000 (2 or three wire)</i> | min. -50 to max. +500 °C ⁽¹⁾ | |
| <i>Cu100 (2 or three wire)</i> | min. -50 to max. +250 °C ⁽¹⁾ | |
| <i>Cu50 (2 or three wire)</i> | min. -50 to max. +250 °C ⁽¹⁾ | |
| <i>Other thermoresistive</i> | min. -50 to max. +500 °C ⁽¹⁾ | |
| <i>Thermocouple "E"</i> | min. 0 to max. +1000 °C ⁽¹⁾ | |
| <i>Thermocouple "J"</i> | min. 0 to max. +1000 °C ⁽¹⁾ | |
| <i>Thermocouple "K"</i> | min. 0 to max. +1300 °C ⁽¹⁾ | |
| <i>Thermocouple "L"</i> | min. 0 to max. +800 °C ⁽¹⁾ | |
| <i>Thermocouple "L- GOST"</i> | min. 0 to max. +800 °C ⁽¹⁾ | |
| <i>Thermocouple "T"</i> | min. 0 to max. +400 °C ⁽¹⁾ | |
| <i>Thermocouple "U"</i> | min. 0 to max. +600 °C ⁽¹⁾ | |
| <i>Linear current</i> | min. 0 to max. 20 mA ⁽¹⁾ | |
| <i>Linear voltage</i> | min. 0 to max. 10 V ⁽¹⁾ | |
| <i>Minimum input range width</i> | RTD: 50 °C, TC: 250 °C | |
| <i>Adjustment</i> | of 'zero' and 'range' ± 10 % | |
| Output | | |
| <i>Current - two-wire</i> | from 4 to 20 mA | |
| <i>Current - three-wire</i> | 0±5 mA, 0(4)±20 mA | |
| <i>Voltage - three-wire</i> | 0±1/2/5/10 V, 1±5V; 2±10V | |
| <i>RTD linearly proportional to TC linearly proportional to</i> | temperature input voltage | |
| <i>Current limits</i> | L=3 mA, H=28 mA | |
| <i>RTD at sensor break</i> | Low or High - depends on terminal | |
| <i>TC at sensor break</i> | High | |
| Accuracy | | |
| <i>Error</i> | 0.3 % from span | |
| <i>Nonlinearity for RTD input</i> | 0.3 % from span | |
| <i>Temperature drift</i> | 0.02 % from span for 1 °C | |
| <i>Cold junction compensation</i> | Automatic hardware ± 1 °C | |
| Power supply | | |
| <i>For 2-wire output</i> | For input RTD/LIN: 8 to 36 VDC For input TC: 12 to 36 VDC | |
| <i>For 3-wire I -output</i> | from 6 to 36 VDC | |
| <i>For 3-wire U - output</i> | from (U _{max} +3) to 36 VDC | |
| <i>Consumption</i> | up to 2 mA (3-wire output) | |
| <i>Admissible variations</i> | 10% p-p @ 50Hz | |
| <i>Max. line load</i> | 825Ω (620Ω -TC) @ 24V/20mA | |
| Operating conditions | | |
| <i>Operating temperature</i> | -20 to 75 °C | |
| <i>Operating humidity</i> | 0 to 90 %RH, non-condensing | |
| Design and materials | | |
| <i>Case material</i> | Plastic | |
| <i>Wiring</i> | Screw terminals | |
| <i>Central opening [mm]</i> | ∅5 | |
| Mounting | In head | in box |
| <i>Dimensions [mm]</i> | ∅43x30 | 80x80x60 |
| <i>Weight</i> | 30 g | 170 g |
| <i>Protection: case/terminals</i> | IP 56/20 | IP 65 |

ABBREVIATIONS: RTD - thermoresistance; TC - thermocouple; LIN - linear input

Ordering code



TRN* - G6'".G11.G12

| Code | Feature or option | Code values |
|------------|------------------------------|--|
| * | Transmitter variant | 2 - two wire output line, 3 - three wire output line ⁽²⁾ |
| G6' | Input signal type | B - thermoresistance, C - Thermocouple, D - linear |
| G6" | Sensor type | Thermoresistor |
| | | Thermocouple |
| | | Linear |
| | | B - Pt50, D - Pt100, F - Pt500, G - Pt1000, H - Cu50, K - Cu100, Z - other J - "J", K - "K", E - "E", L - "L", T - "T", U - "U" A - 0±5 mA, B - 0±20 mA, C - 4±20 mA, H - 0±1V, I - 0±2 V, J - 0±5 V, K - 0±10 V, Z - other |
| G11 | Output signal ⁽³⁾ | B - 0±5mA, C - 1±5mA, D - 2±10mA, E - 0±20mA, F - 4±20mA, G - 0±1V, H - 0±2V, I - 0±5V, J - 1±5V, K - 0±10V, L - 2±10V, Z - other |
| G12 | Mounting | B - For mounting in sensor head type "B" ⁽⁴⁾ , D - for mounting in a box IP-65 |

⁽¹⁾ Specify lower and upper span ranges when order

⁽²⁾ Not available for thermocouple input

⁽³⁾ For two-wire output line output signal can only be 4 to 20 mA (type F)!!!

⁽⁴⁾ May be mounted on rail by a special clamp on accessory, which is ordered separately.

COMECO reserves the right of changing specifications without prior notice!