

IOET

Rev. 0 - 26/09/2026

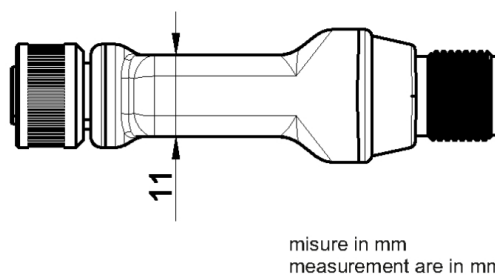
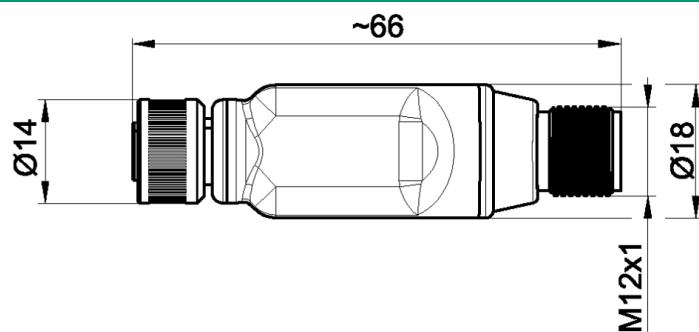
EVOMINI IOET

Signal converter for thermocouple temperature sensors with IO-Link interface
(Cold Junction compensation EXTERNAL)

Can be configured in three operating modes: IO-Link, 4+20mA loop powered and switching output with alarm thresholds (SIO). Moulded body with dual M12 connector and IP67 protection degree. External influences such as ambient temperature, vibrations, moisture and EMC interference have minimal influence on the measurement thanks to the compact and robust design. Compatible with Italcoppie TCSV12 sensors series.

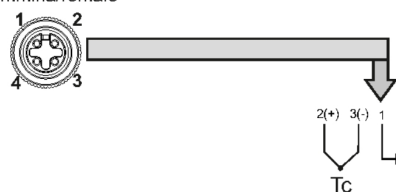


UK
CA

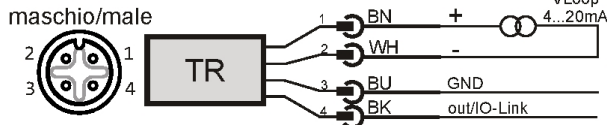


misure in mm
measurement are in mm

M12
femmina/female



M12
maschio/male



Loop Powered: 1(+) / 2 (-)
IO-Link; 1(+) / 3 (GND) / 4 (IO-Link)
Switch.Out: 1(+) / 3 (GND) / 4 (out)

TECHNICAL SPECIFICATION

Ambient temperature	-40 ÷ 70°C
Storage temperature	-40 ÷ 70°C
Operating humidity	0 ÷ 100%
Operating Voltage	18÷30 Vdc reverse polarity protection (IO-Link operating mode) 8÷32 Vdc reverse polarity protection (Loop Powered operating mode)
Current consumption	0.65 W (IO-Link operating mode) 0.8 W (SIO operating mode)
Input/Output insulation	None
Sensor input signal filter (*) (*) time to reach 90% of signal	Configurable from 0.1s to 3.7s
Output signal type	Configurable between: 4÷20mA analogue signal; IO-Link; switching PNP or NPN output (SIO);
Permitted load	727Ω @ 24 Vdc [Rload= (Vpw. - 8) / 0,022] (Loop Powered operating mode)
Sensor break or short-circuit monitoring	In accordance with NAMUR NE43, selectable between: Upper scale (≥ 21.0 mA) Lower scale (≤ 3,6 mA) (Loop Powered operating mode)
Communication interface	IO-Link Vers. 1.1 (COM2 - 38,4Kbaud) M12x1 - 4 pos. A-coded
IO-Link Smart Sensor Profile (2nd ed.)	In accordance with SSP type 3.1
Switching output (*) (*) SIO operating mode	NO/NC programmable, PNP/NPN Overload and short circuit protection Hysteresis or window function Programmable output activation/deactivation delay RGB LED for output status signaling (configurable color for OFF state and ON state) Maximum current: 250mA
Display elements (*) (*) IO-Link operating mode	Green color LED (IO-Link), RGB LED with configurable color (Locator), RGB LED with configurable color (SIO)
Temperature influence (*) (*) deviation from 20°C	Maximum value between ±0,3°C/25°C and ±0,3% of span/25°C (Loop powered operating mode) ±0,3°C/25°C in the range 200...1000°C (IO-Link and SIO operating mode)
Long-term stability	Maximum 0.1% of span per year
Linear error	Negligible
Sensor error compensation	Offset or over two points
EMC	In accordance with EN 61326-1 (CE) In accordance with BS EN 61326-1 (UKCA)
Input impedance	> 10 MΩ
Maximum loop resistance for both wire	10 KΩ (including T/C sensor)
Input	T/C type B T/C type E T/C tipo J T/C tipo K T/C type N T/C type R T/C type S T/C type T
Cold junction compensation (*) (*) Range -50÷400°C	Selectable between: Fixed External (through Pt1000 2W)
Cold junction accuracy	±0,1°C + error of Pt1000 2W
Measurement range	T/C B: 400 ÷ 1810°C T/C E: -260 ÷ 990°C T/C J: -200 ÷ 1190°C T/C K: -260 ÷ 1290°C T/C N: -260 ÷ 1290°C T/C R: -40 ÷ 1740°C T/C S: -40 ÷ 1740°C T/C T: -260 ÷ 390°C

TECHNICAL SPECIFICATION

Accuracy @25°C for IO-Link modality (*) (*) Without cold junction and sensor error (thermocouple K class 2)	T/C B: $\pm 2.0^{\circ}\text{C}$ T/C E: $\pm 1.0^{\circ}\text{C}$ T/C J: $\pm 1.0^{\circ}\text{C}$ T/C N: $\pm 2.0^{\circ}\text{C}$ (-260 ÷ -100°C) / $\pm 1.0^{\circ}\text{C}$ (-100 ÷ 1290°C) T/C R: $\pm 2.0^{\circ}\text{C}$ T/C S: $\pm 2.0^{\circ}\text{C}$ T/C T: $\pm 2.0^{\circ}\text{C}$
Accuracy @25°C for Loop Powered modality (*) (*) Without cold junction and sensor error (thermocouple K class 2)	T/C B: maximum value between $\pm 2.0^{\circ}\text{C}$ and $\pm 0.2\%$ of span T/C E: maximum value between $\pm 1.0^{\circ}\text{C}$ and $\pm 0.2\%$ of span T/C J: maximum value between $\pm 1.0^{\circ}\text{C}$ and $\pm 0.2\%$ of span T/C N: maximum value between $\pm 2.0^{\circ}\text{C}$ (-260 ÷ -100°C) / $\pm 1.0^{\circ}\text{C}$ (-100 ÷ 1290°C) and $\pm 0.2\%$ of span T/C R: maximum value between $\pm 2.0^{\circ}\text{C}$ and $\pm 0.2\%$ of span T/C S: maximum value between $\pm 2.0^{\circ}\text{C}$ and $\pm 0.2\%$ of span T/C T: maximum value between $\pm 2.0^{\circ}\text{C}$ and $\pm 0.2\%$ of span
Minimum span of signal retransmission (*) (*) Loop Powered operating mode	T/C B: 700°C T/C R, S: 300°C T/C E, J, K, T: 50°C T/C N: 100°C
Connection body material	THERMOPLASTIC
Type of connector	Female 4-pin connector (INPUT SENSOR), 4-pin male connector (OUTPUT), both with M12x1 metal screw lock (in accordance with IEC 61076-2-101)
International protection marking (*) (*) According to IEC 60529	IP67
Programming	With any IO-Link programming platform and the relative master.
Option	On request adjustment on 1 or 2 points
Factory default	Loop Powered operating: (4÷20)mA output / Range 0÷1000°C / Sensor type T/C K / Sensor break $\geq 21\text{mA}$ / Sensor short-circuit $\leq 3.6\text{mA}$ Switching output operating mode (SIO): PNP type output with hysteresis function NO, SP=800°C, RSP=700°C, no delay, output status signaling: LED color red