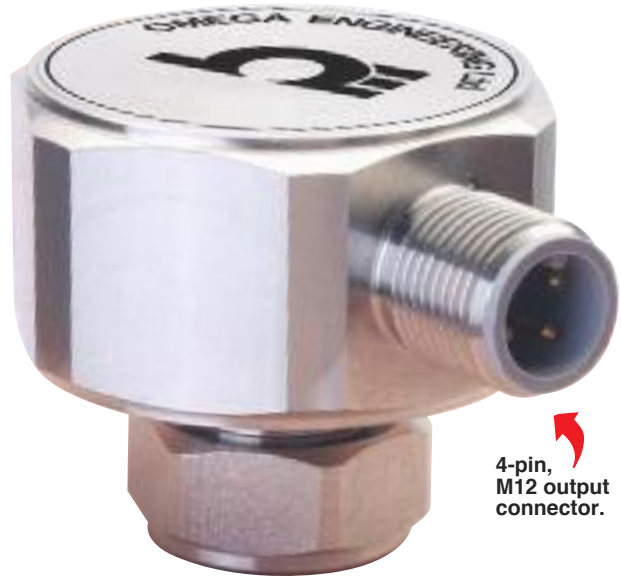


# Mini Thermocouple Transmitter With M12 Connectors

TX-M12-TC



- ✓ M12 Connectors for Fast Connection of Sensors and Instrumentation
- ✓ Use with Thermocouple types K, J, N, E, T, R, S, L, U, B, C, G & D.
- ✓ -40 to 85°C Ambient Operating Temperature
- ✓ Sensor Offset and Filtering
- ✓ Small, 38 mm Diameter Housing; Weighing Just 100 Grams
- ✓ 4 to 20 mA Output
- ✓ IP67 Stainless Steel Enclosure



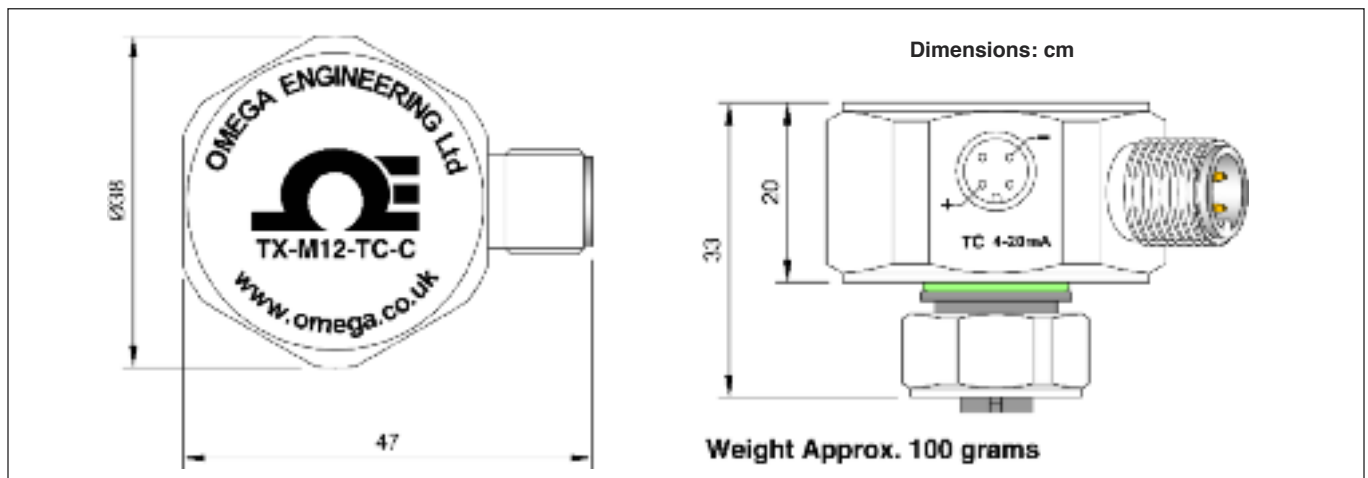
4-pin, M12 output connector.

Omega's TX-M12 thermocouple transmitters offer improved performance over conventional in-head transmitters yet are a fraction of their size and weight. M12 connectors maintain IP67 protection and connection integrity whilst allowing for a quick and simple change of sensor. Default scaling for the 4-20mA output is 0 to 1000°C with a type K thermocouple, other ranges can be scaled at time of purchase for an additional charge; or the optional USB programming module (USB-CONFIG-UNIT) will allow the end user to perform scaling.

The TX-M12 transmitter is ideal for use with Omega's thermocouple probes which connect directly to the TX-M12 sensor input.



TX-M12-TC-C, actual size



## Specifications

### THERMOCOUPLE mV INPUT

Standard TC: Types

K,J,E,N,T,R,S,L,U,B,C(w5),D(W3),G(W)

mV: (-10 to 70) mV ± 0.02% of full scale.

**Thermal Drift:** Thermocouple offset 0.1 °C/°C, span 0.05 °C/°C

**Cold Junction:** Range (-40 to 85) °C, Accuracy ± 0.2 °C, ± 0.05 °C/°C

### OUTPUT

**Type:** Two wire (4 to 20) mA current Loop

**Range:** (4 to 20) mA ; Upscale burnout 21.5 mA ; Downscale Burnout 3.8 mA

**Accuracy:** (mA Out/ 2000) or 5 uA which ever is the greater, Drift 1 uA/°C

**Loop Effect:** ± 0.2 uA/ V

**Max output load:** [(Vsupply-10)/20] K Ohms (Example 700 Ohms @ 24 V)

**Loop Supply:** (10 to 30) VDC

### GENERAL

**Response time:** Start up 5 seconds, Update 160 mS, Response 500 mS, Warm up 2 minutes.

**Isolation:** Input to output 500 V dc.

### USER INTERFACE

**Type:** USB 2.0

**Baud rate:** 1200 baud

**Equipment:** PC running windows XP or later, USB configurator.

### USER INTERFACE FUNCTIONS

**Scaling:** User signal to process value scaling, for simplified setup.

**Filter:** Adjustable time constant (0 to 100) Seconds.

**User Linearisation (Profile):** (2 to 22)

TX-M12-TC-C, shown with M12C-SIL-4-S-F-3 cable and M12MKIN-M3-U-500 Probe.

segments mV to process.

**Process Units:** 4 Characters (signal input only)

**Temperature units:** °C or °F (TC inputs only)

**Tag Number:** 20 Characters.

**User offset:** 8 to 30 Vdc

**Process Output:** Range in process units

**User offset:** Enter sensor offset (Temperature mode only).

**Active scaling:** Set output process range against active sensor input

### ENVIRONMENT

**Operating Ambient:**

-40 to 85 °C

**Storage Ambient:** -50 to 85 °C

**Configuration Ambient:** 10 to 30 °C

**Installation Enclosure:** >= IP67 with mating connectors correctly fitted.

**CE:** BS EN 61326

### THERMOCOUPLE TYPES:

Accuracy ±0.1 % of full scale ± 0.5 °C (plus sensor error)

K (-200 to 1370) J (-100 to 1200) E (-200 to 1000) N (-180 to 1300) L (-100 to 600) U (0 to 600) B (0 to 1800) C – D – G (0 to 2300)

Accuracy ±0.2 % of full scale ± 0.5 °C (plus sensor error)

T (-200 to 400)

Accuracy ± 0.1 % of full scale plus ± 0.5 °C R&S (800 to 1600 accuracy specified; 0 to 1760 working)

### mV

Accuracy ± 0.02 % of full scale (-10 to 70) mV

**AVAILABLE FOR FAST DELIVERY!**

## To Order (Specify Model Number)

Model No.	Description
TX-M12-TC-C	Mini transmitter with M12 connectors and current output, scaled for type k 0 to 1000°C input = 4 to 20 mA output.

## Accessories

Model No.	Description
M12MKIN-M3-U-200-G	Type K probe, 200 mm long, 6 mm Dia with G½ process mounting thread and M12 connector.
M12MKIN-M3-U-500	Type K thermocouple, 500 mm long inconel sheath, 3 mm Dia with moulded M12 connector.
M12C-SIL-4-S-F-3	3 m long cable with female M12 connector one end. For signal output.
M12-R-F-FM	Right-angled M12 socket with screw terminals. For signal output.
USB-CONFIG-UNIT	Software and interface/cable, to allow scaling of transmitters with a PC.
FS20	Factory scaling charge for ranges other than 0 to 1000°C, Type K, please specify range required.