

# “Smart” Transmitters



## TX41 Series



TX41-TC-A temperature transmitter.

TX41-RM programmer/display optional. Shown smaller than actual size.

CASS-316G-12 Thermocouple probe. Please see section “A” for a complete selection of thermocouple probes.

- 4 Isolated Open-Collector Outputs**
- Wide Selection of Input Types and Ranges in One Transmitter**
- Optional DIN Rail Mounting**
- Available Analog Output and RS232 or RS485 Communications**
- Available Remote Programmer/Display**

The TX41 transmitter series offers unmatched versatility for any application, tough or easy. Each transmitter offers a wide range of inputs that can be configured to transmit your input signal in any engineering unit desired with excellent accuracy. Each transmitter allows you to utilize the dual relay, 4-relay or BCD output, the isolated analog output, and either the RS232 or RS485 serial communications options. Your choices are limited only by your application!

The transmitter is the ideal stand-alone smart transmitter. With its unmatched versatility, the transmitter will enhance your capability to monitor and control your process. It is the ideal choice for use as remote I/O when used with your data acquisition systems, PLCs or other computer controlled systems.

All transmitters can be mounted on a DIN rail in your own enclosure or can be bulkhead mounted with the optional mounting hardware. The TX41 transmitter allows you to select the communication output(s) you need for your individual applications such as isolated analog output, RS232 or RS485 or BCD. Optional serial communications allows you to monitor your process control/change parameters on line. Configuration and communications with your transmitter is easily accomplished via the optional remote display/programmer or RS232 or RS485 output options. Each transmitter offers 4 open-collector outputs, and you can easily add either the optional dual relay, 4-relay or the optional BCD output.

### TX41-RM Handheld Programmer/Remote Display

The TX41 series of instruments offers a truly unique feature found in no competitive product. The optional hand-held programmer is both a convenient portable programmer and a complete, mountable, remote 6-digit display. You can buy one programmer and program TX41 transmitters all over your facility. Also, one can use the very same option as a remote display. This is especially useful when space constraints prevent you from mounting a conventional full-size meter.

This remote display not only gives you an accurate readout of your process value but also has 4 indicator lights giving you the status of each of the setpoints. The 14-segment LEDs give you easy-to-read alphanumeric characters. This feature, along with real word programming, makes an easy task of setting up your transmitter.

### TX41 for Temperature

The TX41 for Temperature is easily configured to accept direct connection from a wide range of thermocouple, RTD or linear inputs such as 10  $\Omega$  copper RTDs. Standard features include:

- Thermocouple Types J, K, E, T, B, R, S, B, N and J DIN
- 2-, 3- or 4-wire 100  $\Omega$  Platinum RTDs
- Accepts linear inputs from 0.6 to 1000  $\Omega$  including 10V copper RTDs
- Wide choice of outputs such as 4 to 20 mA, 1 to 5V, 0 to 10V, RS232, RS485, BCD or relays
- 4 open-collector outputs
- 0.01 resolution
- Smart filtering that detects the difference between line noise and a process change without compromising update speed
- Up to 13 readings a second
- Programming via handheld programmer or serial communications options

## Common Specifications

**Accuracy:** ±0.005% rdg

**Span Temperature Coefficient:** ±20 ppm

**Step Response:** 1 sec to 99.9%

**Warmup to Rated Accuracy:** 50 minute

**Operating Ambient:** 0 to 50°C, 95%RH, non-condensing

**Power:** 115 or 230 Vac, 49-400 Hz; 10 to 32 Vdc

**Power Consumption:** 6 W nominal, 10 W maximum

**Common Mode Voltage:** 1500V peak per HV test

**Resolution:** 15-bit

**Conversion:** Dual-slope technique

**Reading Rate:** 3/sec or 13/sec, 60 Hz; 3/sec or 12/sec, 50 Hz

**Display:** Red or green 6-digit, 14-segment, 13.7 mm; 4 alarm indicators

**Dimensions:** 48 H x 96 W x 165 mm D (1.9 x 3.8 x 6.5")

**Panel Cutout:** 45 H x 92 mm W (1.8 x 3.6"); ½ DIN

**Weight:** 574 g (1.27 lb)

**TTL Outputs:** 4, isolated open collector; rated 150 mA at 1V sink, 30V open

**BCD Output:** Isolated, tri-state, TTL/CMOS compatible; external 5V supply for isolated; internal 5V supply for non-isolated

**Dual Relays:** Form C, 7 A at 30 Vdc or 230 Vac

**Four Relay Option:** Dual 7A relays and dual 1 A relays

**Analog Output:** 0 to 5V/1 to 5V/0 to 10V/0 to 20 mA/4 to 20 mA, user selectable; 354 Vp isolation; 15-bit resolution; 0.1% accuracy, 50 msec step response

**RS232 Communications:** 300/600/1200/2400/4800/9600/19.2k baud; RJ11 4-wire connection; complete program setup and message display capability

**RS485 Communications:** 300/600/1200/2400/4800/9600/19.2k baud; RJ12

6-wire connection; addressable from 0 to 199

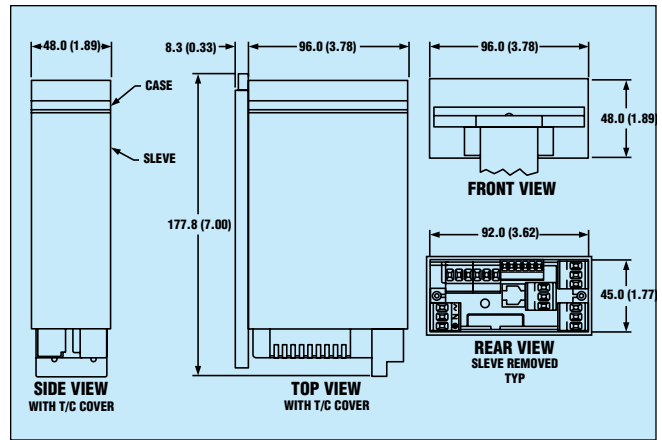
**Thermocouple Input Types:** J, K, E, T, B, R, S, B, N, J DIN

**RTD Input:** Any 6 to 6 kΩ NIST or DIN platinum and any linear RTD

**RTD Connection:** 2-, 3- or 4-wire

**Sensor Break Protection:** Upscale or downscale

**Overvoltage Protection:** 25V peak



**To Order** Visit [omega.com/tx41](http://omega.com/tx41) for Pricing and Details

Model No.	Description
TX41-TC-A	Temperature-thermocouple with analog output
TX41-RTD-A	Temperature-RTD with analog output

*Power Options: 115 Vac power standard; see box below.*

*Ordering Examples: TX41-TC-A-R4-S2, TX41 transmitter for temperature (thermocouple input, with analog output, optional dual 7 A and dual 1 A relays, and optional RS232 communications.*

*TX41-RM remote display/transmitter with red display.*

*DP40-25SC2 25-pin RS232 connector.*

### Accessories

Model No.	Description
TX40-HPB	Rail mount
DP40-9SC2	9-pin RS232 connector
DP40-9SC4	9-pin RS485 connector
DP40-25SC2	25-pin RS232 connector
DP40-25SC4	25-pin RS485 connector

### Display/Programming Module

Model No.	Description
TX41-RM	Programmer/display, red
TX41-RM-GR	Programmer/display, green

*One programmer can support all of your TX41 transmitters. Supplied with 2 m of cable and all connectors, the display/programmer can be used to set up or reconfigure a TX41 transmitter or be permanently installed as a remote display.*

### BCD/Control Output

Order Suffix	Description
-B	Isolated parallel BCD
-R	Dual 7 A relays
-R4	Dual 7 A and dual 1 A relays

*Note: Options are mutually exclusive, only one can be installed in a unit.*

### Serial Communications (Standard on -S2 and -S4 Models)

Order Suffix	Description
-S2	RS232 communications
-S4	RS485 communications

*Options are mutually exclusive, only one can be installed in a unit. RS232 is standard on S2 models, RS485 is standard on S4 models.*

### Power Options

Order Suffix	Description
-230	23 Vac Power
-10/32Vdc	10 to 32 Vdc Power

