



TEMPERATURE

1000 OHM 375 PLATINUM RTD RANGE SELECTABLE TRANSMITTER

T91U, T91H, T91L SERIES

DESCRIPTION

The **T91U** is a range selectable, two-wire 4-20 mA RTD transmitter used with Type 91 1000Ω platinum RTD sensors. The transmitter is available in six standard ranges, or it can be set for any range between -30° to 280°F (-34° to 156°C) with a minimum span of 40°F (22°C).

To adjust the **T91U**, set the DIP switches to match the desired range, and use the zero and span pots to fine tune. A high accuracy digital ohmmeter and decade box are required.

The **T91U** has a special 20 mA loop calibration test signal to provide easy system verification. Simply move the bottle plug jumper from norm to 20, and the transmitter will output a constant 20 mA. The loop-up LED provides power indication for the 4-20 mA output.

The **T91H** and **T91L** are specialty units for very high temperature and very low temperatures respectively. Both units are rangeable within their specialty limits.

FEATURES

- **DIP switch rangeable**
- **Loop calibration test signal**
- **Low cost**
- **Snap-track mounting**
- **Loop-powered LED indication**
- **Fits into card slot of ST-U91 housing**
- **Very high-range and low-range models available**
- **18-month warranty**
- **CE approved (commercial and industrial)**



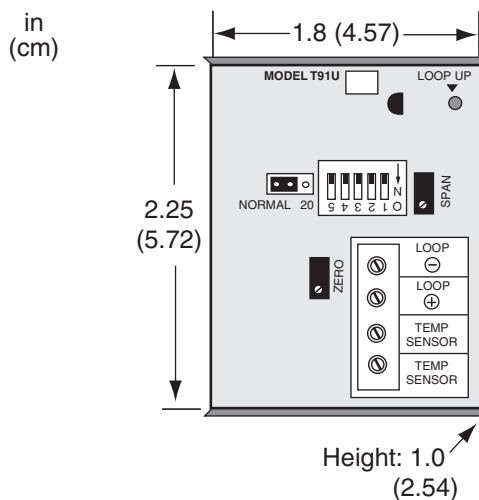
T91U



T91U-13-W-XTD



DIMENSIONS



SPECIFICATIONS

| | | | |
|--------------------------------|---|-----------------------------|------------------------------------|
| Sensing element | 1000Ω platinum TCR 0.00375 Ω/Ω/°C | Impedance | 675Ω @ 24 VDC 375Ω with display |
| Accuracy | 0.1°F or 0.2% of span | Operating range | |
| Rangeability limits | | Ambient temp | 0° to 140°F (-18° to 60°C) |
| T91U | | Humidity | 0% to 95% non-condensing |
| Zero | -30° to 250°F (-34° to 121°C) | Display option (XTD) | 3-1/2 digit LCD, NEMA 4 (IP65) |
| Span | 40° to 280°F (22° to 156°C) | Agency approvals | CE (EN50081-1, EN50082-1) |
| T91H | | Optional | CE (EN50081-2, EN50082-2) |
| Zero | 200° to 960°F (93° to 515°C) | Dimensions | Industrial RF/EM Hardened |
| Span | 40° to 500°F (22° to 278°C) | | 1"H x 1.8"W x 2.25"L |
| T91L | | Warranty | 18 months |
| Zero | -300° to -8°F (-184° to -22°C) | | |
| Span | 40° to 332°F (22° to 184°C) | | |
| Output | 4-20 mA, two-wire, loop-powered | | |
| Output limit | 25 mA (sensor leads open) | | |
| Loop calibration output | 20 mA ±0.2% | | |
| Supply voltage | 10.5-45 VDC (one power supply may power multiple units) | | |

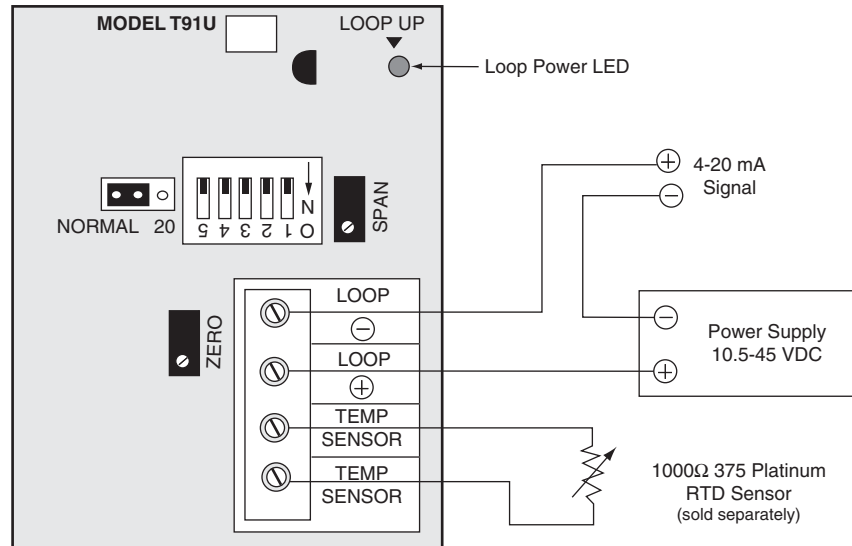
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WIRING



ORDERING INFORMATION

| MODEL | DESCRIPTION |
|-------------------------|---|
| T91U | 4-20 mA RTD transmitter standard rangeability |
| T91H | 4-20 mA RTD transmitter high temperature rangeability (XR range only) |
| T91L | 4-20 mA RTD transmitter low temperature rangeability (XR range only) |
| CE CERTIFICATION | |
| — | Commercial CE (EN50081-1 and EN50082-1) |
| EMC | Industrial CE, RF/EM hardened (EN50081-2 and EN50082-2) |
| RANGE | |
| 2 | -20° to 140°F (-29° to 60°C) (T91U only) |
| 3 | 0° to 100°F (-18° to 38°C) (T91U only) |
| 4 | 30° to 240°F (-1° to 116°C) (T91U only) |
| 12 | -22° to 113°F (-30° to 45°C) (T91U only) |
| 13 | 32° to 212°F (0° to 100°C) (T91U only) |
| 14 | 32° to 122°F (0° to 50°C) (T91U only) |
| XR† | Special Range (See previous page for rangeability limits) |
| SENSOR TYPE | |
| — | Transmitter only |
| D | ST-D91-XW duct sensor* |
| O | ST-O91 outside air sensor* |
| W | ST-W91-XW immersion sensor* with brass well |
| WE | ST-W91-E-XW immersion sensor* without well |
| WS | ST-W91-S-XW immersion sensor* with stainless steel well |
| AV | ST-AV91H averaging sensor* |
| XTD | Digital display option for (D) duct or (W) immersion sensors |
| XWM | Single gang weather resistant box (Mounted without sensor) |

T91U — **2** — **D**

Example: T91U-2-D Transmitter with range of -20° to 140°F (-29° to 60°C) mounted and wired in duct sensor enclosure

† Indicate at time of order

* Includes sensor mounted and wired. Check temperature limits in the catalog for each probe

RELATED PRODUCTS

S241HC
AS2PW055P000XX1

High temperature probe, limited to 932°F (500°C)
Low temperature probe, limited to -50°F (-46°C)