



Teletherm
 Instrument Co. Pvt. Ltd.

TP 713

**RTD INPUT, ISOLATED
 TWO WIRE TRANSMITTER**

**PROVIDES AN ISOLATED, LINEARIZED
 CURRENT LOOP IN PROPORTION TO A RTD
 INPUT**



- **ELIMINATES GROUND LOOP**
- **WIDE RANGING ZERO AND SPAN
 ADJUSTABILITY(80%)**
- **PROTECTS EQUIPMENT WITH 1500 INPUT
 TO OUTPUT ISOLATION**
- **INTEGRAL RTD LINEARIZATION**
- **RUGGED EMI / RFI SHIELDED HOUSING**
- **3 ½ DIGIT LCD LOOP POWERED
 INDICATOR (OPTIONAL)**
- **THREE YEAR WARRANTY**

APPLICATION

The model TP713 is useful in any application requiring an isolated two-wire loop current from a RTD input. Typical applications include SCADA and remote data acquisition such as monitoring boiler temperature. The output of TP713 can be used to drive a digital meter for direct display or interface with a computer for monitoring and control applications

DESCRIPTION

The TP713 offers a choice of input ranges from – 200 °C to 600 °C and provides two output ranges 4 – 20 mA or 10 – 50 mA, with 600 V DC isolation between input and output. Current outputs are linear to temperature. A major advantage of TP713 is its wide-ranging capability. The TP713 enables 80% zero and span adjustability within any user selected input range. For example, range 1 of the table specifies 0 to 600°C with a minimum span of 120°C (600°C – 120°C =480 or 80%). This 80% adjustability factor allows the user to field calibrate in unit for the maximum (0–600°C) down to any minimum (120°C) span (eg. 300°C to 420°C) as long as the adjusted span remains within the selected 0°C - 600°C range.

INPUT RANGES

The Input Ranges are shown in the TABLE below

Input Range (100 Pt RTD)	Input limits (in ° C)	Minimum span (in ° C)
1	0 to 600	120
2	0 to 300	60
3	0 to 50	10
4	-200 to 360	120
5	-200 to 85	60
6	-200 to -155	20

CALIBRATION

- Open the access lid on the top of the unit
- Connect the input to a calibrated 3 – wire resistance source and monitor output current (refer to terminal wiring)
- Set the calibrator to desired minimum temperature
- Adjust fine zero to obtain an output of 4 mA or 10 mA
- Set the calibrator to desired maximum temperature and perform similar adjustment using fine span potentiometer to obtain an output of 20 mA or 50 mA
- Repeat step c, d & e to get better accuracy.

MOUNTING

The TP713 model is designed for installation in industrial field environment. A sealed, die – cast aluminium housing protects against corrosion, moisture, dust and electrical noise such as radio frequency (RFI) and electro magnetic interference (EMI). For protection against extreme moisture, Hose-directed water or hazardous environments, the model TP713 is supplied with a rugged IP –65, TP713 model allows intrinsically safe installation in Class 1, Division 1, Group A – D hazardous locations when installed with approved safety barriers as per manufacturer’s drawings.

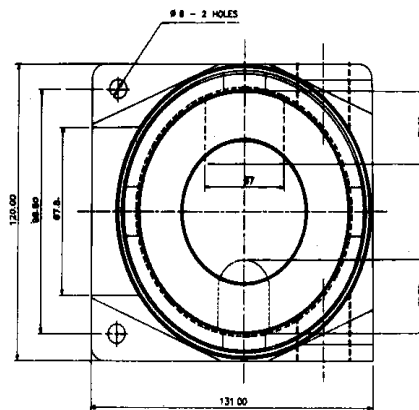
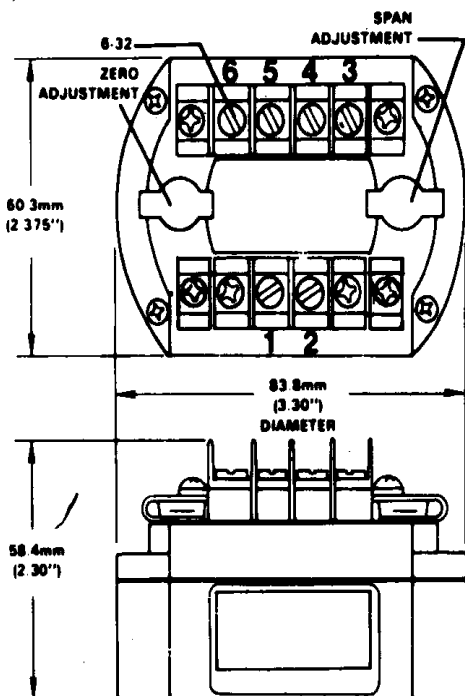
ACCESSORIES CODE (Optional)

- MOO4 – Snap – in channel track, 4 ’
- T 902 – Mounting plate for M004, including 4 ’ track
- T 910 – Bulk head (Flat surface) mounting plate
- CAL 50 – 3 wire RTD Calibrator
- RPS 25 – 24 V DC, 30 mA power supply
- LPI 25 – 3 1/2 digit LCD remote loop powered indicator

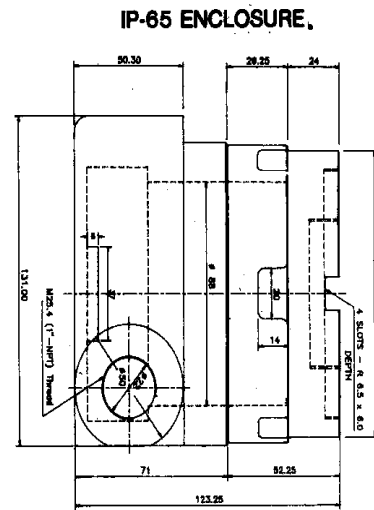
OPTIONS

- Option 1 : IP – 65 enclosure
- Option 2 : 3 1/2 digit Loop powered indicator

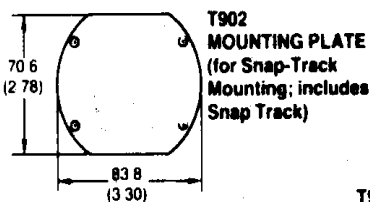
DIMENSIONS



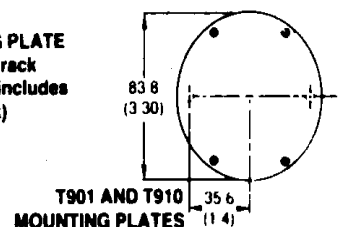
PLAN (COVER ON)



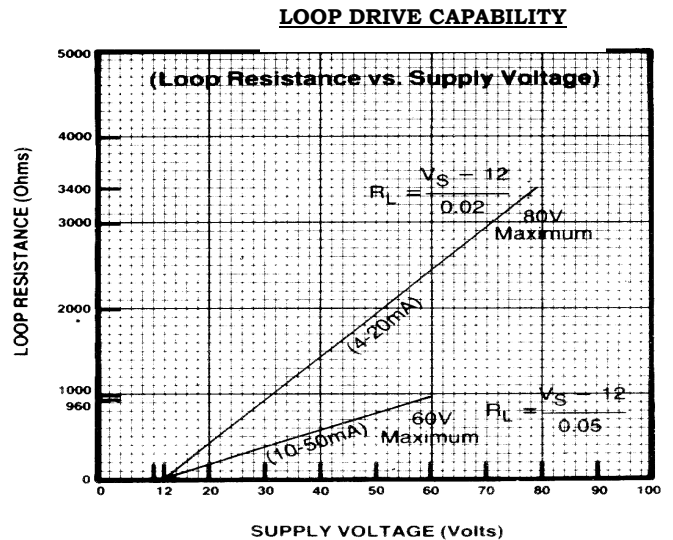
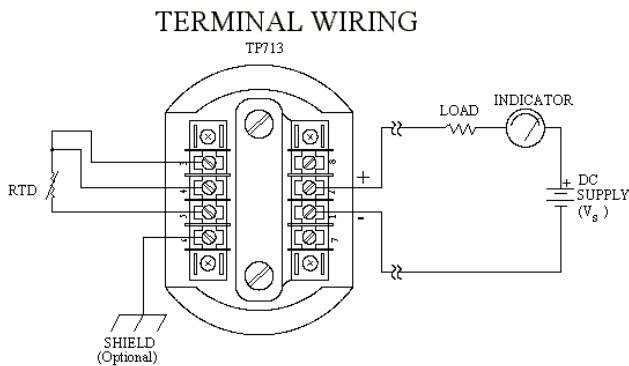
FRONT VIEW (COVER ON)



T902 MOUNTING PLATE (for Snap-Track Mounting; includes Snap Track)



T901 AND T910 MOUNTING PLATES



SPECIFICATIONS

INPUT RANGE	:	See TABLE
EXCITATION CURRENT	:	1 mA, typical
LEAD WIRE RESISTANCE EFFECT	:	100 OHM Pt 1% of span error with up to 40 Ohms/lead
OUTPUT SPAN	:	4 – 20 mA (or) 10 – 50 mA
MINIMUM OUTPUT CURRENT	:	3.3 mA, typical
MAXIMUM OUTPUT CURRENT	:	For 4 – 20 mA : 24 mA, typical For 10 – 50 mA : 58 mA, typical
SUPPLY VOLTAGE RANGE	:	For 4 – 20 mA : 12 to 80 V DC For 10 – 50 mA : 12 to 60 V DC
MAXIMUM CHANGE IN SUPPLY VOLTAGE EFFECT	:	0.05% of span
LINEARIZING ACCURACY	:	Within 0.1% of standard R/T tables, typical 0.2%, Maximum
STABILITY	:	Zero : Within 0.02% of span per Deg. Celsius Span : Within 0.01% of span per Deg. Celsius
OVERALL ACCURACY(INCLUDES LINEARITY, HYSTERESIS, STABILITY)	:	Within 0.5% of any adjusted span, Max.
ZERO AND SPAN ADJUSTABILITY	:	80% of any selected range
RESPONSE TIME	:	150 ms, typical 400 ms, maximum
REPEATABILITY	:	Within 0.05% of span, typical
OUTPUT RIPPLE	:	0.1% of span, rms, typical
RFI EFFECT (5W, 470 MHz @ 3')	:	Less than 1% of span error
ISOLATION	:	1500 V DC Maximum, input to output
OPERATING TEMPERATURE	:	0 – 60 Deg. Celsius
HUMIDITY	:	4 – 95% RH (non – condensing)

MANUFACTURED BY:

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