



**Teletherm**  
Instrument Co. Pvt. Ltd.

TP 605

**SQUARE ROOT  
EXTRACTOR**



**CONVERTS A TWO - WIRE DP CURRENT LOOP INTO A LINEAR FLOW CURRENT LOOP**

- **OUTPUT LOOP POWERS DP CELL INPUT LOOP**
- **FLOW APPLICATIONS**
- **RUGGED EMI / RFI - SHIELDED HOUSING**
- **3 ½ DIGIT LOCAL DISPLAY (OPTIONAL)**
- **THREE YEARS WARRANTY**

### **APPLICATION**

The TP605 is most commonly used to convert the differential pressure to linear flow [ flow = K. DP]. The output of the TP605 can be used to drive a digital meter for direct display of linear flow, to drive a limit alarm for status indication (or) for control applications.

### **DESCRIPTION**

The Model TP605, when connected to an existing two-wire differential pressure loop, senses the current drawn by the differential pressure transmitter (see Figure 1) and draws an additional amount of current (see Figure 2), so that the total current is proportional to and linear with the actual flow rate. The TP605 allows intrinsically safe operation in Class1, Division1 and Group A – D hazardous locations when installed with approved intrinsic safety barriers as per manufacturer's drawing.

### **FIELD MOUNTING**

The TP 605 is designed for installation in industrial field environments. A sealed die-cast aluminium housing is provided for protection against corrosion, moisture, dust and electrical noise such as radio frequency (RFI) and electromagnetic (EMI)interference. For protection against extreme moisture, host-directed water or hazardous environments, use model TP605 with a rugged IP-65 enclosure withstand ready to install plumbing parts for easy hookup and operation in harsh process environment.

### **CALIBRATION**

- This model TP 605 provides Top-mounted barrier terminal
- Strip connections to protect the zero and span access parts from outside contamination.
- The TP605 does not normally require on-site calibration.
- Any zero and span adjustments to the two-wire loop should be made to the input device (DP transmitters), and adjustments of the TP605 should be reserved for a suitable calibration facility.
- To adjust zero for a 4 – 20 mA input and output, set the input to 4.3 mA. Now adjust zero for a 6.191 mA output (For 10 – 50 mA input / output, set input to 10.5 mA and zero for a 14.472 mA output)
- To adjust span for 4 – 20 mA input / output, set the input to 19.7 mA and adjust span for a 19.849 mA output. (For 10 – 50 mA input / output, set input to 49.5 mA and adjust span for 49.749 mA)

# OPTIONS

## ACCESSORIES

### Model

M 004

T 902

T 910

TPH - 25

LPH - 25

RPS - 25

### Description

Snap-In channel track, 4 feet

Mounting plate for M 004, includes 4" track.

Bulk head (flat surface) mounting plate

IP - 65 housing

3 1/2 digit LCD powered

24 V DC, 65 mA power supply

Figure 1. ΔP TRANSMITTER VS FLOW

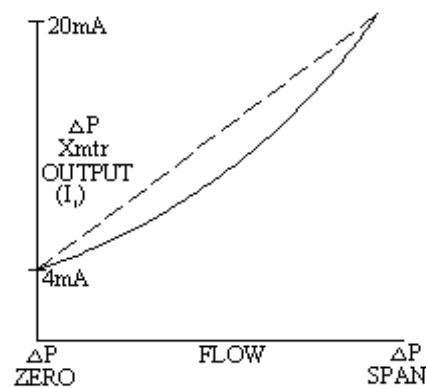


Figure 2. TP605 CURRENT VS ΔP TRANSMITTER CURRENT

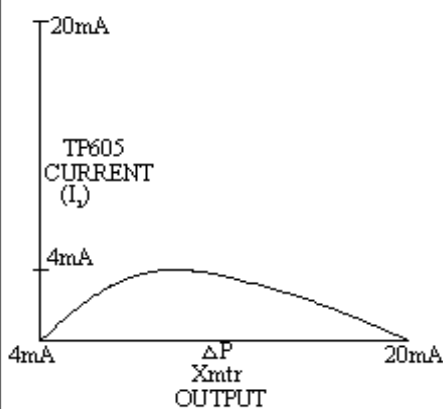
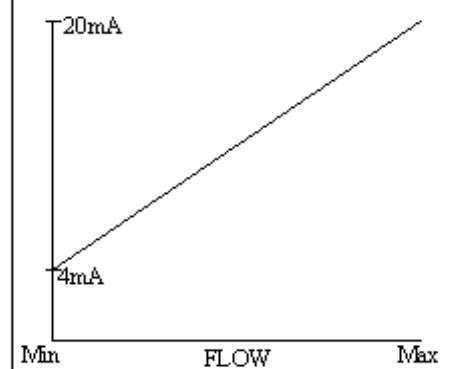
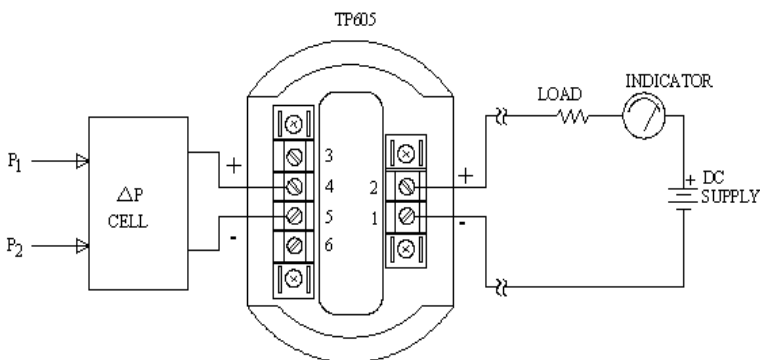


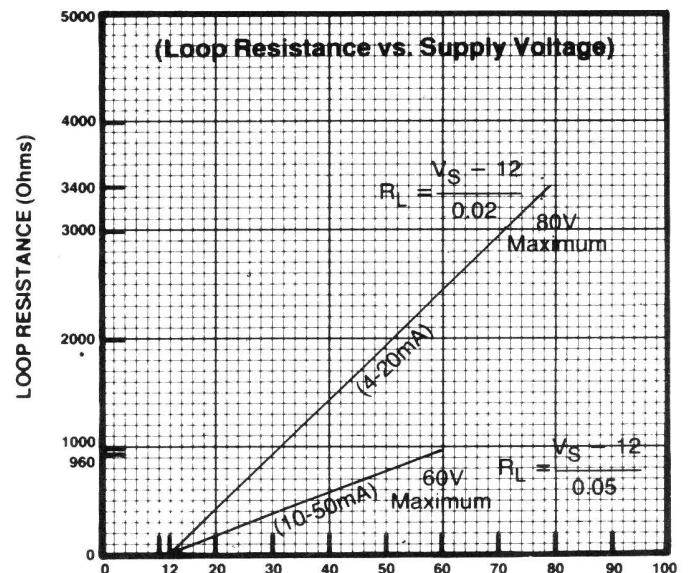
Figure 3. COMBINED CURRENTS VS FLOW



## TERMINAL WIRING



## LOOP DRIVE CAPABILITY



**SPECIFICATIONS**

**INPUT RANGE**

4 – 20 mA, Standard  
 10 – 50 mA, (Optional)

**OUTPUT SPAN**

Same as Input Range

**SUPPLY VOLTAGE RANGE**

5 V plus range of DP transmitter

**CHANGE IN SUPPLY VOLTAGE EFFECT**

0.05% of span, Max.

**ACURACY (2 – 100% OF SPAN)**

Within  $\pm 0.1\%$  of span, Best fit

**RESPONSE TIME**

250 ms, Max.

**OUTPUT RIPPLE**

0.1% of span, rms, typical

**STABILITY**

- a) Input < 6 mA : +0.02% of span / C
- b) Input > 6 mA : +0.01% of span / C

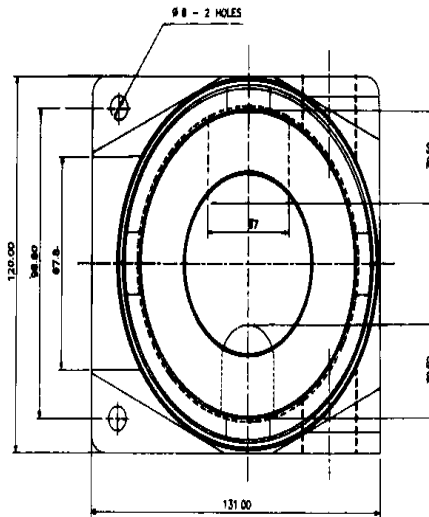
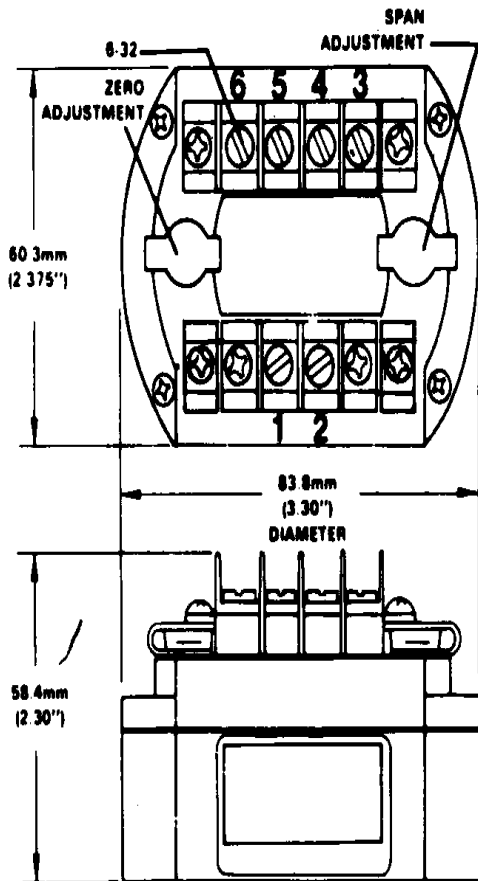
**RFI EFFECT (5 W, 470 M Hz, 3 FEET)**

< 1% of span error

**OPERATING TEMPERATURE RANGE**

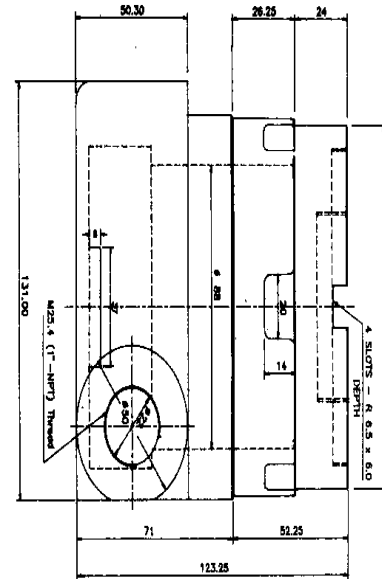
-40 to 80 Deg. Celcius

**DIMENSIONS**

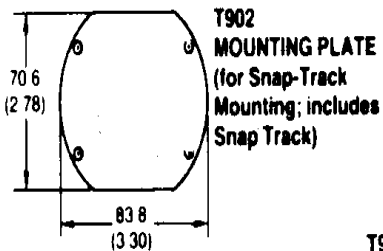


PLAN (COVER ON)

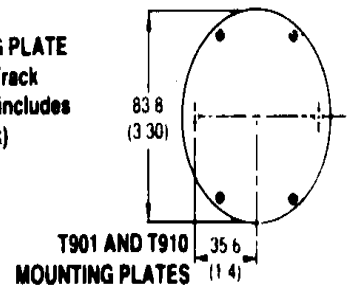
**IP-65 ENCLOSURE,**



FRONT VIEW (COVER ON)



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



**T901 AND T910 MOUNTING PLATES**

## **ORDERING INFORMATION**

Specify

1. Model TP 605
2. Input and Output Range
3. Options

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MANUFACTURED BY:

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