TRANSPAK™ T752

MODEL

ACTION INSTRUMENTS

Protecting the Integrity of Industrial Process Signals

Potentiometer Input, Isolating, Field Configurable Two-Wire Transmitter

Provides an Isolated Current Loop in Proportion to a 3-Wire Potentiometer Input

Benefits

- Eliminates Ground Loops
- Accepts 0-50 to 0-200KΩ Potentiometers
- Wide Ranging Zero and Span Adjustability (80%)
- Protects Equipment with 600V Input-to-Output Isolation
- FM Safety Approval for Hazardous Installations
- Three Year Warranty

DESCRIPTION

The T752 accepts potentiometer inputs from 0 to 50Ω to 0 to 200KΩ (end to end). The T752 provides 600 VDC of isolation with outputs of either 4-20mA or 10-50mA which are field selectable via top accessed DIP switch. Current outputs are in proportion to the potentiometer input.

A major advantage of the T700 Series is their truly wide ranging capability. The T752 enables 80% zero and span adjustability within the input range of the potentiometer. The difference between the maximum span (100% of potentiometer) and the minimum span (20% of potentiometer) provides the 80% adjustability factor. This allows the user to field calibrate the unit for a wide variety of input spans from the maximum (0-100%) down to any minimum (20%) span (e.g., 4% to 24%)--as long as the adjusted span remains within the input range of the potentiometer.

Urethane coating of internal circuitry for protection from corrosive atmospheres is included, standard.

APPLICATION

Model T752 is useful in any application requiring an isolated two-wire loop current from a 3-wire potentiometer. Typical applications include tank level data acquisition and position sensor conditioning. The output of the T752 can be used to drive a digital meter for direct display or interface with a computer for monitoring or control.

The model T752 is FM approved for intrinsically safe operation in Class I, Division 1, Groups A, B, C, and D; Nonincendive Class I Division 2, Groups A, B, C and D, and Classes II & III, Division 2, Group G hazardous locations when installed per manufacturer's drawing 790-0024-00.

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CALIBRATION

Note: Factory settings are: Input Range is 0-100%; 4-20mA output.

1. Open the access lid on the top of the unit (see Top View Diagrams).

2. Select the output range with switch 1. Switches 2-6 are not used. The CLOSED position selects a 10-50mA output. The OPEN position selects a 4-20mA output.

3. Connect the input to a potentiometer. Connect the output loop to a voltage supply and monitor the output current (refer to terminal wiring).

4. Set the potentiometer to the desired minimum.

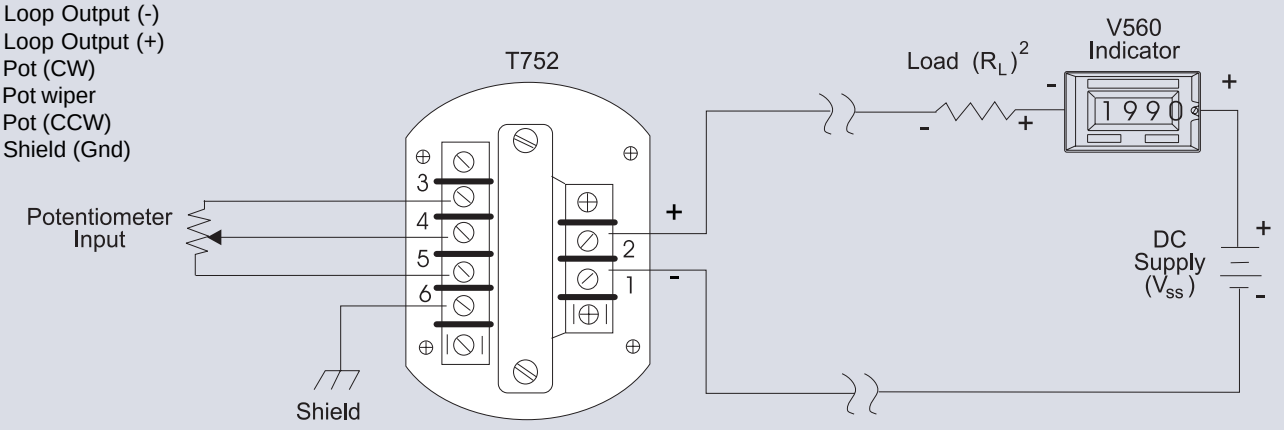
5. Adjust the coarse zero rotary switch to obtain an output of either 4mA or 10mA. Adjust the fine zero for exact calibration. Note that it may become necessary to switch coarse zero up or down one position.

6. Set the potentiometer to the desired maximum and perform similar adjustments using the coarse span switch and fine span potentiometer.

It may be necessary to repeat steps 4, 5, and 6 for best accuracy.

TERMINAL CONNECTIONS

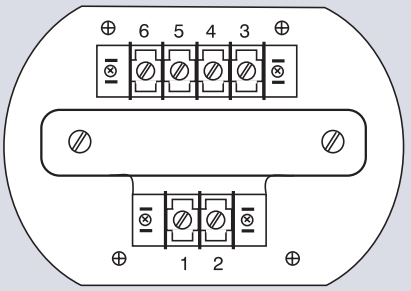
T752
1 Loop Output (-)
2 Loop Output (+)
3 Pot (CW)
4 Pot wiper
5 Pot (CCW)
6 Shield (Gnd)



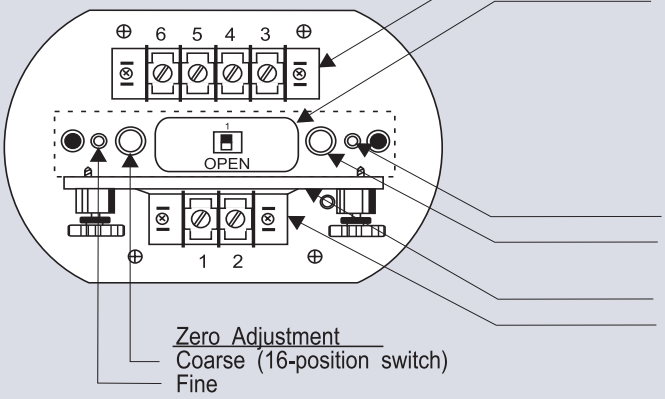
Note: For best RF and common mode rejection ground the case (pin#6)
Note: R_L represents any other device loads in the current loop.

TOP VIEW DIAGRAMS

(ACCESS COVER CLOSED)



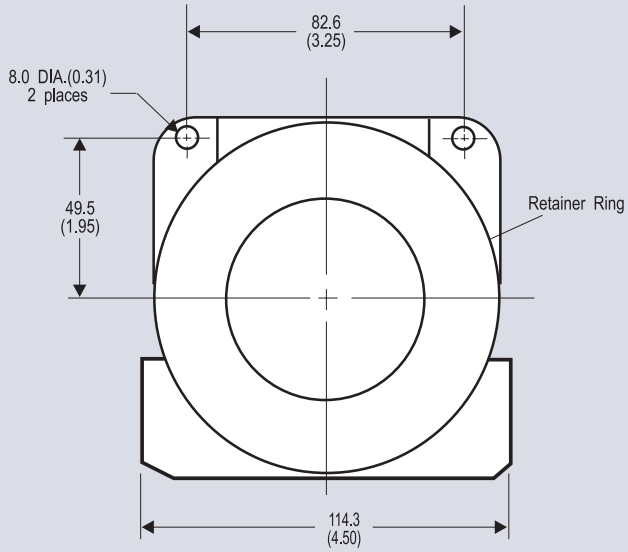
(ACCESS COVER OPEN)



SPECIFICATIONS

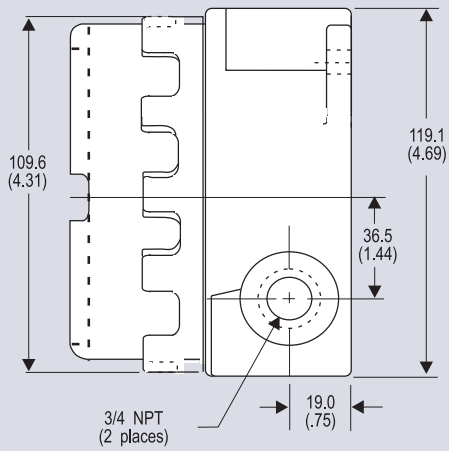
Input Span Range	Max: 0 to 100%: Min: 0 to 20% of potentiometer
Excitation Voltage	50mV typical
Potentiometer Resistance (End to End)	50Ω to 200KΩ
Leadwire Resistance Effect	< 0.25 uV/Ω
Input Impedance	5 MegΩ, typical
Output Span	4-20mA or 10-50mA, switch selectable
Minimum Output Current	3.3mA typical
Maximum Output Current	4-20mA: 24mA typical 10-50mA: 58mA typical
Supply-Voltage Range	4-20mA: 12 to 80VDC 10-50mA: 12 to 60VDC
Maximum Change in Supply Voltage Effect	0.05% of span
Maximum Change in Load Effect	0.05% of span
Loop Voltage Drop	12VDC @ 20mA
Stability	Zero: ±0.02% of span/°C typical or 2uV, whichever is greater Span: ±0.01% of span/°C typical
Overall Accuracy (Includes Linearity,Hysteresis, Repeatability)	±0.05% of any adjusted span max.
Zero and Span Adjustability	80% of input
Repeatability	±0.05% of span
Response Time	50ms, max.
Output Ripple	0.1% of span rms typical
RFI Effect (5W, 470MHz at 3 Ft.)	< 1% of span error
Isolation	600V DC maximum, input to output to case
Temperature Range	Operating: -40 to 80°C (-40 to 176F)
Weight	0.62lbs
Agency Approval	**FM** approved intrinsically safe for hazardous location, certificate No. J.I. 2M2A5.AX.

MOUNTING HARDWARE

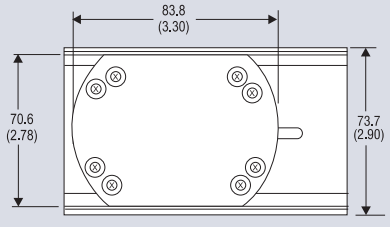


TOP VIEW, COVER OFF

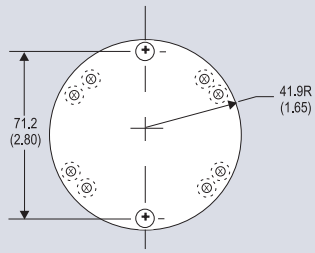
T805 Field Mountable Housing (EP, NEMA 4 rated) 3/4" Hub
(Includes T903 Retainer Ring and NEMA 4 Gasket)



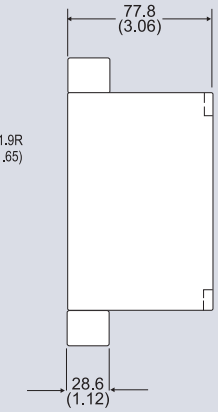
SIDE VIEW, COVER ON

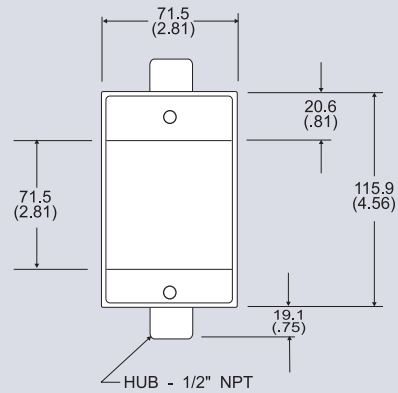


T902 MOUNTING PLATE
(For snap-track mounting; includes snap track)
Aluminum Alloy #6061 (0.06in, thick)



T910 MOUNTING PLATE
(For bulkhead mounting)
Aluminum Alloy #6061 (0.06in, thick)

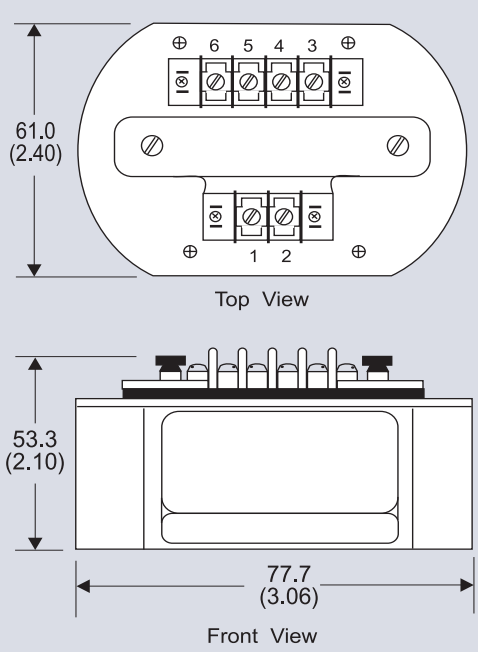


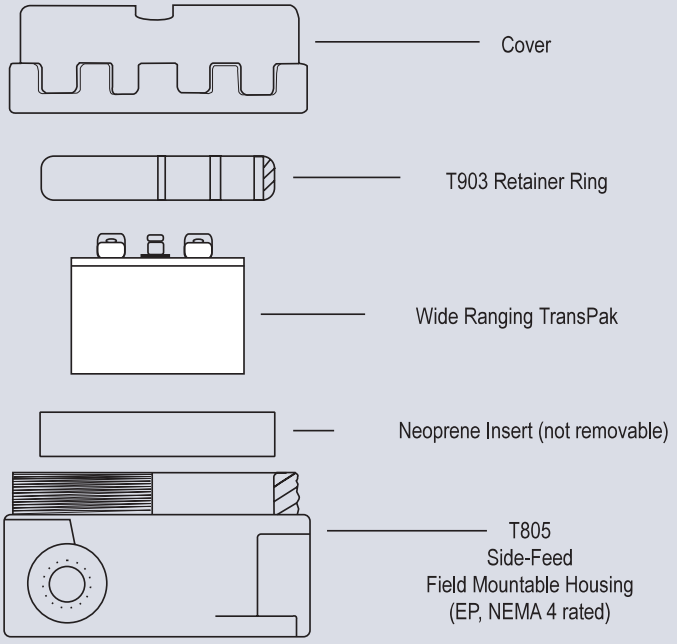


T804 Conduit Device Housing

DIMENSIONS/ASSEMBLY DIAGRAM

Dimensions are in Millimeters (Inches)





FIELD-MOUNTING

The T752 is designed for installation in industrial field environments. A sealed, die-cast aluminum housing protects against corrosion, moisture, dust and electrical noise such as radio-frequency (RFI) and electromagnetic (EMI) interference. All circuit boards are urethane coated for environmental protection and FM approval.

For protection against extreme moisture, hose-directed water (NEMA 4) or hazardous environments, use Action's T805 explosion-proof housing. The T805 provides ready-to-install plumbing ports for easy hook-up and operation in harsh process environments. Model T805 is FM and CSA certified for use in Class I, Groups B, C & D and Class II, Groups E, F & G hazardous locations.

MODELS & ACCESSORIES

Accessories

Model	Description
M004	Snap-in Channel Track, 4 feet.
T902	Mounting plate for M004, includes 4" track.
T910	Bulkhead (flat surface) Mounting plate.
T804	Conduit device housing.
T805	Side feed explosion-proof housing (NEMA 4 rated), uncoated (specify Option P for white polyester coating).
9046	Action Pak 24/40VDC, 65mA Power Supply.
T609	24V, 600mA Loop Power Supply.
V565	3-1/2 digit remote loop-powered indicator, wide-ranging display, NEMA 4X enclosure, CSA & FM approval standard, specify Option C to house TransPak.

Ordering Information

Specify:

1. Model: **T752-0000**
2. Optional Custom Factory Calibration:
   Specify **C620** with desired input and output range.

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