



# TRANSPAK™

## T700-0001

### Loop Powered Isolator

Provides an Isolated  
DC Current Output



- 1800V Input-to-Output Isolation
- 1:1 Current Transfer Ratio from 1 to 20mA
- Input Loop-Powered Design Eliminates Output Power Supply
- 500 Ohm Output Drive, up to 10V Compliance

#### Description

The T700-0001 is a loop-powered isolator that accepts a current input (typically 4-20mA). It takes its power source voltage and the output current loop drive (500 Ohm, 10V compliance, max.) from the input current loop. The 1-20mA output current follows the input current signal. Span adjustment is provided to adjust for load variations. There are two (+) output terminals. Terminal #3 is for loads less than 100 Ohms (e.g., current meter inputs) and terminal #4 is for loads greater than 100 Ohms.

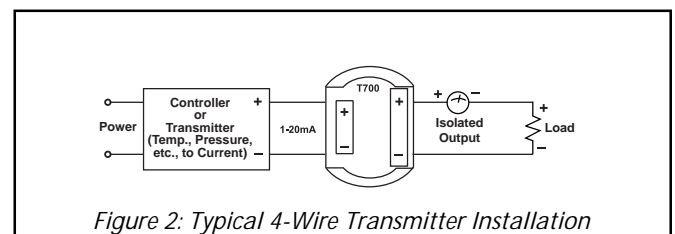
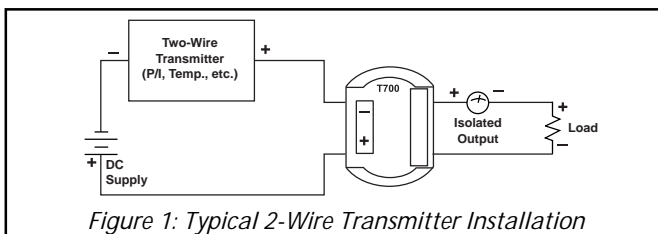
The T700 is designed for installation in industrial field environments. Circuitry is enclosed in the TransPak's rugged, diecast aluminum housing which is sealed for protection against corrosion, moisture, dust and electrical noise, such as radio frequency interference (RFI) and electromagnetic (EMI) interference. Top-mounted barrier terminal strip connections are provided. Optional mounting solutions and enclosures are also available (see Accessories).

#### Application

The T700 is useful in eliminating ground loop problems in existing systems, and as a preventative measure in the design of new systems. The DC current isolation allows a difference in potential of up to 1800V between the input, output signal and case ground. This isolation provides the benefits of grounded inputs without creating signal errors or ground loops.

#### Calibration

1. Connect the input to a calibrated milliamp source. Connect the output to the actual device or to a load equivalent to the actual device (use terminal #3 for loads < 100 Ohms, terminal #4 for load > 100 Ohms). Monitor the output current with a milliamp meter in series with the load or monitor the voltage across the load.
2. Set the calibrator to 20mA and adjust the span potentiometer for 20mA output.
3. Set the calibrator for 4mA and confirm that the output is 4 mA.



**Specifications**

**Input:**  
 Ranges: 1-20mA and 4-20mA, 30Vdc max.  
 Voltage Drop: <3V, plus output load

**Common Mode Rejection:**  
 >100dB (DC to 60Hz)

**Output:**  
 Range: 1-20mA and 4-20mA  
 Terminal #4 Drive: 100 to 500 Ohm loads,  
 10V Max. at 20mA  
 Terminal #3 Drive: 0 to 100 Ohm loads,  
 2V Max. at 20mA  
*Note that only one (+) output terminal  
 (either #3 or #4) can be used at a time.*

**Output Accuracy:**  
 +0.1% of full-scale typical (250 Ohm load),  
 +0.2% maximum including linearity,  
 hysteresis and repeatability.

**Stability:**  
 < 0.02%/°C of span max. for full-scale and zero

**Load Regulation:**  
 < 0.1% of span, typical per 10 Ohm  
 change, from 100 to 500 Ohms

**Isolation:**  
 1800Vdc, input to output to case ground

**ESD Susceptibility:**  
 Meets IEC 801-2 level 3 (8kV)

**Response Time:**  
 50mSec maximum, 10 to 90%

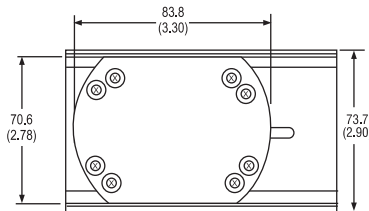
**Temperature:**  
 Operating/Storage: -20 to 80°C (-4 to 176°F)

**Humidity:**  
 25 to 95% @ 40°C, non-condensing

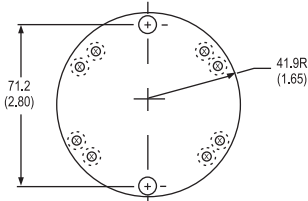
**Weight:**  
 0.56 lb.

**Agency Approvals:**  
 UL recognized per standard UL508,  
 (File No. E99775).  
 CSA certified per standard C22.2, No. 0-M91,  
 and 142-M1987, (Certificate No. 2500001267).

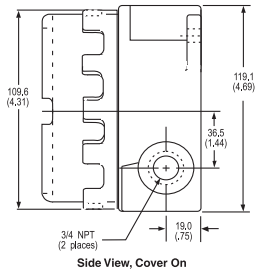
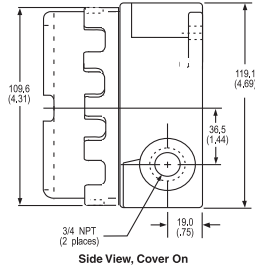
**Optional Mounting Hardware**



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



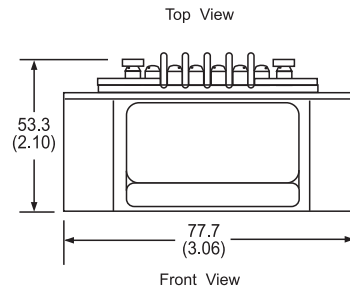
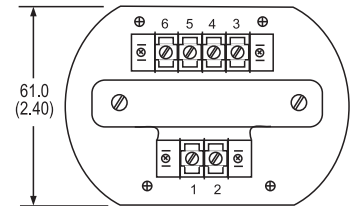
T910 MOUNTING PLATE  
 (For bulkhead mounting)  
 Aluminum Alloy #6061 (0.06in, thick)



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

**Dimensions**

Dimensions are in millimeters (inches)



**Ordering Information**

**Models & Accessories**

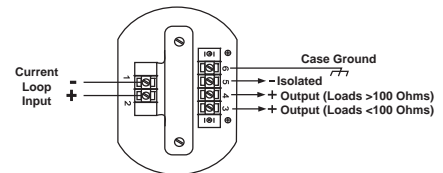
**Specify:**

- 1. Model T700-0001

**Accessories**

- M004** Snap-in Channel Track, 4 feet.
- T805** Explosion-Proof Housing.
- T902** Mounting Plate for M004, includes 4" track.
- T903** Extra Retaining Ring for T805 (included in T805).
- T906** Extra Mounting Plate w/slotted thumbscrews for Visipak V565C (included in V565C).
- T910** Bulkhead Mounting Plate.
- AP9046** Action Pak 24/40VDC, 65mA Power Supply.
- V565C** 3-1/2 Digit LCD Indicator, wide-ranging display, NEMA 4X Housing, Option C to house Transpak.

**Terminal Wiring**



Printed on recycled paper

**Factory Assistance**

For additional information on calibration, operation and installation contact our Technical Services Group:

**703-724-7314**

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