

# Installation Manual



ISO 9001 Certified

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## **PD765 SENSOR WIRING GUIDE**

English

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# PD765 WIRING 4-20 mA & 1-5 VDC For U3-XXXX ULTRASONIC R3-XXXX RADAR C3946, C3957 & C3975 CONTINUOUS U4359 MADISONIC



## Overview

This manual describes the wiring of the PD765 for 4-20 mA and 1-5 VDC input modes with various Madison level sensors.

The Trident meter is factory calibrated to accept 4-20 mA,  $\pm 10$  VDC, type J, K, T, or E thermocouples and  $100 \Omega$  platinum RTDs. Process inputs can be scaled with or without applying an input for virtually any engineering units. Temperature inputs can be programmed to display in degrees Fahrenheit or Celsius and the type K thermocouple can display up to 2300 °F.

## Process Inputs Specifications & Capabilities

Inputs: Field selectable: 0-20 mA, 4-20 mA, 1-5 V,  $\pm 10$  V

Accuracy:  $\pm 0.05\%$  FS  $\pm 1$  count; square root:  $\pm 0.1\%$  FS  $\pm 2$  counts

Function: Linear or square root

Low-Flow Cutoff: 0 to 9999 (0 disables cutoff function)

Decimal Point: Up to 3 decimals: d.ddd, dd.dd, ddd.d, or dddd

Calibration: Scale without signal or calibrate with signal source

Calibration Range: User programmable over entire range of meter

Input Impedance: Voltage range: greater than  $1 \text{ M} \Omega$ , Current Range: 50-100  $\Omega$ , varies with resettable fuse impedance

Input Overload: Protected by automatically resettable fuse

Temperature Drift:  $\pm 50$  PPM/°C

Transmitter Supply: Isolated 24 VDC  $\pm 10\%$  @ 200 mA max



### Input Power Wiring

Input power is customer supplied and should be within the recommended parameters as listed below.

Installation by a licensed electrician, per applicable local electrical and safety codes is recommended.

**Power Options:** 85-265 VAC, 50/60 Hz; 90-265 VDC, 20 W max or 12-36 VDC; 12-24 VAC, 6 W max.

**Required Fuse:** UL Recognized, 5 A max, slow-blow; up to 6 meters may share one fuse.

Figure 1 shows the input wiring using a 1A fuse:

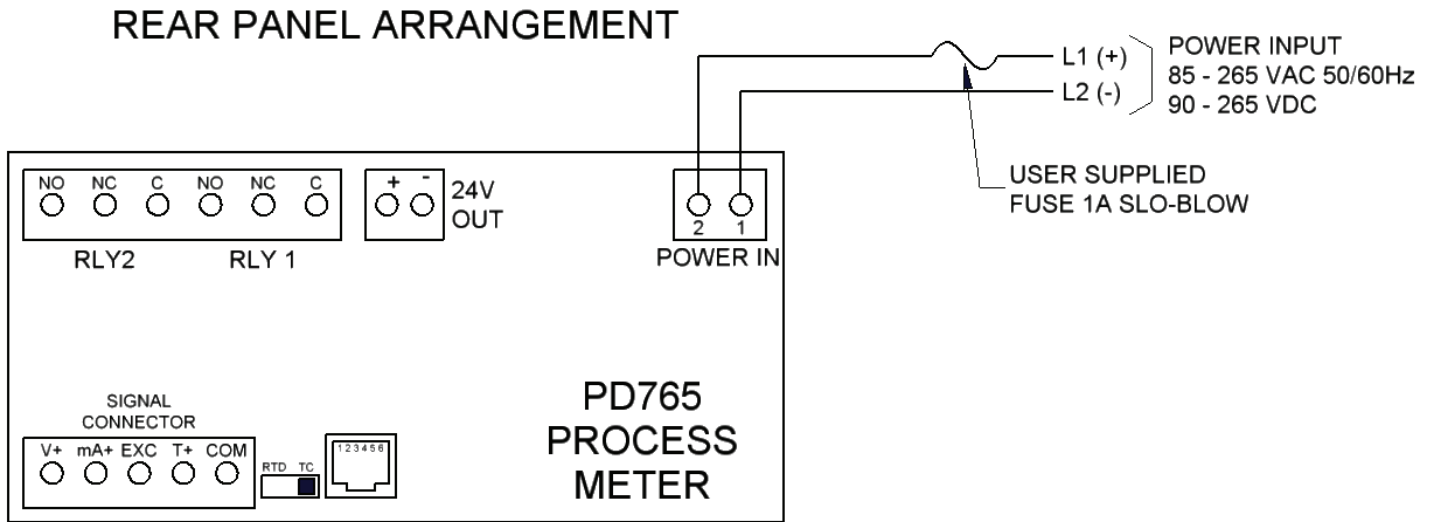


Figure 1



## Madison Sensor Wiring

Connections between the PD765 meter and the Madison level sensor is customer supplied. It is required that the low voltage wiring be isolated from any power wiring as per applicable local electrical and safety standards. Some devices shown below require shielded cable for additional electrical isolation protection.

### Wiring for 4-20 mA process input

Figure 2: Madison U3-XXXX ULTRASONIC & R3-XXXX RADAR sensors

Figure 3: Madison C3946, C3957 & C3975 CONTINUOUS sensors

Figure 4: Madison U4359 MADISONIC ULTRASONIC sensor

#### C3957 4-20 mA for U3-XXXX ULTRASONIC & R3-XXXX RADAR sensors

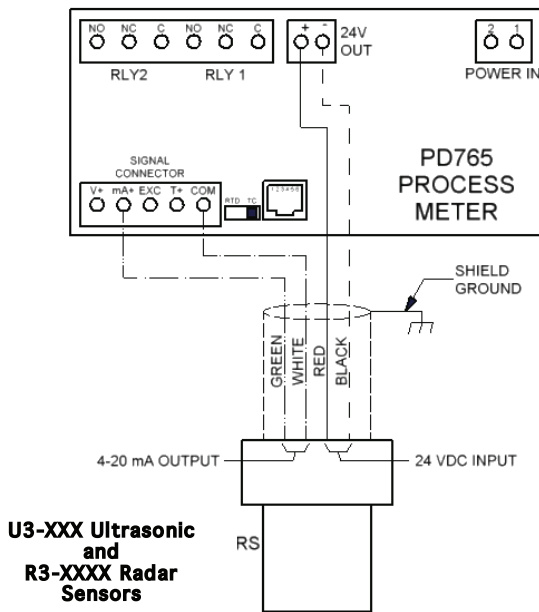


Figure 2

#### 4-20 mA for C3946, & C3975 CONTINUOUS sensors

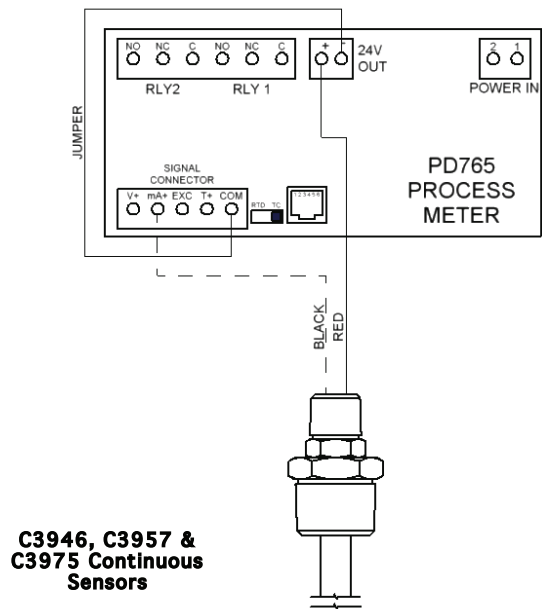


Figure 3



**4-20 mA for U4359 MADISONIC  
ULTRASONIC sensor**

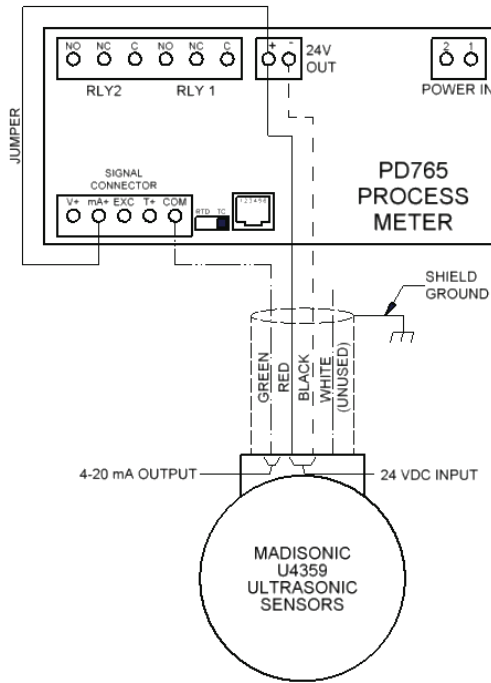
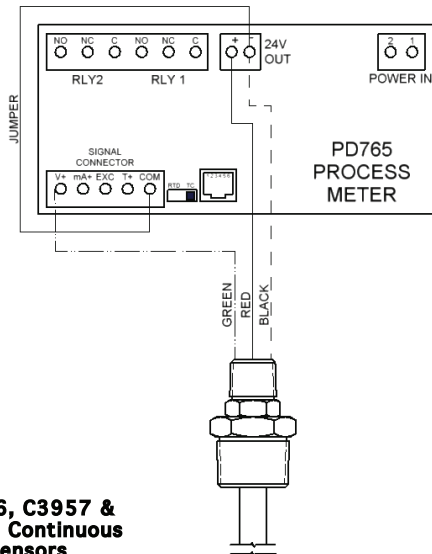


Figure 4

**Wiring for 1-5 VDC process input**

- 5: Madison C3946, C3957 & C3975 CONTINUOUS sensors
- 6: Madison U4359 MADISONIC ULTRASONIC sensor

**1-5 VDC for C3946, C3957  
& C3975 CONTINUOUS sensors**



**C3946, C3957 &  
C3975 Continuous  
Sensors**

Figure 5

**1-5 VDC for U4359 MADISONIC  
ULTRASONIC sensor**

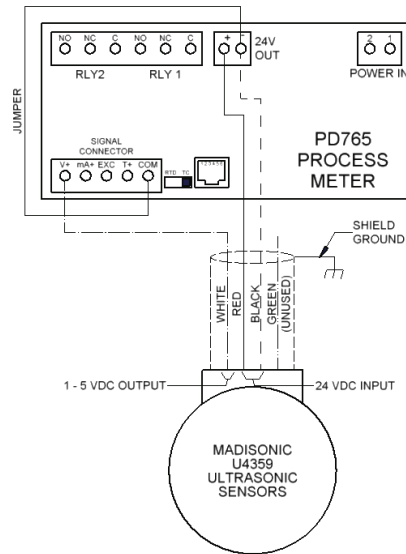


Figure 6