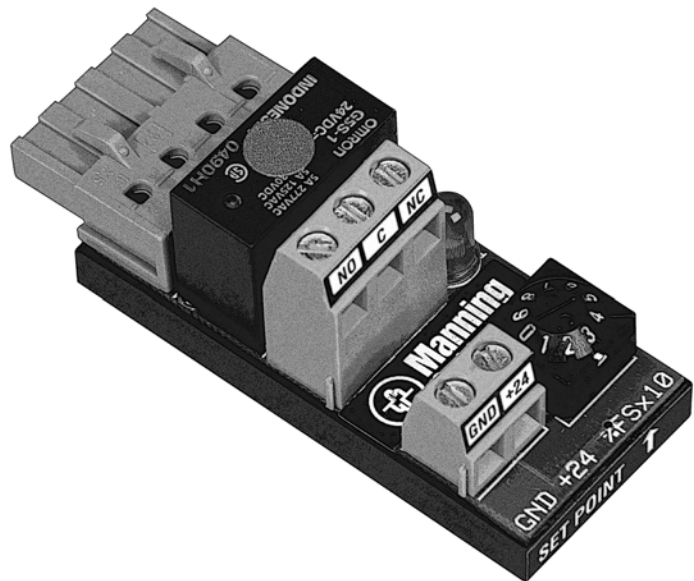


RP

Relay Plug

Instruction and
Installation Manual
Rev D



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18432 RP 04/2005 REVD

Introduction

Serial number:

The RP Relay Plug can be plugged into any of the Manning Systems sensors that output 4/20 mA. The RP provides a local relay output in lieu of the 4/20 mA output. The alarm trip point is set using a 10 position rotary DIP switch and controls a Form C dry contact. The RP requires the customer to provide a 24 vDC supply voltage applied at the “+24” and “GND” terminals.

This manual must be carefully followed by all individuals who have or will have the responsibility for using or servicing the RP Relay Plug. Warranties made by Manning Systems, Inc. with respect to this equipment will be voided if the equipment is not used and serviced in accordance with the instructions in this manual. If in doubt about a procedure, please contact Manning Systems, Inc. before proceeding.

Description

A Operation

The RP replaces the standard four position sensor plug normally provided with all Manning Systems 4/20 mA output sensors. Since the plug is a stand alone device, only 2 two wires are required to power the plug and sensor (see Figure 1 below). The current requirements for the RP are minimal and will be met by the requirement for the sensor.

The relay is wired using the terminal block located behind the power and ground terminal block (see Figure 1). The relay is an energized Form C dry contact with a 10 second ON/10 second OFF time delay. The “normal” position for the relay is when the plug is powered up and the signal is normal and below the alarm trip point. The green LED is “ON” when the relay is “normal”.

The alarm set point is adjusted using the rotary switch located next to the power terminal block (see Figure 1). Each number represents 10% of the full scale of the sensor. For example, if the sensor range is 0/250 ppm, then 5 on the rotary switch would represent 50% of 250 ppm. This would cause the relay to trip when the signal exceeded 125 ppm (250 x 50%).

The relay will trip for the following reasons:

- The signal exceeds the alarm trip point.
- There is no signal present (loss of power to the plug or loss of signal from the sensor).
- The alarm trip point is set to 0 (this is a test mode to trip the relay).

B Specifications

Supply Voltage, Vs:

+24 Volts DC

Supply Current, Is:

20 mA + Sensor Requirements

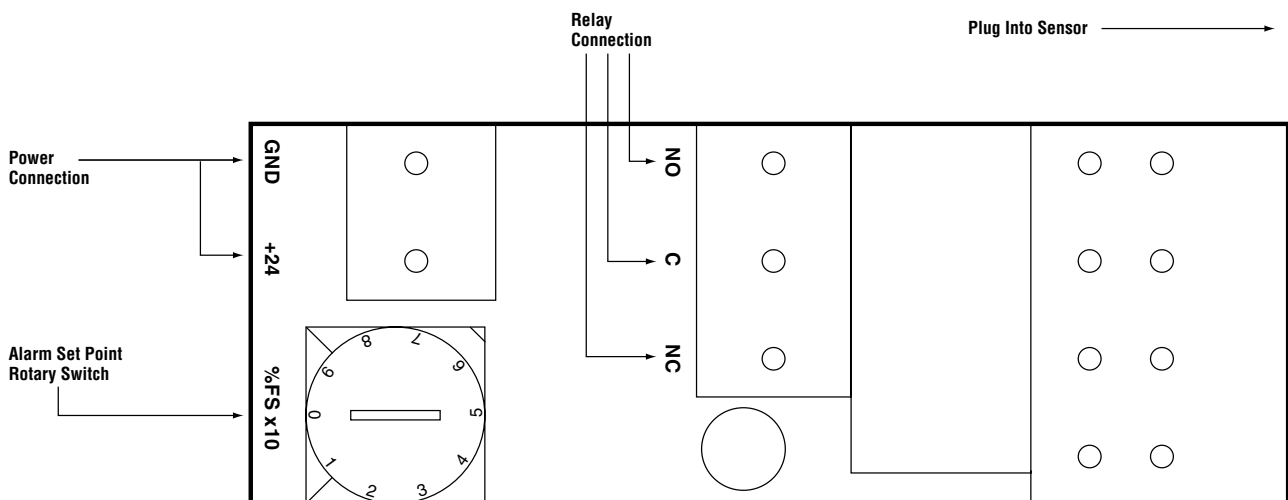
Cable:

#18 AWG, 2 Conductor

Relay:

Form C Dry Contact
24 Volts AC/DC max
1.5 A max

Figure 1: Wiring Diagram for the RP Relay Plug



Limited Warranty

1. Limited Warranty

Manning Systems, Inc. (“Manning”) warrants to the original purchaser and/or ultimate customer (“Purchaser”) of Manning’s Products (“Product”) that if any part thereof proves to be defective in material or workmanship within eighteen (18) months of the date of shipment by Manning or twelve (12) months from the date of first use by the purchaser, whichever comes first, such defective part will be repaired or replaced, free of charge, at Manning’s discretion if shipped prepaid to Manning at 11511 W. 83rd Terrace, Lenexa, Kansas 66214, in a package equal to or in the original container. The Product will be returned freight prepaid and repaired or replaced if it is determined by Manning that the part failed due to defective materials or workmanship. The repair or replacement of any such defective part shall be Manning’s sole and exclusive responsibility and liability under this limited warranty.

2. Exclusions

- A. If gas sensors are part of the Product, the gas sensor is covered by a twelve (12) month limited warranty of the manufacturer.
- B. If gas sensors are covered by this limited warranty, the gas sensor is subject to inspection by Manning for extended exposure to excessive gas concentrations if a claim by the Purchaser is made under this limited warranty. Should such inspection indicate that the gas sensor has been expended rather than failed prematurely, this limited warranty shall not apply to the Product.
- C. This limited warranty does not cover consumable items, such as batteries, or items subject to wear or periodic replacement, including lamps, fuses, valves, vanes, sensor elements, cartridges, or filter elements.

3. Warranty Limitation and Exclusion

Manning will have no further obligation under this limited warranty. All warranty obligations of Manning are extinguishable if the Product has been subject to abuse, misuse, negligence, or accident or if the Purchaser fails to perform any of the duties set forth in this limited warranty or if the Product has not been operated in accordance with instructions, or if the Product serial number has been removed or altered.

4. Disclaimer of Unstated Warranties

THE WARRANTY PRINTED ABOVE IS THE ONLY WARRANTY APPLICABLE TO THIS PURCHASE. ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED.

5. Limitation of Liability

IT IS UNDERSTOOD AND AGREED THAT MANNING’S LIABILITY, WHETHER IN CONTRACT, IN TORT, UNDER ANY WARRANTY, IN NEGLIGENCE OR OTHERWISE SHALL NOT EXCEED THE AMOUNT OF THE PURCHASE PRICE PAID BY THE PURCHASER FOR THE PRODUCT AND UNDER NO CIRCUMSTANCES SHALL MANNING BE LIABLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES. THE PRICE STATED FOR THE PRODUCT IS A CONSIDERATION LIMITING MANNING’S LIABILITY. NO ACTION, REGARDLESS OF FORM, ARISING OUT OF THE TRANSACTIONS UNDER THIS WARRANTY MAY BE BROUGHT BY THE PURCHASER MORE THAN ONE YEAR AFTER THE CAUSE OF ACTION HAS OCCURRED.