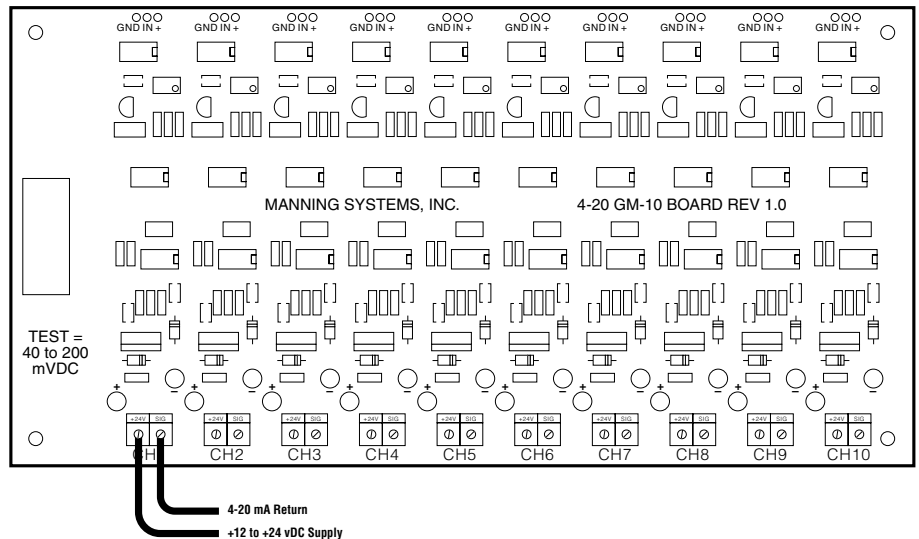


GM-10-AOB

Analog Output Board

Instruction and
Installation Manual
Rev A



Introduction

Serial number:

This manual must be carefully followed by all individuals who have or will have the responsibility for using or servicing the GM-10 Analog Output Board. 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

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The GM-10 Analog Output Board provides an isolated, 2-wire, 4/20 mA output signal for each of the GM-10's channels. The Analog Output Board requires the customer's monitoring equipment to provide a 12 to 24 vDC supply voltage applied at the "+24" terminal, and returns 4/20 mA at the "SIG" terminal. If the signal from the sensor is lost, the Analog Output Board returns a 0.5 mA signal. Each output operates as a 2-wire, loop powered device.

Specifications

Supply Voltage, V_s :

+12 to +24 vDC nom., 30 vDC max.

Supply Current, I_s :

0.5 to 20 mA, reverse protected

Nominal Load Resistance:

100 Ohms

Maximum Load including Cable:

$V_s = 12\text{ v}$ 200 Ohms

$V_s = 15\text{ v}$ 300 Ohms

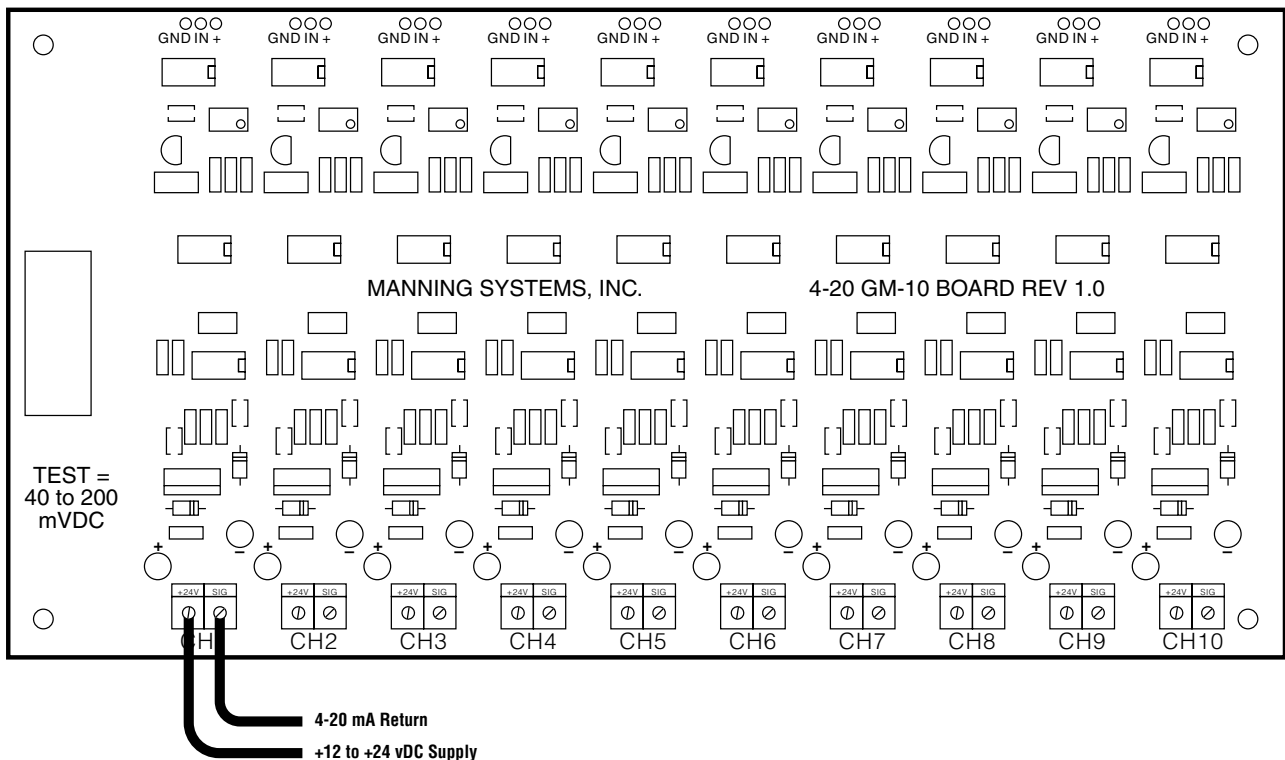
$V_s = 20\text{ v}$ 500 Ohms

$V_s = 24\text{ v}$ 600 Ohms

Connections:

Phoenix 2 pin vertical socket, mating plug supplied

Figure 1: Wiring Diagram for the GM-10 Analog Output Board



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.