

AUTOMATION

PRODUCTS
GROUP, INC.

Operator's Manual

PT-L1-C



Automation Products Group, Inc.

APG...Providing tailored solutions for measurement applications

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• Warranty and Warranty Restrictions

APG warrants its products to be free from defects of material and workmanship and will, without charge, replace or repair any equipment found defective upon inspection at its factory, provided the equipment has been returned, transportation prepaid, within 18 months from date of shipment from factory.

THE FOREGOING WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES NOT EXPRESSLY SET FORTH HEREIN, WHETHER EXPRESSED OR IMPLIED BY OPERATION OF LAW OR OTHERWISE INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

No representation or warranty, express or implied, made by any sales representative, distributor, or other agent or representative of APG which is not specifically set forth herein shall be binding upon APG. APG shall not be liable for any incidental or consequential damages, losses or expenses directly or indirectly arising from the sale, handling, improper application or use of the goods or from any other cause relating thereto and APG's liability hereunder, in any case, is expressly limited to the repair or replacement (at APG's option) of goods.

Warranty is specifically at the factory. Any on site service will be provided at the sole expense of the Purchaser at standard field service rates.

All associated equipment must be protected by properly rated electronic/electrical protection devices. APG shall not be liable for any damage due to improper engineering or installation by the purchaser or third parties. Proper installation, operation and maintenance of the product becomes the responsibility of the user upon receipt of the product.

Returns and allowances must be authorized by APG in advance. APG will assign a Return Material Authorization (RMA) number which must appear on all related papers and the outside of the shipping carton. All returns are subject to the final review by APG. Returns are subject to restocking charges as determined by APG's "Credit Return Policy".

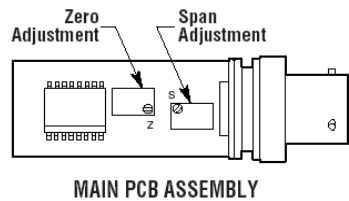
• Instructions

All units are factory calibrated prior to shipment.

1. Zero Trimming

If it becomes necessary to re-adjust “zero”, this can be accomplished by adjusting the trimpot marked “Z”. An ideal zero is indicated by an output of 4 mA.

- A. Remove the knurled nut. If your transducer does not have a knurled nut, your transducer can not be field adjusted. You can return the transducer to the factory for repair and/or adjustment.
- B. Carefully remove the connector or pigtail from the body of the transducer and pull it all the way out so that the amplifier board is exposed. Do not over extend the ribbon cable that attaches the amplifier board to the sensor.
- C. Reconnect the device with the loop powered circuit and have access to a method of monitoring the output of the transducer.
- D. Ensure that the transducer is at 0 psig or 0 psia (vacuum if absolute)
- E. Using a jewelers screwdriver or a suitable instrument, adjust the “Z” pot until you have 4 mA output. *Do not make changes to the Span adjustment (the “S” pot to the right of the push button) as part of the zero trimming. The Span should only be changed as part of the re-calibration of a transducer with a known pressure source.*



2. Re-calibration

This procedure requires a known pressure source of at least $\pm 0.1\%$ accuracy in order to fully utilize the accuracy potential of the transducer. (If not available, you can return it to the factory for re-calibration.)

Procedure:

- A. Ensure that the transducer is at 0 psig or 0 psia (vacuum if absolute), and adjust zero as per instructions in #1.
- B. Apply full scale pressure to the pressure port and adjust the span (“S”) pot until full scale signal of 20mA is reached.

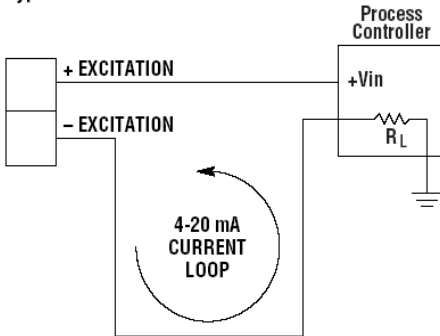
- C. Re-check zero and re-adjust the zero (“Z”) pot if required.
- D. Repeat steps B, and C, until no further adjustment is required.

3. 4-20 mA Transmitter Information

This device is a 2 wire, loop powered transducer/transmitter. A voltage of between 9 and 32 VDC must be maintained at this connection. Completion of the earth or system ground is recommended for proper circuit protection.

Power supply voltage must be sufficient to maintain a minimum of 9 VDC at the transducer/transmitter terminals after “dropping” voltage across R_L at full scale current (20 mA), see Figure below.. Example: If $R_L = 250 \text{ ohm}$ then “drop” is $0.02 \text{ Amps} \times 250 \text{ ohm} = 5 \text{ volts}$. Therefore power supply minimum is $5 \text{ V} + 9 \text{ V} = 14 \text{ V}$

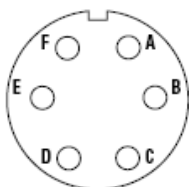
Typical 4-20 mA Circuit



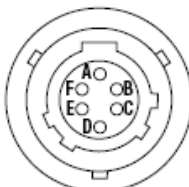
4. Wiring Information

Below, are the pin out diagrams, circuit diagrams, and pin out table for the 4-20 mA circuit, as needed to assist you in wiring your transducer.

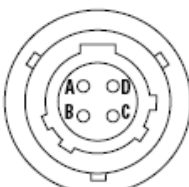
6 Pin Connector



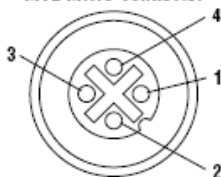
6 Pin Bayonet Connector



4 Pin Bayonet Connector



4 Pin M12 Micro Connector



		4-20 mA
6 Pin Circular	A	+ Excitation
	B	- Excitation
	C	N/C
	D	N/C
6 Pin Bayonet	A	+ Excitation
	B	- Excitation
	C	N/C
	D	N/C
	E	N/C
	F	N/C
4 Pin Bayonet	A	+ Excitation
	B	- Excitation
	C	N/C
	D	N/C
4 Pin M12	1	+ Excitation
	2	- Excitation
	3	N/C
	4	N/C
Pigtail	RED	+ Excitation
	GRN	N/C
	WHT	N/C
	BLK	- Excitation

N/C indicates no connection

Notes

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