IOM Multiplexed Pneumatic Output Module Installation Instructions

Description

The IOM Multiplexed Pneumatic Output Module (IMP-1010) allows a single Input/Output Module (IOM) or IOM/2 output to generate a positioning air signal. It features a manual operation switch that can be used with the IOM's or IOM/2's on/off/auto switch to increase or decrease the branch pressure line.

This module requires triac-type IOMs or IOM/2s with positioning-type loads for closed-loop systems. The IOM Multiplexed Output positioning-control type must be selected in ESS32 (Novar Controls' Engineering and Support System software).

This document provides instructions for mounting the module and wiring and operating it.

Specifications

Valve Specifications

Valve Type:	Two-way direct acting, normally closed, energized open
Port:	1/8-inch inside diameter barb hose fitting
Pressure range:	0–30 pounds per square inch
Orifice:	1.6 millimeters
Valve Body, Seat:	Brass
Spring:	Stainless steel
Seal Material:	NRM (or EPDM or FPM)
Duty Cycle:	100% continuous rated

Operating Specifications

Temperature range:	32° to 122°F (0° to 49.5°C)
Power:	24 VAC
Maximum power:	9 VA inrush, 6 VA hold

Mounting the IMP

The IMP should be mounted on a vertical surface with its air connections pointing down so that dirt and oil cannot get into the electronics enclosure.

Use the following procedure and refer to Figure 1, as necessary, to mount the IMP.

Step	Procedure
1	Position the module against the mounting surface and mark the surface to show the location of the four mounting holes.
2	Drill holes in the locations marked.
3	Position the module over the holes and insert and tighten screws (not) supplied to secure the sensor.

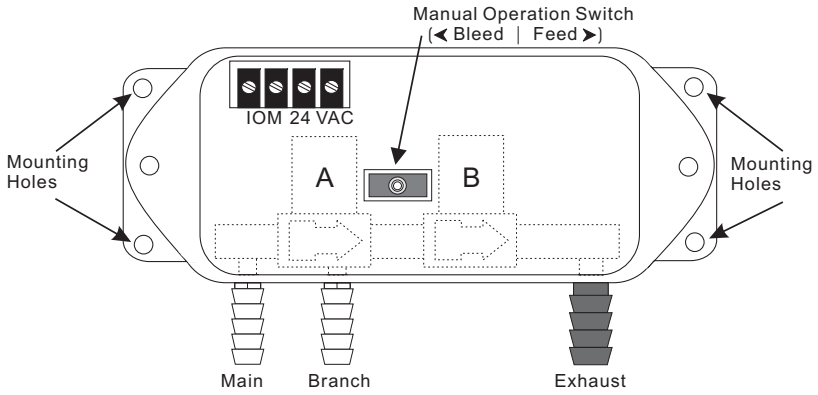

Figure 1. IMP module showing valve operation

Wiring the IMP-1010

Connect two wires to the IMP at the terminals marked “IOM” and to the IOM or IOM/2 output that matches the software configuration. Polarity does not have to be matched on this module. Do not connect any other power supplies or grounds to these wires.

Connect power to the terminals marked 24 VAC. Several IMPs can be powered from the same transformer.

Operation

Automatic Operation

To control valve operation for pneumatic positioning, the single IOM output (with the IOM's on/off/auto switch in the down, automatic position) sends three varieties of command signals to the IMP:

- Steady state off de-energizes both valves A and B.
- Pulsed on/off energizes valve A only, feeding main air to the branch line.
- Steady state on energizes valve B only, exhausting branch air to the atmosphere.

NOTE! In Novar Controls' software, IMP is programmed as "Closed-Loop Multiplexed PWM."

In the failure mode, both valves are in the de-energized state, maintaining branch pressure. If the controlled equipment open or close time is less than 20 seconds, flow restrictors and/or volume chambers should be used as needed.

Manual Operation

A manual operation switch is located inside the IMP module in the center of the circuit board (see Figure 1).

To operate the positioning-controlled equipment manually:

- Push the IOM's on/off/auto switch to off (the center position).
- Push the manual switch to the left to bleed the branch pressure to the exhaust or to the right to feed the main pressure to the branch line.

Hold the switch until the controlled equipment reaches the desired position.

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