



Pneumatic Division
Richland, Michigan 49083

Installation & Service Instructions
CVM-101P

MPS-1 Series Sensor

ISSUED: June, 2003

Supersedes: July, 2002

Doc.# CVM-101P, ECN030385, Rev. 2

⚠ WARNING

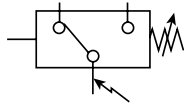
To avoid unpredictable system behavior that can cause personal injury and property damage:

- Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
- Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.
- Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.
- Medium must be moisture-free if ambient temperature is below freezing.
- Service according to procedures listed in these instructions.
- Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.
- Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.

Introduction

Follow these instructions when installing, operating, or servicing the product.

ANSI



⚠ Cautions

The MPS-1 Pressure Sensor is designed to monitor pressure and is not a safety measure to prevent accidents.

The compatibility of the sensor is the responsibility of the designer of the system and specifications.

Potentiometer for the Switch Point Pressure and Hysteresis Range is sensitive. Excessive force or exceeding the limits of the trimmers may cause damage.

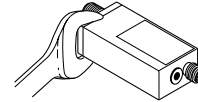
Operating Environment

- Parker / Convum Sensors have not been investigated for explosion-proof construction in hazardous environments.
- Do not use with flammable gases, liquids, or in hazardous environments.
- Avoid installing the sensor in locations where excessive voltage surges could damage or affect the performance of the sensor.

Installation

- Never insert an object into the pressure port other than an appropriate fluid connector.
- Avoid short-circuiting the sensor. Connect the brown lead to V+ and blue lead to 0V.
- Do not connect the output lead wires (black / white) to the power supply.

- Outputs not being used should be trimmed and insulated.
- Install using the metal mounting base.



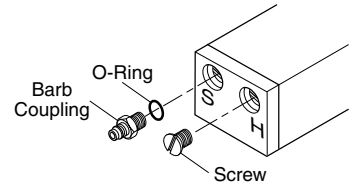
For 1/8 Inch Male Series Installation

- To achieve IP65 rating, connect the o-ring and barb to a normal environment with a 2mm I. D. tube and install screw as shown below.

MPS-1 Assembly (Included Parts)

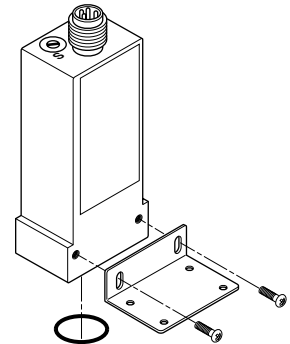
IP65 Kit

- 2 O-Rings
- 1 Venting Nipple M3
- 1 Set Screw



Flange Mounting Bracket Kit

- Mounting Bracket
- 2 Screws
- 1 O-Ring



⚠ WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure and review the information concerning the product or systems in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

EXTRA COPIES OF THESE INSTRUCTIONS ARE AVAILABLE FOR INCLUSION IN EQUIPMENT / MAINTENANCE MANUALS THAT UTILIZE THESE PRODUCTS. CONTACT YOUR LOCAL REPRESENTATIVE.

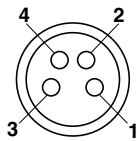
Specifications

Operating Pressure Range	(V) Vacuum (0 to -30 inHg), (L) Low Pressure (0 to 14.7 PSI), (P) Pressure (0 to 145 PSI)
Media	Air and Non-Corrosive Gases
Pressure Port	N: 1/8" NPT, R: 1/8" BSPT, G: 1/8" BSPP, E: Flange Mount with M5 Female
Proof Pressure	V: 72.5 PSI, L: 72.5 PSI, P: 217.5 PSI
Operating Temperature	32 to 122°F (0 to 50°C)
Storage Temperature	14 to 140°F (-10 to 60°C)
Humidity	35 to 85% RH
Electrical Connection	4-Pin, M8 Connector with Built-in LED
Power Supply	10.8 to 30 VDC, Ripple Vp-p 10% Max., Reverse Voltage Protection
Analog Output	1 to 5 VDC ±0.04, Accuracy Linear 0.5% F.S.
Switch Output	N.O., Switch Output Mode with Hysteresis Adjustment
Output Circuit	NPN (Sinking), PNP (Sourcing) Open Collector Transistor 30VAC, 80mA
Switch Output Setting H	3-Turn Trimmer
Hysteresis Setting h	3/4-Turn Trimmer (3 to 20% of Switch Output Setting)

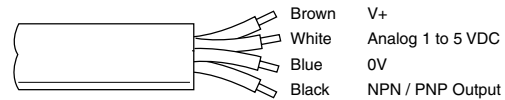
Sensor Pin Out

Pin #

- 1 Brown: 24VDC
- 2 White: Analog 1 to 5VDC Output
- 3 Blue: 0VDC
- 4 Black: NPN / PNP Open Collector Output

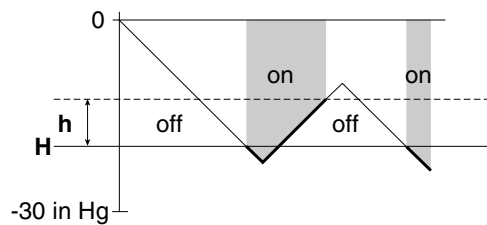


Lead Wiring

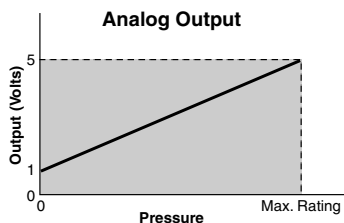


Switch Output

The MPS-1 Series Sensor has two outputs, one open NPN or PNP switch output and one analog output. The Hysteresis Range (**h**) controls the output signal below the Switch Point (**H**). The Pressure Output Signal is a 3 turn trimmer that sets the switch point of the output. The hysteresis adjustment is a 3/4 turn trimmer to control the output signal 3 to 20% below the pressure output signal. The Analog Output is a 1 to 5 VDC signal calibrated to the pressure scale of the sensor.

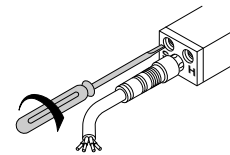


Analog Output



Switch Output Setting

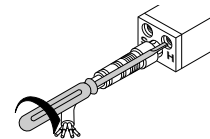
The Switch Point of the output signal is adjusted with a 3-turn potentiometer trimmer (**S**). To set the switch point pressure, rotate the trimmer clockwise to raise the switch pressure and rotate the trimmer counter clockwise to lower the switch pressure.



Hysteresis Setting

The Hysteresis setting is a 3/4 - turn potentiometer trimmer with a range of 3% to 20% **below** the switch point (**S**). Rotate the Hysteresis trimmer (**H**) clockwise to increase the Hysteresis range and rotate the trimmer counter clockwise to lower the Hysteresis range (**h**). A separate pressure gauge is necessary to accurately adjust these values.

For best results, set the switch point (**S**) of the output signal before adjusting the hysteresis range. For fine tuning the hysteresis range, re-adjust the switch point (**S**) of the output signal.



Accessories

- Cable, 2 Meters Straight CB-M8-4P-2M
- Cable, 5 Meters Straight CB-M8-4P-5M
- Cable, 5 Meters 90° CB-M8-4P-5M-90

Replacement Kits

- ACCMPS-1E Mounting Bracket Kit
- MPS-1-IP65 IP65 Kit