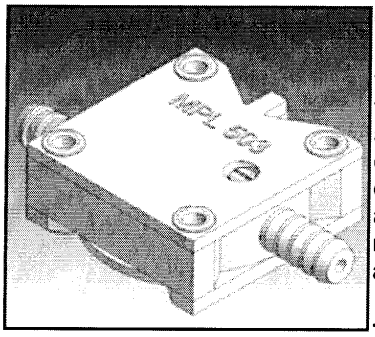
MPL Products
- Product Overview
- How They Work
- MPL 500 Series
- MPL 600 Series
- MPL 9300 Series
- Dimensions
- Custom OEM Solutions
- Submit Your Specification
- Download MPL Brochure

MPL 500 SERIES



Introduction

MPL 500 Series switches offer pressure, vacuum, and differential sensors, sensitive to as low as 0.05 in/H 2 O. Their accuracy and reliability offer the designer an excellent general purpose low pressure to electric interface for monitoring and control applications. Miniature size and low cost make the **500 Series** ideal for OEM applications.

· View Schematic

Description

MPL 500 is diaphragm-operated utilizing low stress deflecting contacts. Elimination of sliding or pivoting parts results in high reliability and long service life. Diaphragm material can be selected for the operating medium, temperature range, and other parameters. During the development of a specification, actuation point can be moderately adjusted by the designer. In production, a factory setting is required.

MPL 500, 501, 502 and 503 are single-setting models, available as pressure, vacuum or differential pressure sensors. **MPL 504** offers two settings. **MPL 533** adds the capability to switch high current loads, utilizing an integral AC static switch (triac). No power source is required other than the AC load.

Specifications

Body: glass-filled polyester, grade SEO, standard
Diaphragm: polyurethane, fluorosilicone, EPDM, Teflon, and other materials are available
Terminals: brass, gold-plated
Contacts: phosphor bronze with gold inlay standard. Other materials available
Operating Temperature: -40 to +120C (-40 to +250F), depending on components. Consult factory.
Operating Pressure: 0.05 in/H 2 O to 550 in/H 2 O (20psi)
Burst: 25 psi
Response: MPL 500/501/503/504/533, 160Hz; MPL 502/528/509, 270Hz

Life: Over 100,000,000 cycles
Form: SPST-NO, SPST-NC, 2x, SPST-NO (Form F) MPL 504
Resistance: 500 milliohm maximum
Weight: 10 grams

Electrical

MPL 500 switches are designed for low current and logic applications, such as LED indicators and solid state relays. Typically, a load of 10 to 20mA will ensure reliable switching. For inductive loads, a varistor or R-C snubber circuit is recommended.

To switch heavier loads, use any **MPL 500 Series** switch with an interface device such as solid state relay (or select the MPL 600 or 9300 Series). Ask your MPL application engineer about using the **MPL 500** with an AC static switch for loads up to 5A.

The **MPL 533** features an integral triac. Current capacity of the **MPL 533** is limited by duty cycle (% on-time) and ambient temperature. However, source voltages from 6 to 240VAC can be used with long life and high reliability.

Finally, for loads up to 25A, see the MPL 600 Series.

Terminals

NEMA 0.020" x 0.187" male tabs are standard, for female quick disconnects. Low-profile terminals for 18-22 gage wire are recommended.

Optional bifurcated terminals are also available on all models, which will accept 0.020" x 0.187" or 0.020" x 0.110" female quick disconnects.

Terminals are available for printed circuit board mounting. Custom applications requiring elongated terminals, tinning, and custom wiring can also be accommodated.

Leakage

The standard polyurethane diaphragm functions as both sensor and seal. For dynamic applications such as fan monitoring, the diaphragm alone provides an adequate seal. In static applications (leak detection, liquid level, etc.) a secondary internal gasket will ensure an almost bubble tight seal of the pressure cavity.

Actuation Settings

All **MPL 500 Series** sensors are available with factory settings from 0.05 to 550 in/H 2 O. Tolerance is typically about 10% of the setpoint. Ask your MPL application engineer for more information on tolerances.

6 Standard Ranges Available

Range A 0.05 to 0.75 in/H 2 O
Range B 0.50 to 3.00 in/H 2 O
Range C 2.00 to 13.00 in/H 2 O
Range D 10.00 to 50.00 in/H 2 O
Range E 25.00 to 200.00 in/H 2 O
Range F 100.00 to 550.00 in/H 2 O

Special Ports & Mounting

The **MPL 508** adds a 1/8" brass fitting to the **MPL 502** features. **MPL 509** adds a 5/32" barbed brass fit-ting, and a 5/16" nut and washer for panel mounting.

1/8" NPT Port (above, left) can be molded or die-cast. 5/32" barbed brass port (above, right) also has 5/16" nut and washer for panel mounting.