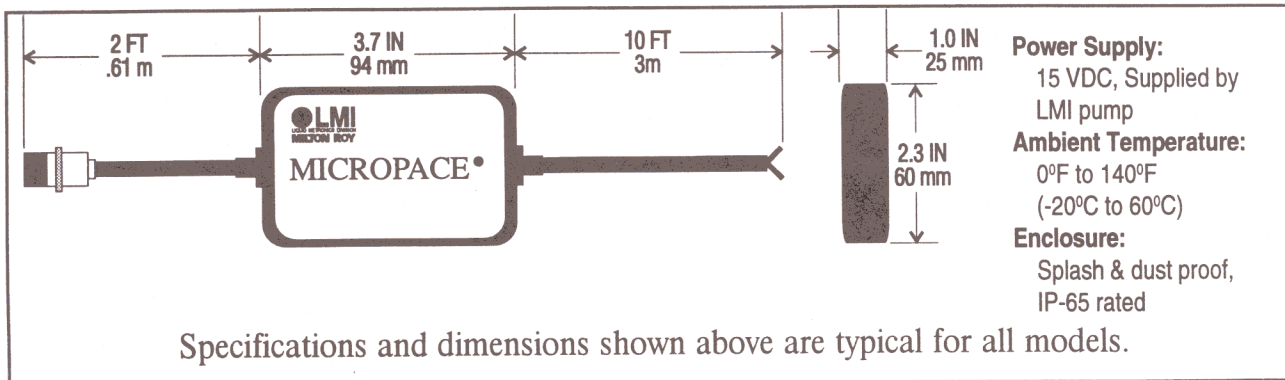


# MICROPACE®

## Electronic Metering Pump Control Modules INSTRUCTIONS • INSTALLATION

- MP-100 Analog to Digital Converter
- MP-400D Pulse Divider • MP-500M Pulse Multiplier



### MP-100 Analog to Digital Converter

**Input Signal Source:** 4-20 mA (isolated) only.

**Max Input Voltage:** 42VDC

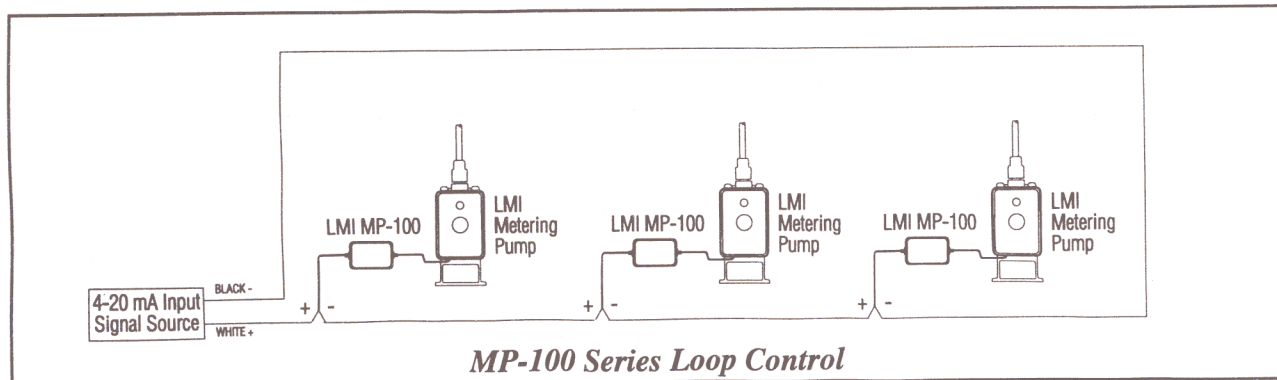
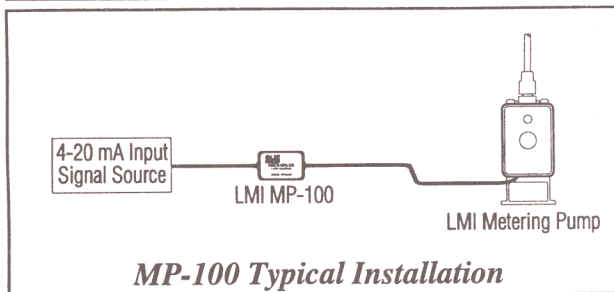
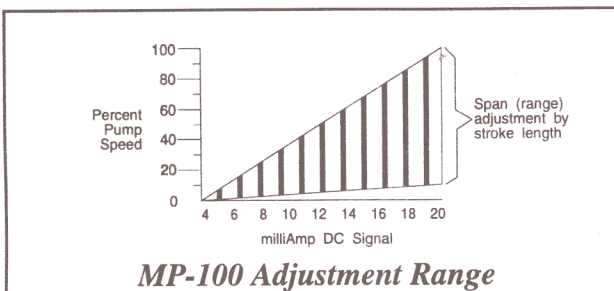
**Impedance:** 100 Ohms

#### INSTALLATION

1. Disconnect signal source supply voltage prior to connecting your MP-100. Failure to do so may damage the MP-100 circuit.

2. Insert the 4-pin connector into the socket on your LMI Series A7, B7 or C7 Metering Pump. The socket is located on the bottom right under the pump control panel.

3. Connect the other end of the cable to your input signal source. Polarity is: white = positive (+); black = negative (-).



**LMI**  
LIQUID METRONICS DIVISION  
**MILTON ROY**

ISO9001 Certified • a unit of Sundstrand Corporation

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**MP-400D Pulse Divider (Counter)**  
**MP-500M Pulse Multiplier (Batch Signal Converter)**

**Max. batch count or multiplier (MP-500M):** 1023 pulses  
**Pulse output rate or speed (MP-500M):** fixed, 100 ±2 pulses per minute

**Switch Input (MP-400D & MP-500M):**

- A. 'On' Resistance: 5K ohms max.
- B. 'Off' Resistance: 100K ohms min.

**Min. switch closure time (MP-400D & MP-500M)**

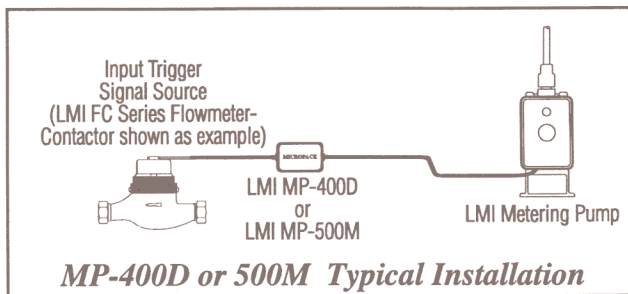
*low impedance state (on)* : 10 milliseconds

**Min. switch opening time (MP-400D & MP-500M)**

*high impedance state (off)* : 20 milliseconds

**Max. count speed or frequency (MP-400D):**

1800 pulses per minute (30Hz)

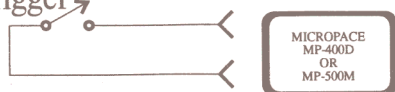


**INSTALLATION**

1. The MP-400D and MP-500M Signal Converters may be preset before connection to the pump or signal source, or may also be adjusted after connection.
2. Open the MP-400D or MP-500M cover by removing the four screws that hold the back cover on.
3. Follow the instructions inside the cover to set your Signal Converter. Use a pencil or ball point pen to slide the switches.
4. Replace the cover and the four screws.
5. Insert the 4-pin connector into the socket on your LMI Series A7, B7 or C7 Metering Pump. The socket is located on the bottom right under the pump control panel.
6. Connect the other cable to your input signal source. Polarity is: white = positive(+); black = negative (-).
7. Switch your pump to EXTERNAL. The count, division or multiplication will begin immediately. Switching the pump to OFF or unplugging the pump will reset the count.

**METHODS OF TRIGGERING MP-400 AND MP-500M**

1. Switch closure  
switch closing trigger



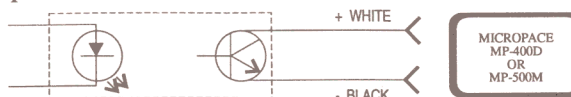
2. NPN Transistor  
Base goes high



3. PNP Transistor  
Base goes low



4. Opto Isolator



**NOTE:** Switch or transistors must be capable of switching 2 milliamperes @ 15V DC.  
 Combining additional MICROPACE® units will increase the milliampere demand.