The Series AP&M Dual Line Configurable Panel Meter is specifically designed for displaying flow rate and total from a flow meter with an analog output such as 4 to 20 mA or 0 to 10 V. The AP&M is particularly well-suited for flow applications and can display flow rate and total at the same time.

The Series MPM Dual Line Configurable Panel Meter is suitable for applications requiring non-linear input signals and linearize them with simple to use math functions such as square-root extractor, square and round tanks or flumes exponential linearizer, horizontal round tank linearizer, or general purpose 32-point linearizer. Unit accepts 0 to 20 mA, 4 to 20 mA, 0 to 5 V, or ±10 V inputs and requires 85 to 265 VAC or 12 to 24 VDC power supply. Choose from RS-232, RS-422/485 serial communication options or any available expansion modules, accessories and enclosures.

The Series PPM Dual Line Configurable Panel Meter displays flow rate and total simultaneously, with a programmable relay and 4 to 20 mA options for flow rate or flow total. The PPM is designed for displaying flow rate and total from a pulsed input provided by open collector, NPN, PNP, TTL, switch contact, sine wave, or square wave.

### FEATURES/BENEFITS
- Three levels of password protection
- Math functions for flow & round horizontal tanks
- 32-point linearization, square root or programmable exponent
- Multi-pump alternation control
- Rate displayed as units per second, minute, hour, or day
- Total, grand total or non-resettable grand total
- Two or four relays & isolated 4 to 20 mA output options
- External 4-relay & digital I/O expansion modules
- RS-232, RS-422/485 serial communication options

### APPLICATIONS
- Level monitoring
- Pump control
- Flow rate indication
- Flow totalization
- Open channel flow monitoring
- Process control

### SPECIFICATIONS
- **Input:** AP&M: 0 to 20 mA, 4 to 20 mA, 0 to 5 V, or ±10 V inputs; MPM: 0 to 20 mA, 4 to 20 mA, 0 to 5 V, or ±10 V; PPM: Field selectable: Pulse or square wave 0 to 5 V, 0 to 12 V, or 0 to 24 V @ 30 KHz; TTL: open collector 4.7 kΩ pull-up to 5 V @ 30 KHz; NPN or PNP transistor; switch contract 4.7 kΩ pull-up to 5 V @ 40 Hz.
- **Input Impedance:** 50 to 100 Ω.
- **Accuracy:** ±0.03% of calibrated span ±1 count, square root & programmable exponent accuracy range: 10-100% of calibrated span.
- **Power Requirements:** 85 to 265 VAC 50/60 Hz, 90 to 265 VDC, 20 W max or 12 to 24 VDC ±10%, 15 W max.
- **Display:** Dual-line 6-digit display, 0.60 in and 0.46 in.
- **Decimal Points:** Five positions, user selectable.
- **Temperature Limits:** Operating: -40°F to 149°F (-40 to 65°C); Storage: -40 to 152°F (-40 to 65°C).
- **Enclosure Rating:** NEMA 4X, IP65.
- **Electrical Connections:** Removable screw terminal blocks accept 12 to 22 AWG wire, RJ45 for external relays, digital I/O, and serial communication adapters.

### OPEN CHANNEL FLOW CAPABILITY
Series PPM when utilized with an ultrasonic level transmitter, such as the Mercoid Series ULT, provides an economical way to measure open channel flow.

### DIFFERENTIAL PRESSURE FLOW
The APM can display flow rate and total by extracting the square root from the 4 to 20 mA signal from a differential pressure transmitter, such as the Dwyer 629, that is being used with a flow element such as Dwyer orifice plate Series OP or TE. The user-selectable, low-flow cut-off feature gives a reading of zero when the rate is below a user selectable value.

### PUMP CONTROL
With the two or four contact output option the APM or MPM can be used as a programmable pump controller when used with a Dwyer level transmitter. The APM also has programmable on and off points for up to four pumps, quadruplex pumping systems with alternation capability. When using the 4-relay model with the four external relay accessory, the APM can do 8 contacts for any combination of pump control and 8 programmable alarms.

### ACCESSORIES

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMA-01</td>
<td>RS-232 serial adapter</td>
<td>$99.50</td>
</tr>
<tr>
<td>PMA-02</td>
<td>Meter copy cable</td>
<td>$12.25</td>
</tr>
<tr>
<td>PMA-03</td>
<td>RS-422/485 serial adapter</td>
<td>$99.50</td>
</tr>
<tr>
<td>PMA-04</td>
<td>RS-232 to RS-422/485 isolated converter</td>
<td>$189.00</td>
</tr>
<tr>
<td>PMA-05</td>
<td>RS-232 to RS-422/485 non-isolated converter</td>
<td>$152.00</td>
</tr>
<tr>
<td>PMA-06</td>
<td>USB to RS-232 non-isolated converter</td>
<td>$62.50</td>
</tr>
<tr>
<td>PMA-07</td>
<td>USB to RS-422/485 isolated converter</td>
<td>$238.00</td>
</tr>
<tr>
<td>PMA-08</td>
<td>USB to RS-422/485 non-isolated converter</td>
<td>$174.00</td>
</tr>
<tr>
<td>PMA-09</td>
<td>Snubber</td>
<td>$10.75</td>
</tr>
<tr>
<td>PMA-10</td>
<td>DIN rail mounting kit for two modules</td>
<td>$15.50</td>
</tr>
<tr>
<td>PMA-11</td>
<td>4 relay expansion module</td>
<td>$88.00</td>
</tr>
<tr>
<td>PMA-12</td>
<td>4 digital inputs and 4 digital outputs module</td>
<td>$38.00</td>
</tr>
</tbody>
</table>

---

**Items are net priced and are not subject to any discount.**