PROGRAMMABLE INTERFACE DISPLAY FOR RATE, TOTAL AND CONTROL COMMANDS

FMI-100

- Displays Instantaneous and Total Flow
- Digital RS232 or RS485 Interface (Multi-Drop Up to 64 Devices)
- Programmable, Optically-Isolated Pulse and Digital Outputs
- For Use with FMA1700/1800 or FMA5400/5500 Series
- 16 Point Programmable Controls, With Ramping Up/Down
- Free Configuration and Monitoring Utility Software

The FMI-100 Series is for flowmeters and controllers with analog 0 to 5, 5 to 10, 0 to 10 Vdc or 4 to 20 mA input output interface, where flow indications/control, totalizers or alarm functions are required. Also when re-transmission of the flow rate and/or totalizer functions via optically-isolated pulse output or serial communication is desired. Local or programmable set point control for flow controllers (no host PC presence required).

The graphical LCD has large 13 mm (0.51") digits for flow rate and 5.5 mm (0.21") for total and can be set by user to simultaneously show different combination of the flow parameters: flow rate, totalizers, flow alarms, and diagnostic events. All configuration parameter settings are easily accessed via a simple user-interface menu driven by a 6 button key-pad which can be password-protected.

For flowmeters and/or flow controllers, FMI-100 provides jumpers selectable for 0 to 5 Vdc or 4 to 20 mA analog set point control signals. The flow rate set point can be adjusted locally via key-pad, remotely via host PC using digital communication interface, or programmed in advance using built-in 16 steps batch table with ramping up/down support.

The programmable flow pulse output operates independently from the totalizers and based on configuration settings can provide pulse frequency proportional to instantaneous fluid flow rate. The FMI-100 provides two independent programmable flow totalizers. Both totalizers are updated every 100 ms and can be set to activate different events. Main totalizer accumulated total is backed-up in EEPROM memory every second. And it provides the user with a flexible alarm/warning system that monitors the fluid flow for conditions that fall outside configurable limits as well as visual feedback for the user via the LCD or via an optically-isolated output.

All process data and settings can be read and modified manually via local LCD key-pad or through the digital RS232 or RS485 communication interface. Proprietary ASCII software interface command set and free Communication Utility software are provided.
**SPECIFICATIONS**

**ADC/DAC Resolution:** 12-bit

**Analog Inputs:** 0 to 5 Vdc, 4 to 20 mA, 5 to 10 Vdc (jumper-selectable), 0 to 10 Vdc (contact Flow Engineers at Omega for details)

**Analog Outputs:** 0 to 5 Vdc, 4 to 20 mA (jumper-selectable)

**LCD:** 128 x 64 graphic LCD with instantaneous flow reading and total volume indication, adjustable LCD contrast and backlight

**Key-Pad:** Local 6 tactical push buttons

**Pulse Output:** User-programmable, optically-isolated, with preset active low time interval (10 to 6550 mS).

**Digital Output:** Two programmable, optically-isolated, UCE @ 40 Vdc, ICE @ 150 mA (voltage isolation; 250 Vrms)

**Digital Interface:** RS232 or RS485 (multidrop capability up to 64 devices)

**Protocol:** Proprietary ASCII software interface command set

**Speed:** 1200/2400/4800/9600/19200/38400/57600/115200 baud (user selectable)

**Configuration:**
- **Stop Bit:** 1
- **Data Bits:** 8
- **Parity:** None
- **Flow Control:** None

**Addressing:** Maximum 255 addresses (for RS485 option only)

**Type:** RS232 or RS485 2-wire

**Power Requirements:** 12 to 26 Vdc (up to 60 mA maximum)

**Interface Connectors:** Process I/O signals and digital RS232/RS485 interface, miniature 9-pin female D-SUB connector; digital optically-isolated outputs; TERM BLOCK HEADER 4POS 3.5 mm male pins, shrouded

**Environment:** Installation Level II, Pollution Degree II, (per IEC 664)

**Electromagnetic Compatibility:** Compliant ref. 89/336/EEC as amended; emission standard; EN 55011:1991, Group 1, Class A immunity standard: EN 55082-1:1992

**Operating Temperature:** -10 to 70°C (14 to 158°F)

**Dimensions:** 86.4 W x 76.2 H x 19.1 mm D (3.4 x 3.0 x 0.75”)

**Weight:** Approximately 125 g (0.3 lb)

### To Order

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>FMI-102</td>
<td>RS232 monitor/control interface, no display</td>
</tr>
<tr>
<td>FMI-105</td>
<td>RS485 monitor/control interface, no display</td>
</tr>
<tr>
<td>FMI-102-10V</td>
<td>RS232 monitor/control interface, no display for 0 to 10V input/output</td>
</tr>
<tr>
<td>FMI-105-10V</td>
<td>RS485 monitor/control interface, no display for 0 to 10V input/output</td>
</tr>
<tr>
<td>FMI-102D</td>
<td>Rate/total, display, RS232 monitor/control interface</td>
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<tr>
<td>FMI-105D</td>
<td>Rate/total, display, RS485 monitor/control interface</td>
</tr>
<tr>
<td>FMI-102D-10V</td>
<td>Rate/total, display 0 to 10V input/output monitor/control interface</td>
</tr>
<tr>
<td>FMI-105D-10V</td>
<td>Rate/total, display 0 to 10V input/output monitor/control interface</td>
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</tbody>
</table>

Comes complete with operator's manual.

### Mounting Kits (Sold Separately)

<table>
<thead>
<tr>
<th>Model No.</th>
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<tbody>
<tr>
<td>FMI-100-MKM-DD</td>
<td>Meter mounting kit two 9-pin D connectors</td>
</tr>
<tr>
<td>FMI-100-MKM-RD</td>
<td>Meter mounting kit RJ11 to 9-pin D</td>
</tr>
<tr>
<td>FMI-100-MKM-FD</td>
<td>Meter mounting kit flat wire to 9-pin D</td>
</tr>
<tr>
<td>FMI-100-MKC-2C</td>
<td>Controller mounting kit 12 Vdc North American with communication</td>
</tr>
<tr>
<td>FMI-100-MKC-2N</td>
<td>Controller mounting kit 12 Vdc North American no communication</td>
</tr>
<tr>
<td>FMI-100-MKC-4C</td>
<td>Controller mounting kit 24 Vdc North American with communication</td>
</tr>
<tr>
<td>FMI-100-MKC-4N</td>
<td>Controller mounting kit 24 Vdc North American no communication</td>
</tr>
</tbody>
</table>

For units with 230 Vac European plug add “-EU” to the model number, for additional cost.

For units with 240 Vac Australian plug add “-AU” to the model number, for additional cost.

For units with 240 Vac UK plug add “-UK” to the model number, for additional cost.

**Ordering Example:** FMI-105, RS485 interface (no display) with FMI-100-MKM-RD meter mounting kit with cable.