# PMD 300MC Series

## Master Message Displays

### Features:

- **Stores approximately 175 80-character messages per 16K of EEPROM memory**
- **Internal data logger has battery-backed RAM for internal storage of over 3,000 messages**
- **Scroll, chain, blink, print, log, & center messages can be transmitted to external display(s)**
- **115/230 VAC (standard), 24 VDC (optional)**
- **UL Listed**
- **CSA Certified**
- **FM Division I, Class 2, Groups A, B, C, D**
- **NEMA 12 Front Panel**


The PMD 300MC Series Programmable Message Controller is essentially a PMD 300MC Series Master Message Display without the built-in vacuum fluorescent display. It allows you to store message programs, log messages, operate slave displays, communicate via computer interface, and all other PMD 300MC operating features except that it requires a slave display to view its messages.

The PMD 300MC Series Message Controller is designed to give you fast, accurate information when you need it most. The units give you maximum flexibility with minimum complexity. Because the PMD 300MC Series is so flexible, it is used in a wide-variety of applications. And, since machinery, processes, and electronic equipment vary from application to application, there are numerous ways to enter information into and extract information from your PMD 300MC Series unit.

The PMD 300MC Series products provide information from your controlled process or automated operation. Simple ON/OFF signals from your PLC enable a PMD 300MC to translate current conditions into plain language by selecting a preprogrammed message and transmitting them to the appropriate message display(s). Message information may be sent to an on-line printer, stored in the PMD 300MC Series' data log, and/or sent to and displayed on one or more slave message displays; such as: PMD 180S, PMD 200S, PMD 300S, slave marquee displays, such as the PMD 1100, PMD 1200, PMD 1205, or numeric marquees PMD 1404 and PMD 1406.

These products feature chaining, blinking, scrolling, printing, and centering messages. Hardware features include data logging, 115 chained-message queuing with prioritization capability, and the ability to program messages in U.S., English, Swedish, French, Danish, German, Cyrillic, and Japanese Kana international character sets.

Any ASCII terminal, PLC with an ASCII module, or personal computer with an RS-232C port can be used to program a PMD message controller. Custom program development software (DOS-only, Part Number 10F50) provides the menus, prompts, and

help screens that make message entry and editing easy... You can program your displays, online, off line, or while residing in a network. And, the message simulation feature lets you see your message, as it will appear on your AVG Uticor Slave display(s).

The Message Controller's front panel is very similar to the back panel of the PMD 300 Series. In addition, the Message Controller has the PMD 300's three pushbuttons on its front panel as well. The PMD 300MC Series is designed for surface mounting; the back panel has slotted mounting holes for this purpose.

The PMD 300MC Series comprises several versions, PMD 300MC, 350MC, 360MC, and PMD 380MC. If you are using a PMD 300MC Series product with a PLC interface (PMD 350MC, 360MC, or 380MC), you need to be aware of the unit's scan time. The PMD 300MC unit has a maximum scan time of 185 msec. The typical scan time is less than 185 msec between each triggered message to guarantee that the PMD 300MC product will see the information. All four data sets can be changed within a single scan, but a data set cannot be changed twice within a scan of the PMD 300MC display.

## THE PMD 300MC SERIES VERSIONS ARE:

**PMD 300MC** PMD 300MC Programmable Master Message Display's front panel also features three pushbuttons (MODE, ENTER, RESTART) for operation of the display and contains the connectors for interfacing to the unit.

## FEATURES INCLUDE:

**Messages-** The PMD 300MC monitors two 16-bit registers to control messages. The first register is the Message/Data register and is used to select a message number. The second is the Control register and is used to determine when the message is triggered and to control the use of the other registers monitored by the PMD 300.

**Data Sets-**

**Using PLC Outputs to Control:** PMD 300MC can be configured to monitor up to four 16-bit registers to be used for variable data information in the PMD 300MC. Each word of PLC data is mapped directly into one data set. Each time the PLC data changes, the new PLC data will be put into the corresponding data set in the PMD 300MC. Note: Data sets are not mapped onto the message controller when the queue feature is enabled.

**Controlling PLC Register:** The PMD 300MC can be configured to map up to four data set words directly into four registers in the PLC. Each time a data set changes in the PMD 300MC, it will be written to the corresponding register in the PLC.

**PMD Status-** The PMD 300MC Series uses one 16-bit register in the PLC to indicate the status of the Message Controller. Each time the register changes, it is rewritten to the PLC.

**Circular Message Queue-**

A Circular Message Queue is available on all PMD 300MC units equipped with a PLC interface. The Circular Queue is a feature that can be enabled or disabled. With the feature enabled a PMD 300MC Series unit will cycle through the messages in the queue according to the display time associated with each message. Each message is displayed on the slave display according to its associated display time. Any function that affects the queue (add, delete, clear) will be ignored when the queue is disabled.

## USING THE OPTIONAL PMD 400E EXPANDER MODULE BRINGS ADDITIONAL FEATURES (ALL MODELS EXCEPT PMD 380MC):

**LEDs-** When used with the optional PMD 400E Expander Module, the PMD 300MC can be configured to monitor up to two 16-bit registers to be used for LED status in the PMD 300MC Series. Each word of PLC data is mapped directly into one set of 16 LEDs. Each time the PLC data changes, the new PLC data will be put into the corresponding LED status in the PMD 300MC.

**Function Keys-** When used with the optional PMD 400E Expander Module, the PMD 300MC Series can be used to map up to two sets of 16 function keys to up to two 16-bit registers in the PLC. Each time a function key is pressed, it sets the corresponding bit in the PLC. When the key is released, the bit is cleared.

## PMD 300MC SERIES MESSAGE CONTROLLERS WITH PLC-SPECIFIC INTERFACES:

**PMD 350MC** The PMD 350MC is essentially a PMD 300MC, which directly interfaces to an Allen-Bradley PLC2, PLC3, or PLC5 through Remote I/O, Block Transfer, or Data Highway/Plus. Each of these modes operates independently from the other and the 350MC can be configured to communicate using any one of them. It has all of the PMD 300MC features, but the PMD 350MC receives communications through twinaxial cable ("blue hose").

The PMD 300MC Parallel Port and the associated Message Control terminals and the Power IN/Power OUT terminals have been removed and replaced by the PLC interface connector located on the bottom of the PMD 350.

**PMD 360MC** PMD 360MC is very similar to the PMD 300MC. It contains an interface to Siemens/Texas Instruments Series 545 (and the 560, and 565 CPUs used in conjunction with the Siemens/TI RCC module) which have the RS-485 remote I/O module. The PMD 360MC will appear as a RBC (Remote Base Controller) to the Siemens/TI PLC. The PMD 360MC can also listen to an existing RBC and use the information from it.

The PMD 300MC Parallel Port and the associated Message Control Terminals and the Power IN/Power OUT Terminals have been removed and replaced by the 9-position D-style PLC interface connector located on the bottom of the PMD 360MC.

**PMD 380MC** The PMD 380MC has all of the PMD 300MC capabilities, but contains support for a Genius Network Adapter (GENA) board which allows the PMD 380MC to be configured as a node on the Genius I/O system. The PMD 380MC can be configured as an I/O bock on a Genius I/O system and will receive data from a bus interface module. A bus interface module is typically a PLC with a Genius bus controller module or a Genius Personal Computer Interface Module (PCIM) card installed in a personal computer. The PMD 380MC will exist on the Genius I/O network as an I/O block broadcasting its inputs to the bus and reading the outputs sent to it by the bus controller.

The PMD 300MC parallel port, message control terminals, and the VDC Power IN/Power OUT terminals have been removed and replaced by a right-angle, 8-position, removable terminal block located on the bottom of the PMD 380MC.

The PMD 380MC must be configured to fit into the Genius network. The unit must have a unique serial bus address and it must be configured to use the same baud rate that is used by the bus controller module and the rest of the devices on the network.

# PMD 300MC Series Specifications

## MECHANICAL

**Weight:**
4.75 lb. (2.15 kg)

**Housing:**
Rugged Black Aluminum Case

**Front Plate:**
NEMA 12

**Dimensions:**
See drawing-inches (mm)

## ELECTRICAL

**Message Memory:**
8-128 Kbytes

**Slave Port:**
RS-422A

**Computer Port:**
RS-422A

**Printer Port:**
Parallel

**Terminal Block:**
**Serial Ports, Relay, and Control:** Wire-Clamp screws for 18-22 AWG

**Power Input:** Wire-Clamp screws for 12-18 AWG

**PLC Connector:**
**PMD 350MC** (A-B)
Plug-in, 7-position terminal block

**PMD 360MC** (Siemens/TI) 9-position female D-style connector

**PMD 380MC** (GE Genius I/O) Plug-in, 8-position terminal block

**Power Source:**
**AC Model (jumper select):**
115 VAC (102-132) 47-63 Hz, 12 W
230 VAC (194-250) 47-63 Hz, 12 W

**DC Model:**
24 VDC (21.6-26.4), 10 VA

**Control Power:**
5-30 VDC (75 mA @ 5V,
200 mA @ 30 V) all inputs on

**Electrical Interference:**
NEMA ICS 2-230 Showering Arc Test

**Electrical Tolerance:**
ANSI C37.90a-1974 (SWC)
Surge Withstand Capability Test

## MEMORY

**Battery Life-OFF continuously:**
Typically 5 years
(minimum 1 1/2 years)

**Memory Message Type:**
EEPROM (16K, 32K, 64K, 128K)

**EEPROM Life:**
Minimum 10,000 changes to a given location

**Memory Usage:**
Approximately 175 80-character messages per16K Bytes of EEPROM

## ENVIRONMENTAL

**Temperature (Ambient):**
**Operational:**
32 to 140 °F (0 to 60 °C)

**Storage:**
-40 to +203 °F (-40 to +95 °C)

**Humidity:**
10 to 95% RH, Noncondensing

**Enclosure Rating:**
NEMA 12