

PROGRAMMABLE MESSAGE DISPLAYS

AVG UTICOR Programmable Message Displays (PMDs), are found in numerous applications throughout all industries.

PMDs are extremely versatile products, enabling your PLC or control system to display vital production status or alarm messages to plant-floor personnel in real time.

AVG UTICOR now offers several lines of human-machine interfaces:

1. VFD (Vacuum Fluorescent Display), Character-based Master Message Displays
2. VFD Character-based Slave Message Displays
3. Message Controllers (no display)
4. LED-based Marquees (description starts on page 62)

Character-Based Master Message Displays store several (memory dependent) messages. These messages and their characteristics (such as blinking, centering, scrolling, etc.) are programmed using a programming software that runs on a PC (available *free* from AVG UTICOR). A Master Message Display continuously polls the connected PLC for a message number and several control parameters. Based on the control parameters, the Master Message Display can display the message, send the message to one or a group of Slave Message Displays or Marquee Displays (described below). A PC can also control the Master Message Display.

AVG UTICOR offers the following Master Message Displays :

- PMD 150 Series
- PMD 180
- PCI 185
- PMD 200
- PMD 300 Series
- PMD 400 Series

A **Message Controller** is functionally the same product as the corresponding Master Message Display, *except it has no display of its own*. Thus, a Message Controller, like a Master Message Display, stores messages and sends these messages to Slave Message Displays or Marquees (to one, group, or broadcast), based on PLC and/or PC command.

AVG UTICOR offers the following Message Controller:

- PMD 180MC
- PMD 300MC

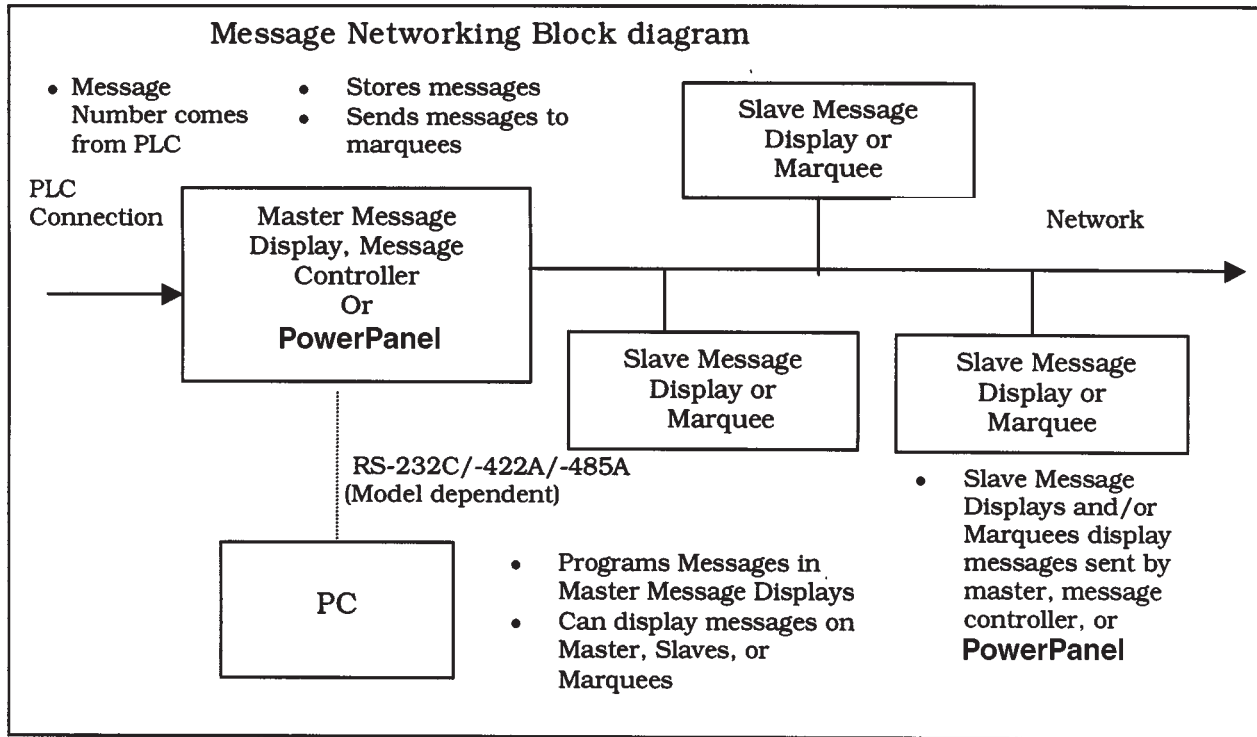
Slave Message Displays do not store messages. They are typically used with a Master Message Display, Message Controller, or a PowerPanel. Any of these units can drive a network of several Slave Displays. Each Slave Display used on a network has a unique address. This addressing scheme allows a message to be sent to one, several, or all slaves on the network.

AVG UTICOR offers the following Slave Message Displays:

- PMD 150S
- PMD 180S
- PMD 200S
- PMD 300S



Programmable Message Displays by AVG UTICOR



SELECTING THE RIGHT MODEL

The PMD Master Message Display or Message Controller receives message inputs from a PLC or control system and outputs messages to one or more units installed at strategic locations throughout the user's plant. A PC can be connected for programming purposes.

AVG UTICOR offers a variety of PMD models to meet different application needs. A user will select a PMD based on following criteria:

- Number of lines on display
- Characters per line
- Size of characters (visibility distance)
- PLC Connectivity drivers (available for over 30 models)

PMDs offers a wide variety of features. A list of features follows. Please refer to data sheets of each model for more information on a model.

PMD FEATURES

Master Message Displays offer many features that enhance your ability to display pertinent information. Here's a brief listing of some of the more common features and what they are (Every model may not support all of the following features):

Blinking	A character, word, or message flashes on and off at a user-programmable rate; used to attract attention to a message of high priority.
Chained Message	Links up to 115 individual messages together and displays at a user-defined rate.
Circular Message Queue	A list of messages displayed in the order that they are triggered according to their message display time. The list wraps around from the last message back to the first message and continues to cycle through the queue until the user makes a change.
Data Log	An area of memory set aside for a time- and date-stamped historical record of events in the unit.
Invisible Messages	Messages sent to a printer or Marquee, but not to the Master Message Display's own display.
Off-line Programming	Message programs are developed with the supplied programming software and stored to disk. The message file can then be uploaded to the Master Message Display unit. The computer does not need to be connected to the unit for this programming process.
On-line Programming	Master Message Display unit is programmed directly from the computer. The unit must be connected to the programming computer. With on-line programming, the user can develop screens while the display unit is running. This allows modification of the screens without having to take the unit off line.
Real-Time Clock	A clock that indicates the passage of actual time.
Scrolling Message	A message that contains up to 235 characters and moves from the bottom of the display to the top, or from the right of the display to the left.

PMD 150/155 MASTER MESSAGE DISPLAY

FEATURES:

- **2-line display with 20 vacuum fluorescent characters 0.2" (5.05 mm) high**
- **Can be viewed from 10 ft. (3.05 m)**
- **Accommodates Display time, date, variable data signals**
- **Will display scroll, chain, blink, print, log, & center messages**
- **Approximately 150 40-character messages or 250 20-character messages**
- **UL Listed**
- **CSA Certified**
- **FM Division I, Class 2, Groups A, B, C, D**
- **115/230 VAC, 47-68 Hz, 18 VA (standard)**
- **24 VDC (20-32 VDC), 18 VA (optional)**
- **NEMA 12 Front panel**



The PMD 150/155 Master Message Display was designed to give you more display continuity and flexibility than ever before. This extraordinary low-cost unit is an intelligent, alphanumeric display panel, which is user programmed with individualized messages. Its compact size reduces space previously required for annunciator panels and indicator lights. Unlike annunciator panels, the PMD 150/155 can be used to provide complete information of machine or process status, operator prompting, and fault indicators.

The PMD 150/155 Master Message Display comes with 2-line display with 20 vacuum fluorescent characters 0.2" (5.05 mm) high. Interfacing to this unit is not a problem either. The PMD 150/155 Master Message Display comes with drivers that enable it to interface directly with over 30 brands and/or models of PLCs.

Messages are programmed into the Master using any ASCII terminal or PC with an RS-232C interface. Message programs can

be stored on digital tape and reloaded into one or more message displays at any time. The PMD 150/155 can be interfaced to a printer, either to print the entire program or to print individual messages as they are selected.

The PMD 155 is the same as a PMD 150, plus it features eight function keys and a numeric keypad. The keys provide contact closure and are completely isolated from their internal electronics. The maximum voltage and current ratings for the contacts of each keypad are 30 VDC @ 30 mA. The keypads are terminated on a DB25 connector located on the circuit board on the back of the unit. The keypads provide contact closure for your automated process and you can define them any way you wish. The function keys have a changeable legend so you can customize the labeling of each function key.

SPECIFICATIONS:

MECHANICAL

Weight:

2.75 lb. (1.25 kg)

Housing:

Rugged, black aluminum case.

Front Panel:

NEMA 12

NEMA 4X-Stainless Steel

Dimensions:

See drawing-inches (mm)

DISPLAY

Display Technology:

Vacuum Fluorescent (blue)

Lines:

2

Characters per line:

20, 5 x 7 dot matrix

Character Height:

0.2" (5.05 mm)

Character Set:

All Standard ASCII upper/lower case and symbols

Viewing Distance:

10 ft. (3.05 m)

ELECTRICAL

RS-232C Port:

DB25 socket (female)

Parallel Port:

DB25 socket (female)

Optional-plug-in terminal block

Power Source:

AC:115 VAC (102-132), 47-63 Hz

230 VAC (194-250), 47-63 Hz

DC:24 VDC (21-26)

Power Input Terminals:

Wire-Clamp Screws for 18-22 AWG

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)

(only applicable if clock option is selected)

Memory Message Type:

8K EEPROM

Life:

EEPROM Min. 10,000 changes to a given location

Memory Usage:

Approximately 150 40-character messages or 250 20-character messages

per 8K Bytes of memory

ENVIRONMENTAL

Temperature (Ambient):

Operational: 32 to 140 °F

(0 to 60 °C)

Storage:-40 to +203 °F

(-40 to +95 °C)

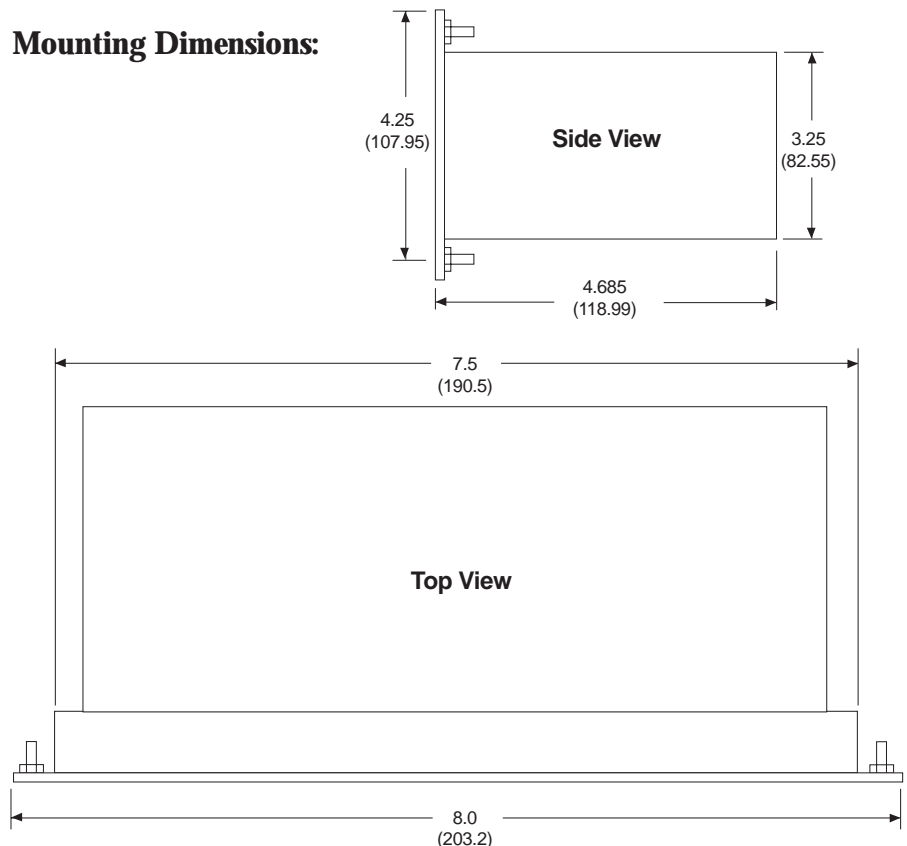
Humidity:

10 to 95% RH, Noncondensing

Enclosure Rating:

NEMA 12

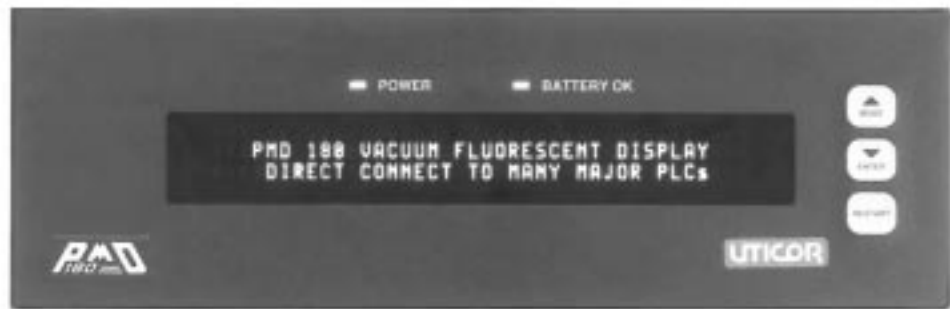
Mounting Dimensions:



PMD 180 MASTER MESSAGE DISPLAY

FEATURES:

- 2 x 40 or 4 x 20 character display
- 5 X 7 dot matrix characters, 10 ft. (3.05 m) viewing distance
- Message priority & queue to 16 messages



ADVANCED FEATURES:

- Power & Battery Status LEDs
- Mode, Enter, and Restart pushbuttons on front panel
- Display time, date, variable data
- Scroll, chain, blink, print, log, & center messages
- Message Memory: EEPROM (8-128K)
- 115/230 VAC (standard), 24 VDC (optional)
- UL Listed
- CSA Certified
- FM Division I, Class 2, Groups A, B, C, D
- Front Panel: NEMA 12

The PMD 180 is a compact and versatile 2- or 4-line programmable message display with 20 or 40 vacuum fluorescent characters per line 0.197" (5 mm) high. The PMD 180 comes with drivers that allow it to be interfaced to over 30 different brands and/or models of PLCs.

Depending on which options you order, the PMD 180 can have 8K, 32K, 64K, or 128K of EEPROM. Also available as an option is an extra board, which adds a parallel, slave, and printer port to the unit.

PMD 180 features chaining, blinking, scrolling, printing, and centering messages. Hardware features include data logging, 16-message circular 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 or personal computer with an RS-232C interface can be used to program a whole network of message displays. **Free** DOS-based custom program development software (part number 10F54) provides the menus, prompts, and help screens that make message entry and editing easy... And, the message simulation feature lets you see your messages as they will appear on your PMD 180.

SPECIFICATIONS

MECHANICAL

Weight:

4.5 lb. (2.04 kg)

Housing:

Rugged Black Aluminum Case

Front Plate:

NEMA 12
NEMA 4X - Stainless Steel

Dimensions:

See drawing-inches (mm)

DISPLAY

Display Technology:

Vacuum Fluorescent (blue)

Lines:

2 or 4

Characters per line:

20 or 40

Display Configurations:

2 lines x 40 characters per line

4 lines x 20 characters per line

Display Character Type:

5 x 7 dot matrix

Viewing Distance:

10 ft. (3.05 m)

ELECTRICAL

Message Memory:

EEPROM (8K, 16K, 32K, 128 K)

Slave Port:

Optional

Computer Port:

Standard ASCII

Parallel Port Inputs:

20 (optional)

Terminal Block:

Wire-clamp terminal block for 18 AWG

Parallel Port Source Inputs:

10-30 VDC

Printer Port:

Optional

Power Source:

115 VAC (102-132), 47-63 Hz,
11 VA

230 VAC (194-250), 47-63 Hz,
11 VA

24 VDC (20-32 VDC), 11 W

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 1½ years)

Memory Message Type:

EEPROM (8K, 32K, 64K, 128K)

Mounting Dimensions:

Life:

EEPROM Min. 10,000 changes
to a given location

Memory Usage:

Approximately 175 80-character
messages per 16K Bytes of memory

ENVIRONMENTAL

Temperature (Ambient):

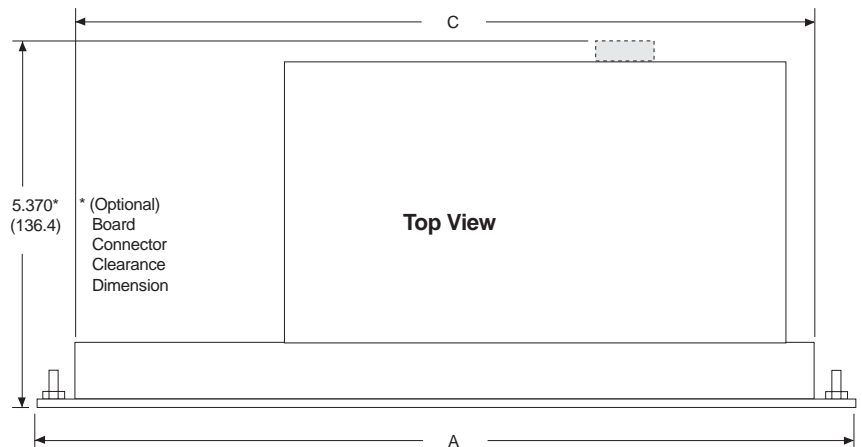
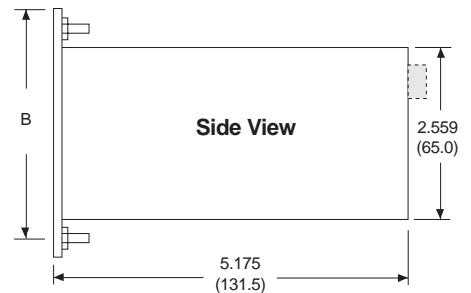
Operational:32 to 140 °F
(0 to 60 °C)

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

Humidity:10 to 95% RH,
Noncondensing

Enclosure Rating:

NEMA 12



PMD 180	NEMA	A	B	C
4 Line/20 Character	12	8.650 (219.7)	3.700 (94.0)	8.150 (207.1)
2 Line/40 Character	12	11.550 (293.4)	3.700 (94.0)	10.984 (279.0)

PCI 185/185E MASTER MESSAGE DISPLAY

FEATURES:

- **Two-way communication between operator and machine**
- **5 x 7 dot matrix characters, 10 ft. (3.05 m) viewing distance**

ADVANCED FEATURES:

- **Power and Battery Status LED Indicators**
- **16 User-Defined Function Keys featuring changeable legends**
- **Numeric Keypad**
- **Front Panel Setup Buttons, Mode, Enter, and Restart**
- **Real-time Clock and Data Logger**
- **Message Memory: EEPROM (8-128K)**
- **115/230 VAC (standard), 24 VDC (optional)**
- **UL Listed**
- **CSA Certified**
- **FM Division I, Class 2, Groups A, B, C, D**
- **Front Panel: NEMA 12**

The PCI 185 Programmable Communications Interface (PCI) display provides two-way communication to various PCs and PLCs. Parameters are set up with front panel pushbuttons.

The PCI 185 is a compact and versatile 2- or 4-line display, with 20 or 40 vacuum fluorescent characters per line.

The PCI 185E is a compact and versatile 2 line display, with 20 vacuum fluorescent characters.

Depending on which options you order, the PCI 185/185E can have 8K, 32K, 64K, or 128K of EEPROM memory. Also available as an option is an extra board, which adds a parallel, slave, and printer port to the unit. Options boards are not available on the PCI 185E.

The PCI 185 features chaining, blinking, scrolling, printing, and centering messages. Hardware features include data logging, 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. Literally hundreds of messages can be stored in the PCI 185 and selected by the PLC for display of alarms, machine conditions, and operator prompting. The PCI 185 comes with drivers that allow it to be interfaced to over 30 different brands and/or models of PLCs.

Any ASCII terminal or personal computer with an RS-232C interface can be used to program a whole network of message displays. **Free** custom software provides the menus, prompts and help screens that make message entry and editing easy... And, the message simulation feature lets you see your messages as they will appear on your PCI 185.

SPECIFICATIONS

MECHANICAL

Weight:

4.5 lb. (2.04 kg)

Housing:

Rugged Black Aluminum Case

Front Plate:

NEMA 12

NEMA 4X - Stainless Steel

Dimensions:

See drawing-inches (mm)

DISPLAY

Display Technology:

Vacuum Fluorescent (blue)

Lines:

2 or 4 — PCI 185

2 — PCI 185E

Characters per line:

20 or 40 — PCI 185

20 — PCI 185E

Characters:

5 x 7 dot matrix

Display Configuration:

2 lines x 20 characters per line*

(*PCI 185E only)

2 lines x 40 characters per line

4 lines x 20 characters per line

Viewing Distance:

10 ft. (3.05 m)

ELECTRICAL

Slave Port:

Optional

Computer Port:

Standard ASCII

Parallel Port Inputs:

20 (optional)

Parallel Port Source Inputs:

10-30 VDC

Printer Port:

Optional — PCI 185

No Optional ports on PCI 185E

Power Source:

115 VAC (102-132) /

230VAC (194-250)

24 VDC Isolated Power Supply

(PCI 185E only 24 VDC)

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 1½ years)

Memory Message Type:

EEPROM (8K, 32K, 64K, 128K)

Life:

EEPROM Min. 10,000 changes to a given location

Memory Usage:

Approximately 175 80-character messages per 16K Bytes of memory

ENVIRONMENTAL

Temperature (Ambient):

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

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

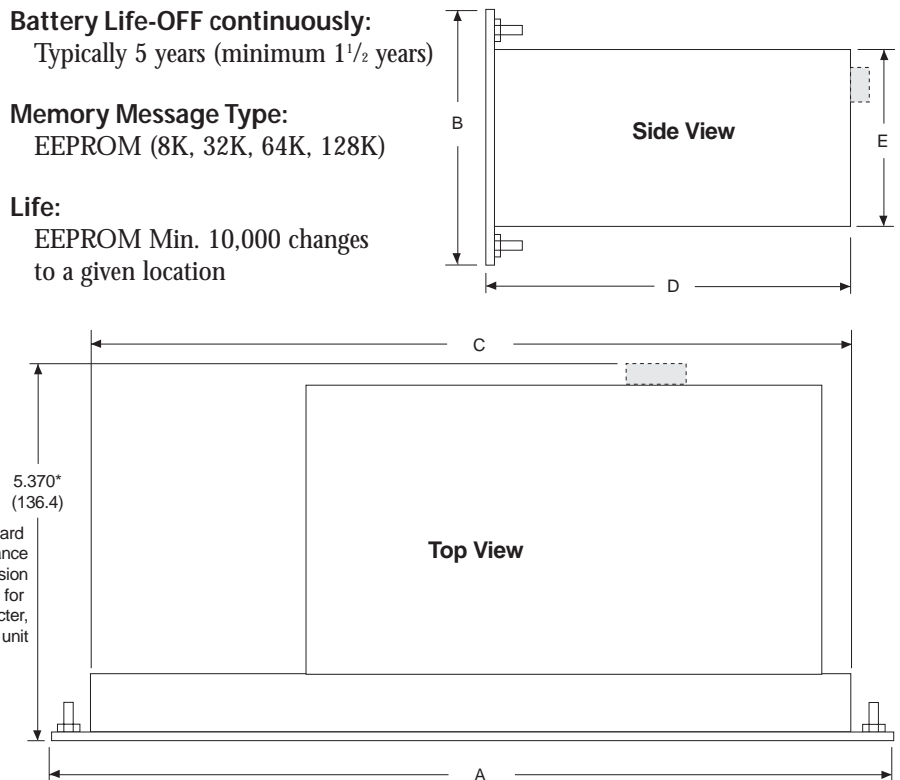
Humidity:

10 to 95% RH, Noncondensing

Enclosure Rating:

NEMA 12

Mounting Dimensions:



PCI 185	NEMA	A	B	C	D	E
4 Line/20 Character 16 F. Keys/Numeric Pad	12	11.838 (300.7)	5.169 (156.7)	10.838 (275.3)	5.175 (131.5)	4.669 (118.6)
2 Line/40 Character* 16 F. Keys/Numeric Pad	12	13.875 (352.4)	5.870 (149.1)	12.875 (327.0)	5.190 (131.8)	4.370 (111.0)

PMD 200 MASTER MESSAGE DISPLAY

FEATURES:

- 2-line display with 20 vacuum fluorescent characters 0.433" (11.0 mm) high
- Can be viewed from 20 ft. (6.1 m)
- Accommodates Display time, date, variable data signals
- Will display scroll, chain, blink, print, log, & center messages
- Approximately 150 40-character messages per 8K bytes of EEPROM memory
- UL Listed
- CSA Certified
- FM Division I, Class 2, Groups A, B, C, D
- 115/230 VAC, 47-68 Hz, 18 VA (standard)
- 24 VDC (20-32 VDC), 18 VA (optional)
- NEMA 12 Front panel



The PMD 200 Master Message Display was designed to give you more display continuity and flexibility than ever before. This extraordinary low-cost unit is an intelligent, alphanumeric display panel, which is user programmed with individualized messages. Its compact size reduces space previously required for annunciator panels and indicator lights. Unlike annunciator panels, the PMD 200 can be used to provide complete information of machine or process status, operator prompting, and fault indicators.

The PMD 200 Master Message Display comes with 2-line display with 20 vacuum fluorescent characters 0.433" (11.0 mm) high. Interfacing to this unit is not a problem either. The PMD 200 Master Message Display comes with drivers that enable it to interface directly with over 30 brands and/or models of PLCs.

Messages are programmed into the Master using any ASCII terminal or PC with an RS-232C interface. Message programs can be stored on digital tape and reloaded into one or more message displays at any time. The PMD 200 can be interfaced to a printer, either to print the entire program or to print individual messages as selected.

The RS-422A port provides communication with up to 65,520 Slave displays that can be addressed both individually or in groups. Another RS-422A port provides computer interfacing capability, which allows a computer to share control of the PMD 200's operation.

SPECIFICATIONS

MECHANICAL

Weight:

5.6 lb. (2.54 kg)

Housing:

Rugged Black Aluminum Case

Front Plate:

NEMA 12

NEMA 4X - Stainless Steel

Dimensions:

See drawing-inches (mm)

DISPLAY

Display Technology:

Vacuum Fluorescent (blue)

Lines:

2

Characters per line:

20, 5 x 7 dot matrix

Character Height:

0.433" (11.0 mm)

Character Set:

All Standard ASCII upper/lower case and symbols

Viewing Distance:

20 ft. (6.1 m)

ELECTRICAL

Interface Port:

RS-422A

Power Source:

AC (jumper selectable): 115 VAC
(102-132), 47-63 Hz, 18 VA

230 VAC (194-250), 47-63 Hz,
18 VA

DC: 24 VDC (21-26), 18 VA

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 1½ years)

Memory Message Type:

EEPROM (8K, 16K, 32K, 64K)

Life:

EEPROM Min. 10,000 changes

to a given location

Memory Usage:

Approximately 150 40-character
messages per 8K Bytes of memory

ENVIRONMENTAL

Temperature (Ambient):

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

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

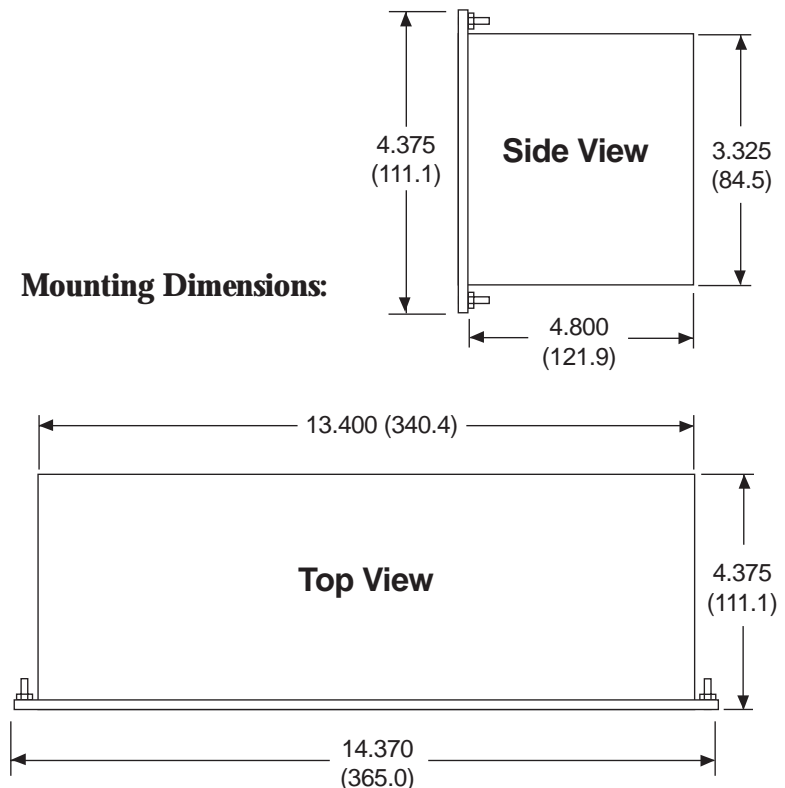
Humidity:

10 to 95% RH, Noncondensing

Enclosure Rating:

NEMA 12 (standard),

Mounting Dimensions:



PMD 300 SERIES MASTER MESSAGE DISPLAYS

FEATURES:

- 4 lines x 20 characters per line display
- Large 0.492" (12.5 mm) Character size, visible from 25 ft. (7.62 m)

ADVANCED 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
- 115/230 VAC (standard), 24 VDC (optional)
- UL Listed
- CSA Certified
- FM Division I, Class 2, Groups A, B, C, D
- Front Panel: NEMA 12



The PMD 300 Series Programmable Message Display 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 300 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 300 Series unit.

The PMD 300 Series products provide information from your controlled process or automated operation. Simple ON/OFF signals from your PLC enable a PMD 300 to translate current conditions into plain language by selecting a preprogrammed message. Message information may be displayed on the PMD 300's alphanumeric display, sent to an on-line printer, stored in the PMD 300's data log, and/or sent to and displayed on 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 display. 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 the 300 Series display.

MESSAGES CAN:

- Display on masters
- Display on virtually unlimited number of slaves
- Display time, date, and variable data
- Display punctuation as well as letters
- Be triggered by time of day
- Scroll left or up
- Blink words or characters
- Log with time/date stamp
- Print
- Chain messages (up to 115)

The PMD 300 Series comprises several versions, PMD 300, 350, 360, and PMD 380. If you are using a PMD 300 Series product with a PLC interface (PMD 350, 360, or 380), you need to be aware of the unit's scan time. The PMD 300 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 300 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 300 display.

THE PMD 300 SERIES VERSIONS ARE:

PMD 300 PMD 300 Programmable Master Message Display is a compact, versatile 4-line display with 20 vacuum fluorescent 0.492" (12.5 mm) high characters per line. The front panel also features three pushbuttons (MODE, ENTER, RESTART) for operation of the display. The back panel contains the connectors for interfacing to the unit.

FEATURES INCLUDE:

Messages- The PMD 300 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 300 can be configured to monitor up to four 16-bit registers to be used for variable data information in the PMD 300. 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 300. Note: Data sets are not mapped onto the display when the queue feature is enabled.

Controlling PLC Register: The PMD 300 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 300, it will be written to the corresponding register in the PLC.

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

Circular Message Queue-

A Circular Message Queue is available on all PMD 300 units equipped with a PLC interface. The Circular Queue is a feature that can be enabled or disabled. With the feature enabled a PMD 300 Series unit will cycle through the messages in the queue according to the display time associated with each message in the Display Mode. Each message is displayed 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 380):

LEDs- When used with the optional PMD 400E Expander Module, the PMD 300 can be configured to monitor up to two 16-bit registers to be used for LED status in the PMD 300 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 300.

Function Keys- When used with the optional PMD 400E Expander Module, the PMD 300 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 300 SERIES DISPLAYS WITH PLC-SPECIFIC INTERFACES:

PMD 350 The PMD 350 is essentially a PMD 300, 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 PMD 350 can be configured to communicate using any one of them. It has all of the PMD 300 features, but the PMD 350 receives communications through twinaxial cable ("blue hose").

The PMD 300 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 360 PMD 360 is very similar to the PMD 300. 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 360 will appear as a RBC (Remote Base Controller) to the Siemens/TI PLC. The PMD 360 can also listen to an existing RBC and use the information from it.

The PMD 300 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 360.

PMD 380 The PMD 380 has all of the PMD 300 capabilities, but contains support for a Genius Network Adapter (GENA) board which allows the PMD 380 to be configured as a node on the Genius I/O system. The PMD 380 can be configured as an I/O block 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 380 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 300 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 380.

The PMD 380 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.

SPECIFICATIONS

MECHANICAL

Weight: 7.6 lb. (3.45 kg)

Housing:

Rugged Black Aluminum Case

Front Plate:

NEMA 12

NEMA 4X - Stainless Steel

Dimensions: See drawing-inches (mm)

DISPLAY

Display Technology:

Vacuum Fluorescent (blue)

Lines: 4

Characters per line:

20, 5 x 7 dot matrix

Character Height:

0.492" (12.5 mm)

Character Set:

All standard ASCII upper/lower case and symbols

Viewing Distance: 25 ft. (7.63 m)

ELECTRICAL

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 350 (A-B) Plug-in, 7-position terminal block

PMD 360 (Siemens/TT) 9-position female D-style connector

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

PMD 380 (Hand-held monitor)

9-position male D-style connector

Power Source:

AC Model (jumper select):

115 VAC (102-132) 47-63 Hz, 22 VA

230 VAC (194-250) 47-63 Hz, 22 VA

DC Model:

24 VDC (21.6-26.4), 10 W

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 per 16K Bytes of EEPROM

ENVIRONMENTAL

Temperature (Ambient):

Operational: 32 to 140 °F

(0 to 60 °C)

Storage: -40 to +203 °F

(-40 to +95 °C)

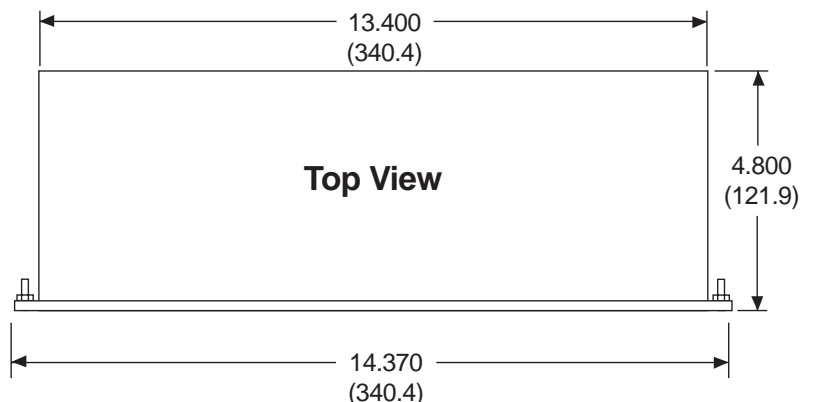
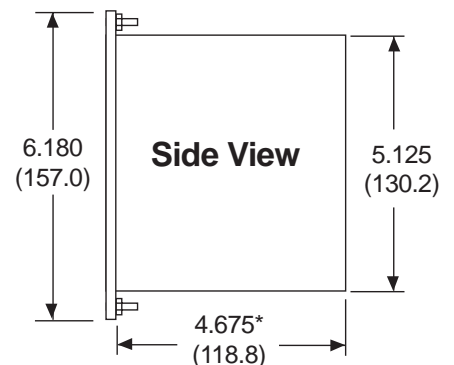
Humidity:

10 to 95% RH, Noncondensing

Enclosure Rating:

NEMA 12 (standard)

Mounting Dimensions:



PMD 400 SERIES MASTER MESSAGE DISPLAYS

FEATURES:

- 4 lines x 20 characters per line display
- Large 0.358" (9.1 mm) Character size, visible from 18 ft. (5.5 m)

ADVANCED 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
- 115/230 VAC (standard), 24 VDC (optional)
- UL Listed
- CSA Certified
- FM Division I, Class 2, Groups A, B, C, D
- Front Panel: NEMA 12



The PMD 400 Series Programmable Message Display 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 400 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 400 Series unit.

The PMD 400 Series products provide information from your controlled process or automated operation. Simple ON/OFF signals from your PLC enable a PMD 400 to translate current conditions into plain language by selecting a preprogrammed message. Message information may be displayed on the PMD 400's alphanumeric display, sent to an on-line printer, stored in the PMD 400's data log, and/or sent to and displayed on 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 display. 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 PMD 400 Series display.

The PMD 400 Series comprises several versions, PMD 400, 450, 460, and PMD 480. If you are using a PMD 400 Series product with a PLC interface (PMD 450, 460, or 480), you need to be aware of the unit's scan time. The PMD 400 unit has a maximum scan time of 185 msec. The typical

MESSAGES CAN:

Display on masters	Scroll left or up
Display on virtually unlimited number of slaves	Blink words or characters
Display time, date, and variable data	Log with time/date stamp
Display punctuation as well as letters	Print
Be triggered by time of day	Chain messages (up to 115)

scan time is less than 185 msec between each triggered message to guarantee that the PMD 400 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 400 display.

THE PMD 400 SERIES VERSIONS ARE:

PMD 400 PMD 400 Programmable Master Message Display is a compact, versatile 4-line display with 20 vacuum fluorescent 0.358" (9.1 mm) high characters per line. The front panel also features 16 configurable function keys and LEDs and a numeric keypad for complete operator interface. The back panel contains the connectors for interfacing to the unit.

FEATURES INCLUDE:

Messages- The PMD 400 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 400.

Data Sets-

Using PLC Outputs to Control:

PMD 400 can be configured to monitor up to four 16-bit registers to be used for variable data information in the PMD 400. 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 400. Note: Data sets are not mapped onto the display when the queue feature is enabled.

Controlling PLC Register:

The PMD 400 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 400, it will be written to the corresponding register in the PLC.

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

Circular Message Queue-

A Circular Message Queue is available on all PMD 400 units equipped with a PLC interface. The Circular Queue is a feature that can be enabled or disabled. With the feature enabled a PMD 400 Series unit will cycle through the messages in the queue according to the display time associated with each message in the Display Mode. Each message is displayed 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 480):

LEDs- When used with the optional PMD 400E Expander Module, the PMD 400 can be configured to monitor up to two 16-bit registers to be used for LED status in the PMD 400 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 400.

Function Keys- When used with the optional PMD 400E Expander Module, the PMD 400 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 400 SERIES DISPLAYS WITH PLC-SPECIFIC INTERFACES:

PMD 450 The PMD 450 is essentially a PMD 400, 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 450 can be configured to communicate using any one of them. It has all of the PMD 400 features, but the PMD 450 receives communications through twinaxial cable ("blue hose").

The PMD 400 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 450.

PMD 460 PMD 460 is very similar to the PMD 400. 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 460 will appear as a RBC (Remote Base Controller) to the Siemens/TI PLC. The PMD 460 can also listen to an existing RBC and use the information from it.

The PMD 400 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 460.

PMD 480 The PMD 480 has all of the PMD 400 capabilities, but contains support for a Genius Network Adapter (GENA) board which allows the PMD 480 to be configured as a node on the Genius I/O system. The PMD 480 can be configured as an I/O block 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 480 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 400 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 480.

The PMD 480 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 400 SERIES SPECIFICATIONS

MECHANICAL

Weight: 7.6 lb. (3.4 kg)

Housing:

Rugged Black Aluminum Case

Front Plate:

NEMA 12
NEMA 4X - Stainless Steel

Dimensions:

See drawing-inches (mm)

DISPLAY

Display Technology:

Vacuum Fluorescent

Lines: 4

Characters per line: 20

Character Height:

0.358" (9.1 mm)

Viewing Distance:

18 ft. (5.5 m)

ELECTRICAL

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 450 (A-B) Plug-in, 7-position terminal block

PMD 460 (Siemens/TI) 9-position female D-style connector

PMD 480 (GE Genius I/O) Plug-in, 8-position terminal block

PMD 480 (Hand-held monitor) 9-position male D-style connector

Power Source:

AC Model (jumper select):

115 VAC (102-132) 47-63 Hz, 22 VA
230 VAC (194-250) 47-63 Hz, 22 VA

DC Model:

24 VDC (21.6-26.4), 18 W

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 per 16K Bytes of EEPROM

ENVIRONMENTAL

Temperature (Ambient):

Operational:

32 to 140 °F (0 to 60 °C)

Storage:

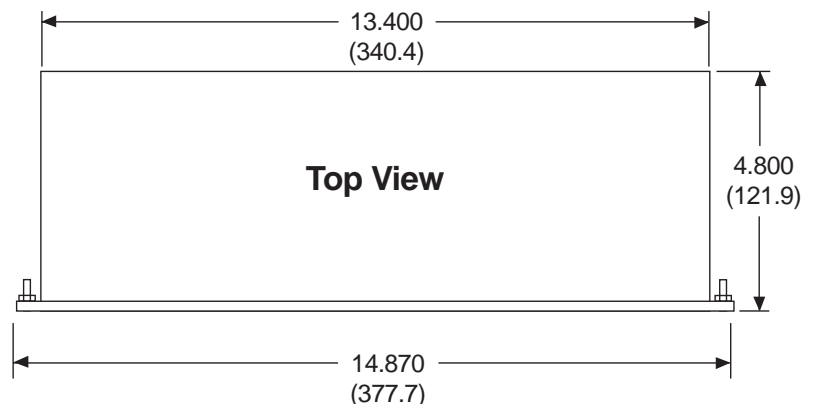
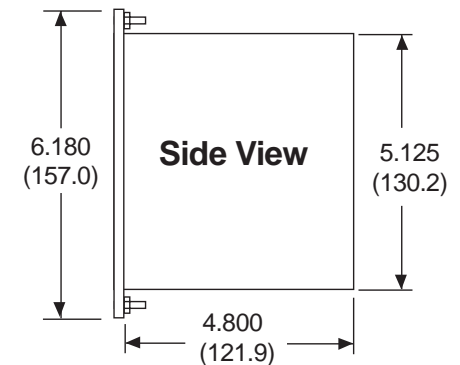
-40 to +203 °F (-40 to +95 °C)

Humidity:

10 to 95% RH, Noncondensing

Enclosure Rating:

NEMA 12



PMD 180MC MESSAGE CONTROLLER

FEATURES:

- **Outputs Message priority & queue of 16 messages to slave message displays and/or slave marquees**
- **Outputs display time, date, variable data to slave message displays and/or slave marquees**
- **Creates scroll, chain, blink, print, log, and center messages, and outputs to slave message displays and/or slave marquees**
- **Approximately 175 80-character messages per 16K Bytes of memory**
- **Real-time Clock and Data Logger outputs to slave message displays and/or slave marquees are standard**
- **Power and Battery Status LEDs**
- **Mode, Enter, and Restart pushbuttons on front panel**
- **UL Listed**
- **CSA Certified**
- **FM Division I, Class 2, Groups A, B, C, D**
- **115/230 VAC, 47-68 Hz, 8 VA (standard)**
- **24 VDC (20-32 VDC), 8 VA (optional)**



The PMD 180MC Message Controller is intended to drive slave message displays and slave marquees. The unit comes with drivers that allow it to be interfaced to over 30 different brands and/or models of PLCs.

Depending on which options you order, the PMD 180MC can have 8K, 32K, 64K, or 128K of EEPROM or RAM. Also available as an option is an extra board, which adds a parallel, slave, and printer port to the unit.

The PMD 180MC features outputs to enable chained, blinking, scrolling, printed, and centered messages on slave message displays and/or slave marquees. Hardware features include data logging, 16-message queuing with prioritization capability, and the ability to program messages for output in U.S., English, Swedish, French, Danish, German, Cyrillic, and Japanese Kana international character sets.

Any ASCII terminal or personal computer with an RS-232C interface can be used to program a whole network of message displays. **Free** custom software provides the menus, prompts and help screens that make message entry and editing easy... And, the message simulation feature lets you see your messages as they will appear on your PMD slave message displays and/or slave marquees.

SPECIFICATIONS

MECHANICAL

Weight:

3.8 lb. (1.72 kg)

Housing:

Rugged Black Aluminum Case

Front Plate:

NEMA 12

Dimensions:

See drawing-inches (mm)

ELECTRICAL

Slave Port:

Optional

Computer Port:

Standard ASCII

Parallel Port Inputs:

20 (optional)

Terminal Block:

Wire-Clamp terminal block
for 18 AWG

Parallel Port Source Inputs:

10-30 VDC

Printer Port:

Optional

Power Source:

AC Model (standard): 115 VAC
(102-132), 47-63 Hz, 8 VA

230 VAC (194-250), 47-63 Hz, 8 VA

DC Model (optional): 24 VDC
(20-32 VDC), 8 VA

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 1½ years)

Memory Message Type:

EEPROM (8K, 32K, 64K, 128K)

Life:

EEPROM Min. 10,000 changes
to a given location

Memory Usage:

Approximately 175 80-character mes-
sages per 16K Bytes of memory

ENVIRONMENTAL

Temperature (Ambient):

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

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

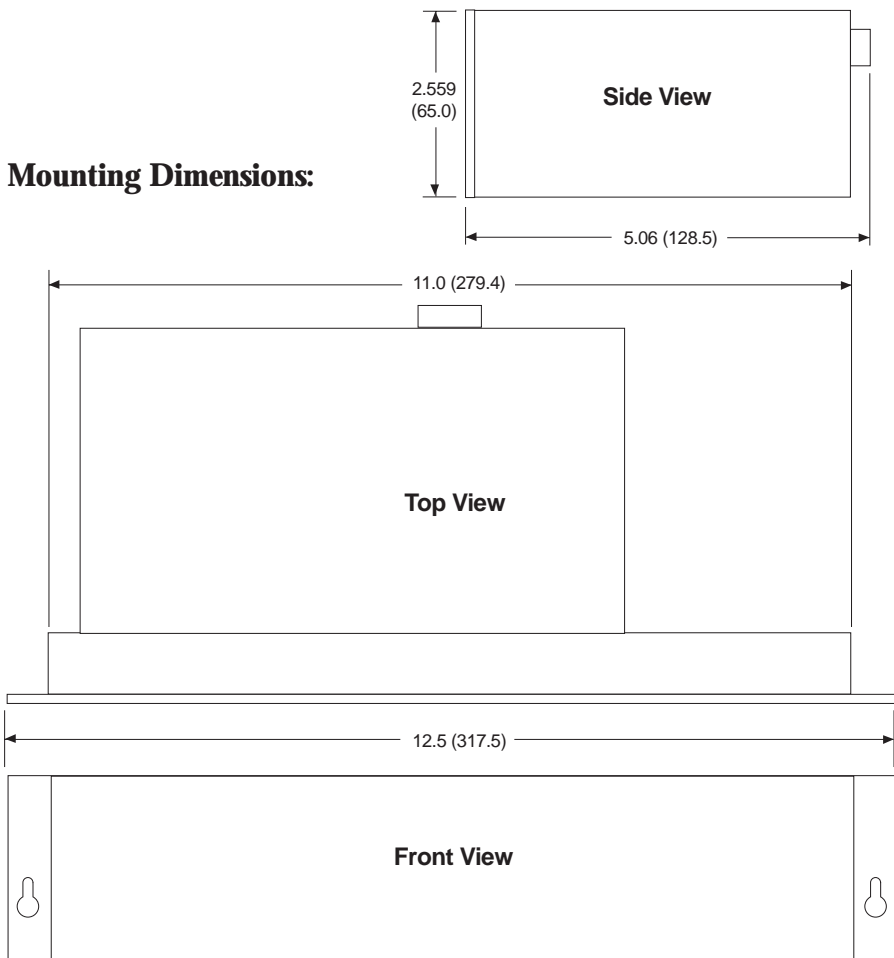
Humidity:

10 to 95% RH, Noncondensing

Enclosure Rating:

NEMA 12

Mounting Dimensions:



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 block 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 per 16K Bytes of EEPROM

ENVIRONMENTAL

Temperature (Ambient):

Operational:

32 to 140 °F (0 to 60 °C)

Storage:

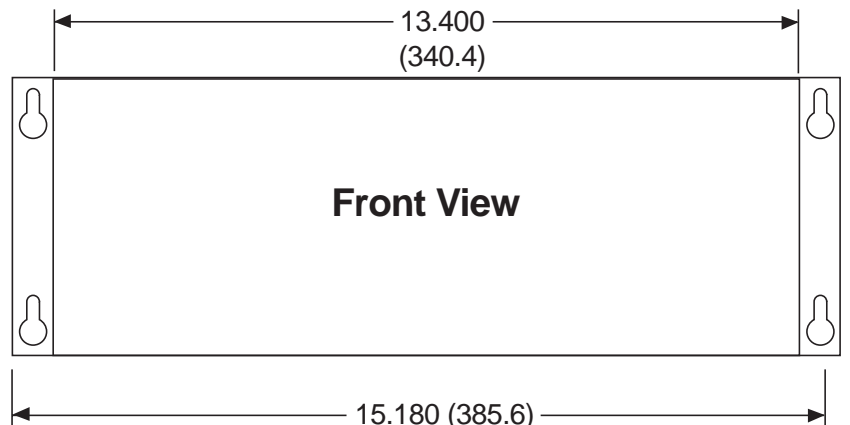
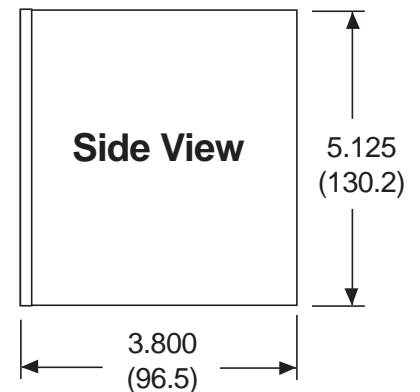
-40 to +203 °F (-40 to +95 °C)

Humidity:

10 to 95% RH, Noncondensing

Enclosure Rating:

NEMA 12



PMD 150S SLAVE MESSAGE DISPLAY

FEATURES:

- **2-line display with 20 vacuum fluorescent characters 0.2" (5.05 mm) high**
- **Can be viewed from 10 ft. (3.05 m)**
- **Accommodates Display time, date, variable data signals**
- **Will display scroll, chain, blink, print, log, & center messages**
- **UL Listed**
- **CSA Certified**
- **FM Division I, Class 2, Groups A, B, C, D**
- **115/230 VAC, 47-68 Hz, 18 VA (standard)**
- **24 VDC (20-32 VDC), 18 VA (optional)**
- **NEMA 12 Front panel**



The PMD 150S Slave Message Display was designed to give you more display continuity and flexibility than ever before. This extraordinary low-cost unit is an intelligent, alphanumeric display panel consisting of two lines of 20-characters per line, which are 0.2" (5.05 mm). Its compact size reduces space previously required for annunciator panels and indicator lights. Unlike annunciator panels, the PMD 150S can be used to provide complete information of machine or process status, operator prompting, and fault indicators.

Any message can contain time, date, and variable data (up to four sets of up to five significant digits per message) from the controller or null (nonprogrammed) characters. Additionally, the entire message can be instructed to blink.

The PMD 150S contains switches used to select the group and unit numbers of the unit address and binary/BCD number coding for its address. The connectors provide connection for service power and for interfacing to the controlling device, as well as other PMD master message displays or PowerPanel Touchscreen Programmable Graphical Interfaces.

SPECIFICATIONS

MECHANICAL

Weight:

2.75 lb. (1.25 kg)

Housing:

Rugged, black aluminum case.

Front Panel:

NEMA 12-Black, anodized Aluminum
NEMA 4X - Stainless Steel

Dimensions:

See drawing-inches (mm)

DISPLAY

Display Technology:

Vacuum Fluorescent (blue)

Lines:

2

Characters per line:

20, 5 x 7 dot matrix

Character Height:

0.2" (5.05 mm)

Character Set:

All Standard ASCII upper/lower case
and symbols

Viewing Distance:

10 ft. (3.05 m)

ELECTRICAL

RS-232C Port:

DB9 socket (female)

RS-422A and Power Input Terminal Block:

Wire-Clamp screws 18-22 AWG

Power Source:

AC: 115 VAC (102-132), 47-63 Hz
230 VAC (194-250), 47-63 Hz

DC: 24 VDC (21-26)

Electrical Interference:

NEMA ICS 2-230 Showering Arc Test

Electrical Tolerance:

ANSI C37.90a-1974 (SWC) Surge
Withstand Capability Test

ENVIRONMENTAL

Temperature (Ambient):

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

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

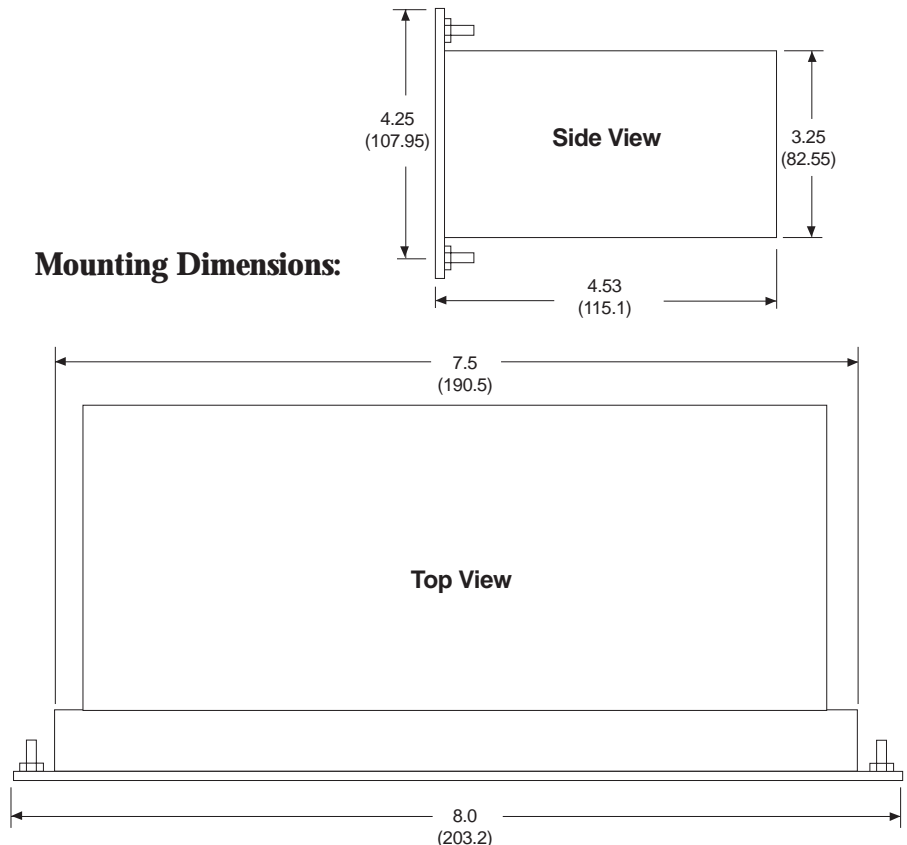
Humidity:

10 to 95% RH, Noncondensing

Enclosure Rating:

NEMA 12

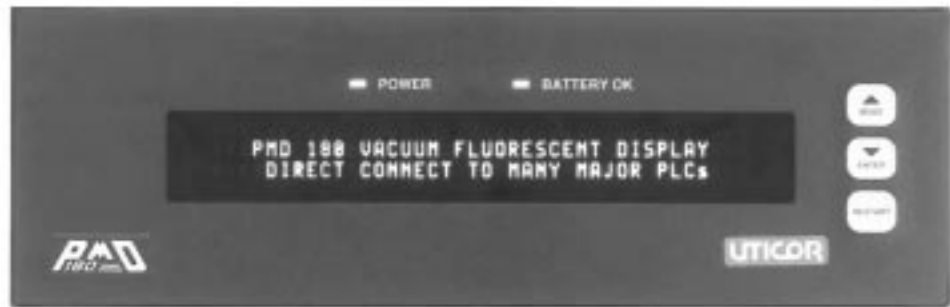
Mounting Dimensions:



PMD 180S SLAVE MESSAGE DISPLAY

FEATURES:

- 2- or 4-line display with 20 or 40 characters 0.183" (4.65 mm) high
- Can be viewed from 10 ft. (3.05 m)
- Accommodates Display time, date, variable data signals
- Will display scroll, chain, blink, print, log, & center messages
- UL Listed
- CSA Certified
- FM Division I, Class 2, Groups A, B, C, D
- 115/230 VAC, 47-68 Hz, 11 VA (standard)
- 24 VDC (20-32 VDC), 11 VA (optional)
- NEMA 12 Front panel built-in mounting studs



The PMD 180S Slave Display was designed to give you more display continuity and flexibility than ever before. This extraordinary low-cost unit is an alphanumeric display that can be interfaced to all PMD Master Message Displays, PowerPanel Touchscreen Programmable Graphics Interfaces, or any PC that has an RS-422A or RS-232C serial port.

Like its master message display counterpart, the PMD 180S is available with 2- or 4-line display with 40 or 80 vacuum fluorescent characters 0.183" (4.65 mm) high. Interfacing to this unit is not a problem either. The PMD 180S Slave Display supports both ASCII and PMD protocols.

Each slave is given an individual address using the front panel pushbuttons. The units' addresses consist of a group number from 0 to 15 and a unit number from 0 to 4,095. Along with the individual addresses, you can also address all the displays in the same group or all the slave displays at once.

Connections to the PMD 180S Slave Display are made easily using the wire-clamp terminals provided on the back panel of the unit. To prevent tampering after setup, there is also a switch on the back panel that allows the disabling of the three front panel pushbuttons (Mode, Enter, and Restart).

SPECIFICATIONS

MECHANICAL

Weight:

3.5 lb. (1.59 kg)

Housing:

Rugged Black Aluminum Case

Front Plate:

NEMA 12
NEMA 4X - Stainless Steel

Dimensions:

See drawing-inches (mm)

DISPLAY

Display Technology:

Vacuum Fluorescent (blue)

Lines:

2 or 4

Characters per line:

20 or 40, 5 x 7 dot matrix

Display Configurations:

2 lines x 20 characters per line,
2 lines x 40 characters per line, or
4 lines x 20 characters per line

Character Height:

0.183" (4.65 mm)

Viewing Distance:

10 ft. (3.05 m)

ELECTRICAL

Interface Port:

RS-232C & RS-422A

Computer Port:

Standard ASCII

Parallel Port Inputs:

20 (optional)

Parallel Port Source Inputs:

10-30 VDC

Printer Port:

Optional

Power Source:

115 VAC (102-132), 47-63 Hz,
11 VA
230 VAC (194-250), 47-63 Hz,
11 VA

Electrical Interference:

NEMA ICS 2-230 Showering
Arc Test

Electrical Tolerance:

ANSI C37.90a-1974 (SWC)
Surge Withstand
Capability Test

ENVIRONMENTAL

Temperature (Ambient):

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

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

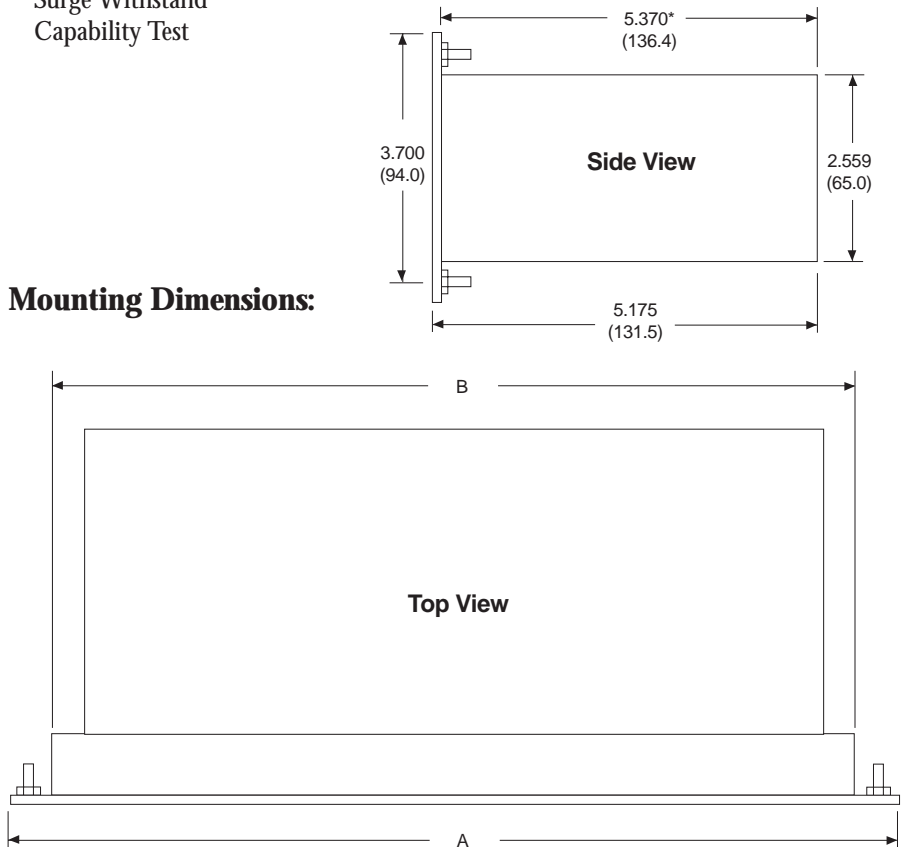
Humidity:

10 to 95% RH, Noncondensing

Enclosure Rating:

NEMA 12

Mounting Dimensions:



PMD 180S	NEMA	A	B
2 Line/40 Character	12	11.550 (293.4)	3.700 (94.0)
4 Line/20 Character	12	8.650 (219.7)	8.150 (207.1)

PMD 200S SLAVE MESSAGE DISPLAY

FEATURES:

- **2-line display with 20 vacuum fluorescent characters 0.433" (11.0 mm) high**
- **Can be viewed from 20 ft. (6.1 m)**
- **Accommodates Display time, date, variable data signals**
- **Will display scroll, chain, blink, print, log, & center messages**
- **UL Listed**
- **CSA Certified**
- **FM Division I, Class 2, Groups A, B, C, D**
- **115/230 VAC, 47-68 Hz, 18 VA (standard)**
- **24 VDC (20-32 VDC), 18 VA (optional)**
- **NEMA 12 Front panel**



The PMD 200S Slave Display was designed to give you more display continuity and flexibility than ever before. This extraordinary low-cost unit is an alphanumeric display that can be interfaced to all Master Message Displays, Message Controllers, PowerPanel Touchscreen Programmable Graphical Interface, or any PC that has an RS-422A or RS-232C serial port.

Like its PMD 200 Series Master Display counterpart, the PMD 200S Slave is available with 2-line display with 20 vacuum fluorescent characters 0.433" (11.0 mm) high. Interfacing to this unit is not a problem either. The PMD 200S Slave Display supports both ASCII and PMD protocols.

Messages are programmed into the Master in a format that is understood by the slave display. Messages with real-time and variable data are updated from the Master. When the Slave receives new time/date/data information, the message currently being displayed is updated. While this information is sent by the Master to all Slave displays, the PMD 200S Slave displays only messages that were programmed with an address acceptable to the particular slave unit.

The PMD 200S Slave display may also receive its information from a computer (mainframe, minicomputer, PC, or PLC ASCII interface that can handle 8-bit binary). By sending data in a format similar to that used in the memory of a PMD Master display (in 8-bit binary), a computer can display messages directly on PMD 200S Slave displays without the use of a Master. Using this mode of communication, the Slave will respond to communication messages it receives and send replies to the controlling device.

Each slave is given an individual address using the front panel pushbuttons. The units' addresses consist of a group number from 0 to 15 and a unit number from 0 to 4,095. Along with the individual addresses, you can also address all the displays in the same group or all the slave displays at once.

Connections to the PMD 200S Slave Display are made easily using the wire-clamp terminals provided on the back panel of the unit.

SPECIFICATIONS

MECHANICAL

Weight:

5.6 lb. (2.54 kg)

Housing:

Rugged Black Aluminum Case

Front Plate:

NEMA 12

NEMA 4X - Stainless Steel

Dimensions:

See drawing-inches (mm)

DISPLAY

Display Technology:

Vacuum Fluorescent (blue)

Lines:

2

Characters per line:

20, 5 x 7 dot matrix

Character Height:

0.433" (11.0 mm)

Character Set:

All Standard ASCII upper/lower case and symbols

Viewing Distance:

20 ft. (6.1 m)

ELECTRICAL

Interface Port:

RS-422A

Power Source:

115 VAC (102-132), 47-63 Hz,
18 VA

230 VAC (194-250), 47-63 Hz,
18 VA

24 VDC (21-26), 18 VA

Electrical Interference:

NEMA ICS 2-230 Showering Arc Test

Electrical Tolerance:

ANSI C37.90a-1974 (SWC) Surge
Withstand Capability Test

ENVIRONMENTAL

Temperature (Ambient):

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

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

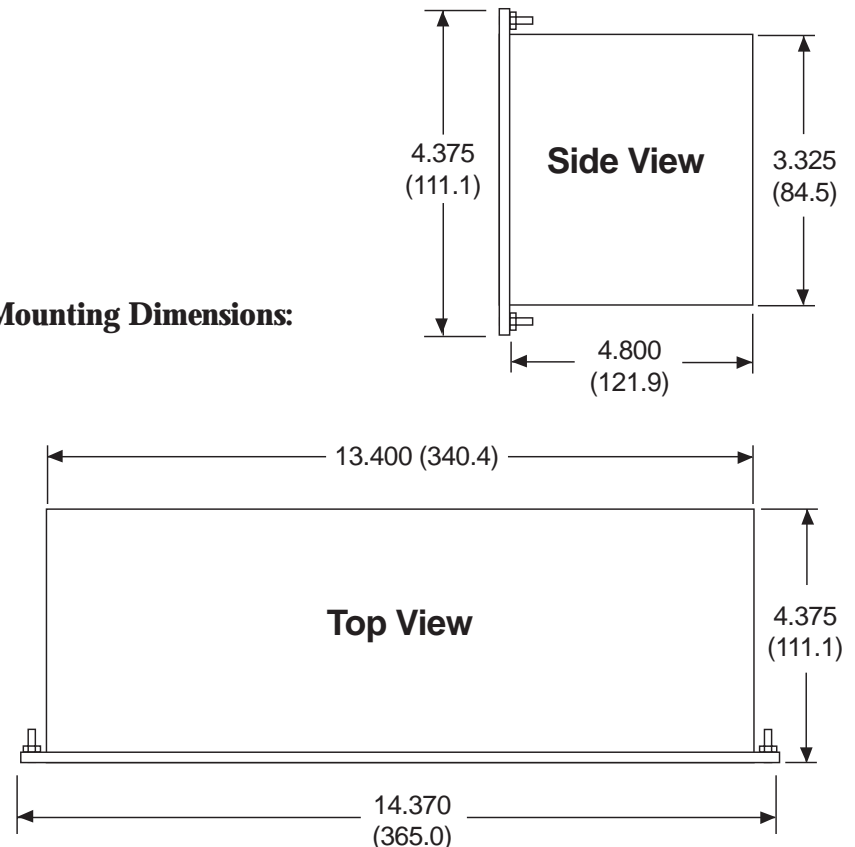
Humidity:

10 to 95% RH, Noncondensing

Enclosure Rating:

NEMA 12

Mounting Dimensions:



PMD 300S SLAVE MESSAGE DISPLAY

FEATURES:

- 4 lines x 20 characters display
- Large 0.5" (12.5 mm) character size, visible from 25 ft. (7.62 m)
- Can be driven by any AVG Uticor PMD Master Message Display, Message Controller, or UTICOR Touchscreen Programmable Graphical Interface
- UL Listed
- CSA Certified
- FM Division I, Class 2, Groups A, B, C, D
- 115/230 VAC, 47-68 Hz, 22 VA (standard)
- 24 VDC (20-32 VDC), 18 VA (optional)
- NEMA 12 Front panel built-in mounting studs



AVG Uticor's PMD 300S Slave comes with a versatile 4-line display with 20 vacuum fluorescent characters 0.5" (12.5 mm) high per line. It is exactly the same as the PMD 300 Series Master Message Displays except that it doesn't store messages. It does, however, display information from any AVG Uticor Master Message Display, Message Controller, UTICOR Touchscreen

Programmable Graphical Interface, computer, or other serial communication device.

This product features chaining, blinking, scrolling, printing, and centering messages. Hardware features include the ability to display messages in U.S., English, Swedish, French, Danish, German, and Cyrillic international character sets.

PMD 300S SPECIFICATIONS

MECHANICAL

Weight:

7.6 lb. (3.45 kg)

Housing:

Rugged Black Aluminum Case

Front Plate:

NEMA 12

NEMA 4X - Stainless Steel

Dimensions:

See drawing-inches (mm)

DISPLAY

Display Technology:

Vacuum Fluorescent (blue)

Lines:

4

Characters per line:

20, 5 x 7 dot matrix

Character Height:

0.5" (12.5 mm)

Viewing Distance:

25 ft. (7.62 m)

ELECTRICAL

Message Memory:

8-128 Kbytes

Slave Port:

RS-422A

Power Source:

AC Model (jumper select):

115 VAC (102-132),

47-63 Hz, 22 VA

230 VAC (194-250),

47-63 Hz, 22 VA

DC Model:

24 VDC (21.6-26.4), 18 VA

Electrical Interference:

NEMA ICS 2-230 Showering Arc Test

Electrical Tolerance:

ANSI C37.90a-1974 (SWC) Surge

Withstand Capability Test

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 (standard)

NEMA 4X (stainless steel)

