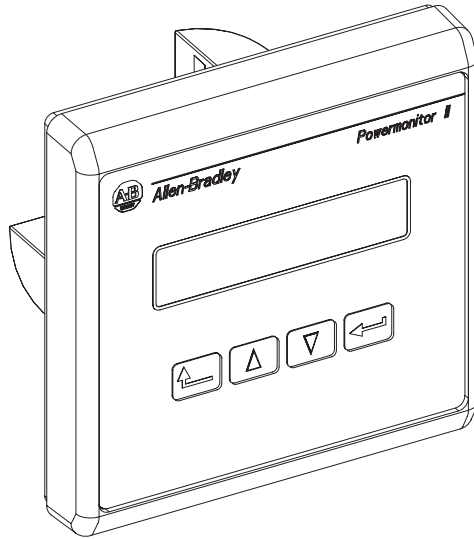


Bulletin 1403 Powermonitor II Display Module (Cat. No. 1403-DMA or 1403-DMB)

Figure 1. Display Module



Description

The microprocessor based Bulletin 1403 Display Module, an optional input device, can be used to set up and configure the Bulletin 1403 Master Module for operation. This is accomplished through the Display Module's front panel which includes four tactile operator buttons and a liquid crystal display. All communications between the Display Module and Master Module is conducted over a serial fiber optic link.

Mounting of Display Module

Protective Enclosure A suitable enclosure should be used to protect the Master Module from atmospheric contaminants such as oil, moisture, dust, and corrosive vapors or other harmful airborne substances. The Display Module's gasketed front panel interface to the protective enclosure is rated as an IP65 degree of protection [National Electrical Manufacturer's Association (NEMA)/Underwriter's Laboratories (UL) 508, Type 4X (Indoor)] per International Standard IEC 529.

Installation and Orientation The Display Module can be oriented in any position. The most typical orientation is shown in *Bulletin 1403 Powermonitor II Instruction Sheet, Publication 1403-5.0, Figure B.1, Appendix B*. The Display Module is designed to fit into the protective enclosure cutout with a minimum installation depth of 50.8 mm (2.0 in.) behind the mounting panel as shown in *Bulletin 1403 Powermonitor II Instruction Sheet, Publication 1403-5.0, Figure B.2, Appendix B*. The recommended Display Module mounting hole pattern and dimensions are defined in *Bulletin 1403 Powermonitor II Instruction Sheet, Publication 1403-5.0, Figure B.3, Appendix B*. Ensure that the gasket provided is not contaminated with foreign matter and is installed in the Display Module correctly. Install the Display Module into the protective enclosure's front panel using the four M4 nut/lockwasher assemblies as shown in *Bulletin 1403 Powermonitor II Instruction Sheet, Publication 1403-5.0, Figure B.4, in Appendix B*. Tighten the M4 nut/lockwasher assemblies to 0.9 to 1.1 Nm (8 to 10 lb-in.) Note: Eight flat washers are provided for retrofit applications with larger hole sizes.



ATTENTION: Failure to comply with these mounting requirements may cause damage to the Display Module or compromise the IP65 [NEMA/UL 508, Type 4X (Indoor)] degree of protection per International Standard IEC 529.

Wiring of Display Module

Power The Display Module can be operated on either AC or DC power. Two models have been developed to operate on various AC/DC voltage ranges as defined in Table A. A single, three-position connector is provided for all power connections to the Display Module.

Table A. Voltage Ratings

Cat. No./ Voltage Range	AC Voltages/DC Voltages (+10% to -20%)
1403-DMA/High Voltage	120V/ 240V AC 50/60 Hz or 125V/250V DC
1403-DMB/Low Voltage	12V/24V AC or 12/24/48V DC

Terminal Block Wire Sizes and Screw Torque Values All terminal block wire sizes and terminal block screw torque values are shown in *Bulletin 1403 Powermonitor II Instruction Sheet, Publication 1403-5.0, Appendix C.*

Fiber Optics The Powermonitor II communications architecture consists of a fiber optic ring between the Bulletin 1403 Master Module and up to three Display Modules. The black transmitter component (TX) of a unit must be connected to the blue receiver (RX) component of the next unit and repeated for each additional module until the ring is completed. Figure 2 shows a typical layout of the fiber optic cabling between one Master Module and three Display Modules. Fiber optic cable assembly specifications are given in Table B.

Important: Always maintain furnished rubber plugs in the transmitter and receiver when cable end connectors are not in place. This will help prevent dirt from contaminating the transmitter or receiver.

Figure 2. Fiber Optic Communications between a Bulletin 1403 Master Module and Three Display Modules

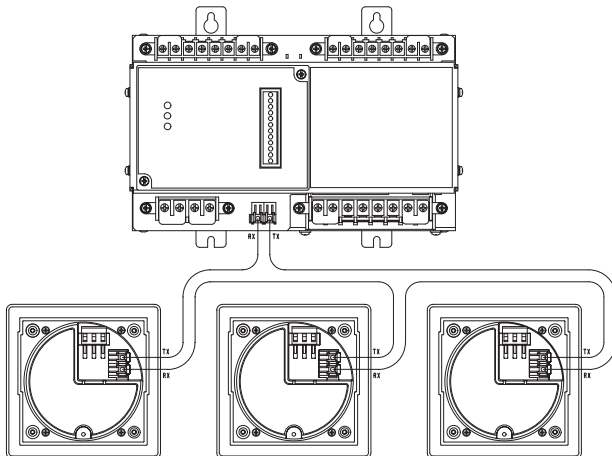


Table B. Fiber Optic Cable Assembly Specifications

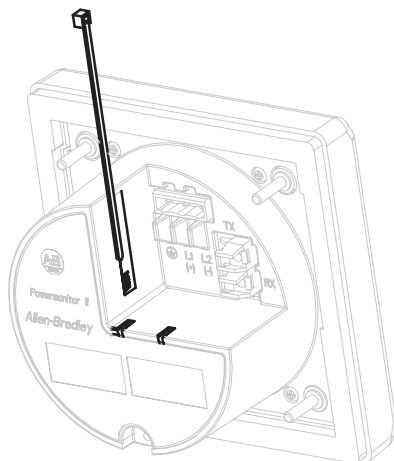
Parameter	Minimum Cable Length	Maximum Cable Length
Cable Length: Distance between two adjacent devices	25 cm (approx. 10 in.) shortest Allen-Bradley standard	500 m (1650 ft.)
Minimum inside bend radius	25.4 mm (1 in.) Any bends with a shorter inside radius can permanently damage the fiber optic cable. Signal attenuation increases with decreased inside bend radii.	N/A



ATTENTION: Any bend in a fiber optic cable assembly with an inside radius of less than 25.4 mm (1 in.) may permanently damage the fiber optic cable assembly.

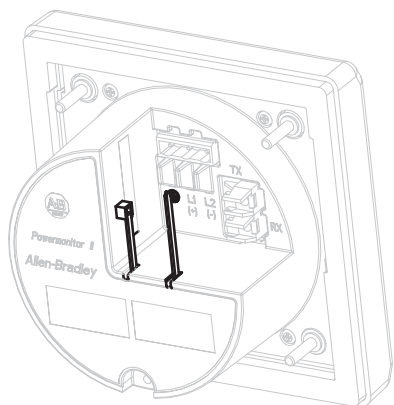
Fiber Optic Cable Assembly Strain Relief A strain relief feature at the rear of the Display Module and a wire tie are provided for securing the fiber optic transmit and receive cable assemblies. Use the strain relief feature to protect the fiber optic connections at the rear of the Display Module. Coil each fiber optic cable into an approximately one inch diameter loop and secure each loop to the rear of the Display Module with the wire tie provided per Figures 3, 4, and 5.

Figure 3. Fiber Optics Strain Relief



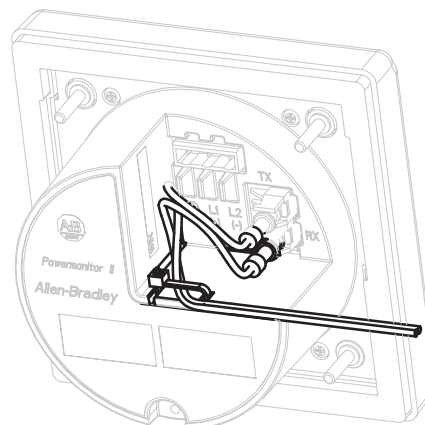
1. Insert the wire tie into the slot on the Display Module's rear cover.

Figure 4. Fiber Optics Strain Relief



2. Push the wire tie into the slot and force it out of the second, adjacent slot.

Figure 5. Fiber Optics Strain Relief



3. Install and secure both fiber optic cables. The cables should be coiled into one inch minimum diameter loops and secured with the wire tie.

Cat. No. Explanation and Accessories See *Bulletin 1403 Powermonitor II Instruction Sheet, Publication 1403-5.0, Appendix B* for the Display Module Cat. No. explanation and a listing of all fiber optic accessories.

Additional Information

Refer to these sections of *Bulletin 1403 Powermonitor II Instruction Sheet, Publication 1403-5.0*, for additional information:

- Chapter 4, General Operation – for configuring the Master Module using the Display Module
- Appendix B, Mechanical Dimensions
- Appendix C, Technical Specifications



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