ProSoft Technology MVI56-DFCMR

DF1 Reduced Data Block Interface Module

ProSoft Technology MVI56-DFCMR is a DF1 interface module for ControlLogix applications that use reduced backplane data transfers, including remote racks connected over ControlNet or Ethernet. Its two serial ports independently exchange data as DF1 masters or slaves, bridging the controller application to compatible serial controllers and field equipment. A shared internal database separates serial transactions from controller data exchange, while command queues support application-triggered traffic alongside cyclic polling.



Technical Specifications

Product Identity	
Manufacturer	ProSoft Technology
Model	MVI56-DFCMR
Platform	ControlLogix / 1756 backplane
Functional Configuration	
Module function	DF1 interface with reduced data block
Serial modes	DF1 half/full duplex; master/slave
Application ports	2; RS-232 / RS-422 / RS-485
Configuration port	RS-232, RJ45
Performance & Power	
Database	5,000 words
Commands	Up to 100 per master port
Backplane current	800 mA at 5 V DC
Environment	
Operating temperature	0 to +60 °C
Storage temperature	–40 to +85 °C

Selected original manufacturer pages follow on pages 3–4.

Compatibility & Selection Guide

Reduced-block ControlLogix integration. MVI56-DFCMR can operate in a 1756 ControlLogix remote chassis connected over ControlNet or Ethernet. The ControlLogix project uses the DFCMR data structures and ladder routines for reduced-block transfers.

Serial application selection. Configure each application port for the installed RS-232, RS-422 or RS-485 interface and the required DF1 half-duplex or full-duplex master/slave role. The RS-232 configuration port is separate.

Wiring & Installation Reference

Serial connections

Application ports. Set the hardware jumpers for the required RS-232, RS-422 or RS-485 interface before connecting P1/P2.

Configuration port. Use the separate RS-232 configuration/debug connection; it is not an Ethernet port.

Rack mounting

Isolate power. Turn off chassis power before installation.

Insert the module. Align the upper and lower guides and slide the module into the ControlLogix rack until the backplane connector is engaged.

Secure and identify. Engage both retaining clips and use the actual slot number in the controller project.

Installation precautions. Remove power or confirm a non-hazardous location before disconnecting equipment. Energized removal can cause an electrical arc. Use the applicable serial pinout and interface jumpers; RJ45 connector shape alone does not define the interface.

Mounting reference · PDF page 3 | Installation / connection reference · PDF page 4

Source: ProSoft Technology MVI56-DFCMR manufacturer manual, October 20, 2008.

1.4 Install the Module in the Rack

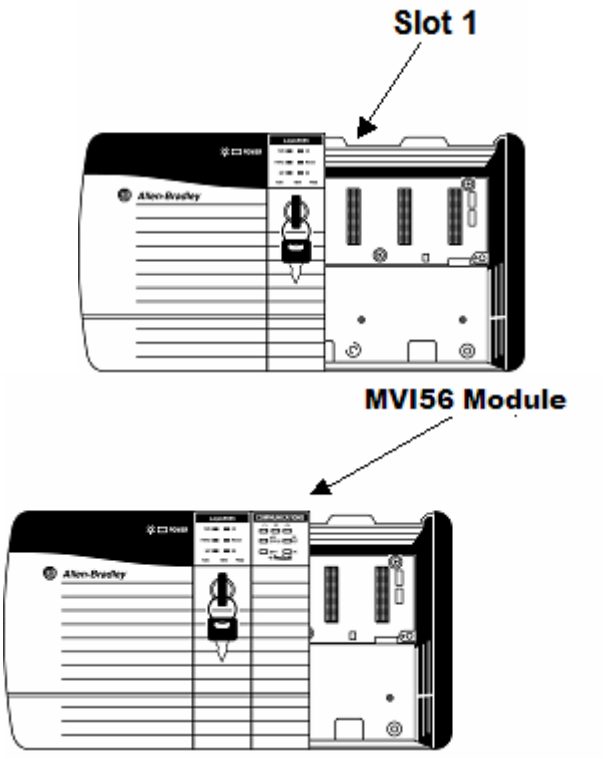
If you have not already installed and configured your ControlLogix processor and power supply, please do so before installing the MVI56-DFCMR module. Refer to your Rockwell Automation product documentation for installation instructions.

Warning: You must follow all safety instructions when installing this or any other electronic devices. Failure to follow safety procedures could result in damage to hardware or data, or even serious injury or death to personnel. Refer to the documentation for each device you plan to connect to verify that suitable safety procedures are in place before installing or servicing the device.

After you have checked the placement of the jumpers, insert MVI56-DFCMR into the ControlLogix chassis. Use the same technique recommended by Rockwell Automation to remove and install ControlLogix modules.

Warning: When you insert or remove the module while backplane power is on, an electrical arc can occur. This could cause an explosion in hazardous location installations. Verify that power is removed or the area is non-hazardous before proceeding. Repeated electrical arcing causes excessive wear to contacts on both the module and its mating connector. Worn contacts may create electrical resistance that can affect module operation.

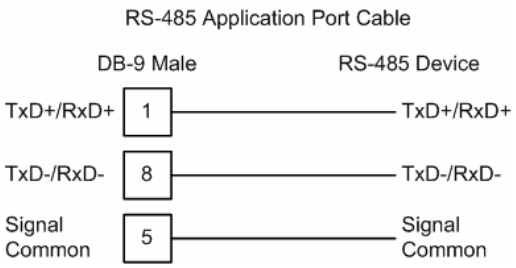
1. Turn power OFF.
2. Align the module with the top and bottom guides, and slide it into the rack until the module is firmly against the backplane connector.



3. With a firm but steady push, snap the module into place.

5.3.4 RS-485

The RS-485 interface requires a single two or three wire cable. The Common connection is optional and dependent on the RS-485 network. The cable required for this interface is shown below:

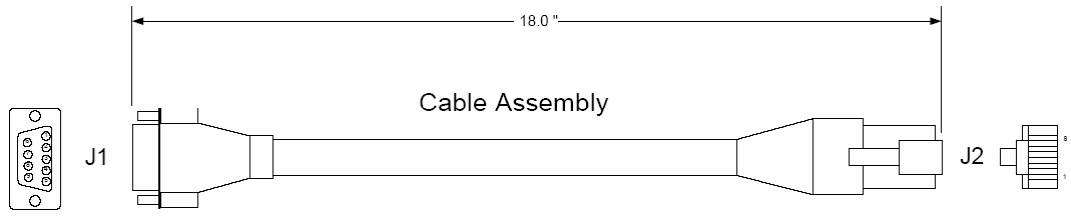


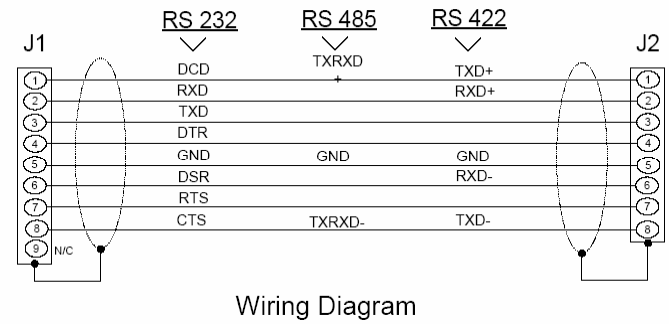
Note: Terminating resistors are generally not required on the RS-485 network, unless you are experiencing communication problems that can be attributed to signal echoes or reflections. In this case, install a 120 ohm terminating resistor on the RS-485 line.

RS-485 and RS-422 Tip

If communication in the RS-422/RS-485 mode does not work at first, despite all attempts, try switching termination polarities. Some manufacturers interpret +/- and A/B polarities differently.

5.3.5 DB9 to RJ45 Adaptor (Cable 14)





Wiring Diagram