



# DATASHEET

## DF1 Half/Full Duplex Master/Slave Communication Module MVI69-DFCM

The MVI69-DFCM DF1 Master/Slave Communication Module allows Rockwell Automation CompactLogix / MicroLogix compatible processors to interface easily with DF1 protocol compatible devices and hosts. Devices commonly supporting the protocol include Rockwell Automation PLCs and power monitoring equipment, as well as several other third party devices in the marketplace.

The MVI69-DFCM module has two Application Serial ports supporting the DF1 protocol, with each port user-configurable to act as a Master or as a slave. Data transfer between the module and the CompactLogix / MicroLogix processor is asynchronous to the DF1 network, with the module's internal database being used to exchange data between the processor and the DF1 network.



### Features

- ◆ Single-slot, 1769 backplane-compatible
- ◆ The module is recognized as an Input/Output module and has access to processor memory for data transfer between processor and module.
- ◆ Ladder Logic is used for data transfer between module memory and processor controller tags. A sample ladder file with AOI is included.
- ◆ Configuration data obtained from configuration text file downloaded to module. A sample configuration file is included.
- ◆ Supports CompactLogix and MicroLogix 1500 LRP Controllers except 1769-L23E-QBFC1B, 1769-L16x, and 1769-L18x.

## Functional Specifications

### DF1 ports

- Full and half duplex modes supported
- CRC and BCC error checking
- Full hardware handshaking control provides radio, modem and multi-drop support
- User-definable module memory usage, supporting the storage and transfer of up to 4000 registers to/from the control processor
- 125-word read and write command lengths supported
- Floating-point data movement supported

### DF1 Master Protocol Specifications

The ports on the DF1 module can be individually configured as Master ports. When configured in Master mode, the DFCM module is capable of reading and writing data to remote DF1 devices, enabling the CompactLogix/MicroLogix platform to act as a SCADA sub-master.

- Command List: Up to 100 commands per Master port, each fully configurable for function, slave address, register to/from addressing and word/byte count
- Status Data: Error codes available on an individual command basis. In addition, a slave status list is maintained per active Master port
- Polling of Command List: User-configurable polling of commands, including disabled, continuous, and on change of data (write only)

### DF1 Slave Protocol Specifications

The module accepts DF1 commands from an attached DF1 Master unit. When in slave mode, the module can accept DF1 commands from a Master to read/write data stored in the module's internal registers. This data can be derived from other DF1 slave devices on the network through a Master port or from the processor and is easily transferred to the processor's data registers.

### Tested Hardware Connections

Several hardware connections have been tested by ProSoft or have been customer field tested. The following physical connections have been tested successfully:

- RA Panel View (Full duplex point-to-point, DFCM as slave)
- RA Processors (Full/half duplex, DFCM as either Master or slave)
- RA Power Monitors (485 half-duplex, DFCM as Master)



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## Hardware Specifications

Specification	Description
Dimensions	Standard 1769 single-slot module
Current Load	800 mA max @ 5 VDC Power supply distance rating of 2 (L43 and L45 installations on first 2 slots of 1769 bus)
Operating Temp.	32°F to 140°F (0°C to 60°C)
Storage Temp.	-40°F to 185°F (-40°C to 85°C)
Relative Humidity	5% to 95% (with no condensation)
LED Indicators	Battery and Module Status Application Status Serial Port Activity CFG Port Activity
CFG Port (CFG)	RJ45 (DB-9F with supplied cable) RS-232 only No hardware handshaking
App Ports (P1,P2) (Serial modules)	RS-232, RS-485 or RS-422 (jumper selectable) RJ45 (DB-9F with supplied cable) RS-232 handshaking configurable 500 V Optical isolation from backplane
Shipped with Unit	RJ45 to DB-9M cables for each port 6-foot RS-232 configuration cable

## Agency Approvals and Certifications

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MVI69-DFCM

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