

2400-BAUD DIAL-UP TELEPHONE MODEM for Allen-Bradley SLC 500

One slot in A-B Model 1746 I/O chassis

Data communications for remote PLC

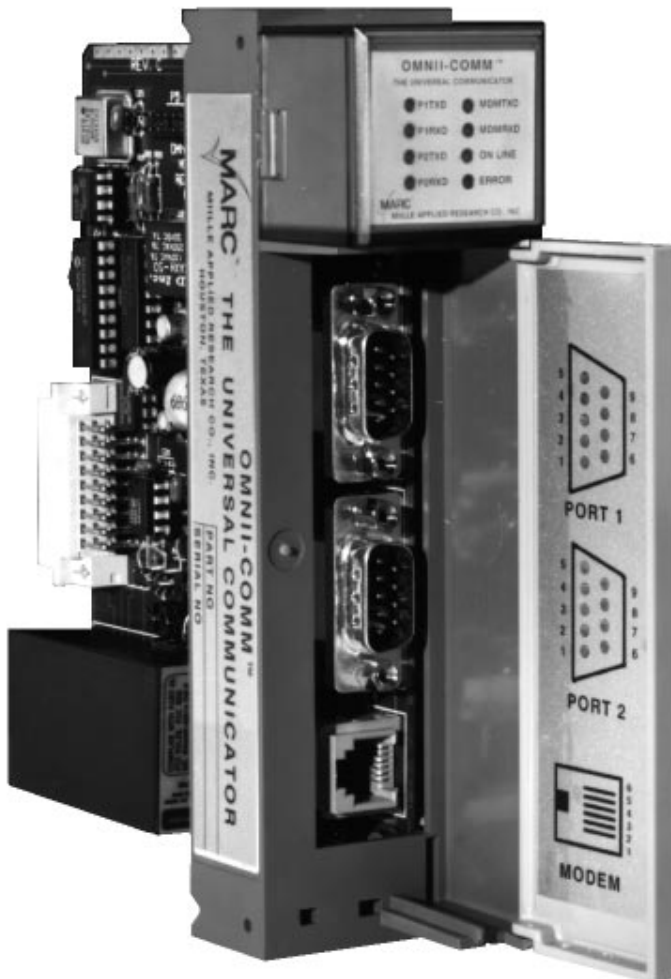
- Bell and CCITT compatible
- Auto answer & dial on public phone lines
- Remote PLC trouble-shooting & program revisions using PC
- Hayes[®] compatible test & diagnostics
- FCC Part 68 Approved
- Low power & automatic standby mode

The MARC[™] Model 166-100 is a full-function modem which plugs into one slot of an Allen-Bradley SLC 500 PLC (Programmable Logic Controller) and provides data communications with other Bell and CCITT compatible modems at speeds up to 2400 baud.

The Auto-Answer and Auto-Dial features of the modem allow it to use the public switched telephone network for communications. Besides providing greater economy and flexibility, this method allows a remote PLC to be accessed from any modem-equipped personal computer for trouble-shooting and program revisions. Powerful test modes include response to remote digital loopback commands issued by Hayes[®] compatible modems.

The modem operating mode and other configuration information is stored in EEPROM memory on-board the modem. The Modem is configured using a PC with a terminal emulation program such as Procom installed.

The modem can be configured for both auto-answer and auto-dial modes of operation. When the auto-answer mode of operation is selected the number of rings before the modem will answer the call is selectable by the user. When the specified number of rings



has occurred the modem will answer the call and start an auto answer sequence. At the start of the Auto Answer sequence, the modem's serial port is disconnected from the telephone line. After answering the incoming call, the modem begins a handshake sequence with the calling modem to determine the optimum baud rate and signaling standard. Once this is determined, the modem connects to the serial port, switches to the "DATA" mode and transfers data unchanged between the serial port and the line. The automatic baud rate selection can be disabled if a constant communications baud rate is required.

The modem can also be configured for auto-dial operation. When the auto-dial mode is enabled a dial sequence is initiated when the serial port Data Terminal Ready (DTR) line first goes active (high) after a period of inactivity. The modem dials a stored telephone number and waits for a connection to be established with the remote modem. When the connection is completed the modem returns a Clear to Send (CTS) to the serial port enabling the transfer of data. The modem hangs up the telephone line and returns to standby when the DTR line returns to the inactive state.

A FSK modem for leased line or radio communication is also available for use with the SLC 500 PLC. The MARC 166-101 FSK Modem should be used when multi-drop leased lines are used for communication. The 166-101 can also be used with many voice grade radios to provide a data communication path where leased lines are not present.

The modem can also be equipped with the MARC 166-200 OMNII-COMM™ universal communications module. The OMNII-COMM™ module is a powerful microprocessor based unit that is used to provide protocol conversion, remote polling, historical data storage and many other functions. Please see the 166-200 Product Data Sheet for additional details.

Standard cable assemblies for connecting the 166-100 modem to many types of devices are available. Contact the factory for a current list.

MARC also manufactures a complete line of protocol conversion modules (127-005 Comm-Troller™), polling masters (166-001 Comm-Master™) and modems for the Allen-Bradley PLC 2 and PLC 5 families of PLCs. Similar modules are available for PLCs from other manufacturers as well.

Specifications

Physical:

Standard Allen-Bradley SLC 500 module size (1.375"W x 5.75"H x 5.125"D) with A-B SLC style mounting panel.

1 pound, 14 ounces

Operating Environment:

0° to 60° Celsius
10% to 90% relative humidity (non-condensing)

Power Requirements:

Nominal 300mA @ 5 VDC from PLC backplane when active, cut to < 100mA when inactive

LED Indicators (8):

Provides status of the following signals: P1TXD, P1RXD, P2TXD, P2RXD, Modem RXD, Modem TXD, On Line, and Error

Operating Modes and Speeds:

CCITT V.22, Bell 212, V.21 and Bell 103 Asynchronous 2400, 1200 or 300 baud

Serial Ports:

Port 1

9-pin "D" connector (male) for serial asynchronous data link to unit served (such as communications interface module for Allen-Bradley PLC) Select RS-232, RS-422 or RS-485 operation and DCE/DTE pin out with jumpers inside modem case.

Port 2

9-pin "D" connector (male) reserved for use when the modem is equipped with the optional communications adapter unit (MARC Part # 166-200)

Modem Connection

Standard RJ11 Telephone line jack. Pin 3 (tip), Pin 4 (ring) connection.

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