

DIN-RAIL MOUNTABLE UNIVERSAL COMMUNICATIONS MODULE



The MARC™ Model 266-P00 Omnii-Comm™ is a powerful microprocessor based communications module that conveniently mounts onto a standard DIN mounting rail. It is offered in both AC and DC powered versions with from 3 to 5 serial communications ports. The Omnii-Comm™ can be configured to operate in many different modes as described in the following paragraphs. Each port can be independently configured to work with over 60 different communications protocols, in both master and slave configurations.

- Up to 5 independent serial I/O ports
- Supports over 60 different protocols
- UL Listed Class 1, Div. 2 Groups A,B,C,D
- User configurable using serial port of a personal computer
- Master and Slave protocol emulations are user selectable for each port
- Use as a *Protocol Converter* to connect one system to another using different protocols
- Use as a *Polling Master* to collect data from other devices
- Use as a *Protocol Bridge* to move data between two different networks
- Use as a *Data Concentrator* to collect data from multiple devices into a common data base and present it to another system as a single device.

When used as a *Protocol Converter*, one port of the Omnii-Comm™ (configured as a master) is connected to one or more local devices. Information is collected from the local devices on a periodic basis and placed into "data base" memory onboard the Omnii-Comm™. A second port (configured as a slave port) is connected to another network and communicates using the native protocol of that system. The "data base" memory is organized to match the requirements of the second system. Requests for information are completed without delay with data from the Omnii-Comm's™ "data base". When a command to change something in one of the local devices is received, the Omnii-Comm™ interrupts its polling cycle and immediately translates the control command into a form that the local device can understand and then sends it. Control actions occur almost immediately!

A *Polling Master* collects data from one or more external devices using their native protocol and then transfers the data to another device using its standard protocol. Each port can have a unique protocol.



When used in a **Protocol Bridge** configuration, the Omnii-Comm™ simply reads information from one device using its standard protocol and writes the data collected to another device using that device's protocol. The read/write operations are performed at user definable rates.

An Omnii-Comm™ with 3 or more communications ports can be used as a **Data Concentrator**. When used in this mode, two or more ports are configured as master ports with protocols as needed to communicate with external equipment. An additional port is configured as a slave port and is connected to another system using yet a different protocol. Poll tables in the Omnii-Comm™ are used to relate data addresses in the external equipment to "data base" memory inside the Omnii-Comm™. The external equipment is interrogated and the data base memory updated at user definable rates.

The data base memory is organized to match the requirements of the device connected to the slave port.

Requests for information are fulfilled with data from the Omnii-Comm's™ database without delay. When a change is needed, a command is sent to change a database location. The Omnii-Comm™ determines which remote device needs to receive the command, briefly interrupts its polling cycle, translates the command into a form the device can understand, and sends it. The Omnii-Comm™ automatically determines the connector, protocol and address of the device that will receive the command. The master does not need to know where the control point is located nor the protocol to be used to send it to its final destination. Control actions occur almost immediately!

Omnii-Comm™ configuration data is stored in non-volatile memory for immediate restart after a power failure.

The Omnii-Config™ program is used to set up the mode of operation. This program is shipped with every Omnii-Comm™ and is available for free download from our web site at any time.

Specifications

Physical

DIN rail mountable unit 1.75"W x 5.5"H x 5.75"D

Power Requirements

AC power 90 to 270 VAC 1 Watt*

DC power 24 VDC 40 ma*

DC power 12 VDC 80 ma*

* maximum operating power for a 5-port unit

Operating Environment

0° to 60° Celsius, 10% to 90% relative humidity

LED Indicators

Provide status of the following signals: TXD and RXD for each port plus ERROR and ACTIVE

Protocols Supported (partial list)

MODBUS Master and Slave, **RTU** and **ASCII** options

32-bit and "string by flow" data types permitted

Teledyne/Control Applications (CA),

Allen-Bradley DF1 Full-Duplex and Half-Duplex with PLC 2, PLC 5, PLC5/250 and SLC 500 addressing

Square D SY/MAX Point-to-Point and Multidrop

Omron Host Link

Caterpillar CCM and DVR

Sullair

Custom Protocols available, contact factory for pricing

I/O Ports

Maximum of 5 asynchronous serial data ports

1 Universal Serial Data Port, sync.or async.300 to 9600 baud (in place of one async port)

1 Config/Diagnostic port 9-pin (always required)

4 ports have all modem control lines (RTS, CTS, DCD, DTR and DSR),

Serial Port Connections

TERM	9-PIN	RS232	RS422	RS485
1	1	DCD (I)	TX+	TRD+
2	6	DSR (I)	RX+	TRD+
3	2	RXD (I)	TX-	TRD-
4	7	RTS (O)	RX-	TRD-
5	3	TXD (O)	TX+	TRD+
6	8	CTS (I)	RX+	TRD+
7	4	DTR (O)	TX-	TRD-
8	9	RI (I)	RX-	TRD-
9	5	GND	GND	GND

Identical signal names are connected internally

Order Information

266-300-XYZ 3 serial ports

266-400-XYZ 4 serial ports

266-500-XYZ 5 serial ports

X=1 for AC, 2 for 24VDC or 3 for 12 VDC

Y=1 for 9-Pin "D" connectors, 2 for terminal strips

Z=0 Reserved for future use

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