OM-ES-511 and OM-ES-522

1 Serial Port (OM-ES-511) or
2 Serial Ports (OM-ES-522)
Software Selectable as RS232,
RS422/485 Full Duplex, or RS485
Half Duplex
State-of-the-Art Autogating for
Trouble Free RS485 Half Duplex
Flow Control
Maximum Baud Rate
1,000,000 (1 MegaBaud),
Custom Baud Rates
10/100Base TX Ethernet Port
-30 to 80°C (-22 to 176°F)
Temperature Range
User Friendly Interface
Web Configuration and
RFC2217 Compliant Interface for
Users Not Running Windows®
IP-30 Rated Non-Conducting
Polyamide Enclosure
LED Status Indication
Integrated DIN Rail
Mounting Kit
Serial Port Tunneling Allows
Serial Cable Replacement
Over Any Distance,
No Software Required

OM-ES-511 and OM-ES-522, shown smaller than actual size.

Users of the Windows® Operating System
Our software drivers give you local
COM ports, allowing you to retain
your existing software applications
and connect to your devices over
the network. COM Port can be
assigned from COM 1 to COM
255 and the ethernet to serial
device remembers your COM port
assignment on reboots.

Web Interface Users
(Linux®/Android™)
A web interface allows secure
configuration and control of the
serial ports over a local network
or the internet using any browser.
You can access the device via TCP/IP
sockets from any networked
device like a tablet for Android, PC
or phone.

OM-ES-511 and OM-ES-522
Factory Floor Applications
Factory floors can be harsh
environments. Extreme
temperatures can be generated
in the manufacturing process,
machinery can be noisy and
dangerous and space is a premium.

However engineers still need to
be able to access and maintain
equipment safely and without
downtime.

As factories expand and modernize
older equipment and remote devices
need to be networked, but cabling
can be expensive and impractical,
especially over larger areas.

Once your serial equipment is
connected to a OM-ES-511 or
OM-ES-522 Ethernet to Serial device
you have the option of accessing it
over a local network or connecting
it to the internet. The devices can
be fitted in areas where it would be
dangerous for workers to monitor
while the factory line is in operation.

Manufacturing process and
performance across a large site can
be monitored and potential faults
detected before they cause serious
downtime costs. Use two devices
back to back for serial tunnelling over
Ethernet, for when you need to extend
the reach of your serial cables.
Specifications
SERIAL PORTS
Ports: 1 port (OM-ES-511) or 2 ports (OM-ES-522) software selectable as RS232, RS422/485 full duplex, or RS485 half duplex
Connector: Removable screw terminal block connector–3.5 mm pitch
Power Input: Redundant DC dual power inputs, reverse polarity protected 5 to 30 Vdc
Power Consumption: 1.4 watt @24V typical–2.9 watt maximum
Conductor Wire: 28 to 16 AWG, 0.14 to 1.5 mm (0.005 to 0.059") maximum
SERIAL PORT SETTINGS–Software Selectable as RS232, RS422/485 Full Duplex, or RS485 Half Duplex
Baud Rate: Any custom Baud rate between 60 to 1,000,000 (1 MegaBaud) can be selected
Data Bits: 5, 6, 7 or 8
Parity: Odd, even, none, mark or space
Stop Bits: 1, 1.5 or 2
Flow Control: XON/XOFF Software handshake or RTS/CTS hardware handshake
TX/RX MODES
RS232 Standard: RS232 allows point to point communication between 2 devices
RS422 Standard: RS422 allows one transmitter and up to 10 receivers with data transmitter rates up to 10 megabits per second for distances up to 40 feet and up to 1219 m (4000'). To achieve good long distance noise immunity, 2 wires are used to carry each signal, configured as a twisted pair of cables. The TXD pair and RXD pair are used to carry the data while the RTS pair and CTS pair lines are used for handshaking. Thus 2 twisted pairs are used without handshaking and 4 twisted pair cable is used with handshaking both these schemes allow full duplex data communications.
RS485 Standard: RS485, based on the RS422 standard allows up to 32 driver/receivers pairs on a standard load or 128 low load devices per port can be connected. While only one of these should be transmitting data at any time, the rest can all simultaneously listen to the data. Handshaking is performed by software protocol. Two twisted pairs form a full duplex system. Often only one twisted pair cable is used as the TXD and RXD lines are tied together; this is known as half duplex mode.
OM-ES-511 and OM-ES-522 implement a state of the art hardware autogating circuit ensuring error free communications in half duplex configurations.
Industrial Ethernet to Serial RS485: Receivers are 1/8th load allowing up to 256 nodes on the bus. Fail safe open circuit and short circuit protection, protects the Industrial ethernet to serial device server against wiring faults.
PORT SETTINGS–ETHERNET
Data Rate: 10/100 Mbps
Cabling: Normal/crossover auto-sensing (Auto-MDIX)
LED INFORMATION
Status LED
Green: Device ready
Flash Green/Red: User performing hard reset
Flash Green/Red/Yellow: IP address diagnostic
Flash Between Green and Yellow: Initialization diagnostic
SERIAL PORTS LEDs
Green Light On: Port open
Flashing Green: Data RX/TX
NETWORK LED
Green Light On: Link established
Flashing Green: Data RX/TX
ENVIRONMENTAL
Operating Temperature: -30 to 80°C (-22 to 176°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% RH (non-condensing)
Housing: NEMA 1 (IP-30) rated non-conducting polyamide case with integrated DIN rail mount
Weight: 21 g (0.74 oz)
Dimensions: 114.5 L x 22.6 W x 99 mm H (4.5 x 0.89 x 3.9")
SOFTWARE
Network Protocols: ICMP, IP, TCP, UDP, DHCP,BOOTP, Telnet, HTTP, RFC2217
Configuration Options: Windows operating system, Web Interface
Connection to Network: Ethernet 10 Base T/100 Base TX
Performance: Throughput guaranteed minimum of 95% of theoretical bi-direction full duplex band width at 1 Mbaud
INPUT
CTS False to Transmitter Stop: 3 characters maximum, 1.5 typical
XOFF Received to Transmitter Stop: 3 characters maximum, 1.5 typical
RS485 Autogating Turn Around Time: <1 bit time

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## To Order

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OM-ES-511</td>
<td>Industrial ethernet to serial device server 1 port RS232/RS422/RS485</td>
</tr>
<tr>
<td>OM-ES-522</td>
<td>Industrial ethernet to serial device server 2 port R4232/RS422/RS485</td>
</tr>
<tr>
<td>RAIL-35-1</td>
<td>35 mm DIN rail, 1 m (3.3') length</td>
</tr>
<tr>
<td>RAIL-35-2</td>
<td>35 mm DIN rail, 2 m (6.6') length</td>
</tr>
<tr>
<td>iDRN-PS-1000</td>
<td>Power supply (switching), 95 to 240 Vac input, 24 Vdc output @ 850 mA</td>
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</tbody>
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Comes complete with utility software and operator’s manual on CD.

**Ordering Example:** OM-ES-511, industrial ethernet to serial device server 1 port RS232/RS422/RS485.