5 YEAR WARRANTY

CE

ΩΣ OMEGA®

User's Guide

OM-ES-511

OM-ES-511

OM-ES-522

OM-ES-522

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Industrial Ethernet-to-Serial
Device Servers

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Contents

For more information, please refer to Product Manual on CD

Information on Product Accreditations, Safety, and correct disposal of this product can be found on the Product CD

1. Box Contents Check List

Thank you for purchasing an OM-ES-500 Series Ethernet to Serial product. This quick start guide will help you set up your ES device so that you can begin experiencing the benefits of Ethernet to Serial technology.

Ethernet to Serial Device

Quick Start Guide

Product CD

NB: Image shown is an OM-ES-522 1x RS232/422/485 and is an example. The same steps can be applied to all other products in the OM-ES-500 Series

2. Hardware
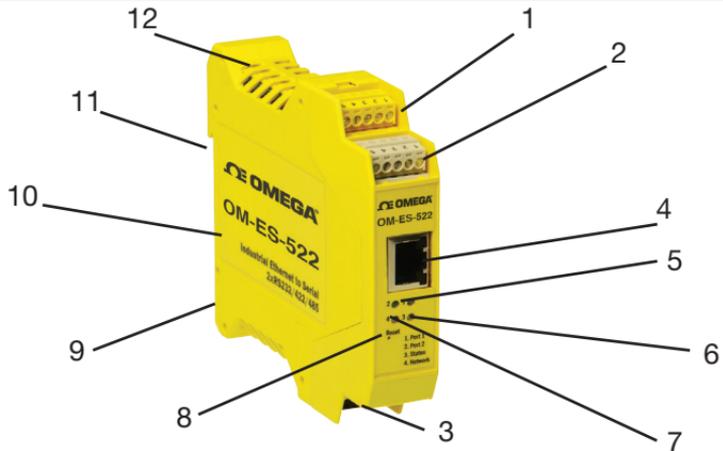
1.	Port 1 - Yellow removable screw terminal block	6.	Ethernet Port LED
2.	Port 2 - Grey removable screw terminal block (OM-ES-522)	7.	Status LED
3.	Power Input - Black removable screw terminal block +5VDC to +30VDC	8.	Reset button (use unfolded paperclip to press)
4.	Ethernet port connection - 10BaseT / 100BaseTX	9.	IP-30 rated non-conducting polyamide case
5.	Serial Port(s) LED	10.	DIN Rail mount
		11.	Earth to DIN rail
		12.	Ventilation

3. Network IP Addressing

The OM-ES-500 Series device is shipped in "DHCP Mode".

- On connecting to the network, the device automatically checks if it is connected to a DHCP Server. If this is the case, the DHCP server will allocate an IP address automatically to the OM-ES-500 Series device.
- If no DHCP Server is detected (e.g. you are using a direct cable connection to the PC), the OM-ES-500 Series device will default to an IP address of 192.168.127.254 within 60 seconds.

Please ensure the PC you're using for configuration can communicate with the 192.168.127.xxx IP range.

4. Connecting your OM-ES-500 Series Device

1. Connect the OM-ES-500 Series device to your local network or use a direct cable connection using a standard straight-through or crossover Ethernet cable and plugging into the Ethernet port connection.

2. Connecting to Power: Connect the power adapter or a DC power line (+5 to +30VDC) to the OM-ES-500 Series power terminal block or jack connection. If using your own power supply please check input requirements on page 5 - Hardware.

The OM-ES-500 Series devices feature dual power supply inputs, only one power supply need be connected to ensure the device is powered up and working.

3. Confirm the device beeps as it is turned on.

4. When the Status LED turns steady green (after 5-60 seconds), the device is ready to use.

5. Connect the serial cable from your serial device to the serial port on the OM-ES-500 Series device. Refer to Section 8 of this Quick Start Guide for pin outs.

Make a note of device MAC address (on side panel, 00-0a-4f-XX-XX-XX) as you will need it to identify the device on your network later.

5. Installing your OM-ES-500 Series Device on Windows

1. Insert the CD into your PC. This should launch the Boost.LAN Navigation Page automatically.

Note: If the navigation page does not auto load, go to Start →My Computer →Right Click the CD and select Explore. Locate the "Setup.exe" program on the CD and double click to launch. If installing the software in Windows 2000 launch the "SetupW2k.exe" program on the CD.

2. Click "Install" to launch the Boost.LAN Setup.exe
3. Follow the on screen instructions to install the Boost.LAN software.

Note: Boost.LAN software requires the Microsoft .NET framework to be installed on your machine. If it is not already installed, the Setup.exe will install it automatically. Please follow on screen instructions and reboot if prompted to continue installation.
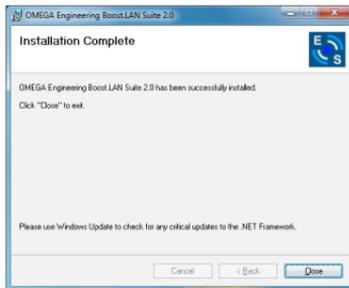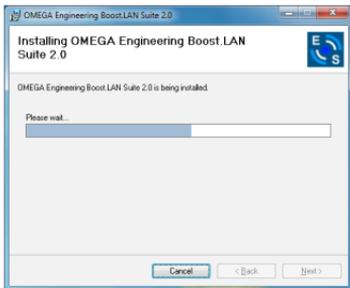
4. When installation is complete, you should see an icon labelled Boost. LAN Manager on the desktop. Double click the link to open the application

5. Click on the "File -> Find Devices" button in the top left hand side of the window.

6. You can find your Omega OM-ES-500 Series device by selecting a device and matching it with the corresponding MAC address available on the left hand panel.
7. Once found, select the device and scroll to the "Tasks" section on the left hand panel
8. Click Install Device.
9. When the device is installed a pop up box will appear saying "Your new hardware is installed and ready to use."

Your device is ready to use
Device driver software installed successfully.
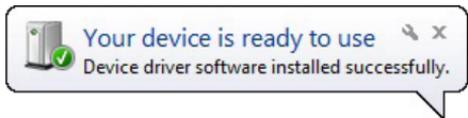
Changing Port Type

ES Industrial devices can operate either as:
- RS232
- RS422 Full Duplex mode with 2 twisted pairs or RS485 Full Duplex using 2 pairs of wire.
- RS485 Half Duplex autogating mode using on 1 pair of wires

By default the OM-ES-500 Series device port type is set to RS232. The port type can be changed on the Serial Port pages of the web configuration page. To get to the web configuration page, type the IP address of your device into a web browser.

When the RS422/485 port type is selected an additional drop down box appears allowing the user to set the duplex mode.
- Select "RS422 full-duplex mode" for RS422 or RS485 Full Duplex communications.
- Select "RS485 half-duplex autogating mode" for RS485 Half Duplex communications.

When setting RS422 or RS485 mode, as well as configuring the software, the case of the OM-ES-500 Series device needs opening and

the hardware needs configuring by setting the jumpers inside. For more detailed information on configuring your Ethernet to Serial device, including the hardware jumper configuration, please see the product manual on the CD which came with your ES device.

Firewall Exceptions and Port Numbers

When using the OM-ES-500 Series devices with a firewall you may need to manually add the exception entries and port numbers to the firewall list. Listed below are the default port numbers and the firewall exceptions.

Program Name	Default Port Number
Device Web Server	80
Serial Port 1	9001
Serial Port 2	9002
Firmware Upgrade	67 (BOOTP Server) 68 (BOOTP Client) 69 (TFTP Port)

Default Windows Firewall Exception entries:

• Boost.LAN Suite
• Boost.LAN Suite (Device discovery) (except Windows XP 32 & 64 bits)
• UPnP Framework (Windows XP 32 & 64 bits)
• Network Discovery (Windows 7 or later)

7. Default Settings

Network Settings		
Device Network Address	DHCP mode	
Web Server Port	80	
Port Settings	RS232	RS422/485
Baudrate	115200	115200
Databits	8	8
Stop Bits	n	n
Parity	1	1
Flow Control	None	None
Duplex Mode	N/A	Full Duplex
Protocol Settings	Telnet Mode (Server)	Telnet Mode (Server)
TCP/UDP Port Numbers		
Device Web Server	80 (TCP)	
Serial Ports 1-8	9001-9008 (TCP)	
Firmware Upgrade	67 (UDP) - BOOTP Server 68 (UDP) - BOOTP Client 69 (UDP) – TFTP Port	

Port 1 - Yellow	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
RS232	Sig GND	CTS	RxD	RTS	TxD
RS485 FD	Sig GND	RxD-	RxD+	TxD+	TxD-
RS485 HD	Sig GND			Data+	Data-
Power Input - Black	Power GND	+Vin A	+Vin B	Power GND	Func GND
Input +5V to +30V DC 60mA@24V 1.4W Typical 120mA@24V 2.9W Max					

Ports 1 and 2 are software selectable as either RS232, RS422 or RS485:
• Port 1 terminal = yellow
• Port 2 terminal = grey
• Power terminal = black

Grounding:
• Correctly Wired grounds help cut down on electromagnetic radiation
• 5 pin terminals allow a ground on the 5th pin of each block
• Functional earth included in integral DIN rail mount allows the DIN rail to be used as an earth

LED Information		
Status LED	Green Light on	Device Ready
	Flashing Yellow	Changing Settings
	Flashing between Red & Green	Querying IP
	Flashing between Green & Red/Yellow	IP Address Diagnostic
	Flashing Green/Red	Performing Hard Reset
	Flashing between Green & Yellow	Initialization diagnostic
Serial Port LED	Green light on	Port Open
	Flashing light on	Data RX/TX
Ethernet LED	Green light on	Link established
	Flashing Green	Data RX/TX

For further configuration details, or technical information on the OM-ES-500 Series product, please refer to Product Manual on CD

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC., warrants this unit to be free of defects in materials and workmanship for a period of 61 months from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal five (5) year product warranty to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence. The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR <u>WARRANTY</u> RETURNS, please have the following information available BEFORE contacting OMEGA.
1. Purchase order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR <u>NON-WARRANTY</u> RETURNS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA.
1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product and
3. Repair instructions and/or specific problems relative to the product.

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Industrial Water & Wastewater Treatment
pH Conductivity & Dissolved Oxygen Instruments

MQS5060/0213