

# ES-357 ETHERNET TO SERIAL DEVICE SERVER

## Ethernet 1 Port RS232 + 1 Port RS422/485

*CONNECT, CONFIGURE, CONTROL YOUR SERIAL DEVICES*

### Features

- 2 port RS232 + RS422/485
- Max baud rate 1,000,000 1 MegaBaud
- 10/100Base TX Ethernet port
- User friendly interface, simple to use, powerful in operation
- Web configuration and RFC2217 compliant interface for non-Windows users
- IP-30 rated enclosure
- LED status indication
- Optional DIN rail mounting kit
- Serial Port Tunneling (individually configurable) allows serial cable replacement over any distance, no software required
- Simple operation for each and every operating system!



### Description

Ethernet to Serial device server providing access to one RS232 and one RS422/485 serial port. Data transfer rates up to 1,000,000 baud, coupled with 1Mbit/s line drivers deliver uncompromising performance. Our ES range provides simple instant networked serial ports. RS485 - 1 twisted pair - half duplex configuration with autogating provides trouble free data transmission due to automatic control of data direction. A web interface allows secure configuration and control of the serial ports over a local network or the internet using any browser. For Windows our in-house designed 32 bit and 64 bit driver gives you local COM ports, retaining existing software applications and allowing you to connect across your network to remote devices just as if they were attached locally. You can access the device via TCP/IP sockets from any networked device like an Android tablet, PC or phone. Serial Port Tunneling individually configurable allows serial cable replacement over any distance, no software required. On Windows OS TCP/IP sockets are handled by the Winsock API, this will differ on other OSs.

**Windows Users** - Our software drivers gives 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 COM1 to COM255 and the Brainboxes Ethernet to serial device remembers your COM Port assignment on reboots.

**Web Interface Users (Linux/Apple OS/Android)** - Alternatively access the device via TCP/IP socket from any networked device. Configure options via web interface.

Extend your reach! Remote serial devices with local control. With Brainboxes industry renowned Lifetime Warranty and Lifetime Support!

### Example Application



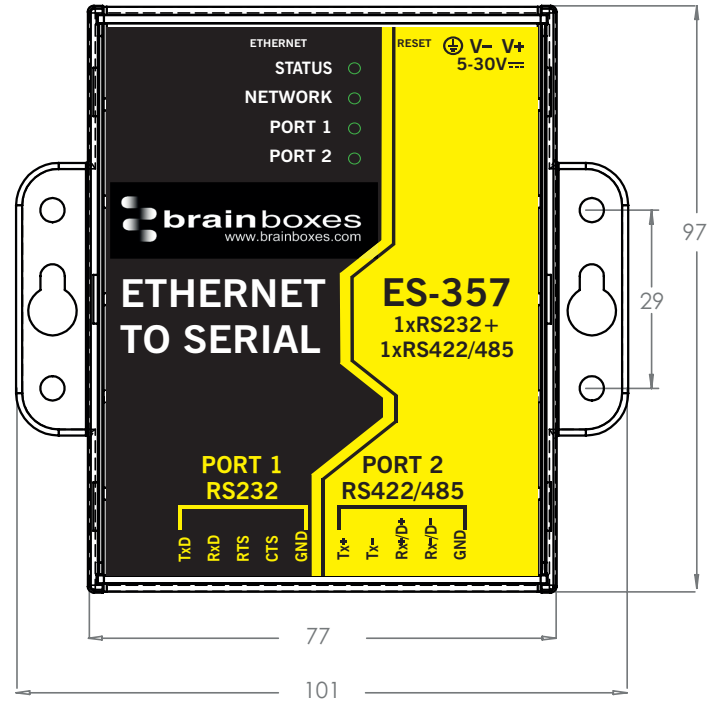
Industrial PC

WWW

ES-357

CNC Machine(s)

## Box Information



## LED Information

<b>Status LED</b>	Green	Device Ready
	Flashing Yellow	Changing Settings
	Flashing between Red & Green	Querying IP
	Flashing Green/Red	User performing Hard Reset
	Flashing between Green & Red/Yellow	IP address diagnostic
	Flashing between Green & Yellow	Initialization diagnostic
<b>Serial Port LEDs</b>	Green light on	Port Open
	Flashing Green	Data RX / TX
<b>Network LED</b>	Green light on	Link Established
	Flashing Green	Data RX / TX

## Port

<b>Ports</b>	2 port RS232 + RS422/485
<b>Connector</b>	Screw terminal block connector - 0.1 inch pitch
<b>Power Input</b>	5 - 30V DC input, reverse polarity protected
<b>Power Consumption</b>	1.8W Max / 1.0W Typical



## Port Settings - RS232 + RS422/485

<b>Baud Rate</b>	From 110 - 1,000,000 1 MegaBaud
<b>Data Bits</b>	5,6,7 or 8
<b>Parity</b>	Odd, Even, None, Mark or Space
<b>Stop Bits</b>	1 or 2
<b>Flow Control</b>	RTS/CTS, DSR/DTR, XON/XOFF
<b>Tx/Rx Modes</b>	Point to Point RS232, Full Duplex, Half Duplex Autogating, Hardware Autogating, TxD always/ RTS true enabled, RxD always enabled, RxD RTS true disabled, CTS forced true RS422/485

### Standards Available with Screw Terminals Versions

- **ES-020 : RS232**
- **ES-031 : RS422/485**
- **ES-057 : RS232 + RS422/485**

**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 100 Kilobits per second for distances up to 4,000 feet (1219 metres).

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 whilst 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. Whilst 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. Brainboxes RS422/485 products implement a state of the art hardware autogating circuit ensuring error free communications in half duplex configurations.

## Port Settings - Ethernet

<b>Data Rate</b>	10/100 Mega bits/second
<b>Cabling</b>	Normal / Crossover auto-sensing (Auto-MDIX)

## Environmental

<b>Operating Temperature</b>	0 to 55°C
<b>Storage Temperature</b>	-20 to 85°C
<b>Ambient Relative Humidity</b>	5 to 95% (non-condensing)
<b>Housing</b>	IP-30 rated case

## Software

<b>Network Protocols</b>	ICMP, IP, TCP, DHCP, BOOTP, Telnet, HTTP, RFC2217
<b>Configuration Options</b>	Windows Utility, Web Interface
<b>OS Compatibility</b>	Microsoft Windows 8 32 bit 64 bit Editions / Microsoft Windows 7 32 bit 64 bit Editions / Windows Server 2008 32 bit 64 bit Editions / Windows Vista 32 bit 64 bit Editions / Windows Server 2003 32 bit 64 bit Editions / Windows XP 32 bit 64 bit Editions / Fully RFC2217 compliant / Interface for other OS's & Linux
<b>Connection to Network</b>	Ethernet 10BaseT / 100BaseTX

## Approvals

<b>Industry Approvals</b>	AEO C-TPAT Microsoft Certified Gold Partner WEEE RoHS EMC: CE TAA
<b>Microsoft Approvals</b>	Microsoft Certified Gold Partner
<b>Microsoft Signed Drivers</b>	Windows 7 32 bit 64 bit Editions Windows Vista 32 bit 64 bit editions Windows XP 32 bit 64 bit editions Windows 2000



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## Packing Information

<b>Packaging</b>	Installation CD including manual, Microsoft signed drivers & utilities
<b>Device</b>	Ethernet 1 Port RS232 + 1 Port RS422/485
<b>Accessory Items</b>	Global Power Supply - PW-600 DIN-Rail Mounting Kit - MK-048
<b>Packaged Weight</b>	0.253 kg, 8.92 ounces
<b>Packaged Dims</b>	160x135x45 mm, 6.3x5.3x1.8 inches

## Product Support

<b>Warranty</b>	Lifetime - online registration required
<b>Support</b>	Lifetime Web, Email and Phone Support from fully qualified, friendly staff who work in and alongside the Product Development Team



## Additional Information

<b>OEM option</b>	Available for bulk buy OEM
<b>Made In</b>	Manufactured in the UK by Brainboxes Winner 2005 European Electronics Industry Awards 'Manufacturer of the Year'
<b>Customisable</b>	Brainboxes operate a 'Perfect Fit Custom Design' policy for volume users. More info: <a href="mailto:sales@brainboxes.com">sales@brainboxes.com</a>

## Accessory Items

### ORDER CODE - DIN-Rail Mounting Kit - MK-048

### ORDER CODE - Global Power Supply - PW-600

