

ED-204

Ethernet to Digital + RS232 + Switch

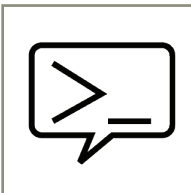
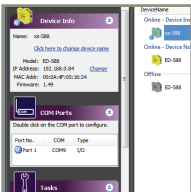
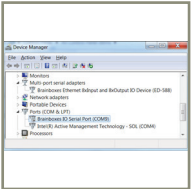
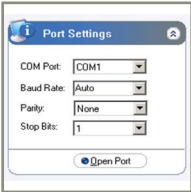
- **4 Digital Ports**
Independently can be In or Out
- **1 RS232 Serial Port**
- **2 Port Ethernet Switch**
for 'daisy-chaining'
- **User friendly software interface**
Simple web based configuration, monitoring and control
- **Cost effective all in one solution**



Digital Channels - 4 Ports individually selectable as Inputs or Outputs

| | | |
|----------------|------------------------------------|--|
| Inputs | NPN/PNP | individually jumper selectable pull up for NPN, active low, type sensors and pull down for PNP, active high, type sensors |
| | Logic Level 0: | 0V to +1V |
| | Logic Level 1: | +3.5V to +30V |
| | Latched Inputs: | Triggered by user programmable positive or negative edges, stays true until acknowledged |
| | Counter Inputs: | User programmable- counts positive or negative transitions 0-65535 |
| Outputs | Maximum output current | Sinks up to 1 Amp per pin, 40V max load Max combined load 4.0 Amps per ED device |
| | Characteristic: | Open drain output, protected MosFET intelligent short circuit protection up to 36V Over temperature shutdown :175°C typical 150°C min |
| | Maximum output load Voltage | 40V |
| | ESD Protection | 16kV |





Complete Ethernet to Serial Device Server:
One RS232 serial port up to 1 MegaBaud, delivers uncompromising performance. Software drivers give Windows users a local COM port allowing you to retain your existing software applications and connect to your devices over the network. Web configuration and RFC2217 compliant interface for non-Windows users. Serial Port Tunnelling allows serial cable replacement over any distance, no software required.

Ethernet to DIO Device Server:
The Ethernet to DIO device is implemented using a Windows COM port driver that is completely compatible with all popular PC packages such as LabView, MATLAB and Agilent VEE and support a range of popular APIs. Continue to get value from your existing development and process control system.

Signed Drivers and Rigorous testing:
We use continuous automated testing of our in-house drivers and software to ensure when you install one of our devices 'it just works'. Our software allows hassle free installation, configuration and monitoring via our easy to use webpage. We make all our software versions available to download from our website.

Familiar ASCII Command Protocol:
The ED range of devices uses the de facto industry standard ASCII command protocol implemented in the popular ADAM/NuDAM/EDAM modules.
Typical examples include:

| | |
|-----------|---|
| \$01M | read the name of device address 01 |
| !01ED-588 | device 01 replies that its name is ED-588 |
| \$01F | read firmware version number of device address 01 |
| !012.54 | firmware version of device 01 is 2.54 |
| @01 | read digital input output status of device 01 |
| > 1A45 | device 01 digital input data= 1A (=00011010) digital output data = 45 (=01000101) |
| \$012 | read configuration of device 01 |
| !01400500 | device 01 40=typecode, 05 =gateway RS485 port is at 4800 Baud, 00=No checksum |

The ED device's webpage has an interactive console where any command can be entered and it is immediately executed showing the device's response.

Wide Range Power Input:
+5VDC to +30VDC accommodates variation in the +24VDC factory floor and allows alternative power sources.

Lifetime Warranty and Support:
We can help with every aspect of your project, from getting you up and running to custom application.

Software Development

COM Port on Windows

On a PC running the Microsoft Windows family of OS's the ED Boost.IO Manager provides a standard COM port interface so enabling thousands of proven legacy applications to work straight out of the box. COM port compatibility allows you to continue to get value from your existing application software investment. Moreover your engineers don't need to retrain to use the Brainboxes ED range of I/O devices.

Industry Standard Packages

The COM port based driver means that ED-xxx devices are completely compatible with all popular packages such as: LabView, MATLAB, Agilent VEE. You can continue to get value from your existing development and process control system. Hundreds of thousands program with these packages every day.



Software Platforms

The future is mobile, with data available everywhere on demand; Brainboxes has designed a software suite which allows you to design your new systems with mobile in mind with most popular platforms and development environments supported. With APIs and sample program code for: Microsoft .NET, C#, Visual Basic, C++, JavaScript, PHP, Java, Objective-C



Devices Supported

The ED sample codes running on Operating Systems such as Windows XP, Server 2008, Server 2012, Windows 7, Windows 8, and Linux based systems such as Android and Raspberry Pi allow you to run your applications on Servers, Desktops, Laptops, Tablets, Phones or low cost embedded devices, almost any device you wish.



Configuration Options

Windows Utility, Web Interface: Boost.IO driver provides familiar Serial COM port interface

OS Compatibility

Legacy COM port drivers for: 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 Server 2008 & Windows 2000 / Windows Vista 32 bit & 64 bit Editions / Windows Server 2003 32 bit & 64 bit Editions. TCP and web browser interface for other OS's & Linux, e.g. Android, Raspberry Pi



Ethernet

Ethernet Port

2 x RJ45 jack, 10/100Mhz autosensing, crossover auto sensing (Auto MDIX)

Protection

1,500Volts magnetic isolation between I/O ports and network

Network Protocols

ICMP, IP, TCP, DHCP, Telnet, HTTP

Connection to Network

Ethernet 10BaseT / 100BaseTX

Watchdog

Power up

On power up all outputs go to user programmable power on known good state

Watchdog coms link

On loss of communications link all outputs go to a user programmable watchdog comms known good state.

Watchdog hardware timer

If the firmware does not refresh the watchdog timer within a predetermined interval then all outputs go to a user programmable watchdog hardware good state

E-Stop function

When a user programmable input transitions to a preconfigured high or low state then all outputs go to a user programmable E-Stop known good state

Browser Interface

Webserver Interface

Configure IP address, monitor state of i/o lines, set the Watchdog Timers Output Reset Value, Set Power on digital output value.

Use the interface console to talk to the device, accepts the full ASCII command set.

Monitor CPU temperature and see visual display of inputs and outputs.



| | |
|---|--|
| Housing and connectors | |
| IP-30 rated non-conducting polyamide case | |
| DIO Terminal | 10 way x 0.2inch/5.08mm pitch removable screw terminal block |
| Power Terminal | 3 way x 0.2inch/5.08mm removable screw terminal block |

| | | | |
|---------------------|---|---------------------------|---------------------------------|
| Power Supply | | Environmental | |
| Power Consumption | 2.5 Watt Max | Operating Temperature | 0°C to +60°C, +32°F to +140°F |
| Power Supply input | unregulated +5V to +30Volts DC, reverse polarity protection | Storage Temperature | -40°C to +85°C, -40°F to +185°F |
| Isolation | 1500VRMS Magnetic isolation from Ethernet | Ambient Relative Humidity | 5 to 95% (non-condensing) |


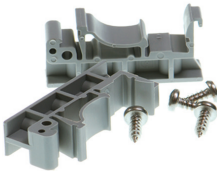
| | | |
|------------------------|-------------------------------------|----------------------------|
| LED Information | | |
| Status LED | Green | Device Ready |
| | Flashing Yellow | Changing Settings |
| | Flashing between Red & Green | Querying IP |
| | Flashing Green/Red | User performing Hard Reset |
| | Flashing between Green & Red/Yellow | IP address diagnostic |
| | Flashing between Green & Yellow | Initialization diagnostic |
| Link LED | Green light on | Network Link Established |
| | Flashing Green | Network Data RX/TX |
| Activity | Flashing Green | Output set / Input Read |
| | Flashing Red | Output overload |

| | |
|------------------------------|---|
| Port Settings - RS232 | |
| Baud Rate | From 110 - 1 MegaBaud - Any custom Baud rate accepted |
| Data Bits | 5,6,7 or 8 |
| Parity | Odd, Even, None, Mark or Space |
| Stop Bits | 1 or 2 |
| Flow Control | RTS/CTS, DSR/DTR, XON/XOFF |
| Tx/Rx Modes | Point to Point |

| | |
|------------------------------|---|
| Packaging Information | |
| Packaging | Installation CD including manual, Microsoft signed drivers & utilities, Quick Start Guide |
| Packaged Weight | 0.210 kg, 0.46 pounds |
| Packaged Dims | 150(l) x 150(w) x 50(h) mm, 5.9(l) x 5.9(w) x 2.0(h) inches |
| GTIN Universal Code | 837324009842 |

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|--------------------------|--|
| Approvals | |
| Industry Approvals | CCC-Mark, C-Tick, Microsoft Certified Gold Partner, WEEE, RoHS, METL |
| Microsoft Approvals | AEO (C-TPAT) |
| Microsoft Signed Drivers | Windows 8 32 bit & 64 bit Editions Windows 7 32 bit & 64 bit Editions Windows Server 2008 32 bit & 64 bit Editions Windows Server 2008 & Windows 2000 Windows Vista 32 bit & 64 bit editions |



| | | | |
|---|--|--|--|
| PW-600: Optional Global Power supply | | MK-048: Optional DIN Rail Mount | |
|  | |  | |
| Power supply with connectors for UK, USA, EU and AUS mains socket. 'Tails' are suitable for connecting to screw terminal blocks | | Can be attached to device to enable snap on DIN rail mounting | |