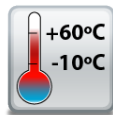


ED-038 Ethernet to Digital I/O Relay

3 Digital Input Lines and 3 Form A Relays

- 3 Digital Inputs
- 3 Form A Relay Outputs
- 1 Ethernet Port
- User friendly software interface
Simple web based configuration, monitoring and control
- Software APIs for VB, C# and more



Easy to set up with LED status lights for Digital I/O lines that correspond to simple to read webpage



+5 to +30 Volt Power Input enables the device to be run from USB, a vehicle battery or the factory floor



Integral wall mount option can be used with MK-048 clips to allow DIN rail mounting

ED-038

Ethernet to Digital I/O Relay

Integrate with popular software packages or use with our free APIs

LED status lights

Wall mount holes compatible with MK-048 DIN mount clips

View from webpage - no software required

Ethernet Port

Easy Wire Removable screw terminal blocks

Wide Range Input Power: +5VDC to +30VDC

IP30 Non-conducting polyamide case

-10°C to +60°C / +14°F to +140°F temperature range

Supports Modbus TCP or ASCII commands



3 Form A Relay Outputs 3 Digital I/O Lines

Connectors

Screw Terminals

3 way x 0.2inch/5.08mm and 10 way x 0.2inch/5.08mm pitch

Wire Thickness

0.150 inch, 3.81mm, 20 pins, 12+8 screw terminals, #26 - #16 AWG, 0.14mm²-1.3mm²

Power Supply

Power Supply input

Unregulated +5V to +30Volts DC, reverse polarity protection

Isolation

1500VRMS Magnetic isolation from Ethernet

Environmental

Operating Temperature

-10°C to +60°C / +14°F to +140°F

Storage Temperature

-10°C to +70°C / +14°F to +158°F

Ambient Relative Humidity

5 to 95% (non-condensing)

Magjack LED Information

Link/Activity LED

Solid green Connection established
Flashing Green Data communication

Speed LED

Green 100Base-Tx
Unlit 10Base-T

Ethernet

Ethernet Port

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

Protection

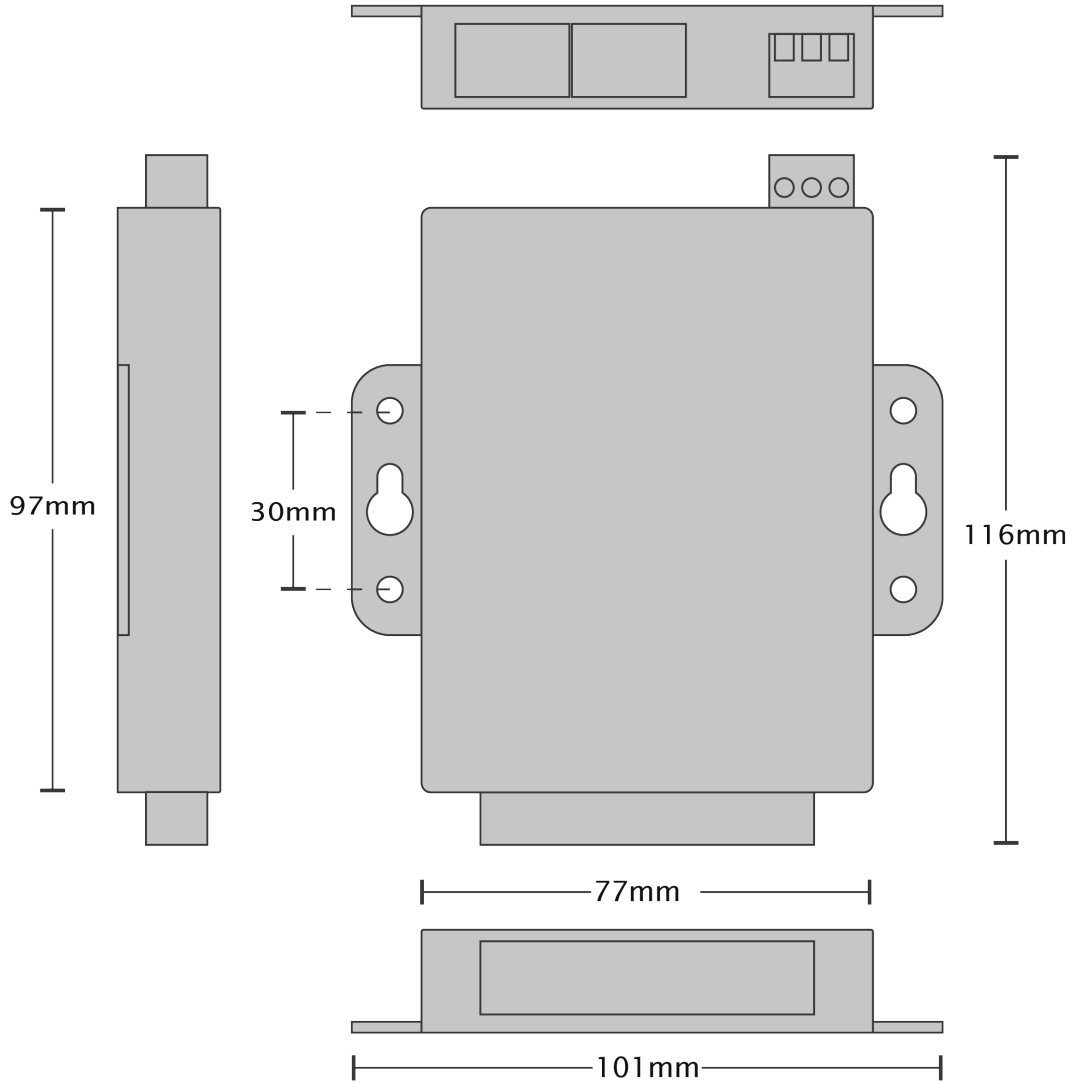
1,500 Volts magnetic isolation between ports

Housing

IP-30 rated non-conducting polyamide case

ED-038

Ethernet to Digital I/O Relay



Terminal Block Pin Outs

| PIN | FUNCTION |
|-----|----------|
| 1 | COM 2 |
| 2 | NO 2 |
| 3 | COM 1 |
| 4 | NO 1 |
| 5 | COM 0 |
| 6 | NO 0 |
| 7 | DI 2 |
| 8 | DI 1 |
| 9 | DI 0 |
| 10 | GND |

Ethernet Port Pin Outs

| PIN | FUNCTION |
|-----|-----------|
| 1 | RD+ / TD+ |
| 2 | RD- / TD- |
| 3 | TD+ / RD+ |
| 4 | NC |
| 5 | NC |
| 6 | TD- / RD- |
| 7 | NC |
| 8 | NC |

Power Terminal Pin Outs

| PIN | FUNCTION |
|-----|------------------|
| 1 | +V |
| 2 | -V |
| 3 | Functional Earth |

Lifetime Warranty and Support:

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

ED-038**Ethernet to Digital I/O Relay**

Digital Channels - 3 Inputs + 3 Relay 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: | +2V 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 0-65335 |

Relay Outputs

| | |
|----------------------------|--|
| Relay Type | 3 Form A (SPST: Single Pole Single Throw) - Normally Open When power is removed from the ED-038 the relay is Open |
| Contact Rating | 5 A @ 30 VDC, 5 A @ 250VAC, 5 A @ 110 VAC |
| Inductive Load | 2 A |
| Resistive Load | 5 A |
| Relay On/Off Time | 10ms (Max) |
| Expected Life | 100,000 times (Typical) |
| Initial Contact Resistance | 30 milli-ohms (Max) |
| Pulse Output | 0.3 Hz at rated load |

Serial Port - No Serial Port on this device, see ED-004 or ED-204

Power Supply

| | |
|--------------------|---|
| Power Supply input | Unregulated +5V to +30Volts DC, reverse polarity protection |
| Isolation | 1500VRMS Magnetic isolation from Ethernet |
| Power Consumption | 2.5 Watts Max : 220 mAmps@+5VDC/36mAmps@+30VDC |

Software

| | |
|------------------|---|
| OS Compatibility | Brainboxes' software provides a TCP or Serial COM port interface. All software versions and updates available to download from our website. |
| Microsoft | Legacy COM port drivers for Microsoft OS up to latest Windows 11 |
| Other | TCP and web browser interface for other OSs & Linux, e.g. Android, Raspberry Pi |



| | |
|----------------------------|---|
| Boost.IO Manager | Lets you find, install and upgrade devices |
| Industry Standard Packages | The COM port based driver means devices are compatible with popular packages such as: LabVIEW, MATLAB, Agilent VEE. So you can continue to get value from your existing development and process control system. |
| Software Platforms | APIs and sample program code for: Microsoft .NET, C#, Visual Basic, C++, JavaScript, PHP, Java, Objective-C, Python and more - www.brainboxes.com |



Modbus

Device works as a Modbus TCP server. Modbus TCP can be used on the input and output lines.

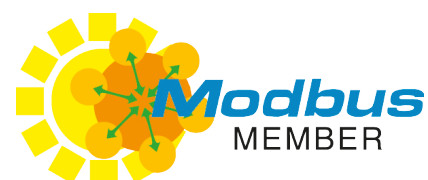
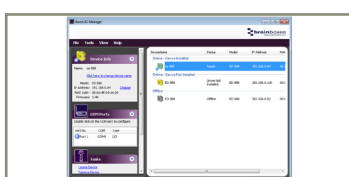
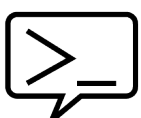
| | Modbus access type | Supported Modbus function codes | Logical address | 984 style address | IEC 61131 address |
|--------------------------|--------------------|---------------------------------|-----------------|-------------------|-------------------|
| Read DI counter values | Holding register | 3 | 0x0000... | 40001... | %MW0... |
| Clear DI counters | Coil | 5, 15 | 0x0200... | 00513 | %M512... |
| Set/read digital outputs | Coil | 1, 5, 15 | 0x0000... | 00001... | %M0... |

ASCII

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

| | |
|-----------|---|
| \$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 |

Full command tables can be found in the device manual



ED-038 Ethernet to Digital I/O Relay

Packaging Information

| | |
|---------------------|---|
| Packaging | Microsoft signed drivers & utilities, Quick Start Guide, Device |
| Packaged Weight | 0.230 kg, 8.11 ounces |
| Packaged Dims | 160x135x49 mm, 6.3x5.3x1.9 inches |
| GTIN Universal Code | 837324009835 |

Approvals

| | |
|--------------------|--|
| Industry Approvals | Microsoft Certified Gold Partner, WEEE, RoHS, AEO (C-TPAT), CE, UKCA |
|--------------------|--|

Product Support

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

Additional Information

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



PW-600

Power supply with connectors for UK, USA, EU and AUS mains socket. 'Tails' are suitable for connecting to screw terminal blocks.



MK-048

DIN Rail Mounting Kit Enables device to be clipped onto a DIN rail.



ED Range

Remote I/O products available in a range of formats and specifications.

www.brainboxes.com