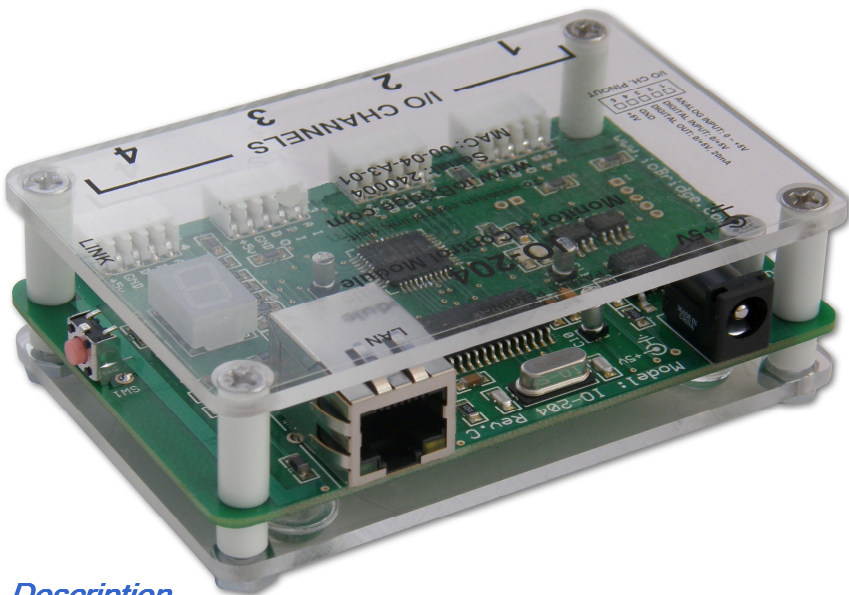


**Features - add analogue voltage range!**

- Secure Internet/web or programmatic access & control of 4 DAQ/DIO or serial/RS232 channels (or a mixture). Analogue input is a 10 bit ADC with 0 to +5V range. Pulse output function available on DO channels.
- Seamless integration with our 8 and 16+8 channel serial relay/DIO cards – up to four SER8PRMx or SER16PRMxN cards can be connected to each IO-204Mx module
- Can be controlled/operated from any internet/web browser platform including PC, Mac, Linux, PDA's iPhone, Blackberry etc
- Operates from any normal company/ home internet connection and through firewalls. Overcomes problems traditionally associated with internet access such as dynamic IP addressing, proxy servers and security
- Each module has a unique serial number that you link to your own web based control panels via secure password server access
- Powerful control panels can be easily created/ designed on your own unique web pages from existing templates – no programming knowledge needed
- Programmatic access/control is also possible using HTML, LabVIEW, JAVA, PHP, Perl, Python, Ruby, Ajax etc
- Relay cards offer 240VAC@10A relays/PCB tracking and are SPDT, Form C, changeover type, with N/O, COM and N/C contacts taken to screw terminal blocks along each side of the card
- Simple ASCII/Hex command set & software interface - identical to our existing range of Serial & USB port products. If you have previously used our products, you will find it easy to use the IO-204Mx in conjunction with them
- Internet/SW overhead & operate/release time typically 500mS max. Write & read functions supported.
- Requires external +5V DC power supply - can be connected via screw terminal connector or 2.1mm jack socket on relay cards
- Protective perspex cover & base & DIN rail mount option available.
- Free shipping (Worldwide)



**Description**

Internet/Web module offering secure access & control of 4 DAQ/DIO or serial/RS232 channels. Suitable for a wide range of industrial, academic, security or home automation applications. Seamless integration with our serial/RS232 8 and 16+8 channel relay/DIO card products. Relays & PCB tracking are designed to handle 240VAC@10A.

Overcomes problems associated with secure web access and dynamic IP addressing etc. Can be controlled from simple web pages created using example templates or using a range of programming language options.

Supplied with a Perspex cover & base assembly as shown in above image.

**Specifications**

**Control Interface**  
Internet/Web via Ethernet connector  
**Power supply**  
5V DC (@ approx 200mA)

**Operating temp range**  
-20 to +80°C  
**Dimensions**  
Dimensions approx 67mm (L) 98mm (W) 33mm (H) (inc rubber feet), Weight 90g.

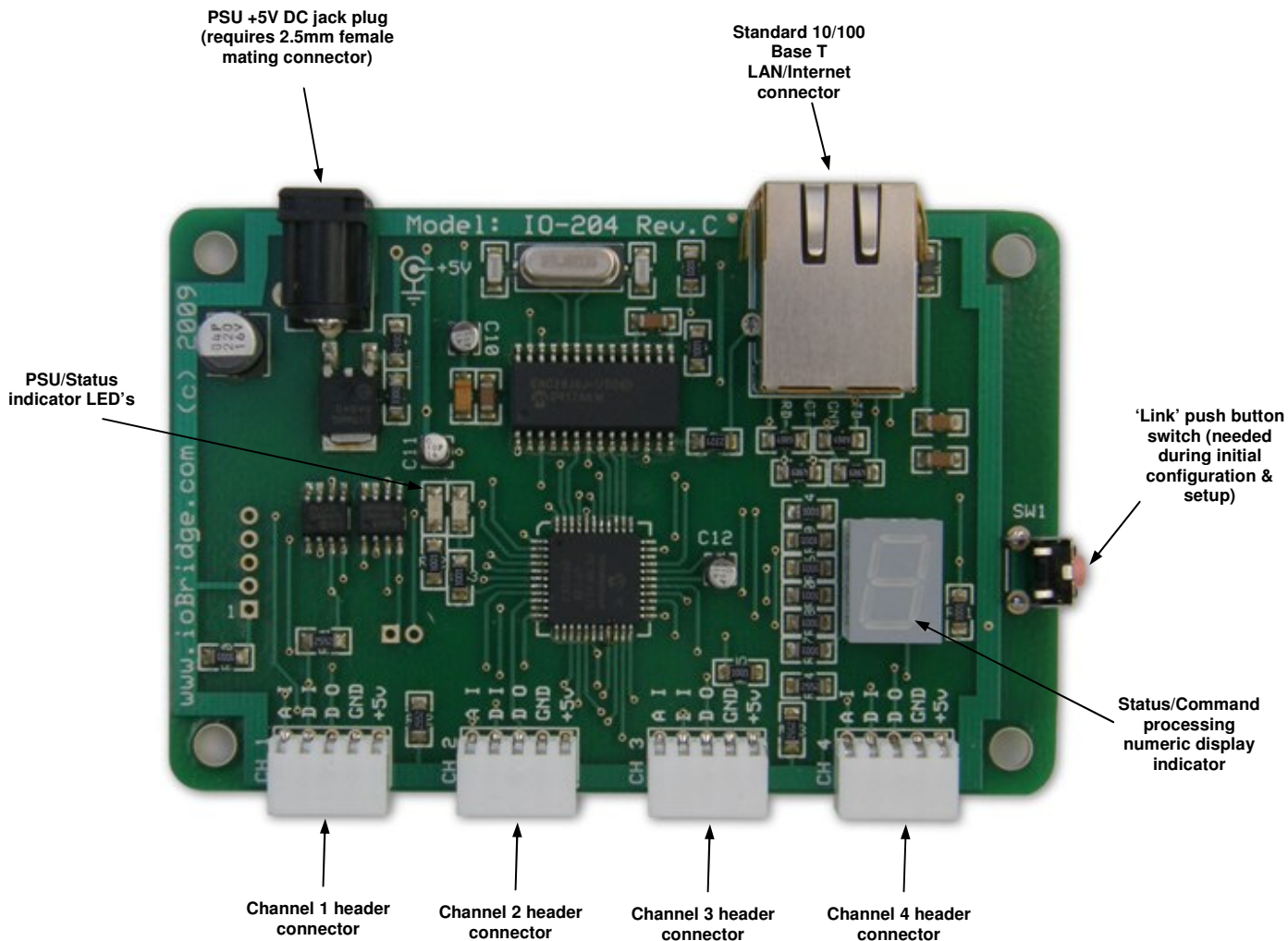
**Order codes**

- IO-204Mx**  
Internet/Web 4 channel DAQ/DIO/Serial-RS232 module
- IO-204Mx-STAdapter**  
Offers screw terminal access to DAQ functions of each channel
- CABLE-IO204Mx**  
Connects between IO-204Mx channel connectors and our SER8PRMx or SER16PRMxN relay cards. Provides power and serial comms connections
- SER8PRMx**  
Serial/RS232, 8 channel, opto isolated relay card. Relays & PCB tracking designed to handle 240VAC@10Amps.
- SER16PRMxN**  
Serial/RS232, 16 channel relay card + 8 DIO channels. Relays & PCB tracking designed to handle 240VAC@10Amps.

**Product Datasheet 45**

**Connection details**

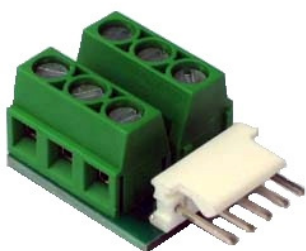
External connections & onboard indicators for the IO-204Mx module are shown below:



Signals for each channel connector:

- Pin 1 = Analogue input
- Pin 2 = Digital input (to the IO-204Mx)
- Pin 3 = Digital output/serial-RS232 signal to SER8/16PRMx cards
- Pin 4 = GND/PSU 0V
- Pin 5 = PSU +5V

Face view of IO-204Mx showing connectors & LED indicators etc



IO-204Mx-STAdapter – gives screw terminal access to each channel signal pin

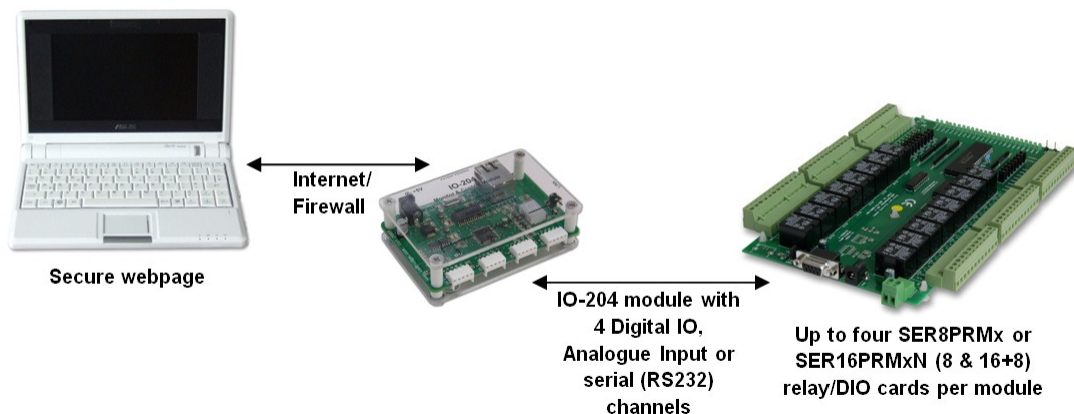
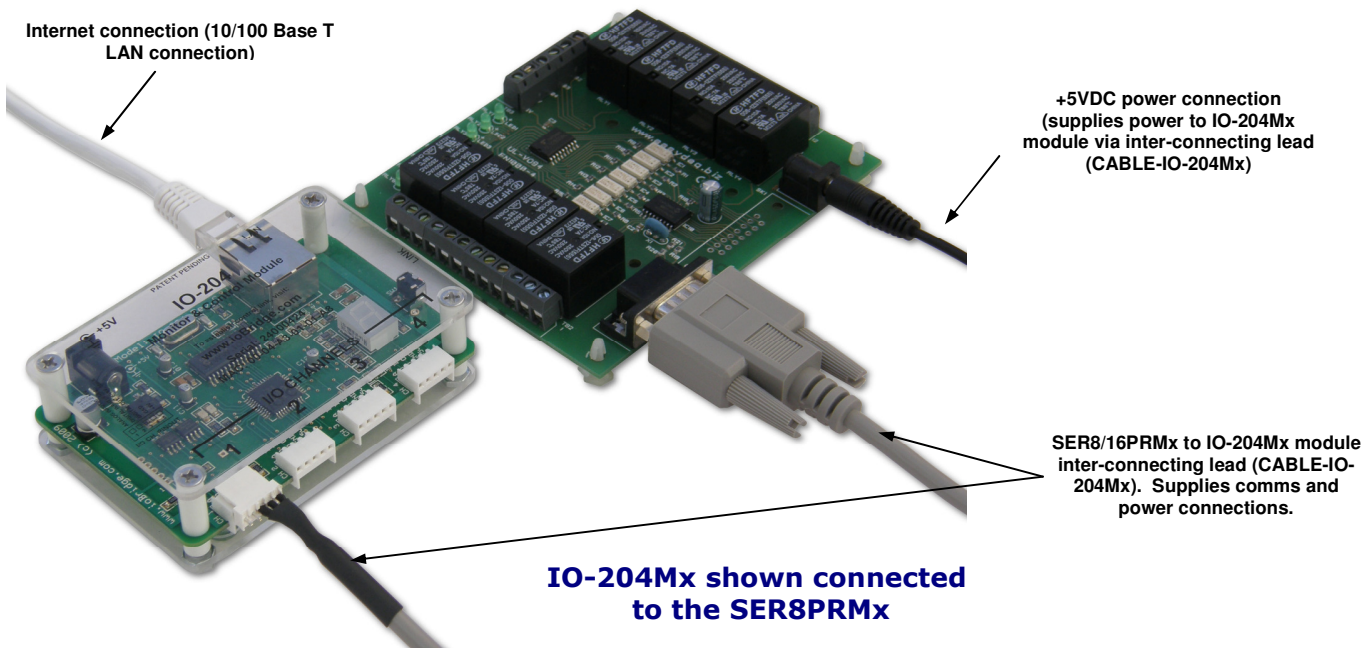


CABLE-IO204Mx – connects power and serial/RS232 comms between IO-204Mx module and SER8/16PRMx.

### Product Datasheet 45

#### Specifications: Relays (SER8/16PRMx)

Parameter	Specification (Power relays)
Rated voltage/current	5VDC/80mA
Must operate/release voltage	75%/10% of rated voltage
Contact ratings	10A/240VAC/8A 30VDC
Contact resistance	100mΩ max
SW overhead/ Operate/ release time	500mS max
Contact bounce period	0.6mS operate/ 7.2mS release
Contact material	AgSnO <sub>2</sub>
Operational life (min)	Mechanical 10 <sup>7</sup> / Electrical 10 <sup>5</sup>
Contact arrangement	SPDT, Form C





### ***Serial Port settings***

Baud rate: 9600  
Parity: 0  
Data: 8 bits  
Stop bits: 1  
Handshaking: None

### ***Command format***

The card is initialised & commanded by sending a single ASCII character followed by a hex number (representing the required port status). The commands address each port of the PIC device (there are three 8 bit ports. ASCII character Hex equiv shown in brackets). You must first set the port direction (as either input or output). If a channel is set as an input, your software must send a read command (of that channel) followed by a read of the serial port. The card can also be commanded via HyperTerminal – see below.

### **Port B, C & D (Channels 1-8, 9-16 & 17-24) commands:**

ASCII 'B' (42H), X Initialises the card (sets the port & channel I/O directions). Set direction of Port B, 1=Input, 0= output. (i.e. where X=10111111 (AFH) = sets bit 7 as an output, the rest as inputs).  
ASCII 'C' (43H), X Write data X to Port B (i.e. X=00000001 (01H), sets channel 1 to active). Valid data bytes are latched by the card until a further valid data byte is written to it.  
ASCII 'E' (45H), X Initialises the card (sets the port & channel I/O directions). Set direction of Port C  
ASCII 'F' (46H), X Write data X to Port C (i.e. X=00000001 (01H), sets channel 1 to active).  
ASCII 'H' (48H), X Initialises the card (sets the port & channel I/O directions). Set direction of Port D  
ASCII 'K' (4AH), X Write data X to Port D (i.e. X=00000001 (01H), sets channel 1 to active).

### ***Using Windows HyperTerminal***

In order to test operation, the card can be connected to a serial port and controlled from Windows HyperTerminal. Ensure port configuration is set as shown above, type (ASCII) characters shown above to achieve port initialisation/direction and read or write command/data.

### ***Uses existing USB & serial port software examples***

This card uses the same software drivers & command interface that is used in our existing range of USB/Serial port relay & DIO card products. If you have already used our USB or serial port products on a previous project, you should find it easy to create your own simple web page controls or programmatic control via the internet.

If you are a Mac or Linux user, or require additional information and low level details on how to address and command the cards, please refer to this web link (paste this link into your browser):

<http://www.easydaq.biz/Datasheet%20Contact%20Details/indexEeePCInfoRequest.htm>