Features

- PC104 format card with 8 onboard changeover relays
- Card tracking will handle 2.7 amps (relays have a 10 amp contact rating).
- LED channel and power status indicators
- Example programs are available for LabVIEW, VB, VC, C#, JAVA, Delphi & HP VEE
- 2.5mm jack socket or screw terminal power connection option
- Supplied with nylon feet (will take self tapping screws)
- Corner mounting holes allow cards to be stacked if required
- A protective perspex cover & base is also available
- All relay contacts (NO/COM/NC) taken to screw terminal blocks
- Card can be mounted as a daughter board when used with male header pin output connector option
- 0V, 5V and 12V also taken to a separate 3 way screw terminal block adjacent to the relay contact screw terminal block
- 5V/150mA available at 26W header connector
- Standard (9 way D Type straight through) serial cable required for connection to PC serial port
- CE & RoHS compliant, BS9001:2000 manufacture

Description

This card is an industry standard PC104 profile, eight channel relay card. It is designed to be connected to any RS232 compatible serial port and commanded via a simple ASCII/Text command protocol. Each output can be independently set under software control.

The PCB tracking will handle 2.7 amps (relays have a 10 amp contact rating).

The card is available with two screw terminal blocks which allow connection to all of the NO/Com/NC contacts of the 8 onboard relays. A third screw terminal block is provided giving user access to the 0V, 5V and 12V DC power connections.

Specifications

Serial Interface
Standard RS232 electrical interface. 9 way (female) D Type connector. (Only requires Rx input and 0V connections).
Power supply
12V DC
Power consumption
10 mA standby, 300 mA all relays active

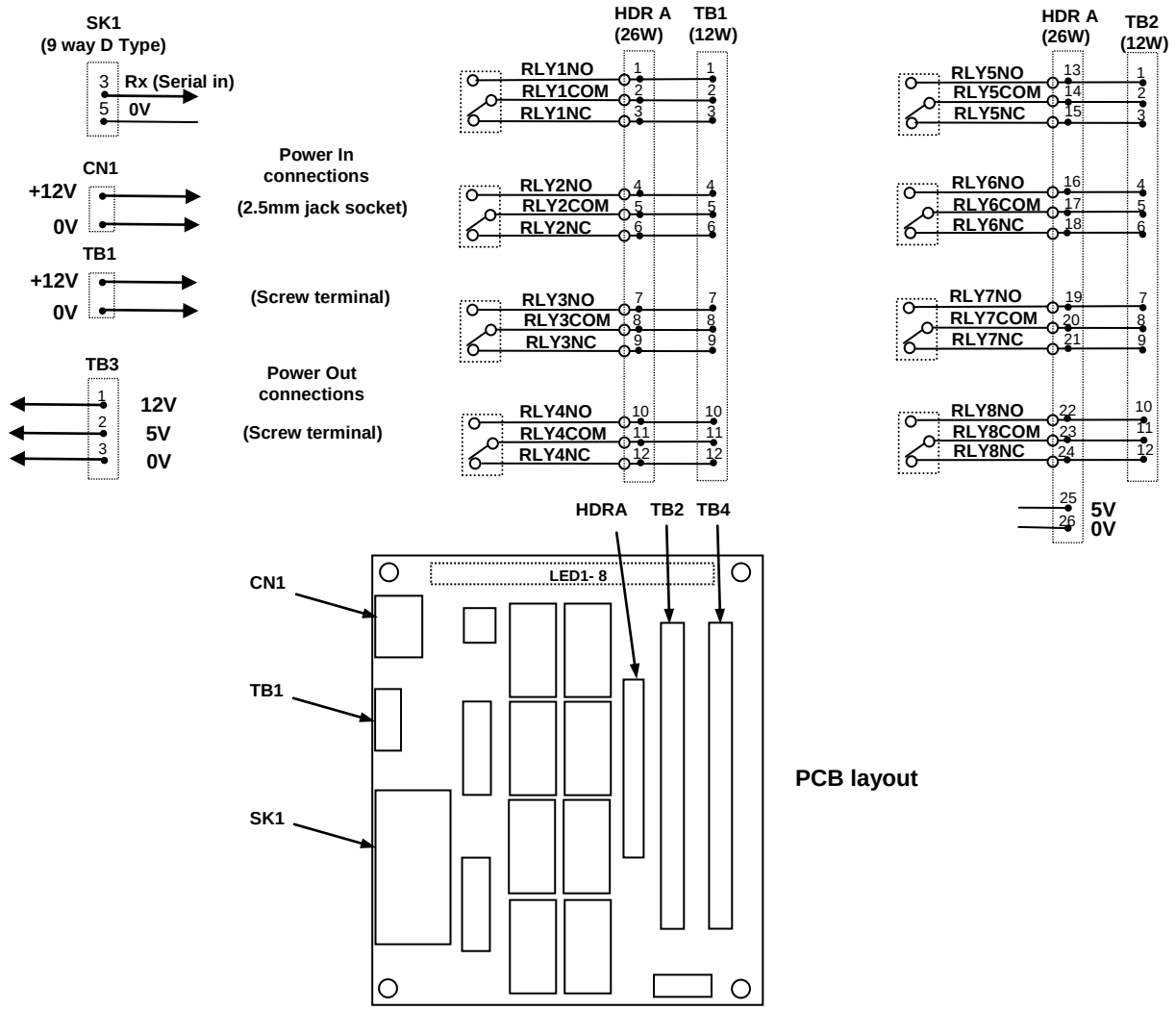
Relays
See page 2 for technical details of the relays used
Operating temp range
0-70^{0}C
Output channels
5V (max) @ 20mA (max) per output or 40mA (max) for all 8 channels
Dimensions
Approx 90mm (D) 95mm (W) 22mm (H) (exc feet)

Order codes

SERDO8R
9 way D type input & screw terminal output connector

Connection details

External connections to the card are shown below:



PCB layout

Specifications: Relays

Parameter	Specification (Power relays)	Specification (Signal relays)
Rated voltage/current	5VDC/80mA	5VDC/42mA
Must operate/release voltage	75%/10% of rated voltage	75%/10% of rated voltage
Contact ratings	10A/240VAC/8A 30VDC	1A/120VAC/1A 30VDC
Contact resistance	100mΩ max	100mΩ max
Operate/release time	10mS/5mS	5mS/5mS
Contact bounce period	0.6mS operate/ 7.2mS release	0.6mS operate/ 7.2mS release
Contact material	$AgSnO_2$	AgAu
Operational life (min)	Mechanical 10^7 / Electrical 10^5	Mechanical 10^7 / Electrical 10^5
Contact arrangement	SPDT	SPDT

Serial Port settings

Baud rate: 9600
Parity: 0
Data: 8 bits
Stop bits: 1

Handshaking

None – output status reflects incoming data bytes.

Command format

The following commands show the ASCII characters required to command each port of the PIC device (Hex equiv shown in brackets - can be commanded via Windows HyperTerminal – see below).

Port B (Channels 1-8) commands:
A (41H), X Read Port B (Char X=don't care. Device sends 1 byte of returned data).
B (42H), X Set direction of Port B, 1=Input, 0= output. (i.e. X=10111111 (AFH) = bit 6 output, the rest inputs).
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.

Using Windows HyperTerminal

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

Example downloads

Example driver files and executables are available from the 'downloads' area of our website (www.easydaq.co.uk). Example programs are available for LabVIEW, VB, VC, C#, Delphi & HP VEE.