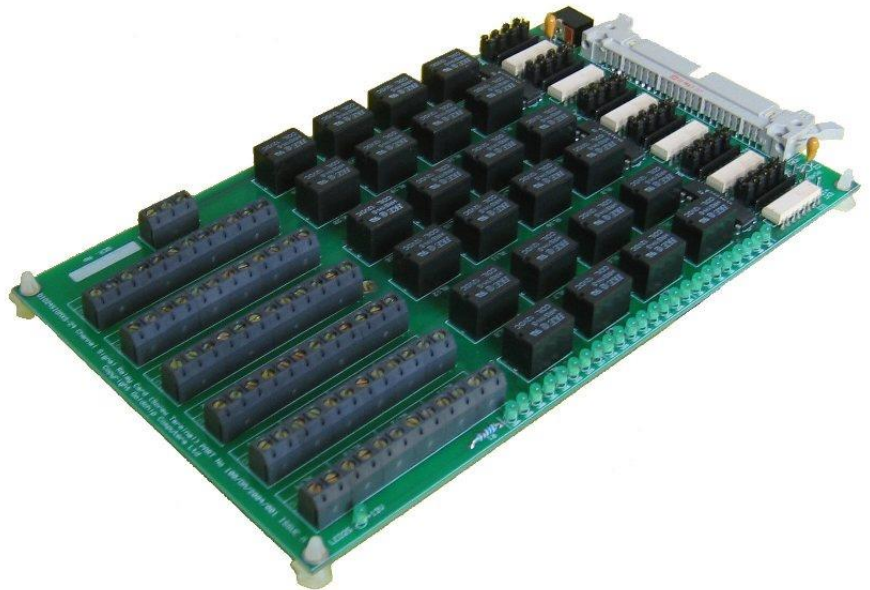


**Product Datasheet 2**

**Features**

- Requires 12V DC external power supply (via 2.5mm jack socket or screw term's), and 5V connected via 50 way header connector
- Uses high sensitivity, low contact resistance relays
- Contact material AgAu, rated at 1A (24VDC/120V AC). 100mOhms Max
- Operate/release time 5mS Max
- Relays are SPDT, Form C, changeover type, with N/O, COM and N/C contacts taken to the screw terminal blocks
- PCB Tracking will handle 6 amps (1 amp relay contacts)
- Channels can be configured as either inputs or outputs via user selectable links
- 12V Power consumption approx 500mA Max (all channels active)
- Opto-isolated input drive voltage 0/5V to 75V DC
- 2K2 opto-isolator input resistor per channel.
- Input opto-isolation 2500V rms (minimum)
- Pin compatible with NIDAQ DIO24/6503 DIO card
- 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 for all relay card types
- 5V max output voltage per channel
- 20mA (max) drive current per output (40mA max per 8 channels) when driven from 24 channel DIO card
- Directly compatible with our range of 24 channel serial output cards
- Supplied with a short interconnection ribbon cable when ordered with a 24 channel serial port DIO card



**Description**

These cards are general purpose 24 channel (high sensitivity, low contact resistance) relay cards. (Relay contact material is AgAu (100mOhms), and rated at 1A/24VDC). All cards have a 50 way header connector (compatible with NIDAQ DIO24/6503 DIO card) which connects to opto-isolated input relay drive signals. All relay contacts are connected to two-part screw terminal blocks, allowing rapid disconnection/ replacement of the card. Power connections are also taken to a

3 way terminal block making them readily available to the target system wiring.

Digital inputs can be connected via the N/O connection and onboard header links, directly to the 50 way header.

These cards are also compatible with our range of 24 channel USB & serial port DIO cards which can be used to control upto 24 relays or to achieve a mixture of relay control and logic level digital input & output signals.

**Specifications**

**Control Interface**

50 way, (90°) male header connector, 0/5V DC drive signal (2K2 input resistor/40mA max).

**Power supply**

5V DC/150mA (max, supplied from DIO24 card)) & 12V DC/500mA (max)

**Operating temp range**

0-70°C

**Relays**

See page 3 for technical details of the relays used

**Output channels**

5V (max) @ 20mA (max) per output or 40mA (max) for per group of 8 channels

**Dimensions**

Dimensions approx 205mm (D) 126mm (W) 22mm (H) (exc feet), Weight 300g.

**Order code**

**DIO24SIGMxS**

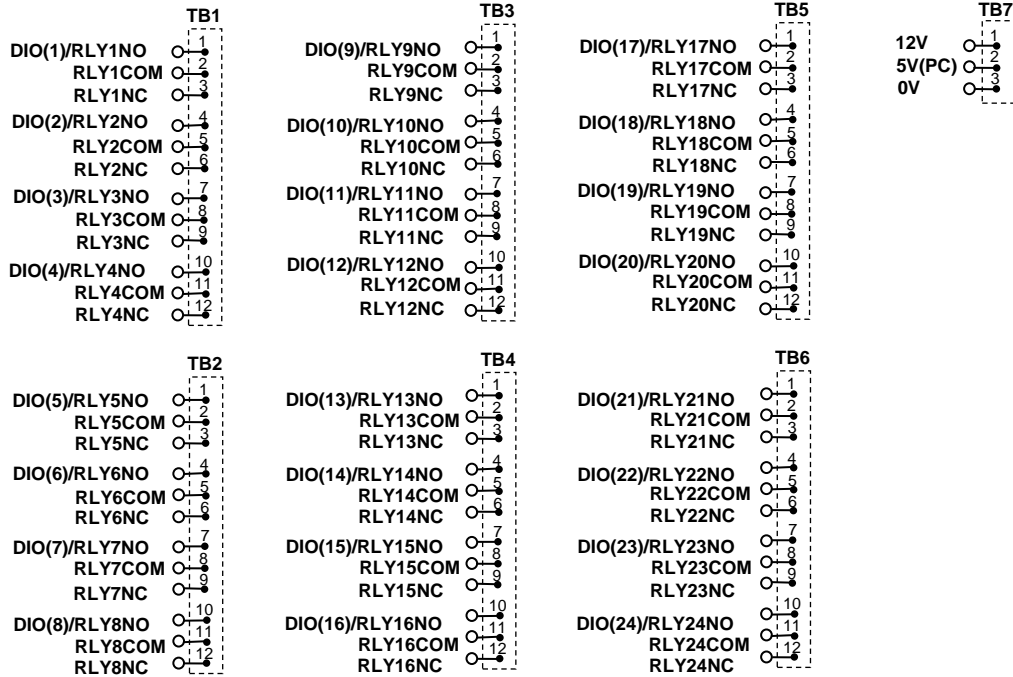
24 channel high sensitivity relay card, with six screw terminal block connectors for connection to all relay contacts.

### Product Datasheet 2

#### Connection details

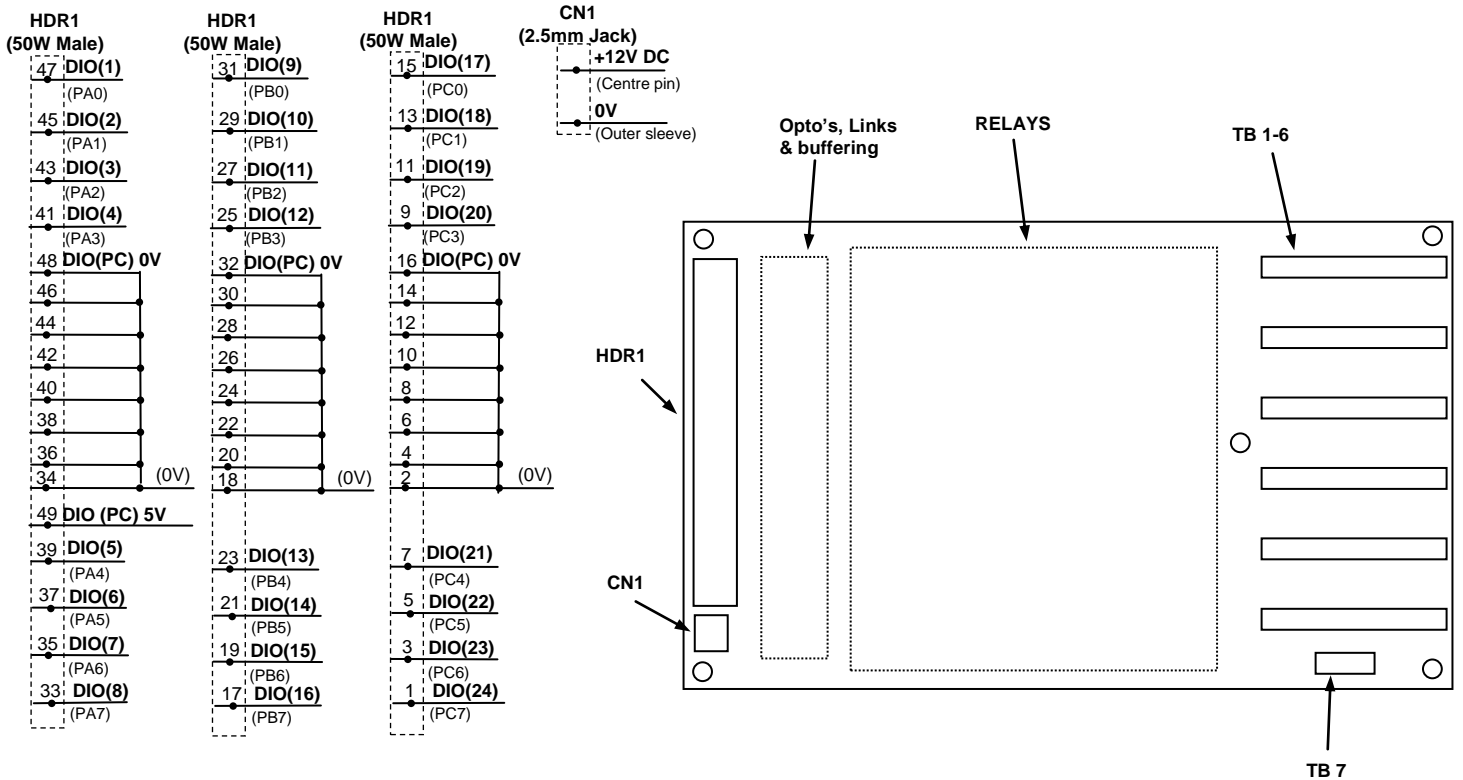
External connections to the cards are shown below:

Relay connections:



Drive & power connections:

Card layout:



**Product Datasheet 2**

<i>Specifications: Relays</i>		
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 <sub>2</sub>	AgAu
Operational life (min)	Mechanical 10 <sup>7</sup> / Electrical 10 <sup>5</sup>	Mechanical 10 <sup>7</sup> / Electrical 10 <sup>5</sup>
Contact arrangement	SPDT, Form C	SPDT, Form C

