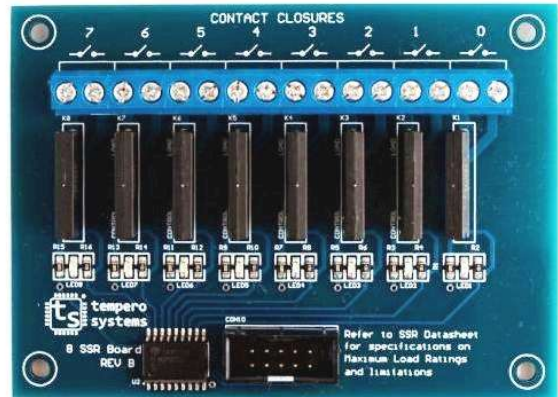


## CLARE SSR RELAY BOARD FEATURES

- 8 X CPC1945Y 20-120AC @ 1A SSR
- 1 x ULN2803 Relay Driver
- Screw Terminal Connections
- Easy connection to the I/O port via a 10-way box header that suits a standard IDC connector.



## GENERAL DESCRIPTION

The 8 x CPC1945Y SSR Board is an accessory board that allows the implementation of much higher voltages and currents to be controlled from a single port on the existing I/O 24 Range.

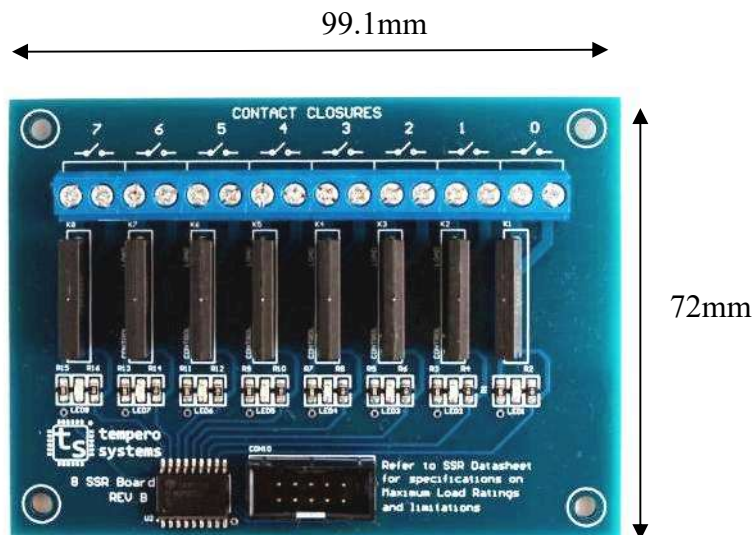
The board consists of eight solid state relays with SPST action. The relay coils are powered from the 5V Rail supplied via the I024 Module and are controlled using the ULN2803 via the I/O port of the module.

Each of the relay channels has a Blue LED to indicate whether the relay is in an active state.

The connections for each of the relay output channels are a single normally open type contact and when activated the contact will close. These connections are made by Screw terminal connector that will accept cables from 0.5mm-2mm in diameter.

The connection between the I/O 24 module and the I024 Relay board is via a 30 cm IDC connection cable. This cable is provided with the board.

## LAYOUT AND MECHANICALS

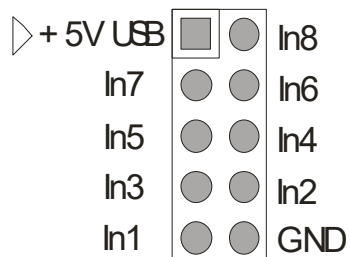


Dimensions: 3.9 X 2.8 X 1 inches (99.1 X 72 X 25.4mm)

## PINOUTS AND BOARD CONNECTIONS

### 10 PIN BOX HEADER

Shown in the diagram below is the I/O port Connector for the interface to the Relay module.

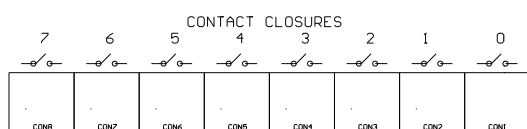


Note: Pin1 Marked on I/O Accessory with ▷

## I/O 24 BOX HEADER CONNECTIONS

| PIN # | SIGNAL | TYPE | DESCRIPTION   |
|-------|--------|------|---|
| 1     | +5V    | PWR  | +3.3V to +5V drawn from I/O module powers (Supplies power to the connected I/O Board) |
| 2     | I/O 7  | I    | Input pin to control Relay 8  |
| 3     | I/O 6  | I    | Input pin to control Relay 7  |
| 4     | I/O 5  | I    | Input pin to control Relay 6  |
| 5     | I/O 4  | I    | Input pin to control Relay 5  |
| 6     | I/O 3  | I    | Input pin to control Relay 4  |
| 7     | I/O 2  | I    | Input pin to control Relay 3  |
| 8     | I/O 1  | I    | Input pin to control Relay 2  |
| 9     | I/O 0  | I    | Input pin to control Relay 1  |
| 10    | GND    | PWR  | Ground signal from I/O module   |

## RELAY OUTPUT TERMINALS



Each of the Screw terminal connections are too each of the relays.

## OPERATIONS

### SETTING UP THE PORT ON THE I/O 24 FOR CONNECTION TO RELAY BOARD

To operate the SSR Board, connect the 10 Pin IDC cable to the IO24 header. Once this is connected it is only a matter of applying voltage to the input of the 10 pin box header to activate the Solid State Relay. This can be done by configuring the IO24 port direction to all output and switching the output pins to high.

| I/O 24 COMMAND | DESCRIPTION                         |
|----------------|-------------------------------------|
| !A 0x00        | Initialise PORT Direction on I/O 24 |
| A 0xFF         | Activate all relays                 |
| A 0x00         | De activate all relays              |

The minimum voltage required on the input pin to activate the relay is 1.6V DC. Most applications will have a TTL logic signal on the input pin to activate the relay.

## SPECIFICATIONS

### *Power Input Requirements to SSR Board*

5VDC on the PWR pin on the 10 Pin Box header

### *Relays*

Number of Channels 8

Contact Maximum 1 A @ 120VAC

Max. Allowable Voltage 120VAC

Max. Carrying Current 2 A (AC) for 16mS

Relay Form - Form A, Single-Pole Single-Throw (SPST)

Output Terminals Normally Open (NO), Closed when activated

### *Environment*

Operating temperature -40° to 85° C

Storage Temperature -40° to 125° C

For more information on the specifications of the SSR used please refer to the manufacturer's datasheet of the device.

## DISCLAIMER

This document provides information on our product and all efforts are made to ensure the accuracy of the information contained within. The specifications of the product are subject to change and continual improvement without notification.

## ADDITIONAL INFORMATION (UNPOPULATED SSR BOARD)

This board is also available without the SSR relays populated; this option allows any CPC range of relays to be populated on the board.

## DOCUMENT REVISION HISTORY

- SSR Board Datasheet Revision 1 – Initial document created