USB-RLY08-C
Technical Documentation

Overview
The USB-RLY08C provides eight volt free contact relay outputs with a current rating of up to 2Amps each. The update to the USB-RLY08-C provides an improved USB connector footprint over the USB-RLY08-B to accommodate alternate suppliers.. The module is powered from any standard USB bus and has an exceptionally low maximum current consumption of approx. 90mA with all relays on. The relays are SPCO (Single Pole Change Over) types. The normally open, normally closed and common pins are all available on the screw terminals.
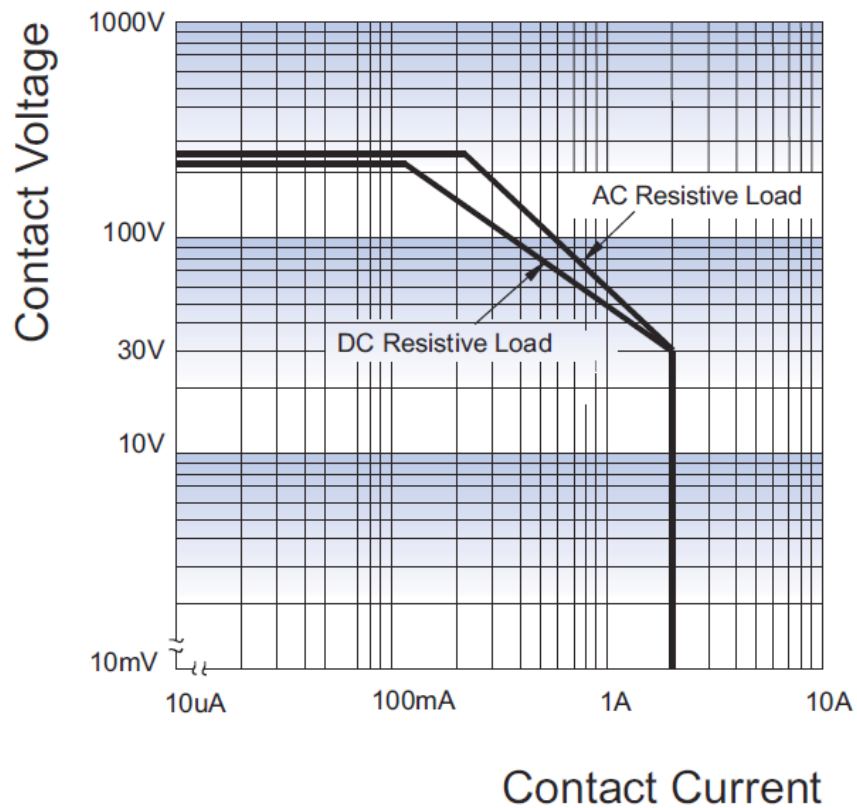
LED indication
The USB-RLY08-C provides a red LED mounted immediately next to each relay to indicate whether it is in a powered state (LED on), there is also two LED's which will flash with USB transactions to and from the module, green indicating reception of data from the PC and yellow the transmission of data to the PC. Finally there is red power LED mounted on the opposite side of the board to the USB connector.

Communication
Plugging the module to Windows 10, Linux or IOS will result in the module automatically presenting itself as a virtual com port. The commands from the table further down can then be easily sent as if you were talking to a serial port. Please note there is no need to set the baud rate as it has no effect.

Relay power rating

If the contact load voltage and current of the relay are in the region enclosed by the bold lines in the figure below, the relay can perform stable switching operation. If the relay is used at a voltage or current exceeding this region, the life of the contacts may be significantly shortened.
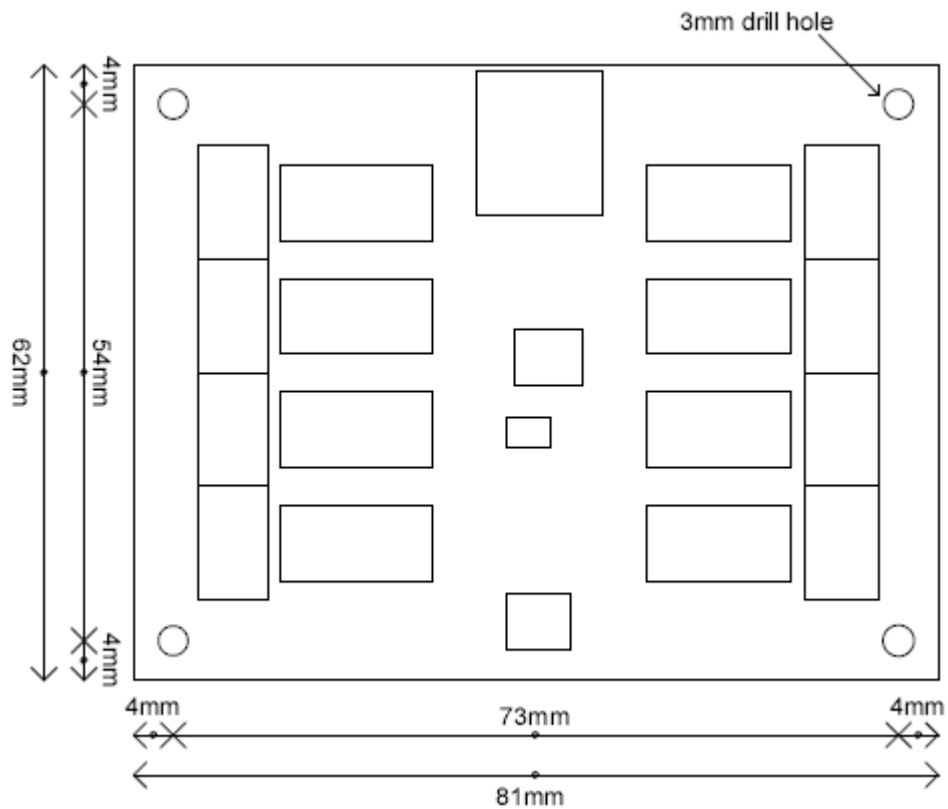

Relay datasheet

Please note the datasheet is for the standard part, the relays that are custom made for us are 50mW highly sensitive coils resulting in the low power consumption. Other Specifications remain unchanged.
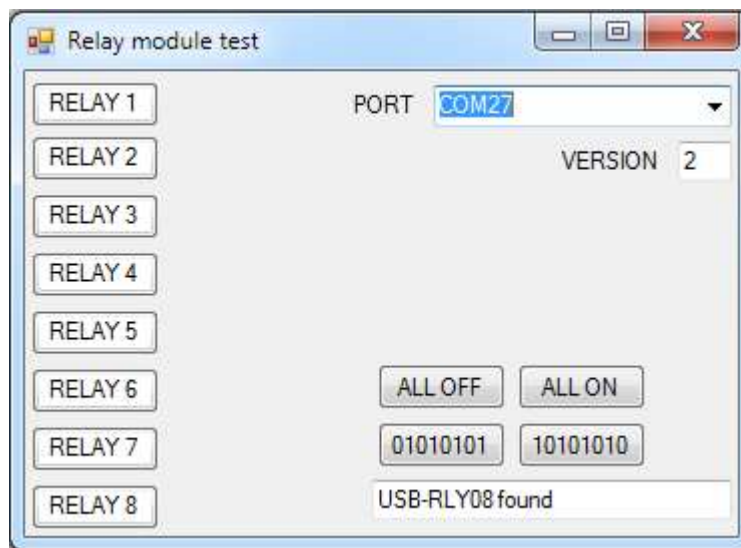
Commands

The USB-RLY08-C operates with an easy to use command set as described in the table below. Most commands are only a single byte and if applicable the USB-RLY08-C will automatically send its response. The only exception to this being the "Set relay states" command which requires and additional desired states byte to be sent immediately after the command byte.

Command		Action
dec	hex	
56	38	Get serial number - returns 8 bytes of ASCII that form the unique serial number for module, I.E "00001543"
90	5A	Get software version - returns 2 bytes, the first being the Module ID which is 8, followed by the software version
91	5B	Get relay states – sends a single byte back to the controller, bit high meaning the corresponding relay is powered
92	5C	Set relay states - the next single byte will set all relays states, All on = 255 (11111111) All off = 0
100	64	All relays on
101	65	Turn relay 1 on
102	66	Turn relay 2 on
103	67	Turn relay 3 on
104	68	Turn relay 4 on
105	69	Turn relay 5 on
106	6A	Turn relay 6 on
107	6B	Turn relay 7 on
108	6C	Turn relay 8 on
110	6E	All relays off
111	6F	Turn relay 1 off
112	70	Turn relay 2 off
113	71	Turn relay 3 off
114	72	Turn relay 4 off
115	73	Turn relay 5 off
116	74	Turn relay 6 off
117	75	Turn relay 7 off
118	76	Turn relay 8 off

Board dimensions

Test program and example source code

Visual studio express C# examples

The test program is available as Visual C# express ready built installation files here, or as Visual C# express project with source files here.

Visual studio express is provided free from Microsoft:

http://www.microsoft.com/exPress/download/