April 1, 2011

8-Channel DC Relay Board

The 8-Channel DC Relay Board allows digital output ports to control up to eight solid state relays. This board is typically sold as a bare board or populated with 8 PVG612A photoMOS HEXFET relays (shown at right).

Each relay has a corresponding red LED that indicates when the relay is active. The screw terminal outputs are 45˚ to the PCB, making it easier to make connections.

This board can be interfaced to any device that provides compatible digital outputs. The outputs should be able to source between 5 and 10 mA. A ground connection must also be made.

Custom configurations are available. The screw terminal inputs are optional, as are the RJ-45modular jacks for use with NeatLab. The inputs can be pin headers (single or double row). Each relay channel has three output connections labeled "1", "2", and "3". The function of the three connections depends on the desired load configuration (see below).
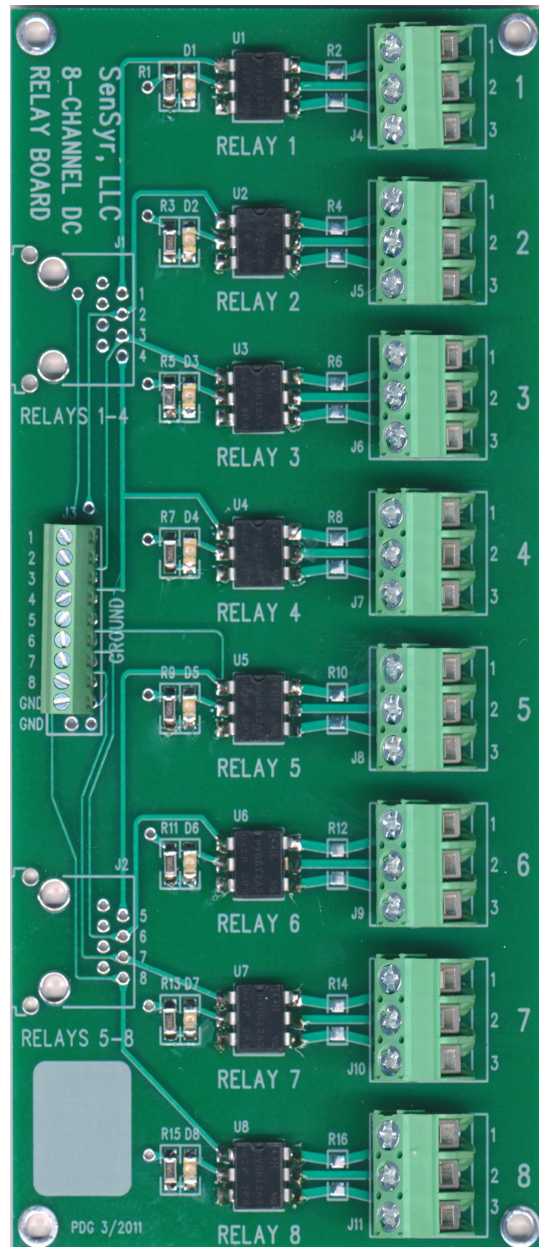
Other SSRs and opto-isolators using the 6-pin, J-lead package may be used to populate this board.

Device	Pin 1	Pin 2	Pin 3	Control Current	Load Characteristics
PVG612A "A"	AC or +DC power	No connection	AC or DC load high; connect low side of load to DC power ground	5-25 mA	±60V (peak) AC OR DC @ 1.0A max. Turn on = 2ms Turn off = 0.5ms
PVG612A "B"	+DC power	DC load high; connect low side of load to DC power ground	No connection	5-25 mA	±60V DC @ 1.5A max.
PVG612A "C"	+DC power	DC load high; connect low side of load to DC power ground	+DC power	5-25 mA	±60V DC @ 2.0A max.

PVG612A pins 6, 5, and 4 correspond to TNG-relay output pins 1, 2, and 3, respectively.

PVG612A

Connection Diagrams
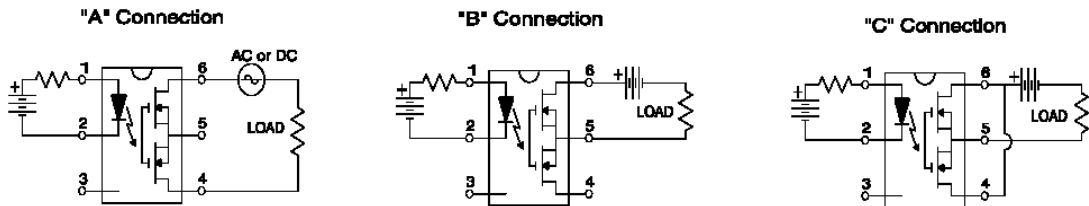
The relay printed circuit board is 2.7 x 6.0". There are four 0.125" mounting holes located 0.125" from the board edges at the top and bottom of the board. The mounting holes have an electrical connection to the board's ground plane.

2700

2575

125

125

125

SenSyr, LLC
8-CHANNEL DC
RELAY BOARD

6000

D1
U1
R2
R1
RELAY 1
J4
1
2
3
1

R3 D2
U2
R4
RELAY 2
J5
1
2
3
2

J1
1
2
3
4
RELAYS 1-4

R5 D3
U3
R6
RELAY 3
J6
1
2
3
3

J3
1
2
3
4
5
6
7
8
GND
GND
GROUND

R7 D4
U4
R8
RELAY 4
J7
1
2
3
4

R9 D5
U5
R10
RELAY 5
J8
1
2
3
5

R11 D6
U6
R12
RELAY 6
J9
1
2
3
6

J2
5
6
7
8
RELAYS 5-8

R13 D7
U7
R14
RELAY 7
J10
1
2
3
7

R15 D8
U8
R16
RELAY 8
J11
1
2
3
8

PDG 3/2011

3