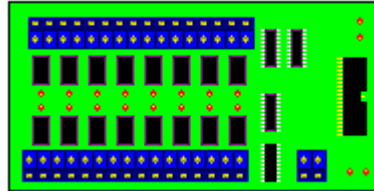


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SMATLAB
INDUSTRIAL AUTOMATION SERIES



USER'S MANUAL FOR 16 CHANNEL RELAY OUTPUT BOARD



16 Channel Relay Output board

Product Code: A16RELAY

INTRODUCTION

The 16 Channel Relay Output board provides 16 Single Pole Double Throw (SPDT) relays to drive 16 digital output lines. Each of relay channel can be used to control ON/OFF of external devices, to drive external high power relays, to activate alarms...etc. there are 16 LED indicators correspond to 16 relays, when relay is energized, the corresponding LED is light. The +12V power source is user selectable from internal PC bus or external power supplier.

The features of 16 Channel Relay Output Board are:

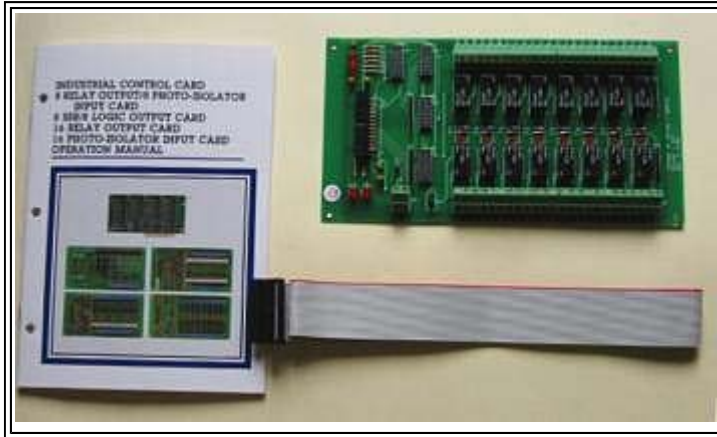
1. Support 16 SPDT relay channels.
2. LED indicates when relay is energized.
3. Internal and external power selectable.
4. Built in screw terminals for easy wiring.
5. The Normal Open (NO), Normal Close (NC), and Common contacts (COM) of each relay are brought out to the screw connector.
6. Max contract rating:
150V/DC
2amp,
125V/AC
2 amp.
7. Breakdown voltage:AC/DC 500V minimum/
8. Relay on time: 3 ms typical.
9. Relay off time: 2 ms typical.
10. Total switching time: 10 ms typical.
11. Isolation resistance: 100 M OHM minimal.
12. Life expectancy: 5 million operation at full load.
13. Screw terminal: accept #22 to #12 awg wire.
14. Power consumptio
+12V: 40mA for each relay, total 0.55 amp
for all relays are energized.
+5V : < 0.2 amp.

-12V: < 0.1 amp.

The package includes following item

The package contains:

1. 16 Channel Relay Output board
2. One 26 pins flat cable.
3. User's manual.



HARDWARE CONFIGURATION

2.1 Configuration For Jumper

Before you use the 16 Channel Relay Output Board, you must ensure that the power supplier, jumpers, and connectors are set correctly. Observe the figure in the following, the proper settings for the 16 Channel Relay Output Board are described in the follows.

Setting the threshold voltage of Photo Isolator, adjust VR which is on the PCB to get the desired threshold voltage. The external input voltage which is over the threshold voltage will be recognized as HIGH (1) and the relative led will be light. Otherwise that will be LOW (0) and led be off.

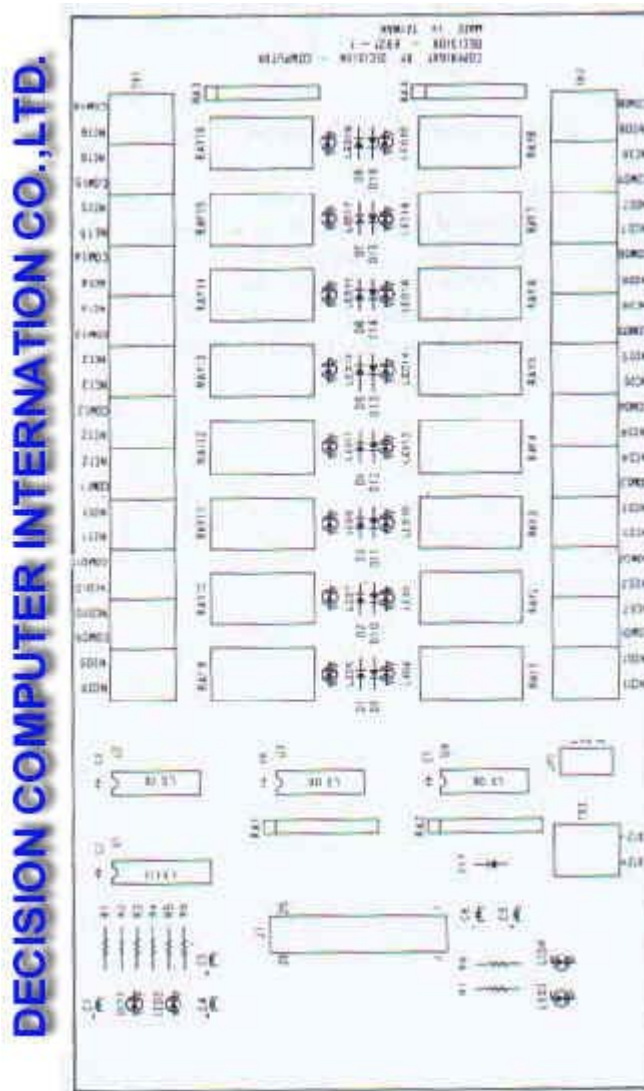
1. Internal / external power selection.

JP1

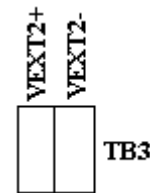


JP-1 is used to select internal or external power supply, when JP1-1 and JP1-2 is short; the power is supplied by PC bus. When JP1-2 and JP1-3 is short, external power supplier supplies the power. Suppose you connect more than two 16 Channel Relay Output Board, we suggest you use external power.

2. External power supplier



TB3 is used to connect +12V external power, the configuration is shown in the follows.



The input voltage is 12V (+/-) 1V, and the power consumption for each 16 Channel relay output Board is 0.55 amp

2.2 Signal Assignments

1. Signal assignment of 26 pins flat cable

The 26 pins flat cable connector is connected to digital output interface card such as: industry control, TTL I/O, 8255 I/O, connector is shown in the following.

Pin No.	Description	Pin No.	Description
1	+12V	14	I/O line 9
2	GND	15	I/O line 10
2	+12V	16	I/O line 11
3	GND	17	I/O line 12
4	I/O line 0	18	I/O line 13
5	I/O line 1	19	I/O line 14
6	I/O line 2	20	I/O line 15

7	I/O line 3	21	/CS1
8	I/O line 4	22	/CS2
9	I/O line 5	23	+5V
10	I/O line 6	24	GND
11	I/O line 7	25	-12V
13	I/O line 8	26	GND

2. Signal assignment of screw connector

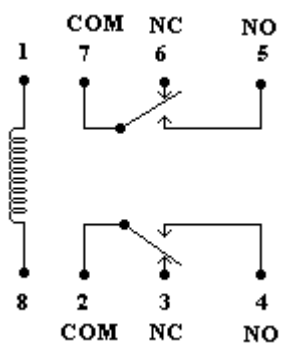
The normal open, normal close, and common contacts signal of each relay are shown in the follows.

Pin	Description	Description
1	NC01	NC09
2	NO01	NO09
3	COM01	COM09
4	NC02	NC10
5	NO02	NO10
6	COM02	COM10
7	NC03	NC11
8	NO03	NO11
9	COM03	COM11
10	NC04	NC12
11	NO04	NO12
12	COM04	COM12
13	NC05	NC13
14	NO05	NO13
15	COM05	COM13
16	NC06	NC14
17	NO06	NO14
18	COM06	COM14
19	NC07	NC15
20	NO07	NO15
21	COM07	COM15
22	NC08	NC16
23	NO08	NO16
24	COM08	COM16







2.3 Circuit Diagram of Each Relay

The pin assignment and circuit diagram of each relay is shown in the follows

Pin No.	Specification
1	+12V
2	COM



3	NC
4	NO
5	Led indication
6	Led indicationLed indication
7	GND
8	

- [Catalog](#) 
- [Manual](#) 
- [Device Driver](#) 
- [Self Test Software & Sample Code](#) 
- [Web Based DAQ](#) 
- [Application](#) 
- [Q&A](#) 