

DB-16P8R

User's Manual

Warranty

All products manufactured by ICP DAS are warranted against defective materials for a period of one year from the date of delivery to the original purchaser.

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Contents

1. INTRODUCTION	3
1.1 SPECIFICATION	3
1.2 BOARD LAYOUT	4
1.3 EXTERNAL POWER & RELAY OUTPUT	5
1.4 DIGITAL INPUT CONFIGURATION	6
1.5 LEDs & JUMPER MAPPING	7
1.6 PIN ASSIGNMENT OF CON5 & 6	8

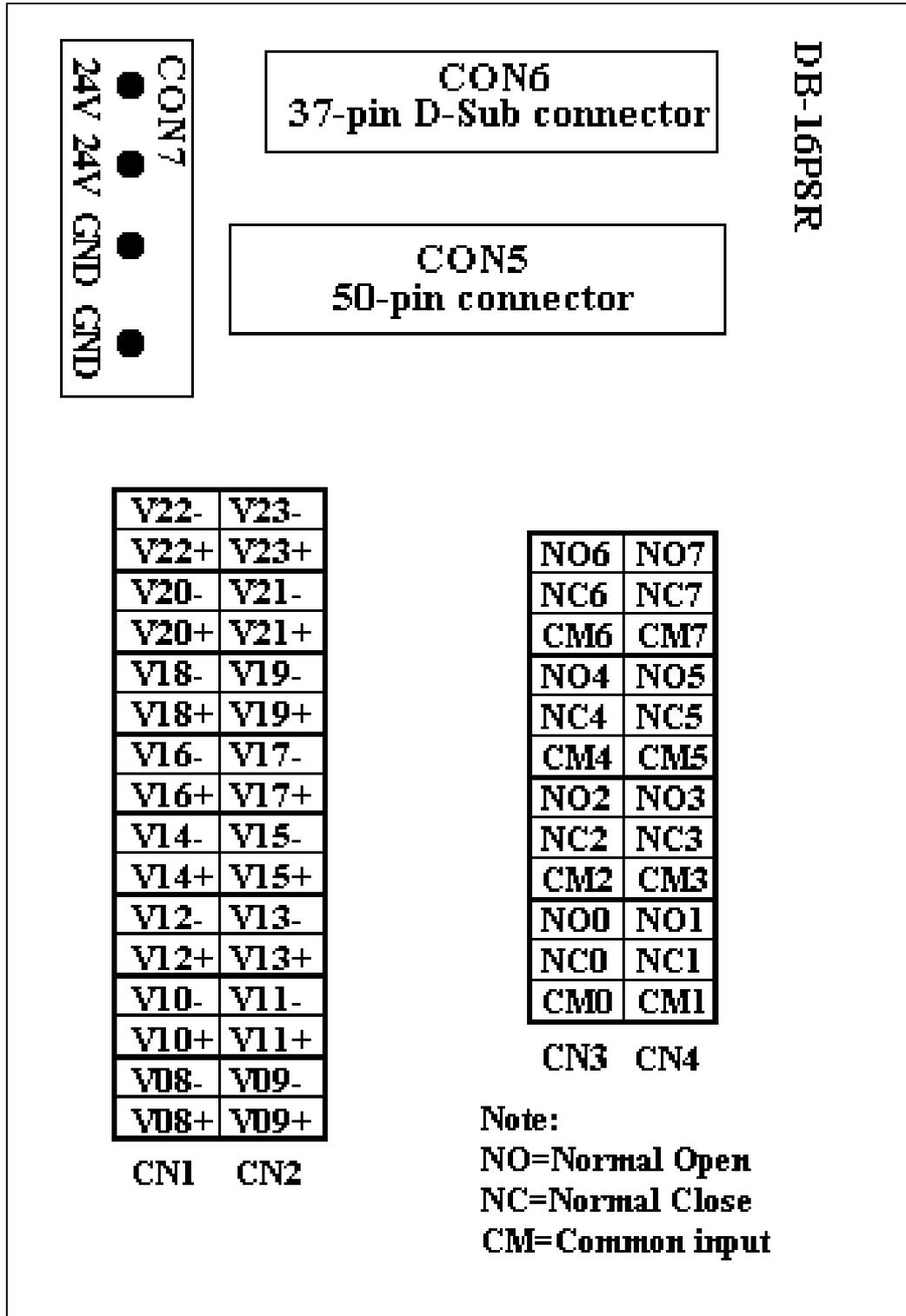
1. Introduction

The DB-16P8R is a 16-channel isolated/non-isolated input & 8-channel relay output board. The isolated digital input can be used to sense 3.5V to 24V DC signal. The non-isolated digital input are used to sense dry contact. The relay output consists of 16 form C power relays. The user can use this board to isolate the computer from large common-mode voltage, ground loops and transient voltage spike that often occur in industrial environments.

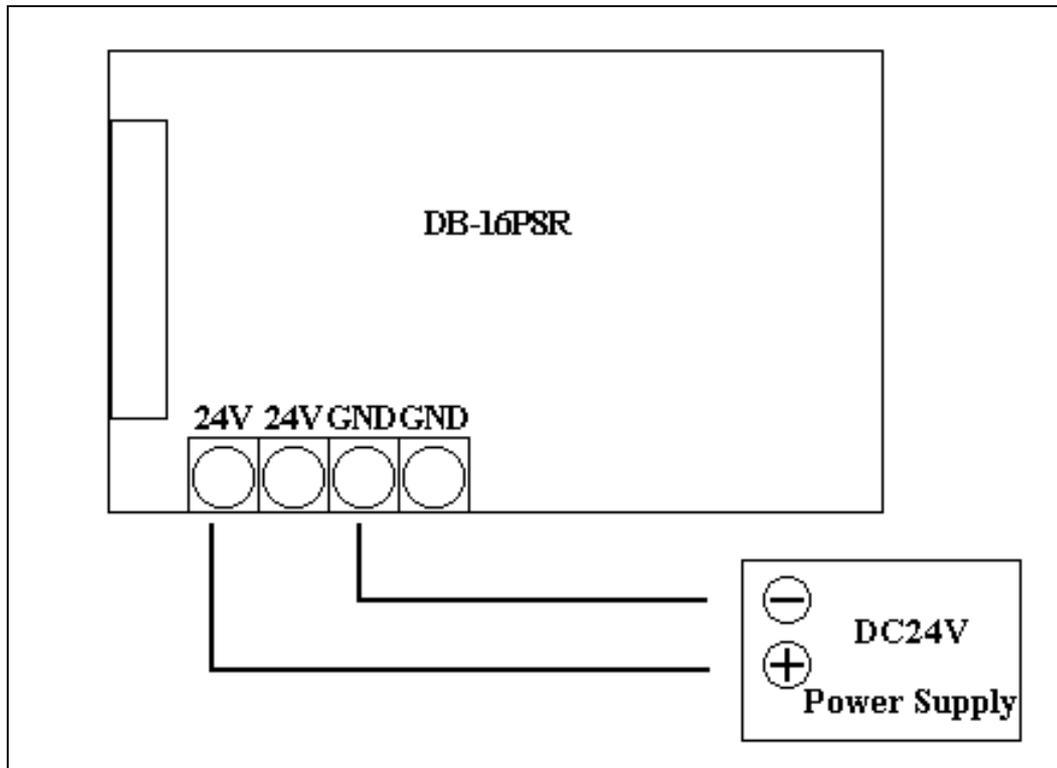
1.1 Specification

- Isolated Digital Input
Isolation voltage: 3750V
Input voltage: 3.5V to 24V
Response time: 10K Hz Max.
- Dry Contact Input (non-isolated input)
Logic high: input close
Logic low: input open
- Power Relay
Type 1 form C (SPDT)
Rating:
 - Nominal Load 250VAC/5A
 - MAX. Switching Power 1,250VA(NO), 750VA(NC)
 - MAX. Switching Voltage 250VAC, 150VDC
 - MAX. Switching Current 5ALife expectancy:
 - Mechanical 10 millions operationsTime Value:
 - Operate 10 ms
 - Release 5 ms
- Varistor for power reply
Power consumption:
 - Min 2.5uA (All relays off)
 - Max 0.5A (All relays on)
 - Relay On 22mA (for single relay)
- Operating Temperature: 0 ~ 60 °C
- Storage Temperature: -20 ~ 70 °C
- Humidity: 5% to 95% noncondensing
- Power consumption: 24V @ 0.3A, 5V @ 0.1A
- Dimension: 130mm x 210mm

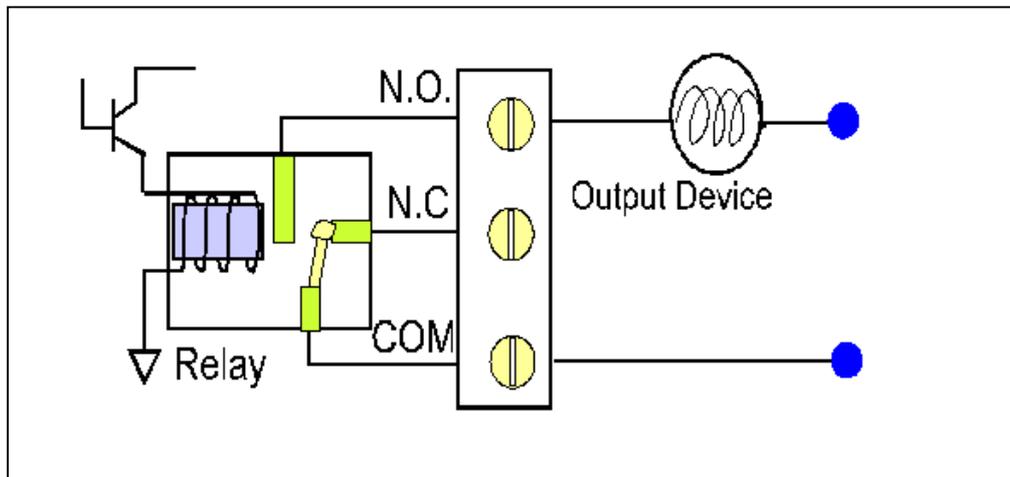
1.2 Board Layout



1.3 External Power & Relay Output

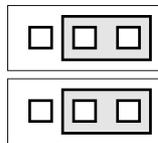


Relay Output

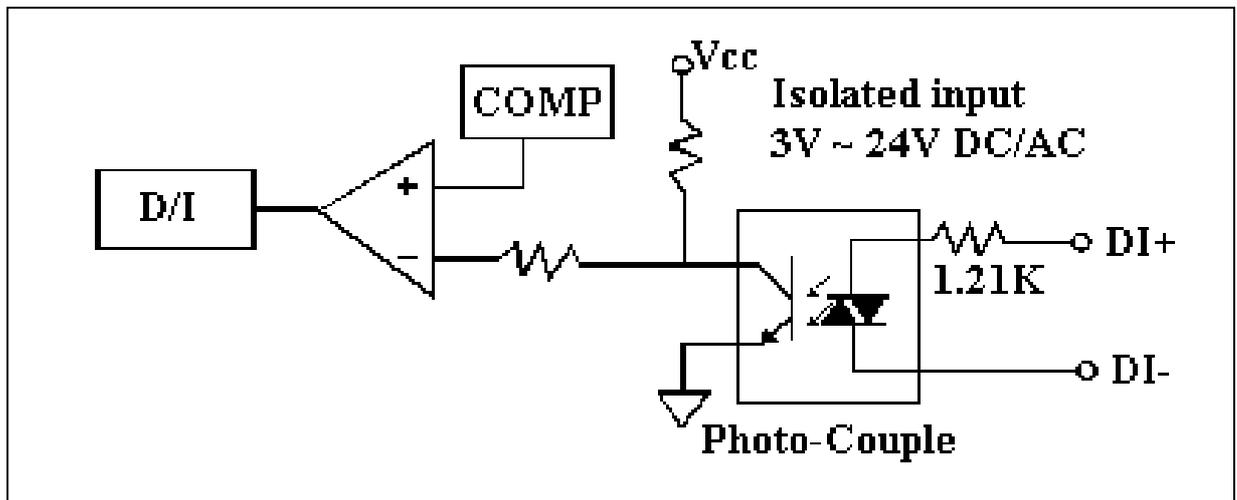


1.4 Digital Input Configuration

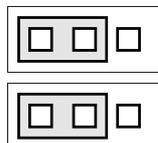
JP??



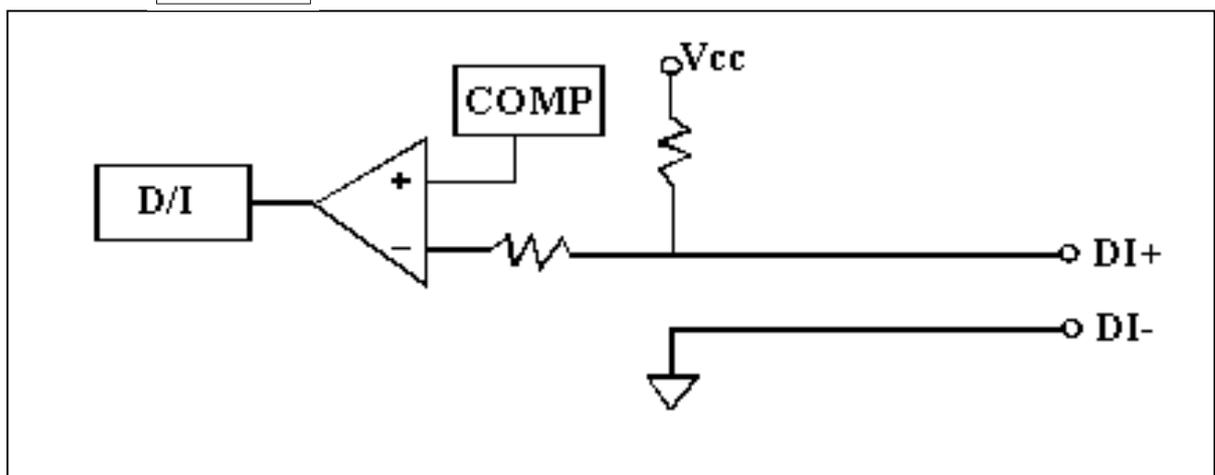
Select Isolated D/I



JP??



Select Non-Isolated D/I



1.5 LEDs & Jumper Mapping

OPTO-22	LEDs	Relays / DIs		CON5(50-pin)	CON6(30-pin)
PA0	LED0	Relay-0		Pin-47	Pin-37
PA1	LED1	Relay-1		Pin-45	Pin-36
PA2	LED2	Relay-2		Pin-43	Pin-35
PA3	LED3	Relay-3		Pin-41	Pin-34
PA4	LED4	Relay-4		Pin-39	Pin-33
PA5	LED5	Relay-5		Pin-37	Pin-32
PA6	LED6	Relay-6		Pin-35	Pin-31
PA7	LED7	Relay-7		Pin-33	Pin-30
PB0	LED8	DI-8	JP8	Pin-31	Pin-10
PB1	LED9	DI-9	JP9	Pin-29	Pin-9
PB2	LED10	DI-10	JP10	Pin-27	Pin-8
PB3	LED11	DI-11	JP11	Pin-25	Pin-7
PB4	LED12	DI-12	JP12	Pin-23	Pin-6
PB5	LED13	DI-13	JP13	Pin-21	Pin-5
PB6	LED14	DI-14	JP14	Pin-19	Pin-4
PB7	LED15	DI-15	JP15	Pin-17	Pin-3
PC0	LED16	DI-16	JP16	Pin-15	Pin-29
PC1	LED17	DI-17	JP17	Pin-13	Pin-28
PC2	LED18	DI-18	JP18	Pin-11	Pin-27
PC3	LED19	DI-19	JP19	Pin-9	Pin-26
PC4	LED20	DI-20	JP20	Pin-7	Pin-25
PC5	LED21	DI-21	JP21	Pin-5	Pin-24
PC6	LED22	DI-22	JP22	Pin-3	Pin-23
PC7	LED23	DI-23	JP23	Pin-1	Pin-22

Note:

1. JP8 to JP23 select isolated / non-isolated digital input. Refer to Sec.1.4 for more information.
2. JP8 select DI-8
3. JP9 select DI-9
4.
5. JP23 select DI-23

1.6 Pin Assignment of CON5 & 6

CON6: 37-pin D-Sub connector

Pin Number	Description	Pin Number	Description
1	N.C	20	VCC
2	N.C.	21	GND
3	PB7	22	PC7
4	PB6	23	PC6
5	PB5	24	PC5
6	PB4	25	PC4
7	PB3	26	PC3
8	PB2	27	PC2
9	PB1	28	PC1
10	PB0	29	PC0
11	GND	30	PA7
12	N.C	31	PA6
13	GND	32	PA5
14	N.C.	33	PA4
15	GND	34	PA3
16	N.C.	35	PA2
17	GND	36	PA1
18	VCC	37	PA0
19	GND	XXXXX	This pin is not available

CON5: 50-pin connector

Pin Number	Description	Pin Number	Description
1	PC7	2	GND
3	PC6	4	GND
5	PC5	6	GND
7	PC4	8	GND
9	PC3	10	GND
11	PC2	12	GND
13	PC1	14	GND
15	PC0	16	GND
17	PB7	18	GND
19	PB6	20	GND
21	PB5	22	GND
23	PB4	24	GND
25	PB3	26	GND
27	PB2	28	GND
29	PB1	30	GND
31	PB0	32	GND
33	PA7	34	GND
35	PA6	36	GND
37	PA5	38	GND
39	PA4	40	GND
41	PA3	42	GND
43	PA2	44	GND
45	PA1	46	GND
47	PA0	48	GND
49	VCC	50	GND