

# DIO-64

32 digital input & 32 digital output with timer/counter board



### Features

- 32-channel digital input
- 32-channel digital output
- Buffered output for higher driving capability
- 3 independent programmable 16-bit down counters
- Four clock sources: 2M, 1M, 500K, 250KHz
- Three frequency divider: 100, 10, 1
- One 16-bit counter, one 32-bit timer with a 4 MHz for interface function
- Interrupt source: timer, event, direct trigger
- Breadboard area for add-on circuit

### Functional Description

The DIO-64 provides 32-channel digital input, 32-channel digital output and 6-channel counter/timer. The DIO-64 consists of two 16-bit input ports and two 16-bit output ports. The user can use the DB-16P to connect the input ports (CN2, CN4) for isolation purpose, or use DB-16R to interface to the output ports (CN1, CN3) for relay control. The first 8254 chip is used as general-purpose timer/ counter, such as frequency measurement, event counting and pulse generation. The second 8254 chip is used to generate interrupt trigger signal. The Counter 3 accept event signal and it will generate trigger signal for interrupt. The counter 4 and counter 5 are cascaded together. The clock source is 4MHz. It is used to generate pacer timer trigger for interrupt.

### Applications

- Factory automation
- Product test
- Relay control

### Specifications

#### Logic inputs and outputs

- All outputs and inputs are TTL Compatible
- Input logic high voltage: 2.0V min / 5.0V max
- Input logic low voltage: -0.5V min / 0.8V max
- Input load current: -0.45 mA min / +70  $\mu$  A
- Output sink current: +64 mA max
- Output source current: -15 mA

#### General Specifications

- I/O Connector: five 20-pin ribbon male
- Power requirements: +5V @ 500 mA typical
- Operating temperature: 0 ~ 60°C
- Operating humidity: 0 ~ 90% non-condensing
- Storage temperature: -20 ~ 80°C
- Dimensions: 93 mm x 135 mm

### Pin Assignment

CN1/CN3				CN2/CN4					
DO0	1	○	2	DO1	DI0	1	○	2	DI1
DO2	3	○	4	DO3	DI2	3	○	4	DI3
DO4	5	○	6	DO5	DI4	5	○	6	DI5
DO6	7	○	8	DO7	DI6	7	○	8	DI7
DO8	9	○	10	DO9	DI8	9	○	10	DI9
DO10	11	○	12	DO11	DI10	11	○	12	DI11
DO12	13	○	14	DO13	DI12	13	○	14	DI13
DO14	15	○	16	DO15	DI14	15	○	16	DI15
GND	17	○	18	GND	GND	17	○	18	GND
+5V	19	○	20	+12V	+5V	19	○	20	STROBE

  

CN5				
CLK2	1	○	2	CLK1
OUT2	3	○	4	OUT1
GATE2	5	○	6	GATE1
CLK3	7	○	8	GLK0
OUT3	9	○	10	OUT0
GATE3	11	○	12	GATE0
GATE4	13	○	14	CLK4
X	15	○	16	OUT4
GND	17	○	18	GND
+5V	19	○	20	X

### Ordering Information

#### Standard

- DIO-64/3:** 64 digital I/O with three timer/counter board
- DIO-64/6:** 64 digital I/O with six timer/counter board

#### Optional

- DB-16P:** 16-channel OPTO-isolated input board
- DB-16R:** 16-channel relay terminal board
- DB-24PR:** 24-channel power relay board
- DB-24POR:** 24-channel PhotoMos relay board
- DB-24C:** 24-channel open-collector output board
- DB-24OD:** 24-channel open-drain output board
- DB-8025:** General screw terminal board
- DN-20:** DIN-rail mounting terminal board
- ADP-20:** 20-pin extender