

tM-P4A4

4-channel Isolated DI and 4-channel Isolated DO Module

Features

- 4-channel Sink-type Digital Inputs
- 4-channel Source-type Digital Outputs
- Photocoupler Isolation
- All DI Channels Can Be Used As 16-bit Counters
- Configurable Power-on Value and Safe Value Settings
- Dual Watchdog

Introduction

The tM-P4A4 provides 4 channels for digital input and 4 channels for digital output, each of which features photocoupler isolation. The tM-P4A4 supports source-type output with short circuit protection, while the input is sink-type. All input channels can be used as 16-bit counters. There are options for configuring power-on and safe digital output values. 4 kV ESD protection and 3750 VDC intra-module isolation are also provided.

System Specifications

CPU Module	
Watchdog Timer	Module, Communication (Programmable)
Isolation	
Intra-module Isolation	3750 VDC
EMS Protection	
EFT (IEC 61000-4-4)	±4 kV for Power
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal ±8 kV Air for Random Point
LED Indicators	
Status	1 x Power and Communication
COM Ports	
Ports	1 x RS-485
Baud Rate	1200 ~ 115200 bps
Data Format	(N, 8, 1), (N, 8, 2), (O, 8, 1), (E, 8, 1)
Protocol	DCON, Modbus RTU, Modbus ASCII
Power	
Reverse Polarity Protection	Yes
Consumption	0.5 W max.
Powered from Terminal Block	10 ~ 30 VDC
Mechanical	
Dimensions (mm)	52 x 98 x 27 (W x L x H)
Installation	DIN-Rail Mounting
Environmental	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-30 ~ +75 °C
Humidity	10 ~ 95% RH, Non-condensing

Applications

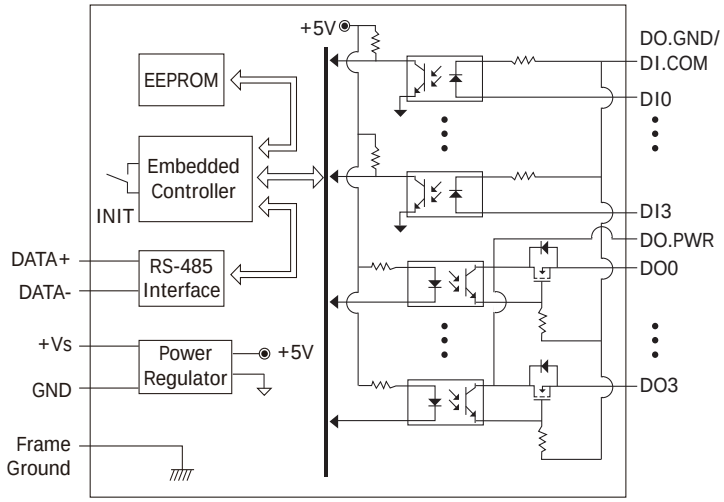
- All Kinds of On/Off Control
- Industrial Automation
- Industrial Machinery
- Building Automation
- Food and Beverage Systems
- Semiconductor Fabrication
- Control Systems

I/O Specifications

Digital Input/Counter	
Channels	4
Type	Wet Contact
Sink/Source (NPN/PNP)	Sink
ON Voltage Level	+4.0 ~ +50 VDC
OFF Voltage Level	+1 V max.
Max. Counts	65535 (16-bit)
Frequency	100 Hz
Min. Pulse Width	5 ms
Input Impedance	10 KΩ, 0.66 W
Overvoltage Protection	70 VDC
Digital Output	
Channels	4
Type	Isolated Open Collector
Sink/Source (NPN/PNP)	Source
Load Voltage	+10 ~ +40 VDC
Max. Load Current	650 mA/channel
Overvoltage Protection	47 VDC
Overload Protection	1.4 A
Short-Circuit Protection	Yes
Power on Value	Programmable
Safe Value	Programmable

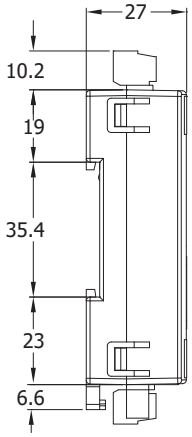
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Internal I/O Structure

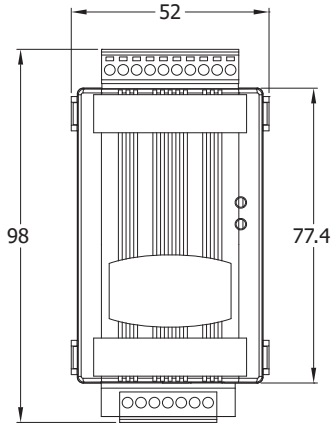


Dimensions (Units: mm)

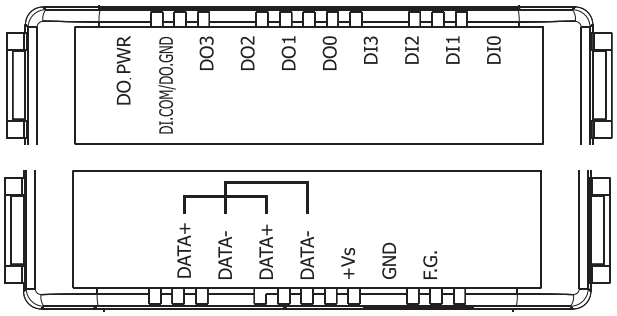
Left Side View



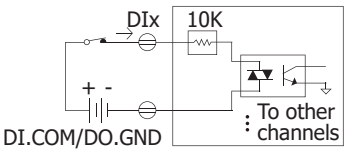
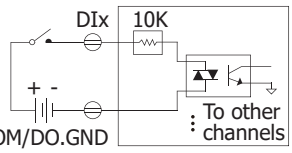
Front View

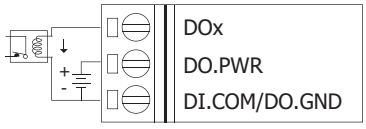
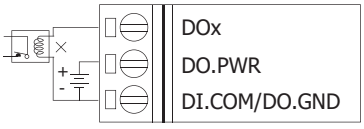
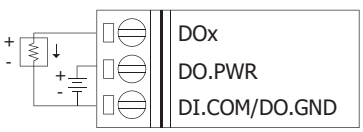
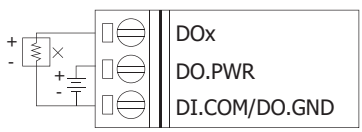


Pin Assignments



Wire Connections

Digital Input/Counter	ON State, Readback as 1	OFF State, Readback as 0
	+4.0 ~ +50 VDC	OPEN or <1 VDC
Sink		

Output Type	ON State, Readback as 1	OFF State, Readback as 0
	Relay ON	Relay OFF
Drive Relay		
Resistance Load		

Ordering Information

tM-P4A4 CR	4-channel Isolation DI (Wet) and 4-channel Isolated DO (Source, PNP) Module (RoHS)

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