



**tM-P8**

8-channel Isolated Digital Input Module

**Introduction**

The tM-P8 offers 8 channels for digital input, each of which features photocouple isolation. In addition input can be either sink- or source-type using wire connections and all channels can be used as 16-bit counters. 4 kV ESD protection and 3750 Vdc intra-module isolation are also provided.

**Applications**

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

**System Specifications**

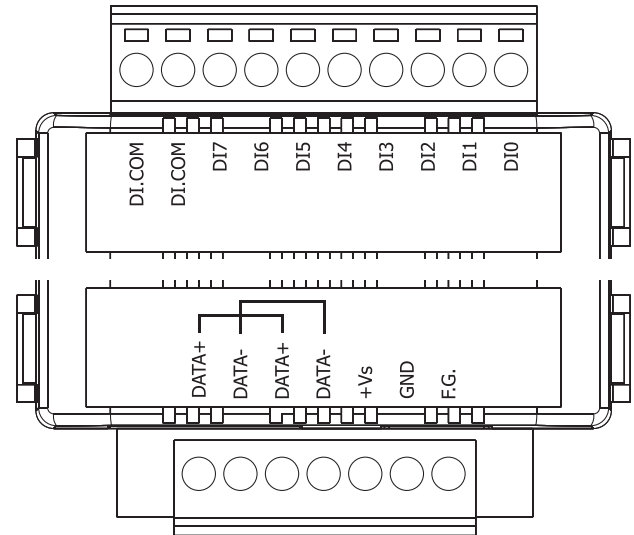
Communication	
Interface	RS-485
Format	(N, 8, 1), (N, 8, 2), (O, 8, 1), (E, 8, 1)
Baud Rate	1200 ~ 115200 bps
Protocol	DCON, Modbus/RTU, Modbus/ASCII
Dual Watchdog	Yes, Module (2.3 seconds), Communication (Programmable)
LED Indicators	
Power	1 LED as Power Indicator
Isolation	
Intra-module Isolation, Field-to-Logic	3750 Vdc
EMS Protection	
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal ±8 kV Air for Random Point
EFT (IEC 61000-4-4)	±4 kV for Power
Power Requirements	
Reverse Polarity Protection	Yes
Powered from Terminal Block	Yes, 10 ~ 30 Vdc
Consumption	0.4 W Max.
Mechanical	
Dimensions (W x L x H)	52 mm x 98 mm x 27 mm
Installation	DIN-Rail Mounting
Environment	
Operating Temperature	-25 ~ +75°C
Storage Temperature	-30 ~ +75°C
Humidity	10 ~ 95% RH, Non-condensing

**Features**

- Sink- and Source-type Digital Inputs
- Photocouple Isolation
- All Channels Can Be Used As 16-bit Counters
- Dual Watchdog
- Cost-effective
- Wide Operating Temperature Range: -25 ~ +75°C



**Pin Assignments**



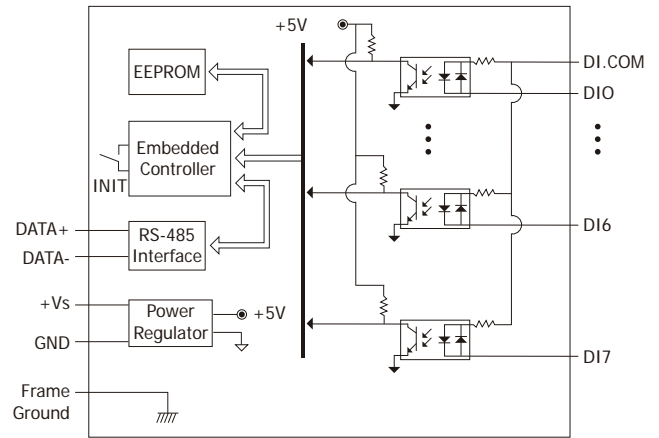
**I/O Specifications**

Digital Input/Counter		
Input Channels	8	
Type	Wet Contact (Sink, Source)	
On Voltage Level	+3.5 Vdc ~ 50 Vdc	
Off Voltage Level	+1 Vdc Max.	
Input Impedance	10 KΩ, 0.66 W	
Counters	Channels	8
	Max. Count	65535 (16-bit)
	Max. Input Frequency	100 Hz
	Min. Pulse Width	5 ms
Overvoltage Protection	70 Vdc	

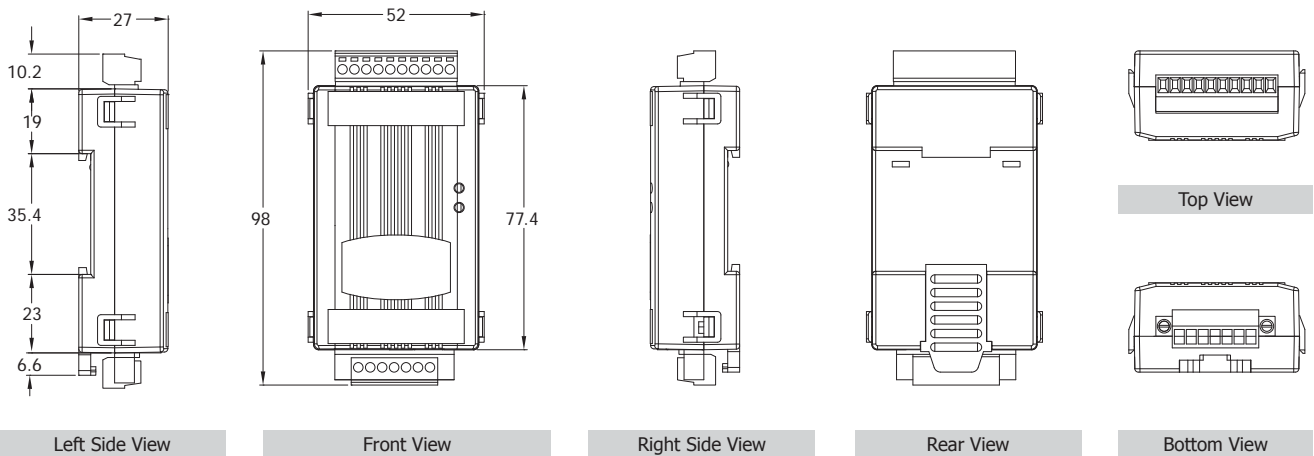
**Wire Connections**

Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
Sink	+3.5 ~ +50 VDC	OPEN or <1 Vdc
Source	+3.5 ~ +50 Vdc	OPEN or <1 Vdc

**Block Diagram**



**Dimensions (Units: mm)**



2  
3  
Tiny RS-485 Remote I/O Modules

**Ordering Information**

tM-P8 CR	8-channel Isolation Digital Input Module (RoHS)
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**Related Products**

	tM-7561 CR	Isolated USB to RS-485 Converter (RoHS)
	tM-7520U CR	Isolated RS-232 to RS-485 Converter (RoHS)
	tM-7510U CR	Isolated RS-485 Repeater (RoHS)
	MDR-20-24 CR	24W Single Output Industrial DIN-Rail Power Supply (RoHS)