



tM-P8

8-channel Isolated Digital Input Module

Introduction

The tM-P8 offers 8 channels for digital input, each of which features photocoupler 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 V_{DC} 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 V _{DC}
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 V _{DC}
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

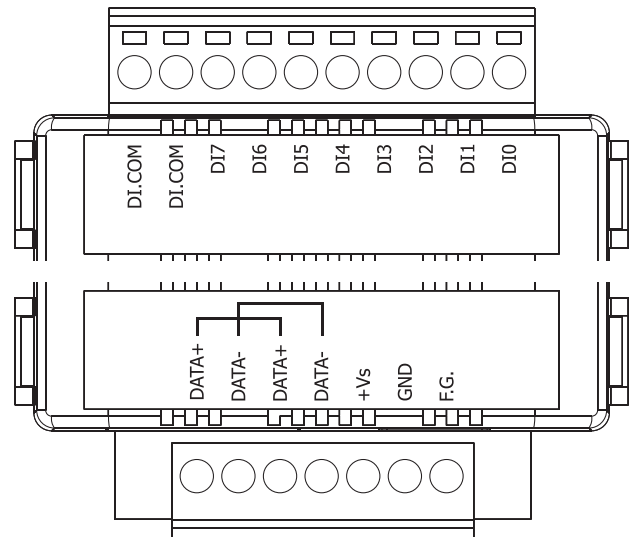
Digital Input

Features

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



Pin Assignments



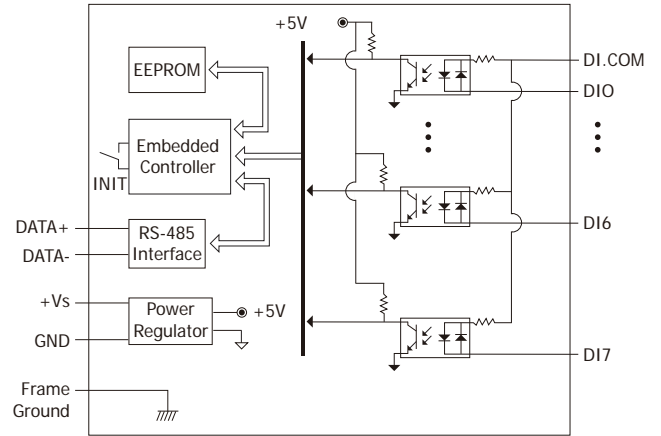
I/O Specifications

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

Wire Connections

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

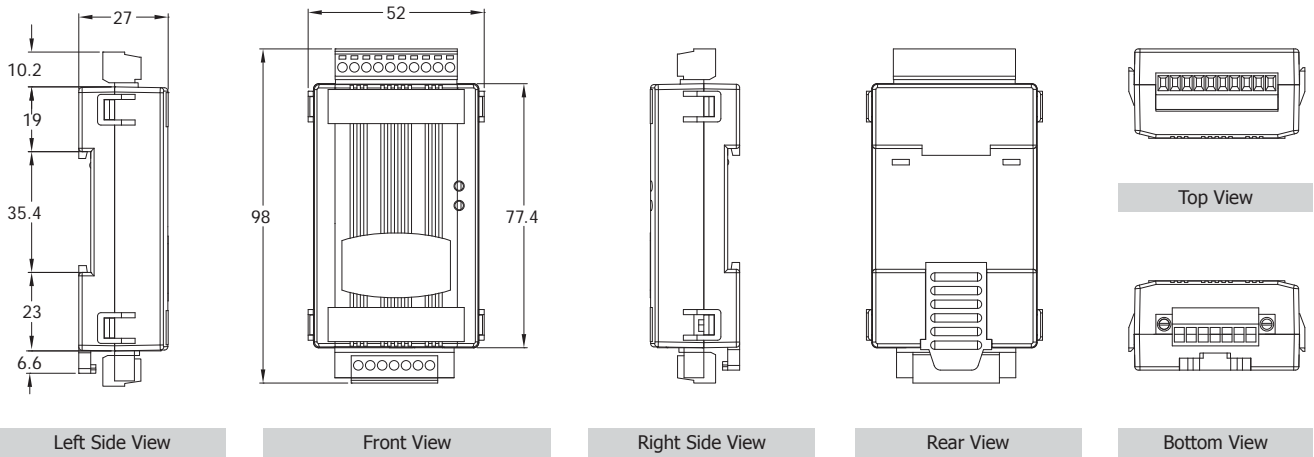
Block Diagram



2

Tiny RS-485 Remote I/O Modules

Dimensions (Units: mm)



3

tM Series

Ordering Information

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

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)

tM-P8