



tM-R5

5-channel Relay Output Module

Introduction

The tM-R5 provides 5 channels for relay output. All output channels are Form A type relays and there are options for configuring power-on and safe digital output values. 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	1.0 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

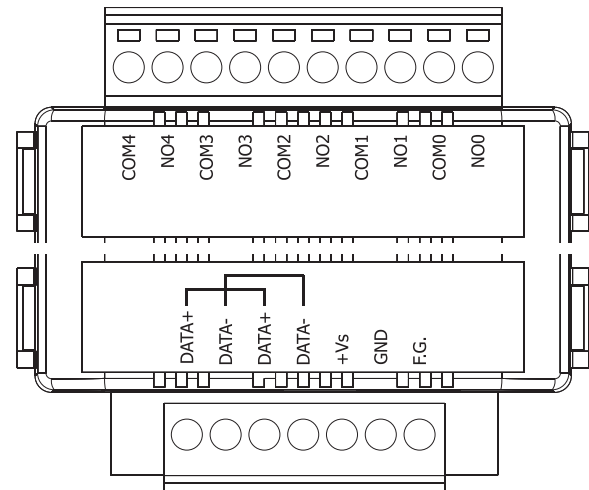
Relay Output

Features

- Relay Outputs
- Dual Watchdog
- Configurable Power-on Value Settings
- Configurable Safe Value Settings
- Cost-effective
- Wide Operating Temperature Range: -25 ~ +75°C



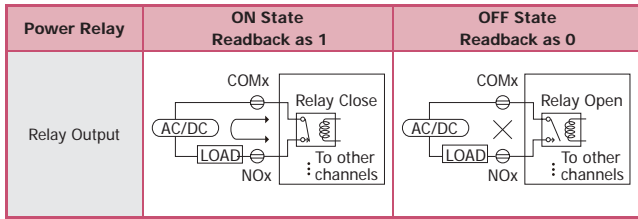
Pin Assignments



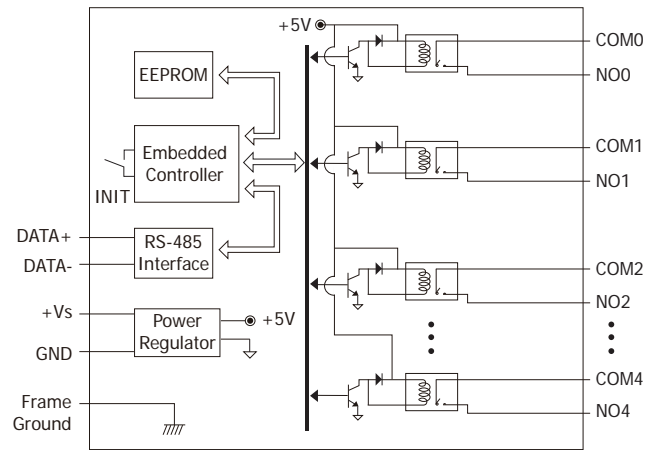
I/O Specifications

Relay Output		
Output Channels	5	
Type	Power Relay, Form A (SPST N.O.)	
Operating Voltage	250 V _{ac} or 30 V _{dc}	
Max. Load Current	5 A	
Operating Time	6 ms	
Release Time	3 ms	
Electrical Life (Resistive load)	VDE	5 A @250 V _{ac} 30,000 ops (10 ops/minute) at 75°C
		5 A @30 V _{dc} 70,000 ops (10 ops/minute) at 75°C
	UL	5 A @250 V _{ac} /30 V _{dc} 6,000 ops
		3 A @250 V _{ac} /30 V _{dc} 100,000 ops
Mechanical Life	20,000,000 ops at no load (300 ops/minute)	
Power-on Value	Yes, Programmable	
Safe Value	Yes, Programmable	

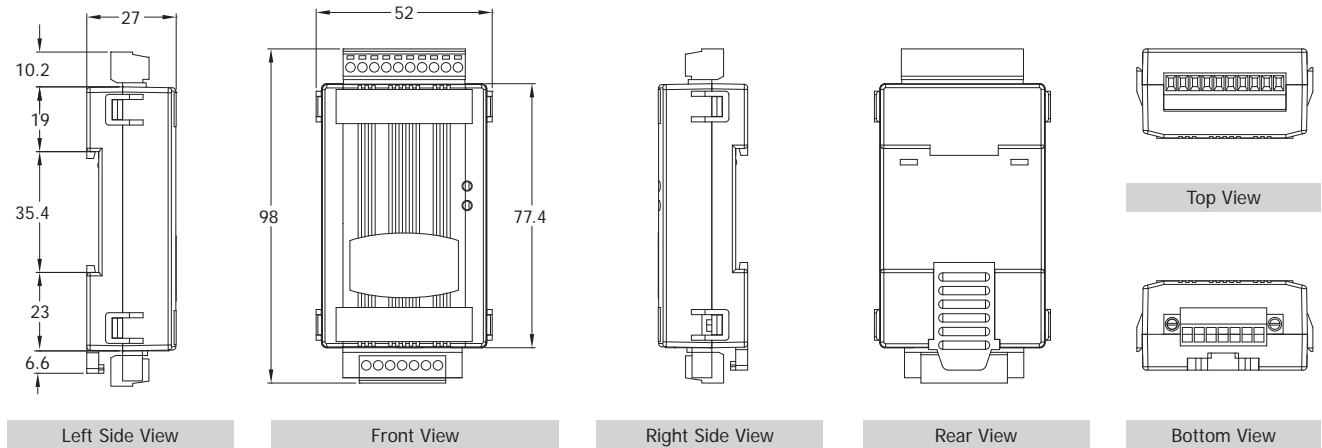
Wire Connections



Block Diagram



Dimensions (Units: mm)



Ordering Information

tM-R5	5-channel Relay Output 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)