

tM-DA1P1R1

1-channel AO, 1-channel DI and
1-channel Power Relay Module

Features

- Multifunction (1 AO, 1 DI and 1 DO)
- 1-channel Isolated Analog Output
- 1-channel Isolated Digital Input
- 1-channel Power Relay Output
- Configurable Power-on Value and Safe Value Settings

Introduction

The tM-DA1P1R1 is an RS-485 Interface module that offers 1 analog output channel, 1 digital input channel, and 1 relay output channel. Analog output resolution is 12-bit with an output range of 0~10V and 0~20mA. The Digital input channel is a dry contact type and provides a 16-bit counter function. The Relay output type is a Form C, and all I/O terminals provide 4 kV ESD protection and 3 kV intra-module isolation.

Applications

- Industrial Automation
- Industrial Machinery
- Building Automation
- Dimmer Control
- Food and Beverage Systems
- Semiconductor Fabrication
- Control Systems

System Specifications

CPU Module	
Watchdog Timer	Communication (Programmable)
Isolation	
Intra-module Isolation	2500 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	1.8 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 ~ +80 °C
Humidity	10 ~ 95% RH, Non-condensing

I/O Specifications

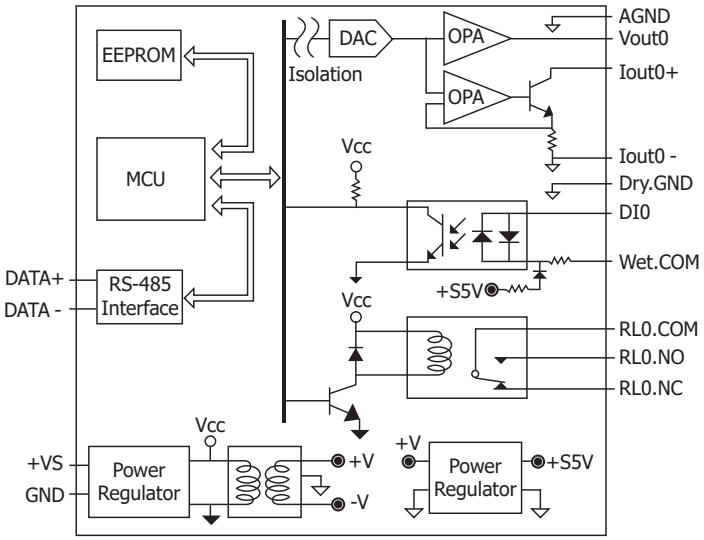
Digital Input/Counter		
Channels		1
Type		Dry Contact, Wet Contact
Sink/Source (NPN/PNP)	Dry	Source
	Wet	Sink/Source
ON Voltage Level	Dry	Close to GND
	Wet	+3.5 ~ +50 VDC
OFF Voltage Level	Dry	Open
	Wet	+1 VDC max.
Max. Counts		65535 (16-bit)
Frequency		100 Hz
Min. Pulse Width		5 ms
Input Impedance		10 KΩ, 0.5 W
Overvoltage Protection		70 VDC
Analog Output		
Channels		1
Type		Voltage, Current
Range	Voltage	0 ~ 10 V
	Current	0 ~ 20 mA, 4 ~ 20 mA
Resolution		12-bit
Accuracy		±0.1% of FSR
DA Output Response Time		10 ms
Voltage Output Capability		20 mA
Current Load Resistance		500 Ω

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

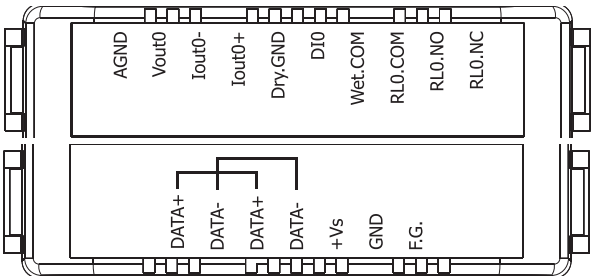
I/O Specifications

Relay Output	
Channels	1
Type	Power Relay, Form C
Contact Rating	NO : 10 A @ 250 VAC NC : 6 A @ 250 VAC
Operate Time	15 ms max.
Release Time	5 ms max.
Electrical Endurance	5 X 10^4 OPS
Mechanical Endurance	1 X 10^7 OPS
Power on Value	Programmable
Safe Value	Programmable

Internal I/O Structure

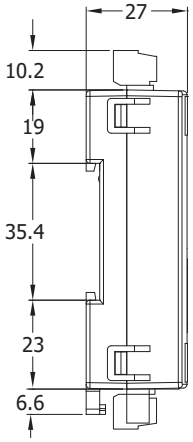


Pin Assignments

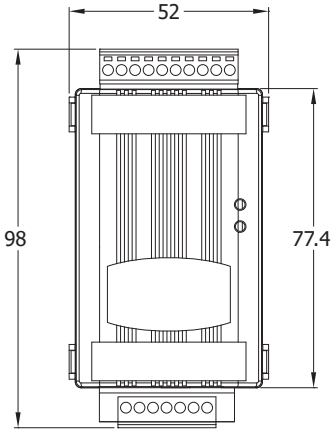


Dimensions (Units: mm)

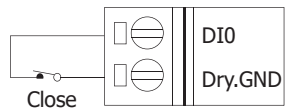
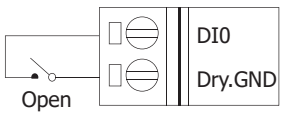
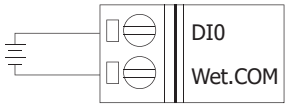
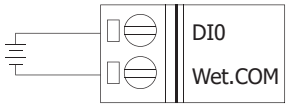
Left Side View

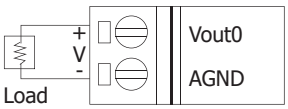
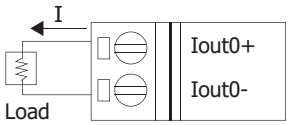


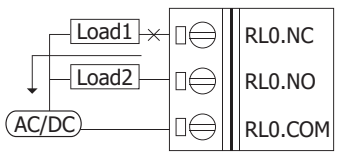
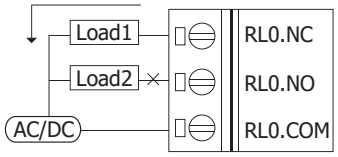
Front View



Wire Connections

Digital Input/Counter		
Wiring	**ON State, Readback as 1**	**OFF State, Readback as 0**
Dry Contact	Close to Dry.GND	Open
		
Wet Contact	+3.5 ~ +50 VDC	+1 VDC max.
		

Voltage Output	Current Output
	

Relay Output	
ON State	**OFF State**
	

Ordering Information

tM-DA1P1R1 CR	1-channel Isolated AO, 1-channel Isolated DI (Wet) and 1-channel Power Relay Module (RoHS)

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000