ICP DAS

M-7068(D)   M-7069(D)

4-channel Form A Relay Output and 4-channel Form C Relay Output Module

⚑ Features

- **M-7068(D)**
  - ☐ 4 Form A and 4 Form C Signal Relay Output
  - ☐ 2000 V$_{DC}$ Intra-module Isolation
- **M-7069(D)**
  - ☐ 4 Form A and 4 Form C Power Relay Output
  - ☐ 3750 V$_{DC}$ Intra-module Isolation
- Dual Watchdog
- 4 kV ESD Protection
- Configurable Power-on Value Settings
- Configurable Safe Value Settings
- Wide Operating Temperature Range: -25 to +75°C

CE   UKCA   FC   RoHS

📂 Introduction

The M-7068 provides 4 Form A signal relay output channels and 4 Form C signal relay output channels, while the M-7069 provides 4 Form A power relay output channels and 4 Form C power relay output channels. Both include 8 LED indicators that can be used to monitor the relay output status, and options are provided that allow power-on and safe digital output values to be configured. 4 kV ESD, 4 kV EFT and 3 kV surge protection are also provided to enhance noise protection capabilities in industrial environments. The M-7068 is the ideal solution for small signal switching, while the M-7069 is the ideal solution for high power applications.

📂 System Specifications

Model	M-7068	M-7068D	M-7069	M-7069D
Communication				
Interface	RS-485			
Bias Resistor	No (Usually supplied by the RS-485 Master. Alternatively, add a tM-SG4 or SG-785.)			
Format	(N, 8, 1), (N, 8, 2), (E, 8, 1), (O, 8, 1)			
Baud Rate	1200 to 115200 bps			
Protocol	Modbus RTU, DCON			
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)			
LED Indicators/Display				
System LED Indicator	Yes, 1 as Power/Communication Indicator			
I/O LED Indicators	-	Yes, 8 LEDs as Relay Output Indicators	-	Yes,8 LEDs as Relay Output Indicators
7-segment LED Display	-			
Isolation				
Intra-module Isolation, Field-to-Logic	2000 V$_{DC}$		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 Line			
	±2 kV for RS-485 Port Line			
Surge (IEC 61000-4-5)	±3 kV for Power			
Power				
Reverse Polarity Protection	Yes			
Input Range	+10 ~ +30 V$_{DC}$			
Consumption	1.6 W (Max.)	2.0 W (Max.)	2.1 W (Max.)	2.5 W (Max.)
Mechanical				
Dimensions (L x W x H)	123 mm x 72 mm x 35 mm			
Installation	DIN-Rail or Wall Mounting			
Environment				
Operating Temperature	-25 to +75°C			
Storage Temperature	-40 to +85°C			
Humidity	10 to 95% RH, Non-condensing			

📂 Applications

- Building Automation
- Factory Automation
- Machine Automation
- Remote Maintenance
- Remote Diagnosis
- Testing Equipment

📂 I/O Specifications

Model		M-7068	M-7068D	M-7069	M-7069D
Relay Output					
Channels		8 (Form A × 4, Form C × 4)			
Relay Type		Signal Relay		Power Relay	
Form A	Contact Rating	2 A @ 30 V$_{DC}$ 0.24 A @ 220 V$_{DC}$ 0.25 A @ 250 V$_{AC}$		6 A @ 35 V$_{DC}$ 6 A @ 240 V$_{AC}$	
	Min. Contact Load	10 mA @ 20 mV		100 mA @ ≧ 12 V	
	Contact Material	Silver Nickel, Gold-covered		Silver Cadmium Alloy	
	Operate Time	3 ms (typical)		5 ms (typical)	
	Release Time	4 ms (typical)		1 ms (typical)	
	Mechanical Endurance	10^8 ops		30×10^6 ops	
	Electrical Endurance	2×10^5 ops		1×10^5 ops	
Form C	Contact Rating	2 A @ 30 V$_{DC}$ 0.24 A @ 220 V$_{DC}$ 0.25 A @ 250 V$_{AC}$		5 A @ 30 V$_{DC}$ 5 A @ 250 V$_{AC}$	
	Min. Contact Load	10 mA @ 20 mV		10 mA @ ≧ 12 V	
	Contact Material	Silver Nickel, Gold-covered		Silver Nickel Alloy	
	Operate Time	3 ms (typical)		5 ms (typical)	
	Release Time	4 ms (typical)		2 ms (typical)	
	Mechanical Endurance	10^8 ops		15×10^6 ops	
	Electrical Endurance	2×10^5 ops		1×10^5 ops	
Surge Strength		2000 V$_{DC}$		4000 V$_{DC}$	
Power-on Value		Yes			
Safe Value		Yes			

📁 Internal I/O Structure
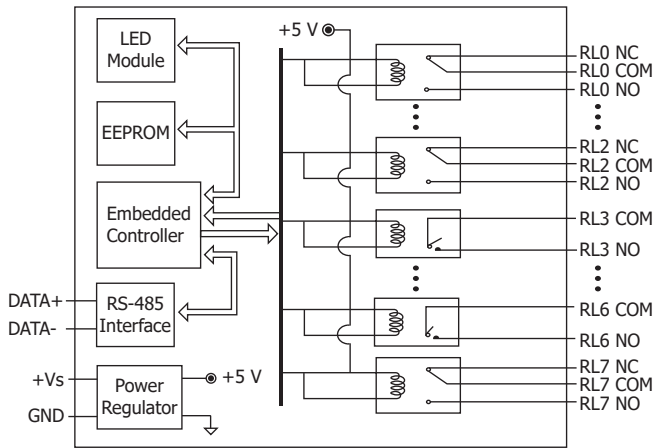
📁 Pin Assignments
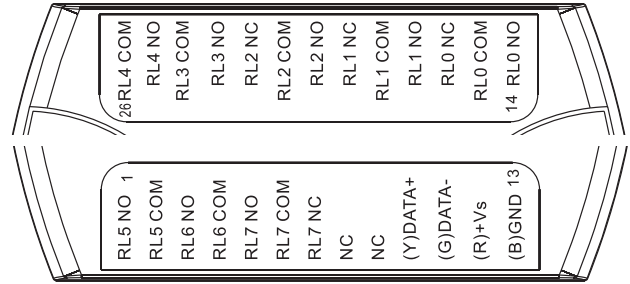
📁 Wire Connections

Relay Output	ON State Readback as 1	OFF State Readback as 0
Form A Relay in RL3 ~ RL6		
Form C Relay in RL0 ~ RL2 and RL7		

📁 Ordering Information

M-7068 CR	4-channel Form A Signal Relay Output and 4-channel Form C Signal Relay Output Module (Gray Cover) (RoHS)
M-7068D CR	M-7068 with LED Display (Gray Cover) (RoHS)
M-7069 CR	4-channel Form A Power Relay Output and 4-channel Form C Power Relay Output Module (Gray Cover) (RoHS)
M-7069D CR	M-7069 with LED Display (Gray Cover) (RoHS)

📁 Accessories

Tiny Isolated RS-232 to RS-485 Converter (RoHS)		Tiny Isolated RS-232 to RS-485 Converter (RoHS)
tM-7561 CR		Tiny USB to Isolated RS-485 Converter with CA-USB18 Cable (RoHS)
I-7514U CR		Isolated 4-channel RS-485 Repeater/Hub/Splitter (Gray Cover) (RoHS)
SG-3000 Series		Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers