# Logicbus

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## 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 VDC Intra-module Isolation
- **M-7069(D)**
  - ☐ 4 Form A and 4 Form C Power Relay Output
  - ☐ 3750 VDC Intra-module Isolation
- Dual Watchdog
- 4 kV ESD Protection
- Configurable Power-on Value Settings
- Configurable Safe Value Settings
- Wide Operating Temperature Range: -25 ~ +75°C

CE  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.

## Applications

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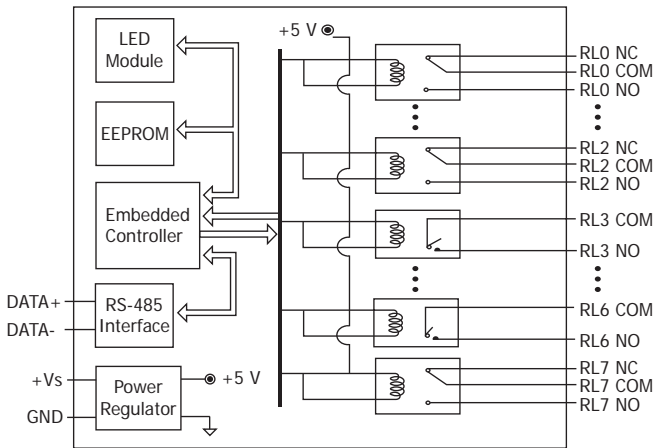- Remote Diagnosis
- Testing Equipment

## System Specifications

| Model | M-7068 | M-7068D | M-7069 | M-7069D |
|---|---|---|---|---|
| **Communication** | | | | |
| Interface | RS-485 | | | |
| Format | (N, 8, 1), (N, 8, 2), (E, 8, 1), (O, 8, 1) | | | |
| Baud Rate | 1200 ~ 115200 bps | | | |
| Protocol | Modbus RTU, DCON | | | |
| Dual Watchdog | Yes, Module (1.6 Seconds), Communication (Programmable) | | | |
| **LED Indicators/Display** | | | | |
| System LED Indicator | Yes, 1 LED 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 VDC | | 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 8 Relay and 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 VDC | | | |
| Consumption | 1.6 W (Max.) | 2.0 W (Max.) | 2.1 W (Max.) | 2.5 W (Max.) |
| **Mechanical** | | | | |
| Dimensions (W x L x H) | 72 mm x 123 mm x 35 mm | | | |
| Installation | DIN-Rail or Wall Mounting | | | |
| **Environment** | | | | |
| Operating Temperature | -25 ~ +75°C | | | |
| Storage Temperature | -40 ~ +85°C | | | |
| Humidity | 10 ~ 95% RH, Non-condensing | | | |

## 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 VDC 0.24 A @ 220 VDC 0.25 A @ 250 VAC | | 6 A @ 35 VDC 6 A @ 240 VAC | |
| | 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 | | $30 \times 10^6$ ops | |
| | Electrical Endurance | $2 \times 10^5$ ops | | $1 \times 10^5$ ops | |
| Form C | Contact Rating | 2 A @ 30 VDC 0.24 A @ 220 VDC 0.25 A @ 250 VAC | | 5 A @ 30 VDC 5 A @ 250 VAC | |
| | 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 | | $15 \times 10^6$ ops | |
| | Electrical Endurance | $2 \times 10^5$ ops | | $1 \times 10^5$ ops | |
| Surge Strength | | 2000 VDC | | 4000 VDC | |
| Power-on Value | | Yes | | | |
| Safe Value | | Yes | | | |



PLCs   Adquisición   Instrumentos   Registradores   Potencia   HMIs   Switches   Movimiento   Sensores   Convertidores   Teclados   SCADA   Telemetría

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## ■ Internal I/O Structure



## ■ Pin Assignments
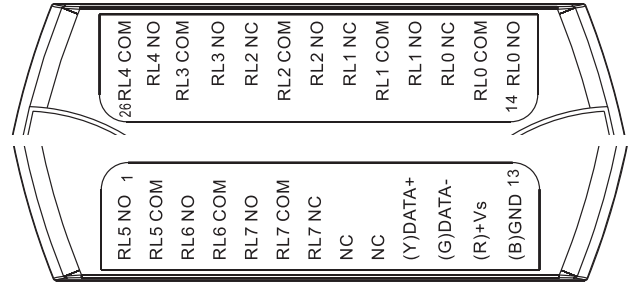


## ■ Wire Connections

| 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

| | | |
|---|---|---|
| | tM-7520U CR | RS-232 to RS-485 Converter (RoHS) |
| | tM-7561 CR | USB to RS-485 Converter (RoHS) |
| | I-7514U CR | 4-channel RS-485 Hub (RoHS) |
| | SG-3000 Series | Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input transformers |

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