



I-7045(D)



M-7045(D)



I-7045(D)-NPN



M-7045(D)-NPN

6-ch Isolated DO Module

Features

- I-7045(D)/M-7045(D)
 - Source-type Digital Output with Overload Protection
- I-7045(D)-NPN/M-7045(D)-NPN
 - Sink-type Digital Output with Overload Protection
- Configurable Power-on Value and Safe Value Settings
- Short Circuit Protection
- Overload and Overvoltage Protection
- Built-in Dual Watchdog



Introduction

All modules in the 7045 series offer 16 digital output channels, each of which features Photocoupler isolation. The I-7045(D)/M-7045(D) supports source-type output, while the I-7045(D)-NPN/M-7045(D)-NPN supports sink-type, and both are equipped with short circuit protection. There are options to enable both power-on and safe values, and 16 LED indicators that can be used to monitor the status of the digital output channels. 4 kV ESD protection, 4 kV EFT protection, 3 kV surge protection for power input and 3750 VDC Intra-module isolation are standard. The M-7045(D)/M-7045(D)-NPN has the same hardware specifications as the I-7045(D)/I-7045(D)-NPN, but provides additional support for the Modbus RTU protocol as well as the DCON protocol.

System Specifications

| Model | I-7000 M-7000 | 7045 | 7045- NPN | 7045D | 7045D- NPN |
|-----------------------------|---------------------------------------------------------------|------------------|---------------------|-------|---------------|
| CPU Module | | | | | |
| Watchdog Timer | Module, Communication (Programmable) | | | | |
| Display | | | | | |
| Type | - | | I/O LED Indicator | | |
| Isolation | | | | | |
| Intra-module Isolation | 3750 VDC | | | | |
| EMS Protection | | | | | |
| EFT (IEC 61000-4-4) | ±4 kV for 16 DO channels and Power, ±2 kV for the RS-485 Port | | | | |
| ESD (IEC 61000-4-2) | ±4 kV Contact for each Terminal ±8 kV Air for Random Point | | | | |
| Surge (IEC 61000-4-5) | ±3 kV for Power Line | | | | |
| LED Indicators | | | | | |
| Status | 1 x Power and Communication | | - | | |
| | - | | 16 x Digital Output | | |
| COM Ports | | | | | |
| Ports | 1 x RS-485 | | | | |
| Baud Rate | 1200 ~ 115200 bps | | | | |
| Data Format | (N, 8, 1) | | | | |
| Protocol | I-7000 | DCON | | | |
| | M-7000 | Modbus RTU, DCON | | | |
| Power | | | | | |
| Reverse Polarity Protection | Yes | | | | |
| Input Range | +10 ~ +30 VDC | | | | |
| Consumption | 0.6 W | 0.4 W | 1.5 W | 1.2 W | |

Applications

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

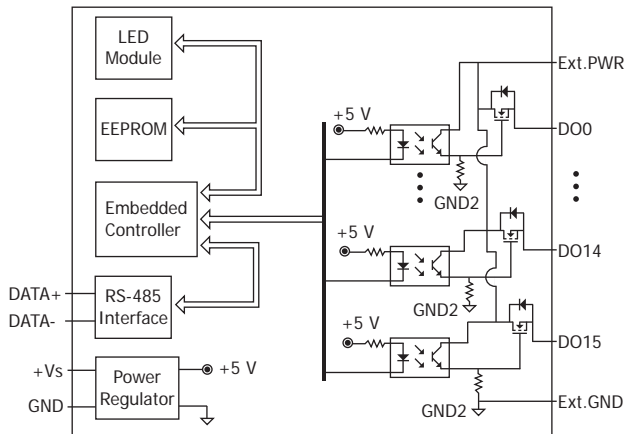
I/O Specifications

| Model | I-7000 M-7000 | 7045 7045D | 7045-NPN 7045D-NPN |
|--------------------------|------------------|----------------|-----------------------|
| Digital Output | | | |
| Channels | 16 | | |
| Type | Open Source | Open Collector | |
| Sink/Source (NPN/PNP) | Source | Sink | |
| Load Voltage | +10 ~ +40 VDC | +3.5 ~ 50 VDC | |
| Load Current | 650 mA/Channel | 700 mA/Channel | |
| Overvoltage Protection | 47 VDC | 60 VDC | |
| Overload Protection | 1.4 A | | |
| Short-circuit Protection | Yes | | |
| Power on Value | Programmable | | |
| Safe Value | Programmable | | |

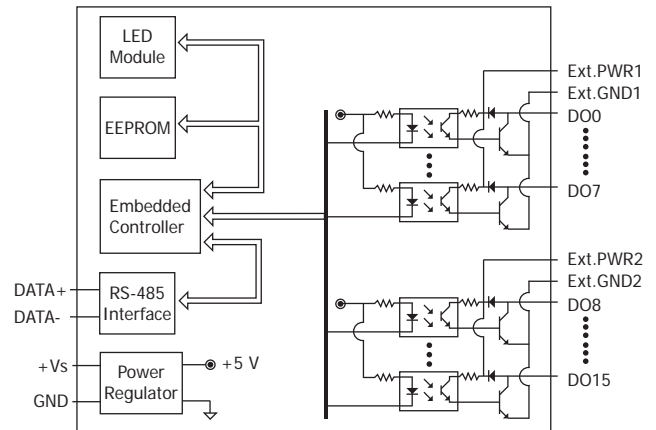
| Mechanical | |
|-----------------------|-----------------------------|
| Dimensions (mm) | 72 x 123 x 35 (W x L x H) |
| Installation | DIN-Rail Mounting |
| Environment | |
| Operating Temperature | -25 ~ +75°C |
| Storage Temperature | -40 ~ +85°C |
| Humidity | 10 ~ 95% RH, Non-condensing |

I-7045(D)/M-7045(D)

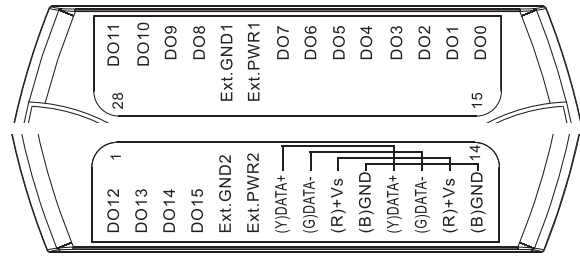
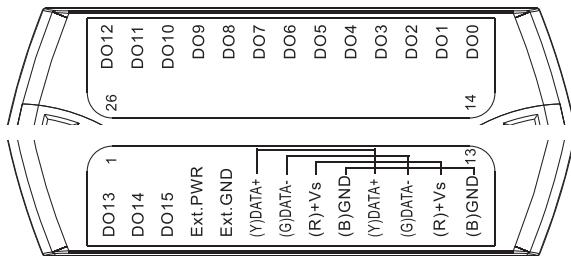
Internal I/O Structure



I-7045(D)-NPN/M-7045(D)-NPN



Pin Assignments



Wire Connections

| Output Type | I-7045(D)/M-7045(D) | | I-7045(D)-NPN/M-7045(D)-NPN | |
|----------------------------------|------------------------|-------------------------|-----------------------------|-------------------------|
| | ON State Readback as 1 | OFF State Readback as 0 | ON State Readback as 1 | OFF State Readback as 0 |
| Digital Output (Resistance Load) | | | | |
| Digital Output (Inductive Load) | | | | |

Ordering Information

| | |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------|
| I-7045 CR | 16-ch Isolated (Source, PNP, 10~40 VDC) DO Module using DCON Protocol (Blue Cover) (RoHS) |
| I-7045-G CR | 16-ch Isolated (Source, PNP, 10~40 VDC) DO Module using DCON Protocol (Gray Cover) (RoHS) |
| M-7045-G CR | 16-ch Isolated (Source, PNP, 10~40 VDC) DO Module using DCON and Modbus Protocols (Gray Cover) (RoHS) |
| I-7045D CR | 16-ch Isolated (Source, PNP, 10~40 VDC) DO Module with LED Display using DCON Protocol (Blue Cover) (RoHS) |
| I-7045D-G CR | 16-ch Isolated (Source, PNP, 10~40 VDC) DO Module with LED Display using DCON Protocol (Gray Cover) (RoHS) |
| M-7045D-G CR | 16-ch Isolated (Source, PNP, 10~40 VDC) DO Module with LED Display, using DCON and Modbus Protocols (Gray Cover) (RoHS) |
| I-7045-NPN-G CR | 16-ch Isolated (Sink, NPN, 3.5~50 VDC) DO Module using DCON Protocol (Gray Cover) (RoHS) |
| I-7045D-NPN-G CR | 16-ch Isolated (Sink, NPN, 3.5~50 VDC) DO Module with LED Display using DCON Protocol (Gray Cover) (RoHS) |
| M-7045-NPN-G CR | 16-ch Isolated (Sink, NPN, 3.5~50 VDC) DO Module using DCON and Modbus Protocols (Gray Cover) (RoHS) |
| M-7045D-NPN-G CR | 16-ch Isolated (Sink, NPN, 3.5~50 VDC) DO Module with LED Display, using DCON and Modbus Protocols (Gray Cover) (RoHS) |

Accessories

| | | | | |
|-----------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------|-------------------------------------|
| tM-7520U CR | tM-7561 CR | tM-SG4 CR | I-7514U CR | SG-770 CR |
| RS-232 to RS-485 Converter (RoHS) | USB to RS-485 Converter (RoHS) | RS-485 Bias and Termination Resistor Module (RoHS) | 4-channel RS-485 Hub (RoHS) | 7/14 channel Surge Protector (RoHS) |
| SG-3000 Series | Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers | | | |