ICP DAS

**I-7042**

**I-7042D**

13-channel Isolated Digital Output Module

**I-7043(D)**

**M-7043(D)**

16-channel Non-isolated Digital Output Module

## Features

- ■ I-7042/I-7042D
    - ❑ 13-channel Open Collector Output
    - ❑ 3750 Vrms Intra-module Isolation
- ■ I-7043/I-7043D/M-7043/M-7043D
    - ❑ 16-channel Open Collector Output
    - ❑ Non-isolated for all channels
- ■ Sink-type Digital Outputs
- ■ Configurable Power-on Value Settings
- ■ Configurable Safe Value Settings
- ■ Dual Watchdog
- ■ Wide Operating Temperature Range: -25 to +75°C

CE  FC  RoHS

## Introduction

The I-7042 offers 13 channels digital output channels, each of which features Photocouple isolation and supports sink-type output using an open collector. There are also options to enable both power-on and safe values. The I-7042D has 13 LED indicators that can be used to monitor the status of DO channels. 3750 Vrms intra-module isolation is standard.

The I-7043 offers 16 digital output channels, each of which are non-isolated and support sink-type output using an open collector. There are also options to enable both power-on and safe values. The I-7043D has 16 LED indicators that can be used to monitor the status of DO channels. The hardware specifications for the M-7043 are the same as the I-7043, and both support the Modbus RTU and DCON protocols, which can be configured via software.
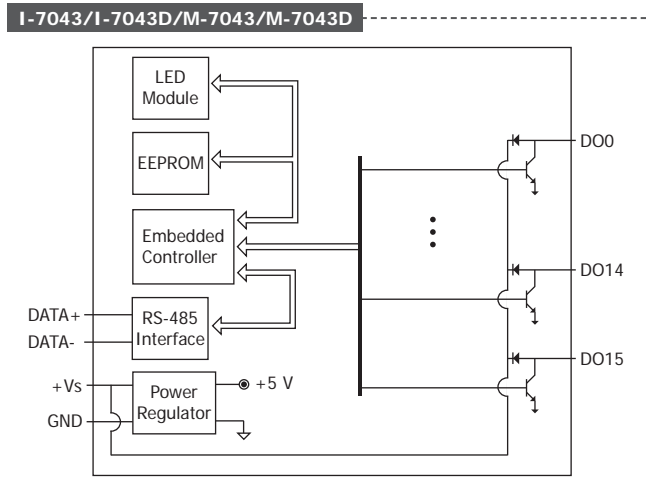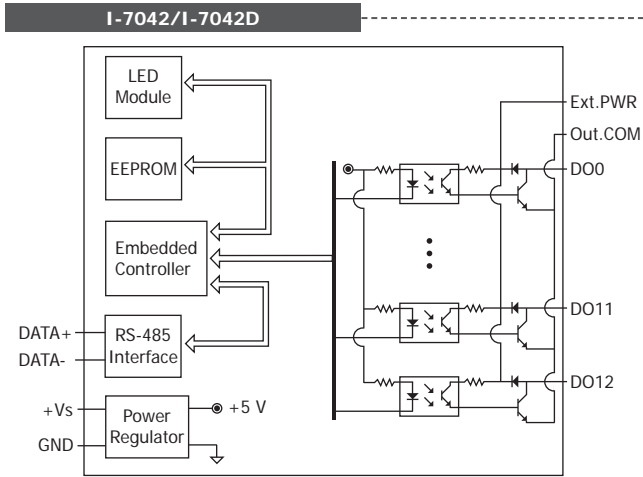
## System Specifications

| Model | I-7042 | I-7043 | M-7043 |
|---|---|---|---|
| | I-7042D | I-7043D | M-7043D |
| **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 | DCON | | 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, 13 LEDs as Digital Output Indicators | Yes, 16 LEDs as Digital Output Indicators | Yes, 16 LED as Digital Output Indicator |
| 7-segment LED Display | - | | |
| **Isolation** | | | |
| Intra-module Isolation, Field-to-Logic | 3750 Vrms | - | |
| **EMS Protection** | | | |
| ESD (IEC 61000-4-2) | ±2 kV Contact for each Terminal | - | |
| | ±4 kV Air for Random Point | - | |
| EFT (IEC 61000-4-4) | ±2 kV for Power Line | - | |
| Surge (IEC 61000-4-5) | - | | |
| **Power** | | | |
| Reverse Polarity Protection | Yes | | |
| Input Range | +10 ~ +30 VDC | | |
| Consumption | 1.0 W | 0.4 W | 0.4 W |
| | 1.7 W | 1.1 W | 1.1 W |
| **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
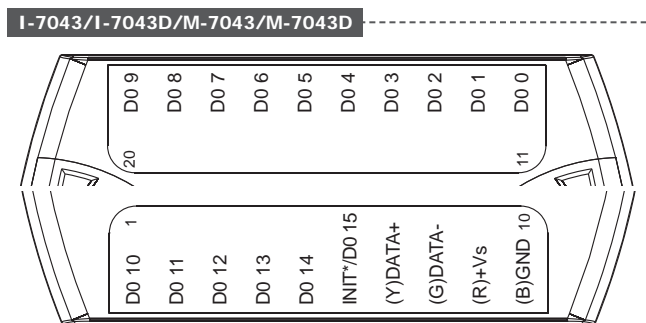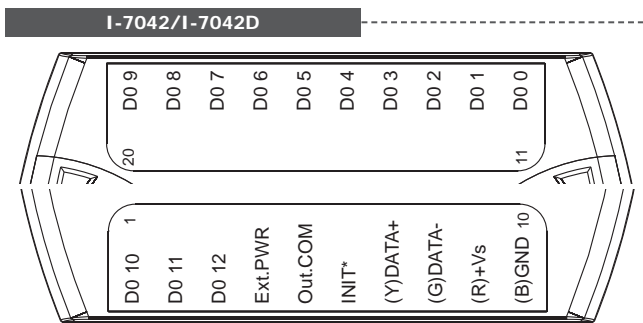- • Remote Maintenance
- • Remote Diagnosis
- • Testing Equipment

## I/O Specifications

| Model | I-7042 | I-7043 | M-7043 |
|---|---|---|---|
| | I-7042D | I-7043D | M-7043D |
| **Digital Output** | | | |
| Channels | 13 | 16 | |
| Type | Open Collector | | |
| Sink/Source (NPN/PNP) | Sink | | |
| Load Voltage | +3.5 ~ 30 VDC | | |
| Max. Load Current | 100 mA/Channel | | |
| Overvoltage Protection | - | | |
| Overload Protection | - | | |
| Power-on Value | Yes | | |
| Safe Value | Yes | | |

## Internal I/O Structure

**I-7042/I-7042D**



**I-7043/I-7043D/M-7043/M-7043D**



## Pin Assignments

**I-7042/I-7042D**



**I-7043/I-7043D/M-7043/M-7043D**



## Wire Connections

| I-7042/I-7042D | | |
|---|---|---|
| Output Type | ON State Readback as 1 | OFF State Readback as 0 |
| Open Collector Output (Resistance Load) |  |  |
| Open Collector Output (Inductive Load) |  |  |

| I-7043/I-7043D/M-7043/M-7043D | | |
|---|---|---|
| Output Type | ON State Readback as 1 | OFF State Readback as 0 |
| Open Collector Output (Resistance Load) |  |  |
| Open Collector Output (Inductive Load) |  |  |

## Ordering Information

| | |
|---|---|
| **I-7042 CR** | 13-channel Isolated Digital Output Module using the DCON Protocol (Blue Cover) (RoHS) |
| **I-7042D CR** | I-7042 with LED Display (Blue Cover) (RoHS) |
| **I-7043 CR** | 16-channel Non-isolated Digital Output Module using the DCON Protocol (Blue Cover) (RoHS) |
| **I-7043D CR** | I-7043 with LED Display (Blue Cover) (RoHS) |
| **I-7043D-G CR** | I-7043 with LED Display (Gray Cover) (RoHS) |
| **M-7043 CR** | 16-channel Non-isolated Digital Output Module using the DCON and Modbus Protocol (Gray Cover) (RoHS) |
| **M-7043D-CR** | M-7043-G 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) |
|  | tM-SG4 CR | RS-485 Bias and Termination Resistor Module (RoHS) |
|  | I-7514U CR | 4-channel RS-485 Hub (RoHS) |
|  | SG-770 CR | 7-channel Differential or 14-channel Single-ended Surge Protector (RoHS) |
|  | SG-3000 Series | Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers |