



**I-7044**

**I-7044D**

4-channel Isolated Digital Input and 8-channel Isolated DO Module

**Features**

- 8 Digital Outputs and 4 Digital Inputs
- Open Collector Output
- Photocouple Isolation
- Digital Input Channels Can Be Used As 16-bit Counters
- Configurable Power-on Value Settings
- Configurable Safe Value Settings
- 3750 Vrms Isolation Voltage
- Dual Watchdog
- Wide Operating Temperature Range: -25 to +75°C



**Introduction**

The I-7044 offers 4 channels for digital input and 8 channels for digital output, each of which features Photocouple isolation. The I-7044 supports sink-type output using open collector and sink- or source-type input via wire connections. All input channels are able to be used as 16-bit counters. There are options to enable both power-on and safe values . The I-7044D has 12 LED indicators for DI and DO channel status monitoring. 3750 Vrms intra-module isolation are standard. The hardware specifications for the M-7044 are the same as the I-7044 and both support the Modbus RTU and DCON protocols which can be configured via software.

**Applications**

Building Automation, Factory Automation, Machine Automation, Remote Maintenance, Remote Diagnosis, Testing Equipment.

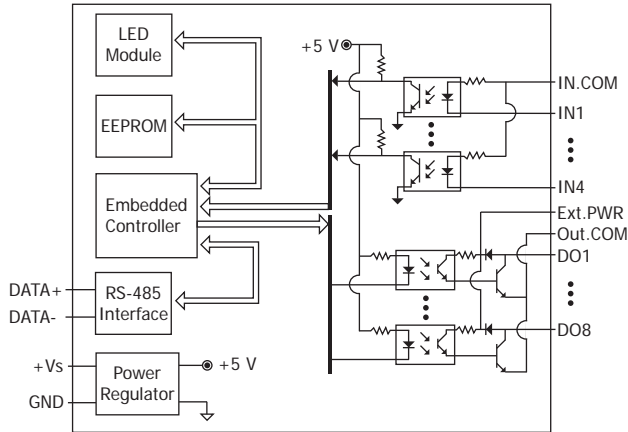
**System Specifications**

Model	I-7044	I-7044D
<b>Communication</b>		
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	
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)	
<b>LED Indicators/Display</b>		
System LED Indicator	Yes, 1 as Power/Communication Indicator	
I/O LED Indicators	-	Yes
7-segment LED Display	-	
<b>Isolation</b>		
Intra-module Isolation, Field-to-Logic	3750 Vrms	
<b>EMS Protection</b>		
ESD (IEC 61000-4-2)	±2 kV Contact for each Terminal	
EFT (IEC 61000-4-4)	±2 kV for Power Line	
Surge (IEC 61000-4-5)	-	
<b>Power</b>		
Reverse Polarity Protection	Yes	
Input Range	+10 ~ +30 Vdc	
Consumption	1.0 W	1.7 W
<b>Mechanical</b>		
Dimensions (L x W x H)	123 mm x 72 mm x 35 mm	
Installation	DIN-Rail or Wall Mounting	
<b>Environment</b>		
Operating Temperature	-25 to +75°C	
Storage Temperature	-40 to +85°C	
Humidity	10 to 95% RH, Non-condensing	

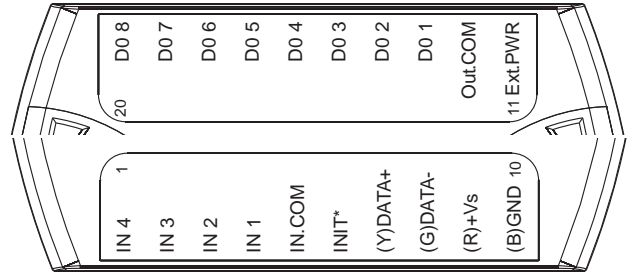
**I/O Specifications**

Model	I-7044	I-7044D
<b>Digital Input/Counter</b>		
Channels	4	
Type	Dry Contact	-
	Wet Contact	Sink/Source
Wet Contact	ON Voltage Level	+1 Vdc Max.
	OFF Voltage Level	+4 ~ 30 Vdc
Dry Contact	ON Voltage Level	-
	OFF Voltage Level	-
	Effective Distance for Dry Contact	-
Counters	Max. Count	65535 (16-bit)
	Max. Input Frequency	100 Hz
	Min. Pulse Width	5 ms
Input Impedance	3 kΩ	
Channel-to-Channel Isolation	-	
Overvoltage Protection	±35 Vdc	
<b>Digital Output</b>		
Channels	8	
Type	Open Collector	
Sink/Source (NPN/PNP)	Sink	
Load Voltage	+3.5 ~ 30 Vdc	
Max. Load Current	375 mA/Channel	
Overvoltage Protection	-	
Overload Protection	-	
Power-on Value	Yes	
Safe Value	Yes	

## Internal I/O Structure



## Pin Assignments



## Wire Connections

Digital Input/Counter	ON State Readback as 1	OFF State Readback as 0
	OPEN or <1 VDC	+4 ~ +30 VDC
Sink		
	OPEN or <1 VDC	+4 ~ +30 VDC
Source		
Output Type	ON State Readback as 1	OFF State Readback as 0
Open Collector Output (Resistance Load)		
Open Collector Output (Inductive Load)		

## Ordering Information

<b>I-7044 CR</b>	4-channel Isolated DI and 8-channel Isolated DO Module using the DCON Protocol (Blue Cover) (RoHS)
<b>I-7044-G CR</b>	4-channel Isolated DI and 8-channel Isolated DO Module using the DCON Protocol (Gray Cover) (RoHS)
<b>I-7044D CR</b>	I-7044 with LED Display (Blue 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