



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.

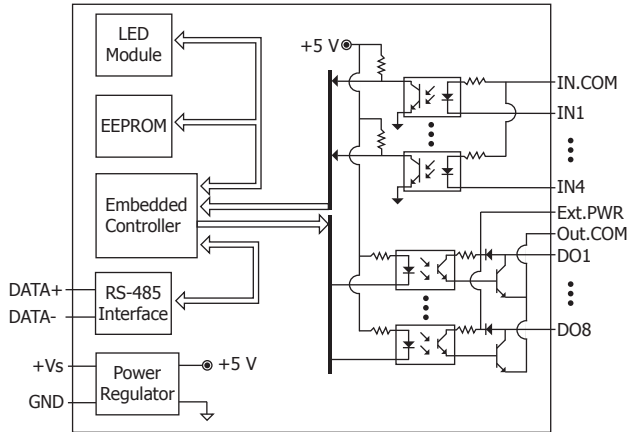
System Specifications

Model	I-7044	I-7044D
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	
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
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	
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	1.7 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	

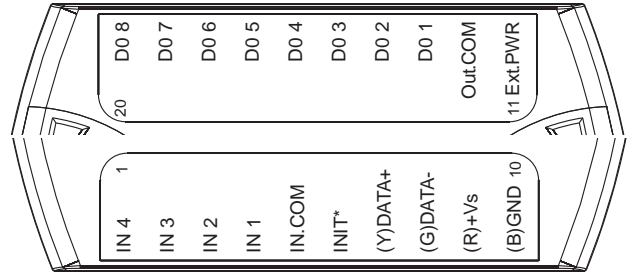
I/O Specifications

Model	I-7044	I-7044D
Digital Input/Counter		
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	
Digital Output		
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
Sink	OPEN or <1 VDC	+4 ~ +30 VDC
Source	OPEN or <1 VDC	+4 ~ +30 VDC
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-7044 CR	4-channel Isolated DI and 8-channel Isolated DO Module using the DCON Protocol (Blue Cover) (RoHS) Art. No. 113794
I-7044-G CR	4-channel Isolated DI and 8-channel Isolated DO Module using the DCON Protocol (Gray Cover) (RoHS)
I-7044D CR	I-7044 with LED Display (Blue Cover) (RoHS) Art. No. 113811

Accessories

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