



**M-7046**

**M-7046D**

15-ch Isolated (Wet, 3.5~50 VDC) DI Module

**Features**

- Sink- or Source-type Digital Input
- Photocoupler Isolation
- All Channels Can be Used as 16-bit Counters
- Built-in Dual Watchdog



**Introduction**

The M-7046 is a 15-channel Digital Input module. Each channel features photocoupler isolation and can be used as a 16-bit counter. In addition, the Digital Input type can be selected as either sink or source via wire connections. The M-7046D module includes 15 LED indicators that can be used to monitor the status of the DI channels. 8 kV ESD protection and 5000 VDC intra-module isolation are also provided to enhance noise protection capabilities in industrial environments, making the M-7046(D) module an ideal solution for Digital Input applications.

**Applications**

- All Types of ON/OFF Control
- Building Automation
- Industrial Automation
- Industrial Machinery
- Food and Beverage Systems
- Semiconductor Fabrication
- Control Systems

**System Specifications**

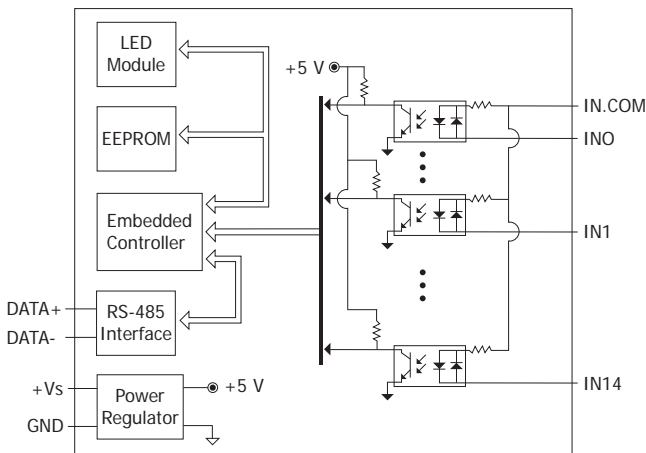
Model	M-7046	M-7046D
<b>CPU Module</b>		
Watchdog Timer	Module, Communication (Programmable)	
<b>Display</b>		
Type	-	I/O LED Indicator
<b>Isolation</b>		
Intra-module Isolation	5000 VDC	
<b>EMS Protection</b>		
EFT (IEC 61000-4-4)	±4 kV for Power Line	
ESD (IEC 61000-4-2)	±8 kV Contact for Each Terminal ±16 kV Air for Random Point	
Surge (IEC 61000-4-5)	±3 kV for Power	
<b>LED Indicators</b>		
Status	1 x Power and Communication	-
	-	15 x Digital Input
<b>COM Ports</b>		
Ports	1 x RS-485	
Baud Rate	1200 ~ 115200 bps	
Data Format	(N, 8, 1), (N, 8, 2), (E, 8, 1), (O, 8, 1)	
Protocol	Modbus RTU, DCON	
<b>Power</b>		
Reverse Polarity Protection	Yes	
Input Range	+10 ~ +30 VDC	
Consumption	0.2 W	0.3 W

**I/O Specifications**

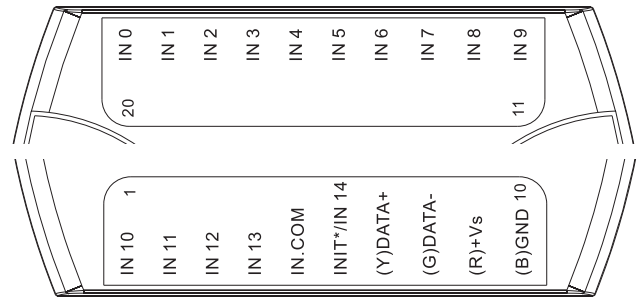
Model	M-7046	M-7046D
<b>Digital Input/Counter</b>		
Channels	15	
Type	Wet Contact	
Sink/Source (NPN/PNP)	Sink/Source	
ON Voltage Level	+3.5 ~ +50 VDC	
OFF Voltage Level	+1 VDC Max.	
Max. Counts	65535 (16-bit)	
Frequency	100 Hz	
Min. Pulse Width	5 ms	
Input Impedance	10 kΩ	
Overvoltage Protection	±70 VDC	

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

## Internal I/O Structure



## Pin Assignments









## Wire Connections

Digital Input/Counter	ON State Readback as 1 +3.5 ~ +50 VDC	OFF State Readback as 0 OPEN or +1 VDC Max.
Sink (IN0 ~ IN13)		
Source (IN0 ~ IN13)		
Sink (IN14)	 JP2 Default INIT* Mode IN14 Mode	 JP2 Default INIT* Mode IN14 Mode
Source (IN14)	 JP2 Default INIT* Mode IN14 Mode	 JP2 Default INIT* Mode IN14 Mode

## Ordering Information

<b>M-7046-G CR</b>	15-ch Isolated (Wet, 3.5~50 VDC) DI Module using DCON and Modbus Protocols (Gray Cover) (RoHS)
<b>M-7046D-G CR</b>	15-ch Isolated (Wet, 3.5~50 VDC) DI Module with LED Display, using DCON and Modbus Protocols (Gray Cover) (RoHS)

## Accessories

<b>tM-7520U CR</b>	 Tiny Isolated RS-232 to RS-485 Converter (RoHS)	<b>I-7514U-G CR</b>	 Isolated 4-channel RS-485 Repeater/Hub/Splitter (Gray Cover) (RoHS)
<b>tM-7561 CR</b>	 Tiny USB to Isolated RS-485 Converter with CA-USB18 Cable (RoHS)	<b>SG-770 CR</b>	 7/14 channel Surge Protector (RoHS)
<b>tM-SG4 CR</b>	 RS-485 Pull-high/Pull-low and Termination Resistor Module (RoHS)	<b>SG-3000 Series</b>	 Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers