

### Features

- 2-channel Counter/Frequency Inputs
- 32-bit Counter
- Isolated or Non-isolated Input
- Programmable Alarm Output
- Programmable Digital Filter
- Programmable Threshold Voltage Level
- The Maximum Frequency Is Up To 100 kHz
- Built-in Virtual Battery Backup For Counter Value
- Dual Watchdog
- Wide Operating Temperature Range: -25 ~ +75°C



### Introduction

I-7080 offers 2-channel high speed counter or frequency inputs and 2-channel digital outputs. There are two type of digital inputs, one is for isolated inputs, and the other is for non-isolated inputs. The isolated input provides 3750 V<sub>rms</sub> isolation voltage and non-isolated input provides programmable threshold voltage level. The built-in digital filter is valid for both non-isolated and isolated and can be filtered out the noise that the high/low pulse width is small than the minimum high/low width of digital filter. The maximum counts are up to 32-bit and the maximum frequency is up to 100 kHz. It also provides programmable alarm output with non-isolated open collectors and updated time to meet your consideration. M-7080 supports Modbus RTU and DCON protocols which can be configured via software and all hardware specifications are the same as I-7080.

### Applications

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

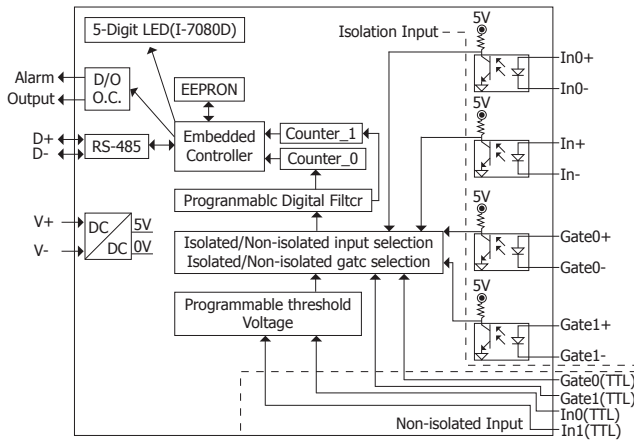
### System Specifications

Models	I-7080	I-7080D	M-7080	M-7080D
	I-7080B	I-7080BD	M-7080B	M-7080BD
<b>Communication</b>				
Interface	RS-485			
Format	(N, 8, 1) (N, 8, 2) (E, 8, 1) (O, 8, 1)			
Baud Rate	1200 ~ 115200 bps			
Protocol	DCON		Modbus RTU, DCON	
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)			
<b>LED Indicator/Display</b>				
System LED Indicator	Yes, 1 LED as Power/Communication Indicator			
I/O LED Indicator	-			
7-Segment LED Display	-	Yes	-	Yes
<b>Isolation</b>				
Intra-Module Isolation, Field-to-Logic	3000 V <sub>dc</sub>			
<b>EMS Protection</b>				
ESD (IEC 61000-4-2)	+/-4 kV			
EFT (IEC 61000-4-4)	+/-4 kV			
<b>Power</b>				
Reverse Polarity Protection	Yes			
Input Range	10 ~ 30 V <sub>dc</sub>			
Consumption	2.0 W	2.2 W	2.0 W	2.2 W
<b>Mechanical</b>				
Dimensions (W x L x H)	72 mm x 123 mm x 35 mm			
Installation	DIN-Rail or Wall Mounting			
<b>Environment</b>				
Operating Temperature	-25 ~ +75°C			
Storage Temperature	-40 ~ +85°C			
Humidity	10 ~ 95% RH, Non-condensing			

### I/O Specifications

Models	I-7080	I-7080D	I-7080B	I-7080BD
	M-7080	M-7080D	M-7080B	M-7080BD
<b>Digital Input</b>				
Channels	2			
Contact	Wet			
Sink/Source (NPN/PNP)	Sink			
On Voltage Level	Isolated	+3.5 ~ +30 V <sub>dc</sub>		
	Non-isolated	+2.4 ~ +5 V <sub>dc</sub>		
Off Voltage Level	+1 V <sub>dc</sub> Max.			
Programmable Filter	2 us to 65 ms			
Programmable Threshold Voltage	+0.1 ~ +5 V <sub>dc</sub>			
Counter/Encoder-bits	32-bit			
Counter Mode	Up			
Encoder Mode	-			
Frequency Mode	Yes			
Virtual Battery Backup	-			
Frequency Accuracy	1 Hz or 10 Hz			
Max. Speed	100 KHz			
<b>Digital Output</b>				
Channels	2			
Type	Open Collector			
Sink/Source (NPN/PNP)	Sink			
Load Voltage	+3.5 ~ +30 V <sub>dc</sub>			
Max. Load Current	30 mA/Channel			
Power-on Value	Yes			
Safe Value	Yes			

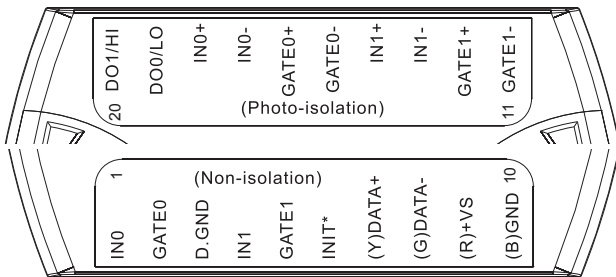
### Internal I/O Structure



### Wire Connections

Counter Type Wire Connection	
Isolation	Non-isolation
Counter Input+  INx+ Counter Input-  INx- Gate Control+  GATEx+ Gate Control-  GATEx-	Counter Input  INx Gate Control  GATEx Ground  D.GND
Frequency Type Wire Connection	
Isolation	Non-isolation
Frequency Input+  INx+ Frequency Input-  INx- Don't be used  GATEx+ Don't be used  GATEx-	Frequency Input+  INx Don't be used  GATEx Frequency Input-  D.GND

### Pin Assignments



Output Type	ON State Readback as 1	OFF State Readback as 0
Resistance Load		
Inductance Load		

### Ordering Information

<b>I-7080 CR</b>	Counter/Frequency Input Module with DCON Protocol (Blue Cover) (RoHS)
<b>I-7080-G CR</b>	Counter/Frequency Input Module with DCON Protocol (Gray Cover) (RoHS)
<b>I-7080D CR</b>	I-7080 with 7-Segment LED Display (Blue Cover) (RoHS)
<b>I-7080B-G CR</b>	Counter/Frequency Input Module with DCON Protocol (Gray Cover) (RoHS)
<b>I-7080BD-G CR</b>	I-7080B with 7-Segment LED Display (Gray Cover) (RoHS)
<b>M-7080-G CR</b>	Counter/Frequency Input Module with DCON and Modbus Protocol (Gray Cover) (RoHS)
<b>M-7080D-G CR</b>	M-7080 with 7-Segment LED Display (Gray Cover) (RoHS)
<b>M-7080B-G CR</b>	Counter/Frequency Input Module with DCON and Modbus Protocol (Gray Cover) (RoHS)
<b>M-7080BD-G-G CR</b>	M-7080B with 7-Segment 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 Pull-high/Pull-low 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 Inputs