I-7080(D)

M-7080(D)

I-7080B(D)

M-7080B(D)

2-channel Counter/Frequency Input Module

Features

- 2-channel Counter/Frequency Input
- 32-bit Counter
- Isolated or Non-isolated Input
- Programmable Alarm Output
- Programmable Digital Filter
- Programmable Threshold Voltage Level
- Maximum Frequency of up to 100 kHz
- Built-in Virtual Battery Backup to Preserve Counter Values (I-7080B(D), M-7080B(D))
- Dual Watchdog
- Wide Operating Temperature Range: -25 to +75°C

Introduction

The I-7080 offers 2 high speed counter or frequency input channels and 2 digital output channels. Two types of digital input are provided, one for isolated input, and the other is for non-isolated input. The isolated input provides 3750 Vrms isolation voltage and the non-isolated input provides programmable threshold voltage level. The built-in digital filter is valid for both non-isolated and isolated input and can filter out noise where the high/low pulse width is smaller than the minimum high/low width of the digital filter. The maximum count is up to 32-bit and the maximum frequency is up to 100 kHz. The module also provides programmable alarm output with non-isolated open collectors. The M-7080 supports both the Modbus RTU and DCON protocols, which can be configured via software, and all hardware specifications are the same as the I-7080. The functions of the I-7080B are the same as that of the I-7080, except that the I-7080B provides a virtual battery backup function in counter mode.

System Specifications

Model	I-7080 I-7080D	I-7080B I-7080BD	M-7080 M-7080D	M-7080B M-7080BD
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	-			
7-segment LED Display	-			
	Yes			
Isolation				
Intra-module Isolation, Field-to-Logic	3000 VDC			
EMS Protection				
ESD (IEC 61000-4-2)	±4 kV Contact for each Terminal			
EFT (IEC 61000-4-4)	±4 kV for Power Line			
Surge (IEC 61000-4-5)	±0.5 kV for Power Line			
Power				
Reverse Polarity Protection	Yes			
Input Range	+10 ~ +30 VDC	+24 ~ +30 VDC	+10 ~ +30 VDC	+24 ~ +30 VDC
Consumption	2.0 W			
	2.2 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			

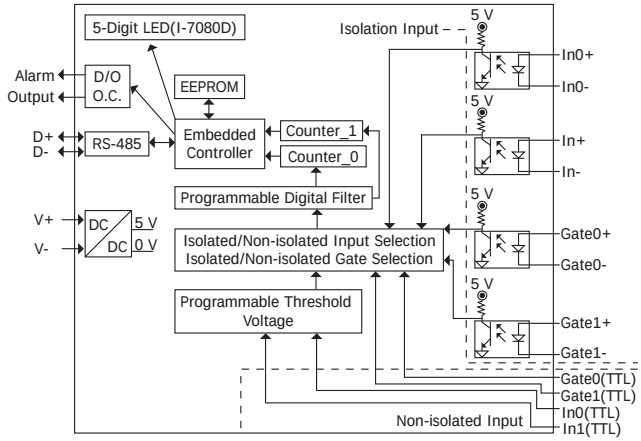
Applications

- Building Automation
- Factory Automation
- Machine Automation
- Remote Maintenance
- Remote Diagnosis
- Testing Equipment

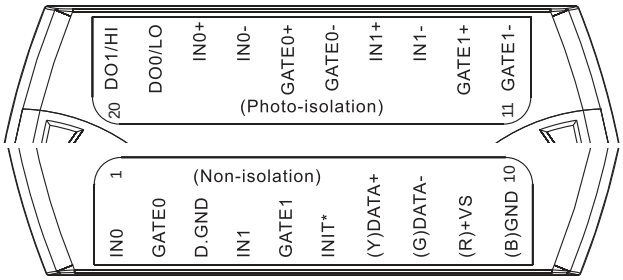
I/O Specifications

Model		I-7080 I-7080D	I-7080B I-7080BD	M-7080 M-7080D	M-7080B M-7080BD
Counter/Frequency Input					
Channels		2			
Contact		Wet			
Sink/Source (NPN/PNP)		Sink			
ON Voltage Level	Isolated	+3.5 ~ +30 VDC			
	Non-isolated	+2.4 ~ +5 VDC			
OFF Voltage Level		+1 VDC Max.			
Programmable Filter		2 μs to 65 ms			
Programmable Threshold Voltage		+0.1 ~ +5 VDC			
Individual Channel Configuration		No			
Counter/Encoder-bits		32-bit			
Counter Mode		Up			
Encoder Mode		-			
Frequency Mode		Yes			
Virtual Battery Backup		-	Yes	-	Yes
Frequency Accuracy		1 Hz or 10 Hz			
Max. Speed		100 KHz			
Digital Output					
Channels		2			
Type		Open Collector			
Sink/Source (NPN/PNP)		Sink			
Load Voltage		+3.5 ~ +30 VDC			
Max. Load Current		30 mA/Channel			

Internal I/O Structure

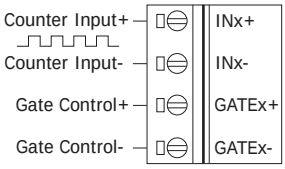
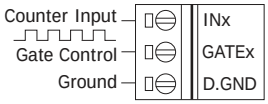


Pin Assignments

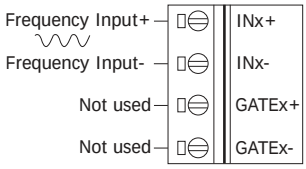
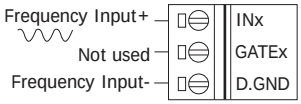


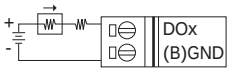
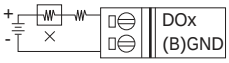
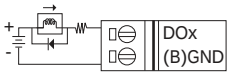
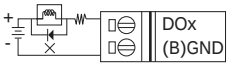
Wire Connections

Counter Type Wire Connection

Isolation	Non-isolation
	

Frequency Type Wire Connection

Isolation	Non-isolation
	

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

Ordering Information

I-7080 CR	2-channel Counter/Frequency Input Module using the DCON Protocol (Blue Cover) (RoHS)
I-7080-G CR	2-channel Counter/Frequency Input Module using the DCON Protocol (Gray Cover) (RoHS)
I-7080D CR	I-7080 with 7-segment LED Display (Blue Cover) (RoHS)
I-7080B-G CR	2-channel Counter/Frequency Input Module using the DCON Protocol with Virtual Battery Backup (Gray Cover) (RoHS)
I-7080BD-G CR	I-7080B with 7-segment LED Display (Gray Cover) (RoHS)
M-7080-G CR	2-channel Counter/Frequency Input Module using the DCON and Modbus Protocol (Gray Cover) (RoHS)
M-7080D-G CR	M-7080 with 7-segment LED Display (Gray Cover) (RoHS)
M-7080B-G CR	2-channel Counter/Frequency Input Module using the DCON and Modbus Protocol with Virtual Battery Backup (Gray Cover) (RoHS)
M-7080BD-G-G CR	M-7080B with 7-segment LED Display (Gray Cover) (RoHS)

Accessories

 SG-770 CR	7-channel Differential or 14-channel Single-ended Surge Protector (RoHS)