

I-7083(D) I-7083B(D)

3-axis, 32-bit Encoder/Counter Input Module

Features

- 3-Axis Encoder Inputs
- 1 MHz Input Rate
- 32-bit Count Range
- Quadrant, Pulse/Dir, CW/CCW
- 2500 Vrms Optical Isolation
- I-7083B(D)
  - Built-in Virtual Battery Backup to Preserve Counter Values
- Built-in Dual Watchdog

Introduction

The I-7083 and I-7083B are 3-axis high speed encoder modules. Each axis on the module can be independently configured as one of Quadrant, Pulse/Dir or CW/CCW input mode with a maximum input rate of 1 MHz. The high-end specifications of the I-7083/I-7083B and complete software support make it ideal for a wide range of applications in position measurement of motion systems working in industrial and laboratory environments. The I-7083B is an improved version of I-7083 with virtual battery backup function for counter value.

Applications

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

System Specifications

Model		I-7083 I-7083B	I-7083D I-7083BD
CPU Module			
Watchdog Timer		Module, Communication (Programmable)	
Display			
Type	7083D/83BD	5-Digit 7 Segment LED Display	
Memory			
Battery Backup		7083B/83BD: Yes	
Isolation			
Intra-module Isolation		3000 VDC	
EMS Protection			
EFT (IEC 61000-4-4)		±4 kV for Power Line	
ESD (IEC 61000-4-2)		±4 kV Contact for Each Terminal	
LED Indicators			
Status		1 x Power and Communication	
COM Ports			
Ports		1 x RS-485	
Baud Rate		1200 ~ 115200 bps	
Data Format		(N, 8, 1)	
Protocol		DCON	
Power			
Reverse Polarity Protection		Yes	
Input Range		+10 ~ +30 VDC	
Consumption		1.5 W Max.	

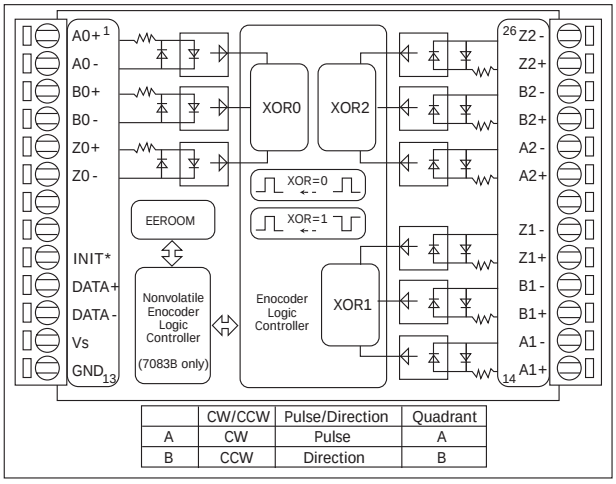
I/O Specifications

Model	I-7083 I-7083B	I-7083D I-7083BD
Counter/Frequency/Encoder Input		
Channels	3-axis	
Type	Encoder	
Encoder Mode	CW/CCW, Pulse/Dir, AB Phase	
Counter/Encoder Bits	32-bit	
Sink/Source (NPN/PNP)	Sink	
ON Voltage Level	5 V: +3.5 ~ +5 VDC	
	12 V with 1 kΩ External Resistor: +5 ~ +12 VDC	
	24 V with 2 kΩ External Resistor: +7 ~ +24 VDC	
OFF Voltage Level	+2 VDC Max.	
Max. Speed	1 MHz	

Mechanical	
Dimensions (mm)	72 x 123 x 35 (W x L x H)
Installation	DIN-Rail Mounting
Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-30 ~ +80 °C
Humidity	10 ~ 90% RH, Non-condensing

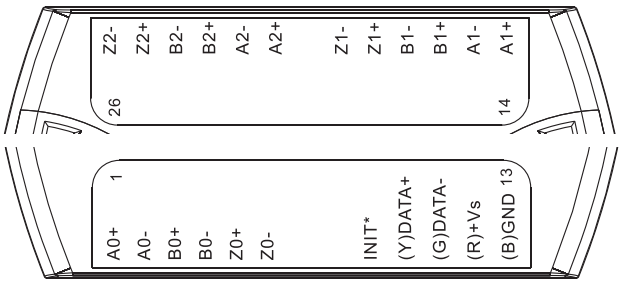
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Internal I/O Structure

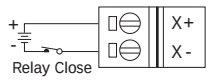
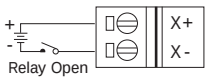
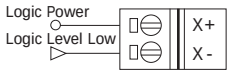
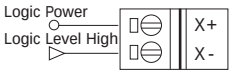


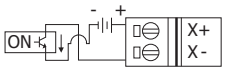
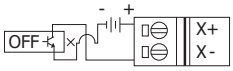
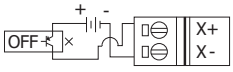
	CW/CCW	Pulse/Direction	Quadrant
A	CW	Pulse	A
B	CCW	Direction	B

Pin Assignments



Wire Connections

Input Type	ON State Readback as 1	OFF State Readback as 0
Relay Contact	Relay ON	Relay OFF
		
TTL/ CMOS Logic	Voltage > 4 V	Voltage < 0.8 V
		

Input Type	ON State Readback as 1	OFF State Readback as 0
NPN Output	Open Collector ON	Open Collector OFF
		
PNP Output	Open Collector ON	Open Collector OFF
		

Ordering Information

I-7083-G CR	3-axis, 32-bit Encoder/Counter Input Module using DCON Protocol (Gray Cover) (RoHS)
I-7083D-G CR	3-axis, 32-bit Encoder/Counter Input Module with LED Display using DCON Protocol (Gray Cover) (RoHS)
I-7083B-G CR	3-axis, 32-bit Encoder/Counter Input Module with Virtual Battery Backup using DCON Protocol (Gray Cover) (RoHS)
I-7083BD-G CR	3-axis, 32-bit Encoder/Counter Input Module with Virtual Battery Backup and LED Display using DCON Protocol (Gray Cover) (RoHS)

Accessories

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

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