

I-9093

3-axis High-speed Encoder Module with Compare Trigger Output

Features

- 3-axis, 32-bit Encoder Counter
- Maximum Counting Rate: 6 MHz
- Encoder Input: A, B, C Differential
- Encoder Mode: Quadrant, CW/CCW, PULSE/DIR
- Compare Trigger Output
- Selectable Reset/Latch Signal Inputs
- ±4 kV ESD Protection
- 3000 VDC Intra-module Isolation

Introduction

I-9093 includes 3-axis encoder with compare trigger output function. It can generate a periodic trigger signal when the motor reaches a specified position. The specifi ed position is called a breakpoint and is similar to a switch that is triggered after the motor passes a certain position. To use the compare trigger output function, you have to set an initial point (P) and a trigger period of the following points (D).

The trigger signal is an I/O line that can be used to fire another device. For example, when a motor reaches a certain position, the trigger signal can be used to fi re the shutter of a camera to capture an image for the defect detection.

All operations of position compare and trigger pulse output are automatically done by the hardware circuit. There is no software calculation effort when the system is operating. I-9093 makes the system design simpler, and significantly increases the system performance.

System Specifications

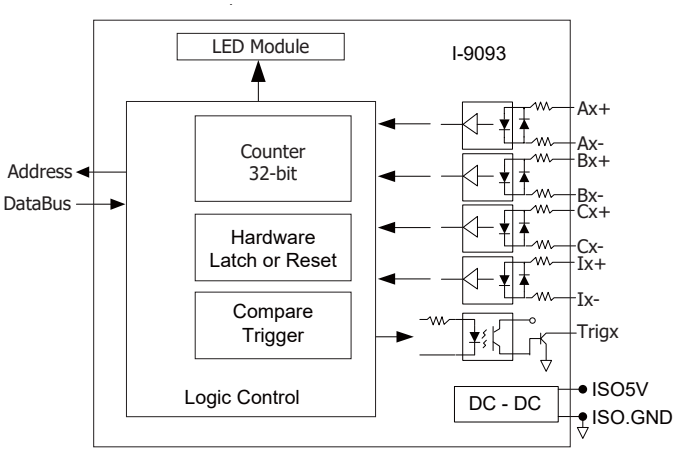
LED Display	
Status	1 x Power and Communication 12 x I/O Signals
Isolation	
Intra-module Isolation, Field-to-Logic	3000 VDC
EMS Protection	
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal ±8 kV Air for Random Point
Power	
Consumption	2 W Max.
Mechanical	
Dimensions (W x L x H)	31 mm x 134 mm x 144 mm
Environment	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-40 ~ +85 °C
Humidity	10 ~ 90 % RH, Non-condensing

I/O Specifications

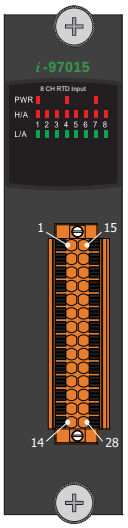
Encoder Input	
No. of Axis	3
Response Speed	Quadrant: 2 MHz Max. CW/CCW: 6 MHz Pulse/Dir: 6 MHz
Resolution	32-bit
Programmable Digital Filter	1 ~ 250 µs
Photo-isolation	2500 VDC
Mode	Quadrant , CW/CCW , Pulse/Dir
ON Voltage Level	+3.5 VDC ~ +5 VDC Or 10 VDC ~ 24 VDC (Jumper Select)
OFF Voltage Level	+0.8 VDC Max.
Compare Trigger Output	
Channels	3
Load Voltage	5 ~ 48 V
Max. Load Current	100 mA
Trigger Pulse Width	Yes
External Latch Input	
Channels	±0.5 µV/°C
ON Voltage Level	+3.5 VDC ~ +5 VDC Or 10 VDC ~ 24 VDC (Jumper Select)
OFF Voltage Level	+0.8 VDC Max.

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Internal I/O Structure

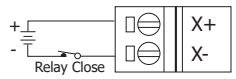
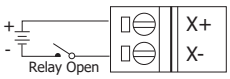
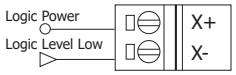
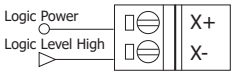
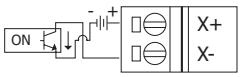
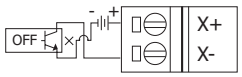
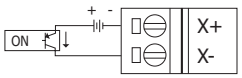
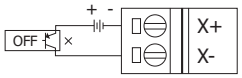


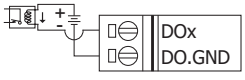
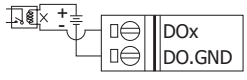
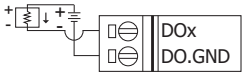
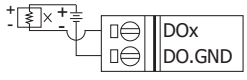
Pin Assignments



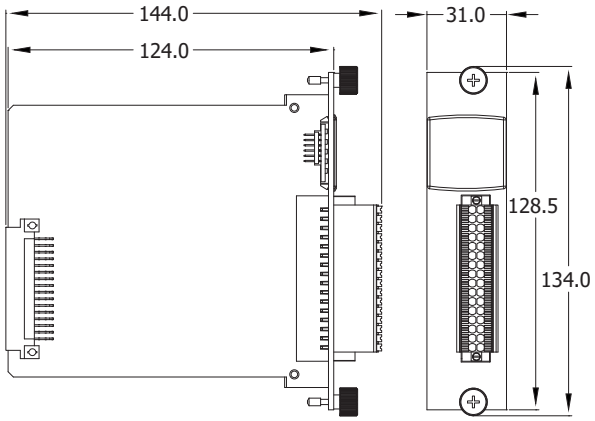
Pin Assignment	Terminal No.		Terminal No.	Pin Assignment
A0+	01		17	A0-
B0+	02		18	B0-
C0+	03		19	C0-
I0+	04		20	I0-
Trig0	05		21	ISO.GND
A1+	06		22	A1-
B1+	07		23	B1-
C1+	08		24	C1-
I1+	09		25	I1-
Trig1	10		26	ISO.GND
A2+	11		27	A2-
B2+	12		28	B2-
C2+	13		29	C2-
I2+	14		30	I2-
Trig2	15		31	ISO.GND
ISO5V	16		32	ISO.GND

Wire Connections

Input Type	ON State LED ON Readback as 1	ON State LED OFF Readback as 0
Relay Contact	Relay ON	Relay OFF
		
TTL/CMOS Logic	Voltage > 4 V	Voltage < 0.8 V
		
NPN Output	Open Collector ON	Open Collector OFF
		
PNP Output	Open Collector ON	Open Collector OFF
		

Output Type	ON State LED ON Readback as 1	ON State LED OFF Readback as 0
Drive Relay	Relay ON	Relay OFF
		
Resistance Load		

Dimensions (Units: mm)



Ordering Information

I-9093 CR	3-axis High-speed Encoder Module with Compare Trigger Output (RoHS)

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