

EtherCAT®



EC4-ENC2A/EC4-ENC4A

EtherCAT SubDevice Slim Module with Two / Four Channel BiSS-C/SSI Absolute Encoder Interface

Features

- On the fly processing: EtherCAT
- 2 / 4 channels, 48-bit absolute encoder Master
- Transmission interface: SSI, BiSS-C(unidirectional)
- Data encoding mode : Binary, Gray
- CRC generator polynomial can be customized, and the maximum setting is within CRC-8
- Support CRC bit Invert
- Maximum transmission pulse frequency : 10MHz
- Simultaneous sampling of each channel
- Supports Free-Run and Distributed Clock (DC) operation modes



Introduction

The EtherCAT SubDevice EC4-ENC4A and EC4-ENC2A are absolute encoder Master stations. EC4-ENC4A provides four channels, and EC4-ENC2A provides two channels. Each channel is independent of each other. It supports two serial transmission interfaces: SSI (Serial Synchronous Interface) and BiSS-C (BiSS Continuous Mode, unidirectional).

EC4-ENCxA also supports a maximum transmission frequency of 10MHz, a maximum transmission bit of 48bit(Including error bit, warning bit, CRC in BiSS-C mode), and Automatic compensation of cable delays in BiSS-C mode. The maximum cable length supported is 70 meters.

Specifications

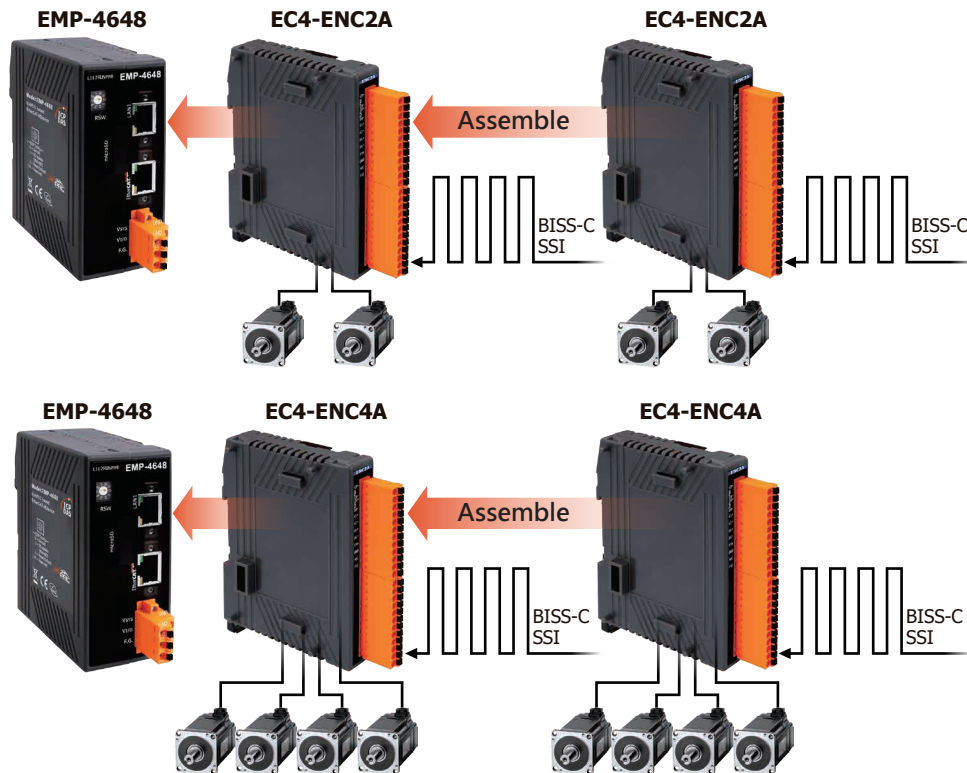
Model	EC4-ENC2A	EC4-ENC4A
Encoder Input		
No. of Axes	2x encoder channel (0-1)	4x encoder channel (0-3)
Resolution	max. 48 bit position	
Sampling Type	Simultaneous	
Photo-isolation	2000 V _{DC}	
Input Level	5V (default)	
Frequency	10MHz	
LED Indicators		
Status	Power, EtherCAT status	
EtherCAT		
Cycle Time	100 μs	200 μs
Distributed Clocks	Yes	
Power		
Input Range	+24 V _{DC}	
Consumption	Maximum 4.5W	
EMS Protection		
ESD (IEC 61000-4-2)	±4 KV Contact for each channel	
EFT (IEC 61000-4-4)	Signal: 1 KV Class B; Power: 1 KV Class B	
Mechanical		
Mechanical	Plastic	
Dimensions (mm)	17.5 × 108 × 90 (W × L × D)	
Installation	DIN-Rail or Wall Mounting	
Environment		
Operating Temperature	-25 ~ +75°C	
Storage Temperature	-30 ~ +80°C	
Humidity	10 ~ 90%, No condensation	

Ordering Information

ECAT-2072A CR	EtherCAT SubDevice Slim Module with Two Channel BiSS-C/SSI Absolute Encoder Interface (RoHS)
ECAT-2074A CR	EtherCAT SubDevice Slim Module with Four Channel BiSS-C/SSI Absolute Encoder Interface (RoHS)

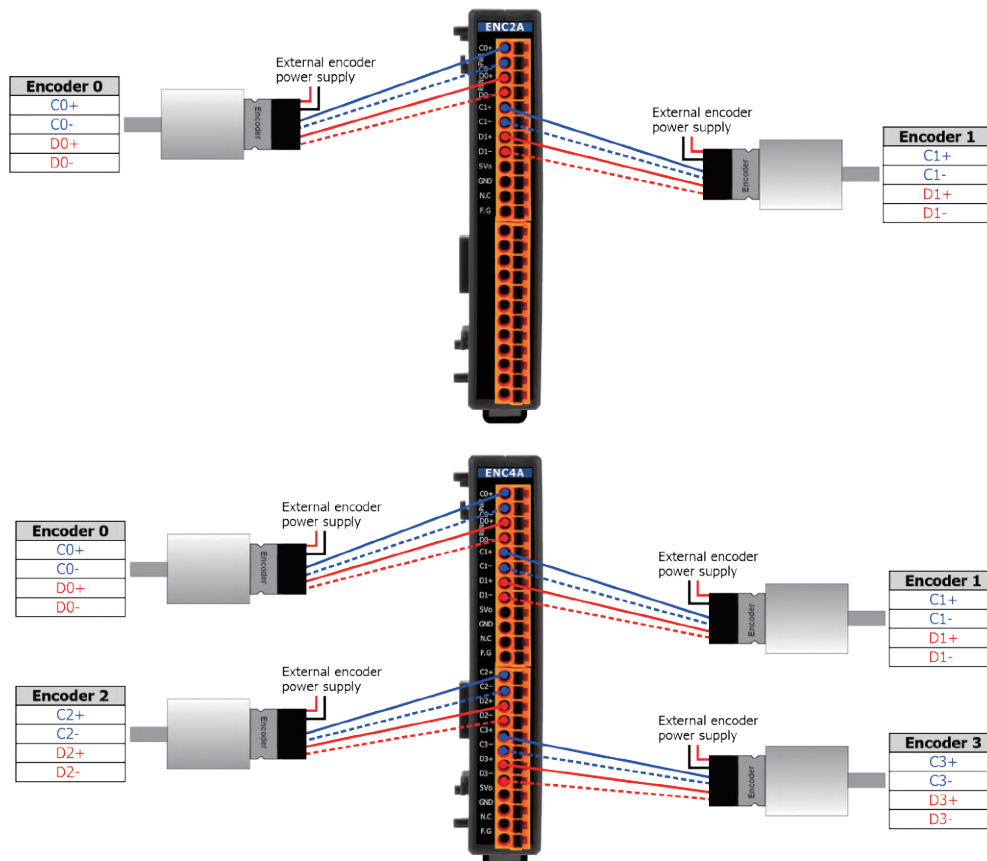
Applications

- Precision Position measurement



Encoder Connection

EC4-ENC2A / EC4-ENC4A can accept the absolute encoder input of SSI and BISS interface. By default it is set to support the BISS interface.



Connection Interfaces



Name	Signal	Signal Description	
C0+	Input	Encoder Input CLK0-	Encoder Channel 0
C0-	Input	Encoder Input CLK0+	
D0+	Input	Encoder Input Data0-	
D0-	Input	Encoder Input Data0+	
C1+	Input	Encoder Input CLK1-	Encoder Channel 1
C1-	Input	Encoder Input CLK1+	
D1+	Input	Encoder Input Data1-	
D1-	Input	Encoder Input Data1+	
5Vo	Output	+5V _{DC} , for testing only. For long-term use, please provide an external power supply for the encoder	
GND		0V	
F.G		Frame Ground	



Name	Signal	Signal Description	
C0+	Input	Encoder Input CLK0-	Encoder Channel 0
C0-	Input	Encoder Input CLK0+	
D0+	Input	Encoder Input Data0-	
D0-	Input	Encoder Input Data0+	
C1+	Input	Encoder Input CLK1-	Encoder Channel 1
C1-	Input	Encoder Input CLK1+	
D1+	Input	Encoder Input Data1-	
D1-	Input	Encoder Input Data1+	
5Vo	Output	+5V _{DC} , for testing only. For long-term use, please provide an external power supply for the encoder	
GND		0V	
F.G		Frame Ground	
C2+	Input	Encoder Input CLK2-	Encoder Channel 2
C2-	Input	Encoder Input CLK2+	
D2+	Input	Encoder Input Data2-	
D2-	Input	Encoder Input Data2+	
C3+	Input	Encoder Input CLK3-	Encoder Channel 3
C3-	Input	Encoder Input CLK3+	
D3+	Input	Encoder Input Data3-	
D3-	Input	Encoder Input Data3+	
5Vo	Output	+5V _{DC} , for testing only. For long-term use, please provide an external power supply for the encoder	
GND		0V	
F.G		Frame Ground	

Dimensions (Units: mm)

