



EtherCAT



ECAT-2074A

EtherCAT Four-Channel BISS-C/SSI Absolute Encoder Master

Features

- EtherCAT slave
- Four channels, 48-bit absolute encoder master
- Transmission interface: BISS-C, SSI
- 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
- EtherCAT:
 - ▶ 2 x RJ-45 bus interface
 - ▶ Supports Free-Run and Distributed Clock (DC) operation modes

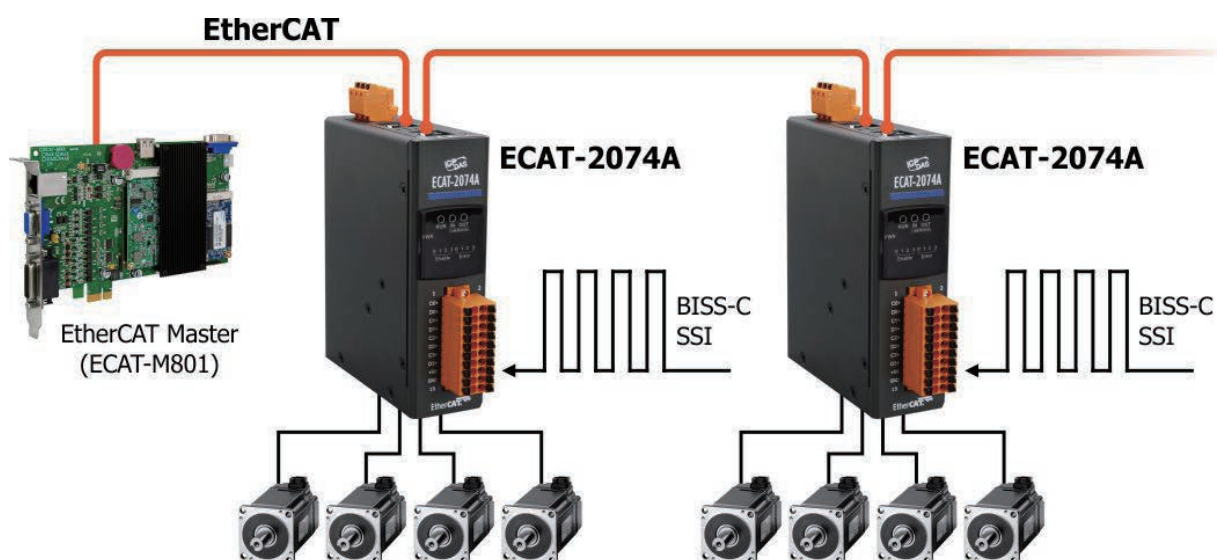


Introduction

The EtherCAT slave ECAT-2074A is an absolute encoder master. ECAT-2074A provides four channels. Each channel is independent of each other. It supports two serial transmission interfaces: SSI (Serial Synchronous Interface) & BiSS-C (BiSS Continuous Mode). ECAT-2074A 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.

Application

- Precision Position Measurement

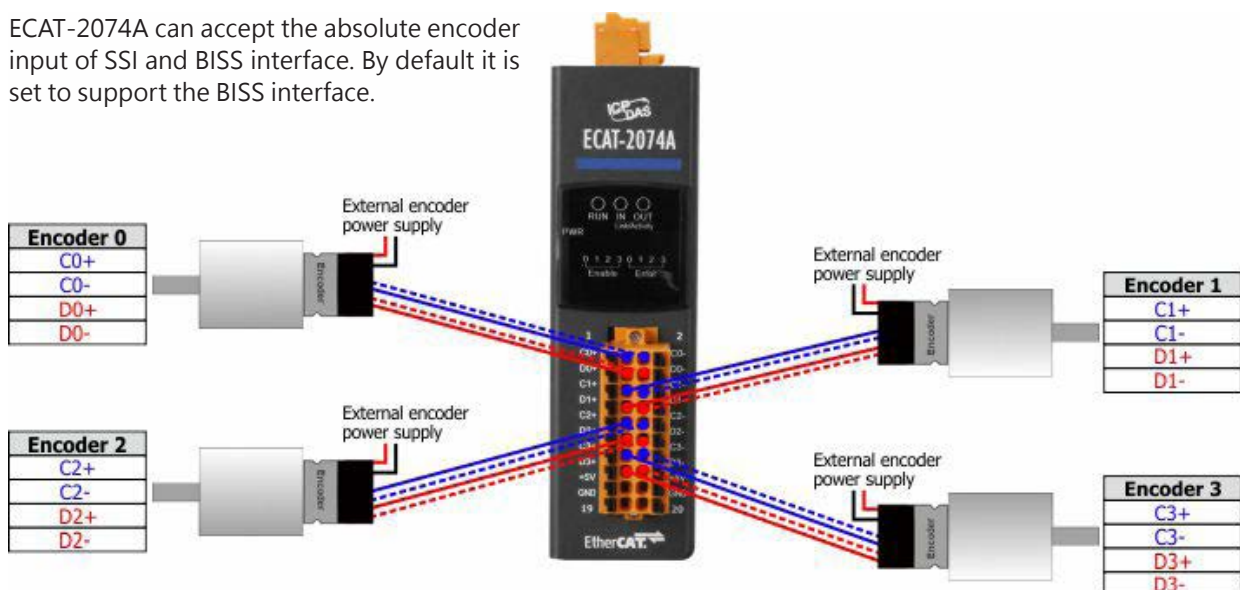


Specifications

Model	ECAT-2074A
Encoder	
Number of encoder inputs	4x encoder channel (0-3)
Sampling type	Simultaneous
Resolution	max. 48 bit position
Maximum input pulse frequency	10MHz
Input level	5V (default)
Photo-Isolation	2500 V _{DC}
LED Indicators	
Diagnostic LED	Power, EtherCAT status, signal status of each encoder input
Communication Interface	
Connector	2 x RJ-45
Protocol	EtherCAT
Distance between stations	Max. 100 m (100BASE-TX)
Data transfer medium	Ethernet/EtherCAT Cable (Min. CAT 5), Shielded
Power	
Input voltage range	20V ~ 30VDC
Power 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 A; Power: 1 KV Class A
Surge (IEC 61000-4-5)	1 KV Class A
Mechanism	
Installation	DIN-Rail
Dimensions (LxWxH)	110mm x 90mm x 33mm (without connectors)
Case material	UL 94V-0 housing
Environment	
Operating temperature	-25 ~ +75° C
Storage temperature	-30 ~ +80° C
Relative humidity	10 ~ 90% ,No condensation

Encoder Connection

ECAT-2074A can accept the absolute encoder input of SSI and BISS interface. By default it is set to support the BISS interface.



Connection Interfaces



Power supply and EtherCAT interfaces

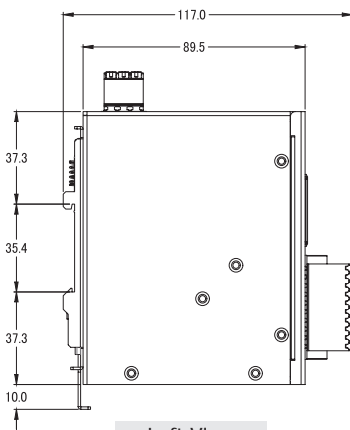
Name	Signal	Description
F.G	Frame ground	
GND	Power supply: Ground 0V (from negative power contact)	Feeding for ECAT-2074A
+Vs	Power supply: +24 VDC (from positive power contact)	
IN	EtherCAT signal input	Incoming EtherCAT cable
OUT	EtherCAT signal output	Outgoing EtherCAT cable



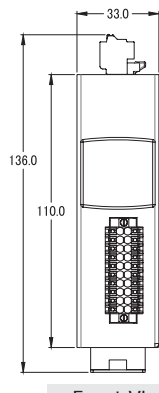
Connection interfaces of the encoder

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+	
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+	
+5V		+5VDC	
GND		0V	

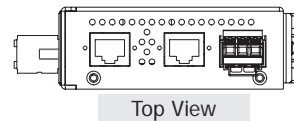
Dimensions (Units: mm)



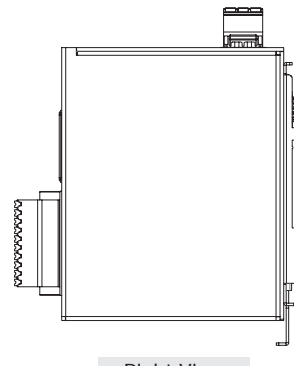
Left View



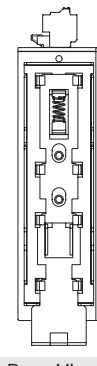
Front View



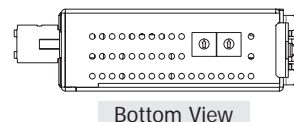
Top View



Right View



Rear View



Bottom View

Ordering Information

ECAT-2074A CR	EtherCAT Four-Channel BISS-C/SSI Absolute Encoder Master (RoHS)
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