

EtherCAT®



### ECAT-2074A

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

#### Features

- EtherCAT SubDevice
- 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

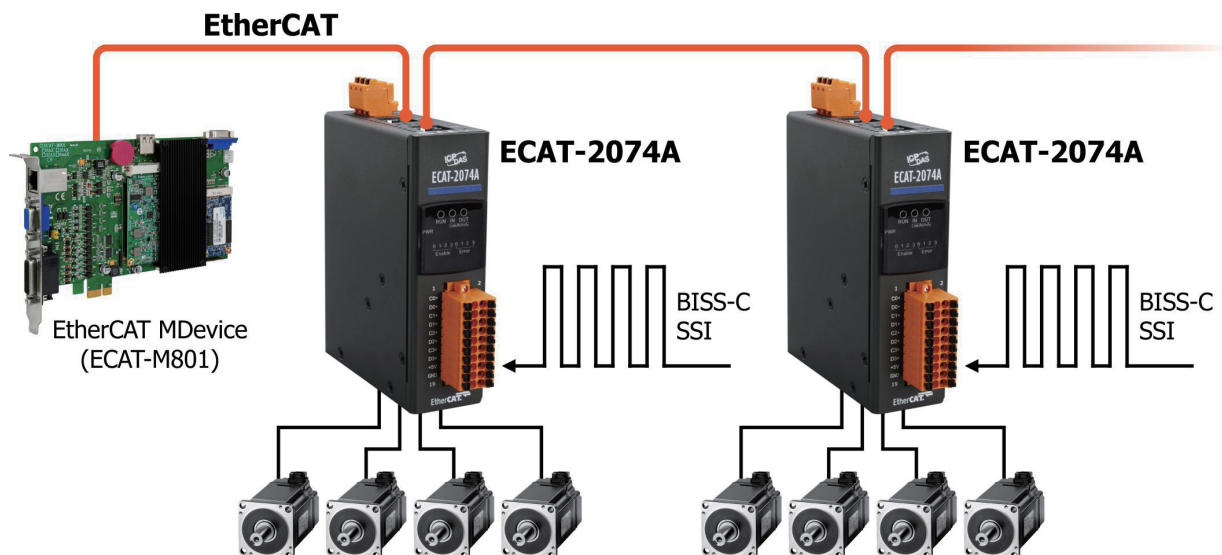


#### Introduction

The EtherCAT SubDevice 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

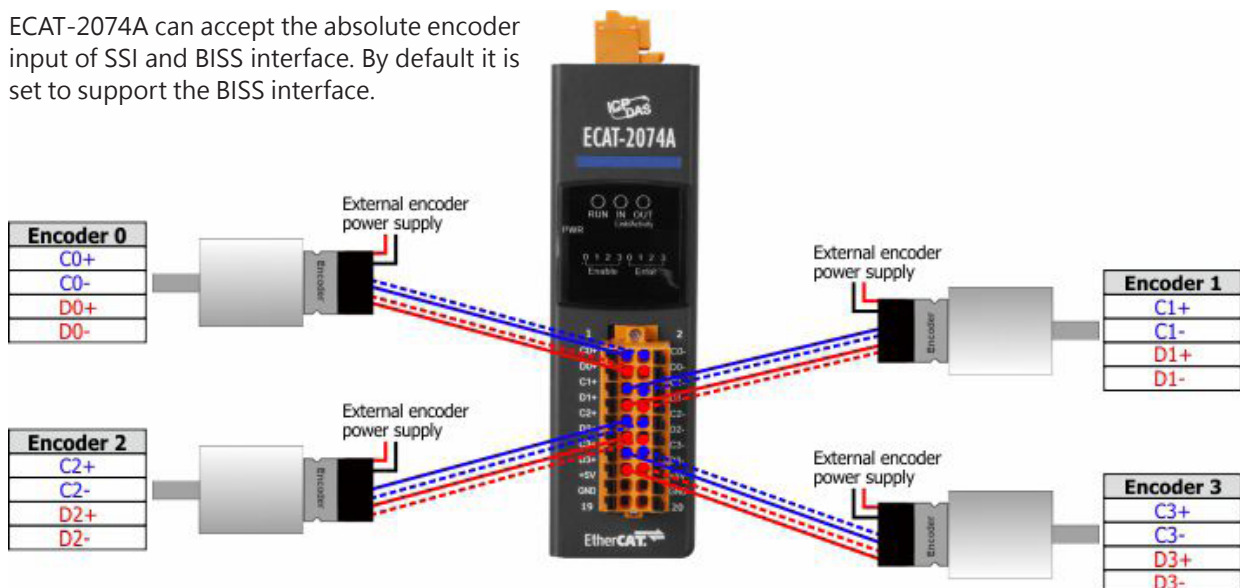


## Specifications

Model	ECAT-2074A
<b>Encoder</b>	
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 <sub>DC</sub>
<b>LED Indicators</b>	
Diagnostic LED	Power, EtherCAT status, signal status of each encoder input
<b>Communication Interface</b>	
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
<b>Power</b>	
Input voltage range	20V ~ 30VDC
Power consumption	Maximum 4.5W
<b>EMS Protection</b>	
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
<b>Mechanism</b>	
Installation	DIN-Rail
Dimensions (LxWxH)	110mm x 90mm x 33mm (without connectors)
Case material	UL 94V-0 housing
<b>Environment</b>	
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

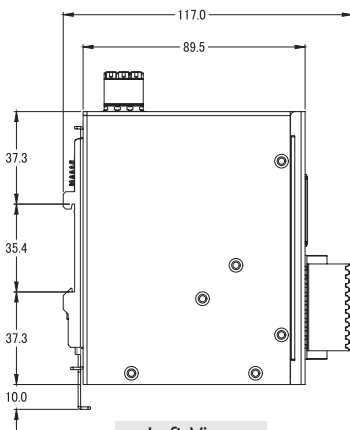
Name	Signal	Description
F.G	Frame ground	
GND	Power supply: Ground 0V (from negative power contact)	Feeding for ECAT-2074A
+Vs	Power supply: +24 VDC (from positive power contact)	
IN	EtherCAT signal input	Incoming EtherCAT cable
OUT	EtherCAT signal output	Outgoing EtherCAT cable



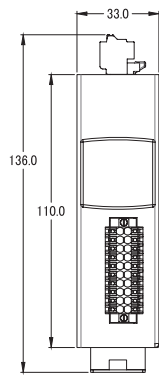
Connection interfaces of the encoder

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	

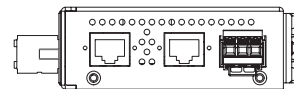
## Dimensions (Units: mm)



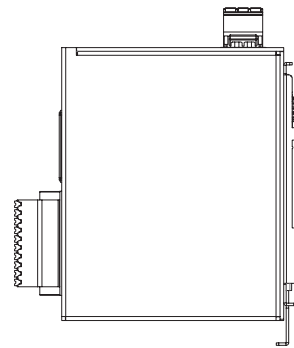
Left View



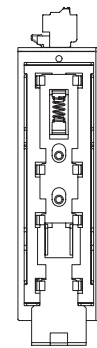
Front View



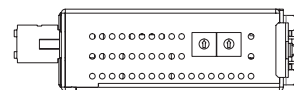
Top View



Right View



Rear View



Bottom View

## Ordering Information

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