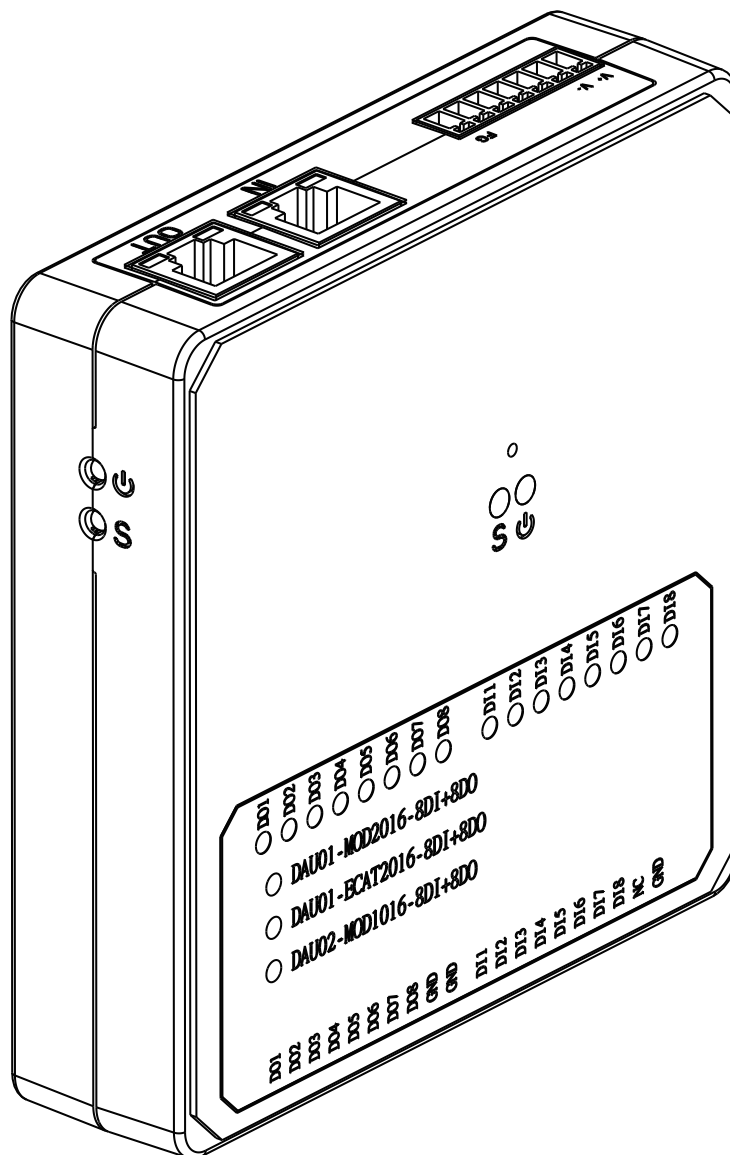


Model: DAU01-ECAT2012-8DI+4RLY

## Winsonic EtherCat Remote IO user manual Rev. 1.0

Model: DAU01-ECAT2012-8DI+4RLY



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## 1. Introduction

The DAU01-ECAT2012-8DI+4RLY series are industrial EtherCAT slave remote I/O modules and equipped with the EtherCAT protocol and installed by daisy chain connection which permits the flexibility in devices installation and reduces infrastructure and operation costs. All the modules can be deployed in the network topologies such as daisy chain or ring. The isolated input and output design protects the DAU01-ECAT2012-8DI+4RLY against the harmful interference and environment.

The DAU01-ECAT2012-8DI+4RLY provide industrial digital input and output connection in combination with service-friendly wiring of supply voltage.

The 100BASE-TX EtherCAT<sup>®</sup> interface is compatible to IEEE 802.3.

Configuration is done by EtherCAT<sup>®</sup> master (XML file).

The module is designed for din rail mounting in a control enclosure.

The DAU01-ECAT2XXX series are comply the EtherCAT protocol there for eligible EtherCAT Master or configurator can manipulate it simply and implement your various applications easily. Fig 1.1 is shown a typical EtherCAT application.

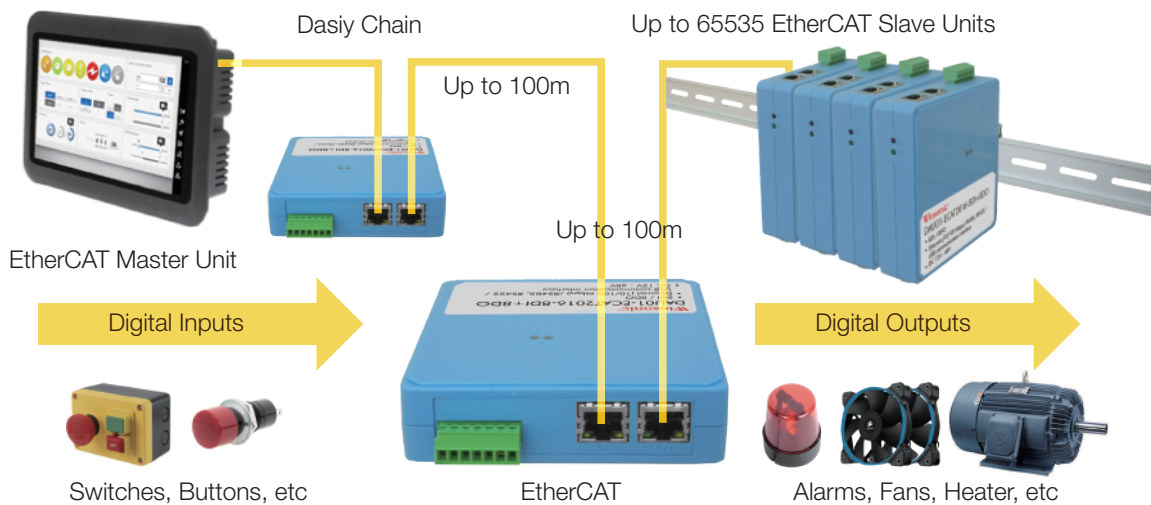


Figure 1.1 Typical Application of DAU01-ECAT2XXX series

## 2. Hardware Information

### 2.1 DAU01-ECAT2012-8DI+4RLY General Technical Data

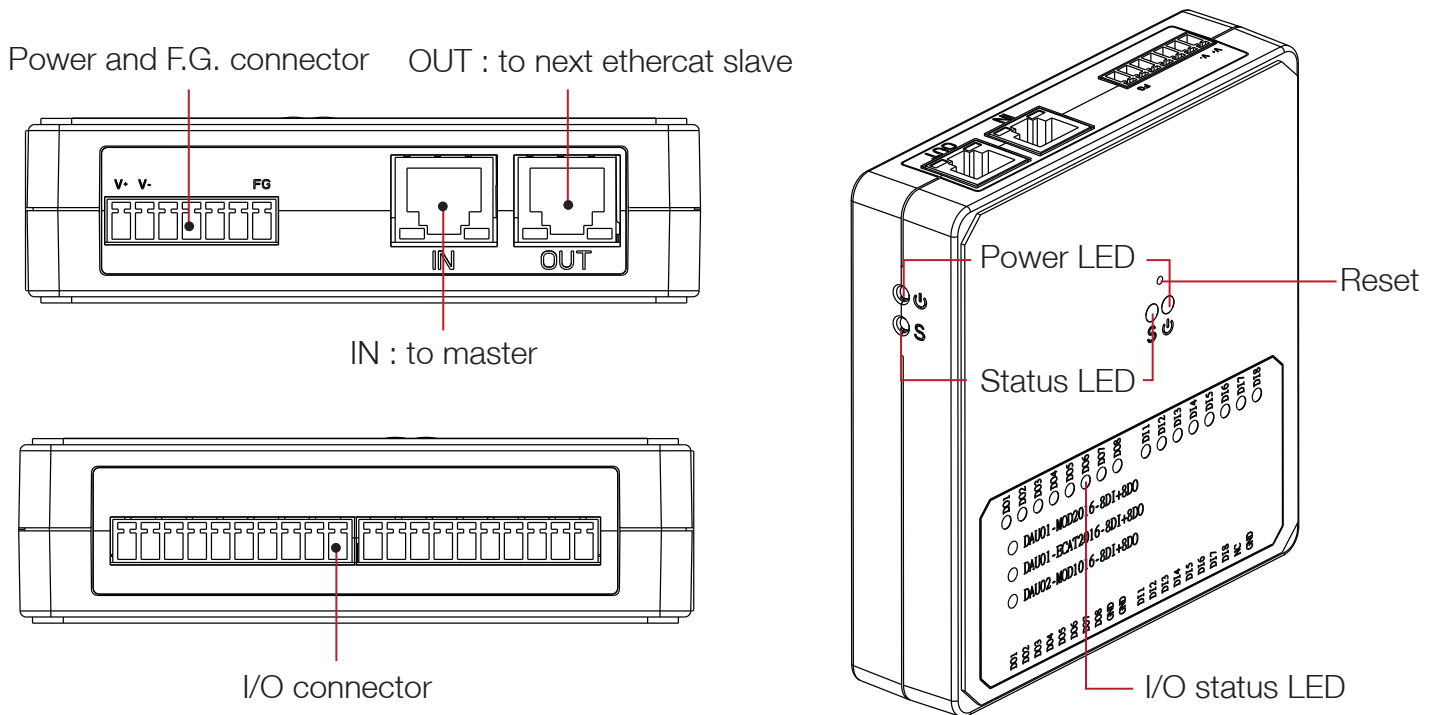


Figure 2.1 Appearance of DAU01-ECAT2016-8DI+8DO


#### 2.1.1 Ethercat Interface

Notation	Description
IN	Ethercat data processing, direction to the Ethercat master or next slave device OUT.
OUT	Ethercat data processing, direction to the next slave device IN or Ethercat master .

## 2.1.2 Power and FG connector

Notation	Description
V+	Power supply with 12V~48V DC ( $\pm 10\%$ )
V-	Power supply GND
FG	Frame Ground, Earth GND

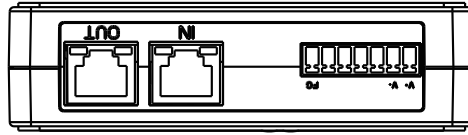
## 2.1.3 Power LED

Notation	Color	State	Description
	Red	ON	The power on

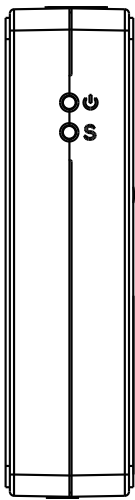
## 2.1.4 Status LED

Notation	Color	States	Description
S	Green	Off	The device is in state INIT
		Blinking(on 200ms, off 200 ms)	The device is in state Pre-Operational
		Single Flash(on 200ms, off 1000 ms)	The device is in state Safe-Operational
		On	The device is in state Operational
		Flickering(on 50ms,off 50ms)	The device is booting and has not yet entered the INIT state, or the device is in the BOOTSTRAP state and firmware downloaded is in progress.(Optional, Off when not implemented)

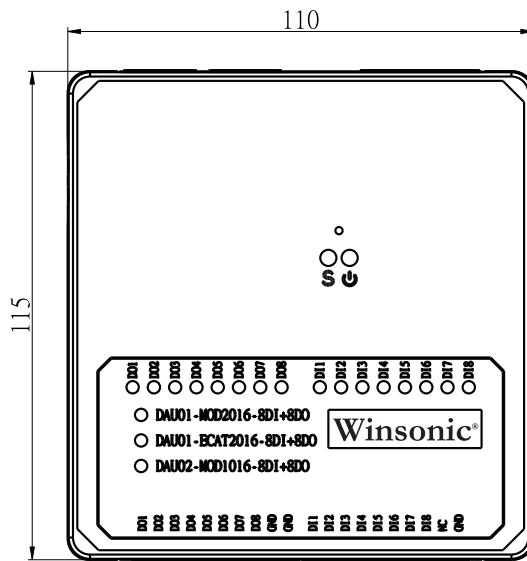
## 2.1.5 Dimensions



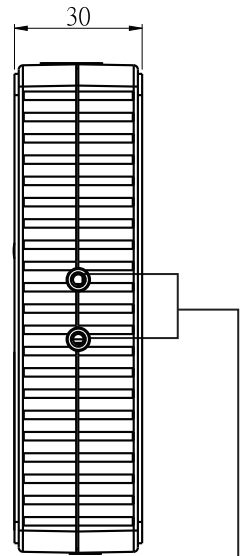
Top view



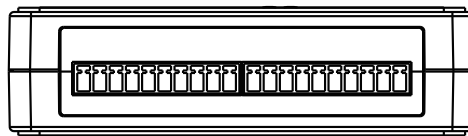
Left side view



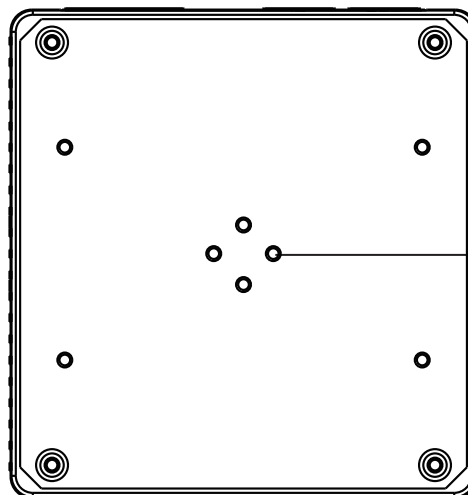
Front view



Right side view



Bottom view



Rear view

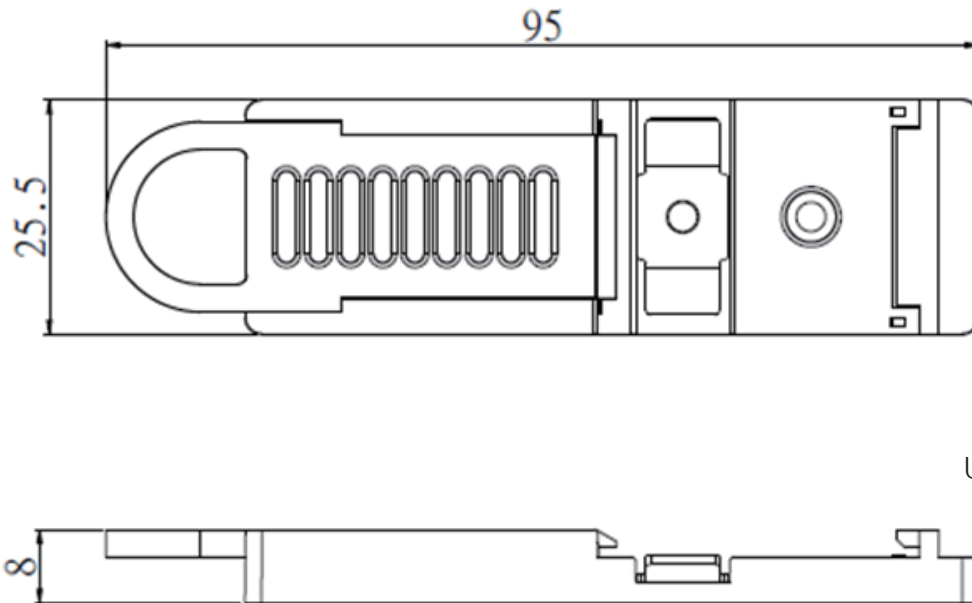
DIN Rail screw hole

Unit:mm

Model: DAU01-ECAT2012-8DI+4RLY

## 2.1.6 DIN Rail Hook

Provided the din rail hook and dimension as below and screw the hook to the housing then hook it on the din rail.



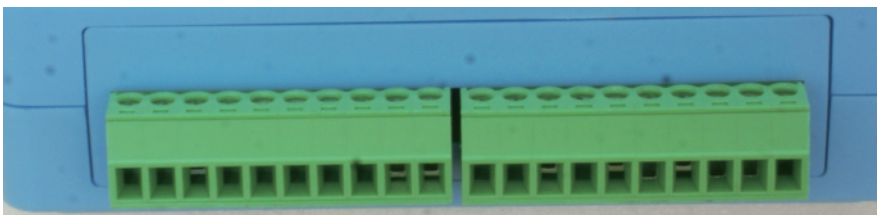
Unit:mm

## 2.1.7 Terminal Block

Provided the 1x 7 pin terminal block plugged to the Power connector and 2 x 10 pin terminal blocks plugged to the IO connector. See the Figure



1 x7 pin power terminal block wired to the Power.



2 x 10 pin terminal block wired to the Input/Output device.



Model: DAU01-ECAT2012-8DI+4RLY

## 2.2 DAU01-ECAT2012-8DI+4RLY IO technical data

The DAU01-ECAT2012-8DI+4RLY is an industrial EtherCAT slave I/O module which is built in 8 digital input and 4 Relay outputs. Users can obtain the input and output status not only via the process data but also from its LED indicators

### 2.2.1 Specifications

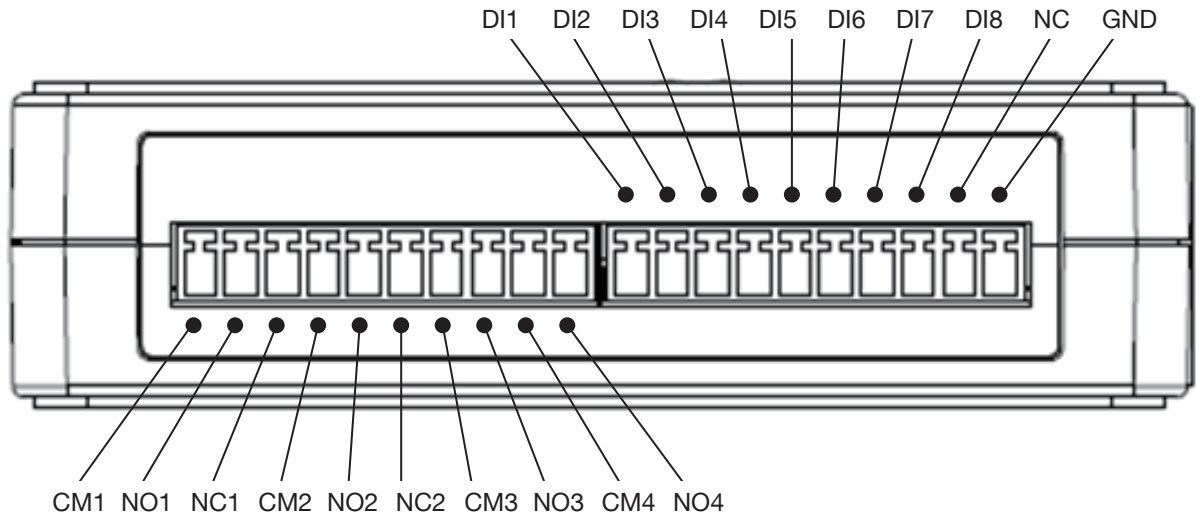
Digital Input	
Channels	8
Input type	Wet/Dry
Off voltage level	1V
On voltage level	3.5V ~ 24 V
LED	8 LEDs reflecting the DI pin status

Relay		
Channels	4	
Relay Type	Signal Relay Form A x 2, Form C x 2	
Spec.	Contact Rating	0.6A @ 125 VAC, 2A@30 VDC
	Min. Contact Load	10 uA@ 10 mV
	Contact Material	Gold-plated Silver
	Operate Time	3 ms
	Release Time	2 ms
	Mechanical Endurance	1 x 10 <sup>8</sup> ops.
	Electronic Endurance	5 x 10 <sup>5</sup> ops.

Model: DAU01-ECAT2012-8DI+4RLY

Communication Interface	
Connector	2 x RJ-45
Protocol	Ethercat
Distance between Station	Max. 100m(100 Base-Tx)
Data transfer Medium	Ethernet/Ethercat Cable(Min. Cat5), Shielded
Power	
Input Voltage Range	12V~48V DC ( $\pm 10\%$ )
Power Consumption	Max 2.7W(24VDC)
Mechanicism	
Installation	DIN-Rail
Dimension	115mmx110mmx30mm
Environment	
Operating Temperature	-25°C ~75°C
Storage Temperature	-30°C~80°C
Relative Hummidity	10~90%, No Condensation

## 2.2.2 I/O connector (pin assignment)



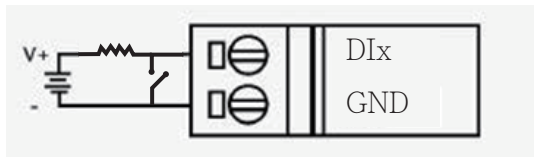
## 2.2.3 I/O Status LED

Notation	Color	States	Description
DI	Green	Off	The input voltage is High
		On	The input voltage is Low

## 2.2.4 Wire Connection

Digital Input

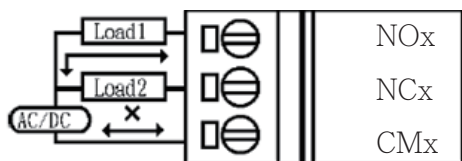
Wet Contact



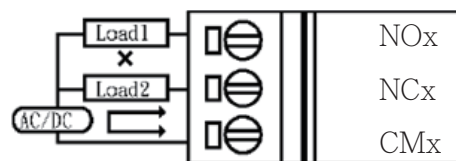
Dry Contact



Relay output Form C in RLY1 and RLY2. Relay ON is Open, Relay OFF is Closed



Relay ON

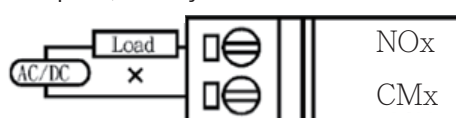


Relay OFF

Relay output Form A in RLY1 and RLY2. Relay ON is Open, Relay OFF is Closed



Relay ON



Relay OFF

## 3. Software Communication

### 3.1 Startup

EtherCAT devices are described in an XML file, ESI (EtherCAT Slave Information) file, which describes the modules of the DAU01-ECAT2012-8DI+4RLY series named "DAU01-ECAT2016-8DI+4RLY-NODC.xml."

1. Download the ESI file, DAU01- ECAT2016-8DI+4RLY-NODC.xml, from the website <http://www.ewinsonic.com/>
2. Copy the file "DAU01-ECAT2016-8DI+4RLY-NODC.xml" to the destination folder of EtherCAT Master Tools(Beckhoff EtherCAT Configurator or TwinCAT etc.)  
C:\EtherCAT Configurator\EtherCAT\DAU01-ECAT2016-8DI+4RLY-NODC.xml  
C:\TwinCAT\lo\EtherCAT\DAU01-ECAT2016-8DI+4RLY-NODC.xml

Otherwise, if you are using another tool, to the folder set for that tool.

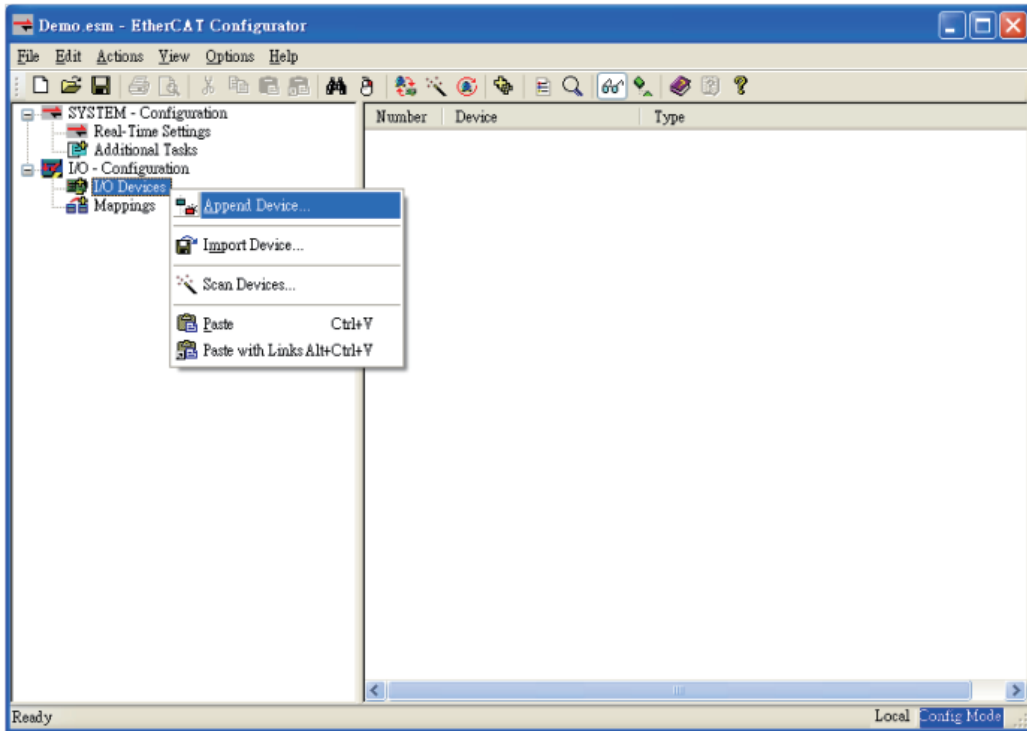
### 3.2 Configuration

This section is described the configuration using the example of DAU01-ECAT2016-8DI+4RLY and the EtherCAT Configurator supplied by Beckhoff. Otherwise, if another tool is used, choose a configuration method as applicable.

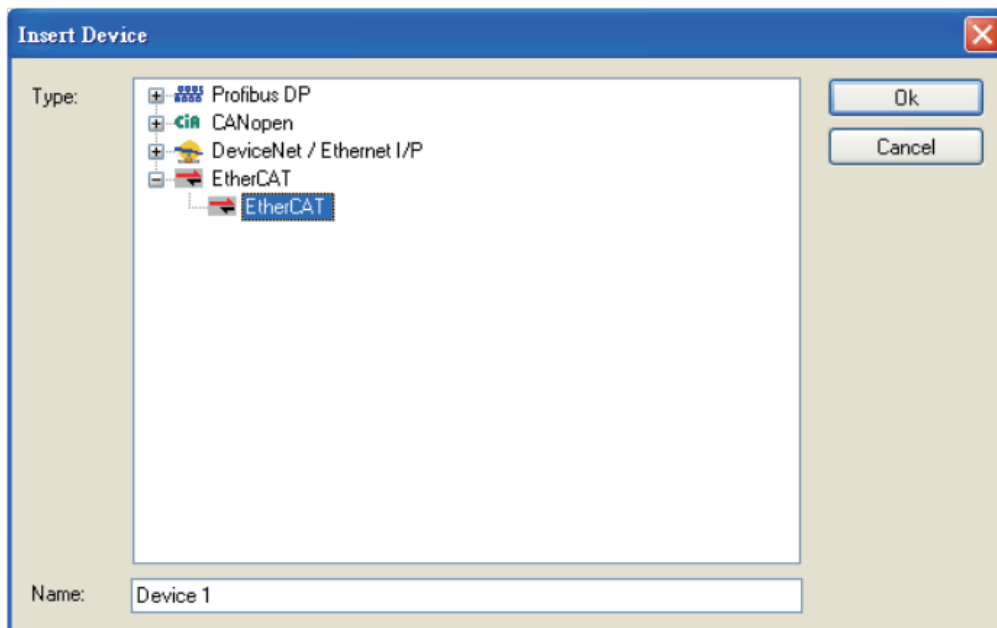
1. Start your EtherCAT Configurator.
2. Choose File, New to create a new I/O Configuration

Model: DAU01-ECAT2012-8DI+4RLY

3. Click I/O Device with the right mouse button and choose Append Device... in the menu, and then the dialog window Insert Device is opened



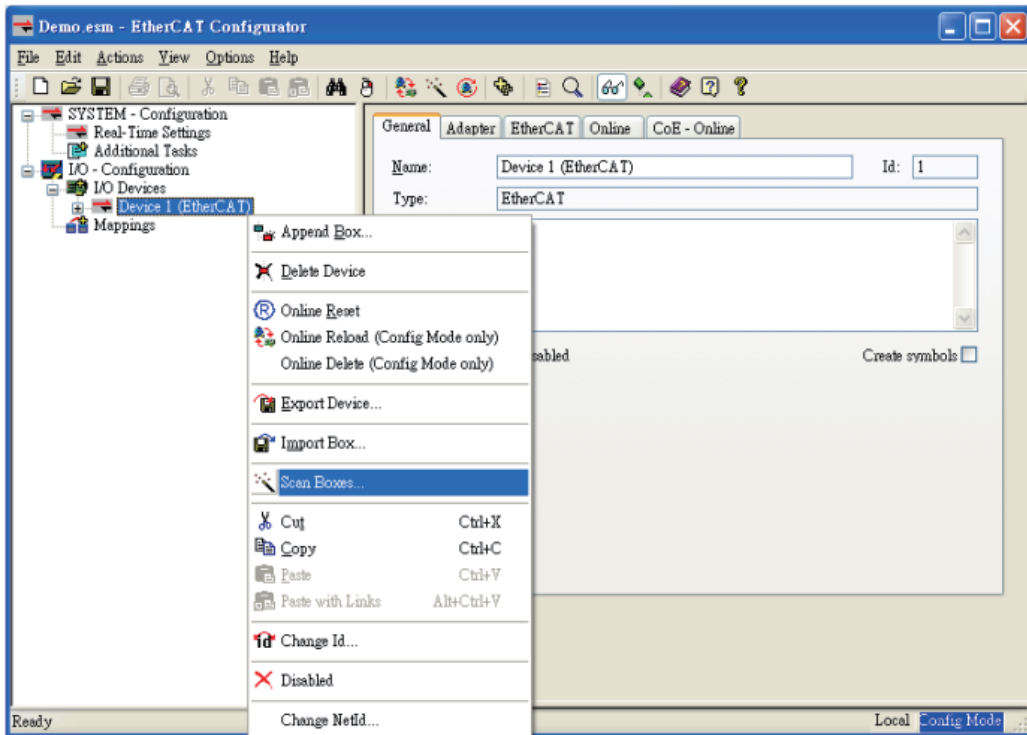
4. Select the EtherCAT type in this dialog window and confirm with OK.



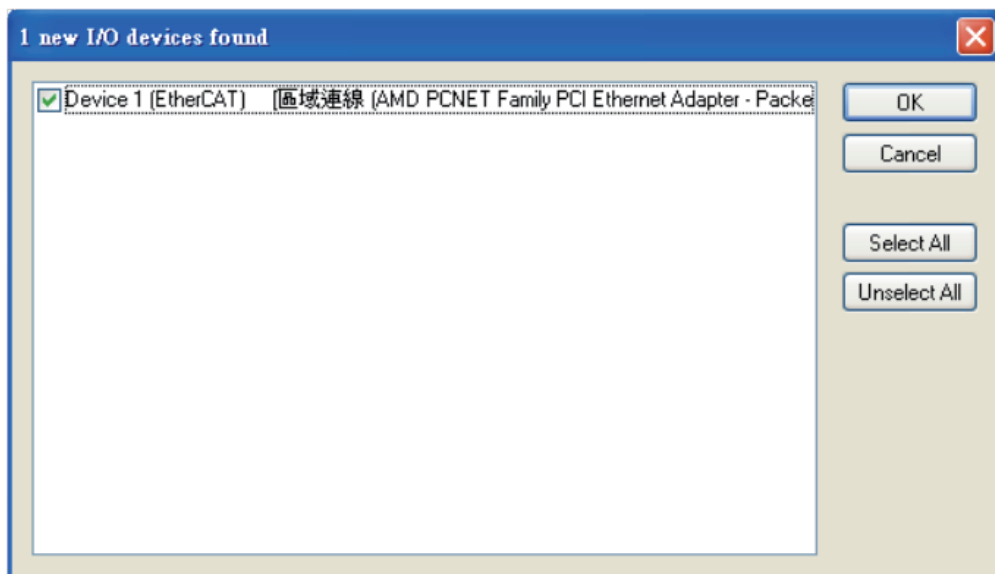
Model: DAU01-ECAT2012-8DI+4RLY

5. Device 1 (EtherCAT) is added to your configuration, i.e. a new EtherCAT line.

Click Device 1(EtherCAT) with the right mouse button and choose **Scan Boxes...** in the menu.

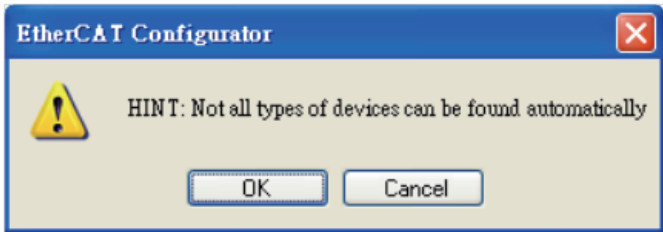


6. Choose the correct network device which is connected to DAU01-ECAT2016-8DI+4RLY.



Model: DAU01-ECAT2012-8DI+4RLY

7. If the hint is shown, click Yes/OK and continue.



8. Click Yes to start scanning for DAU01-ECAT2012-8DI+4RLY

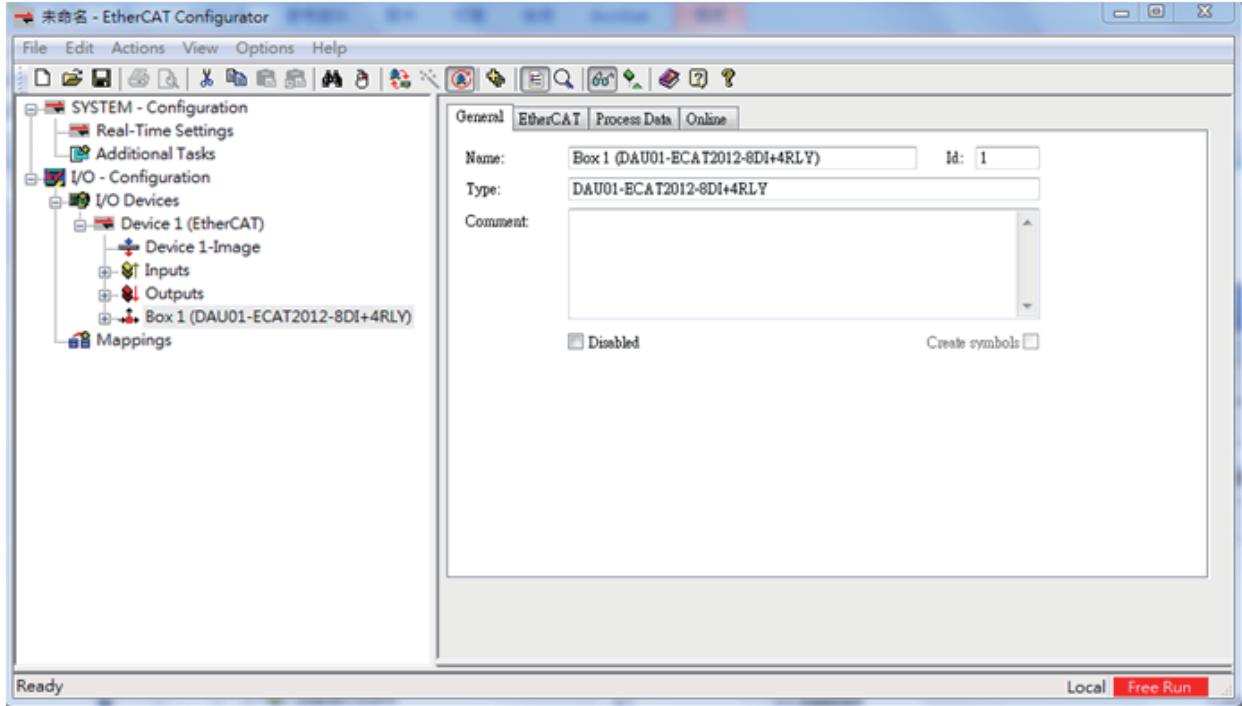


9. Click Yes to activate the free run mode for EtherCAT Configurator.

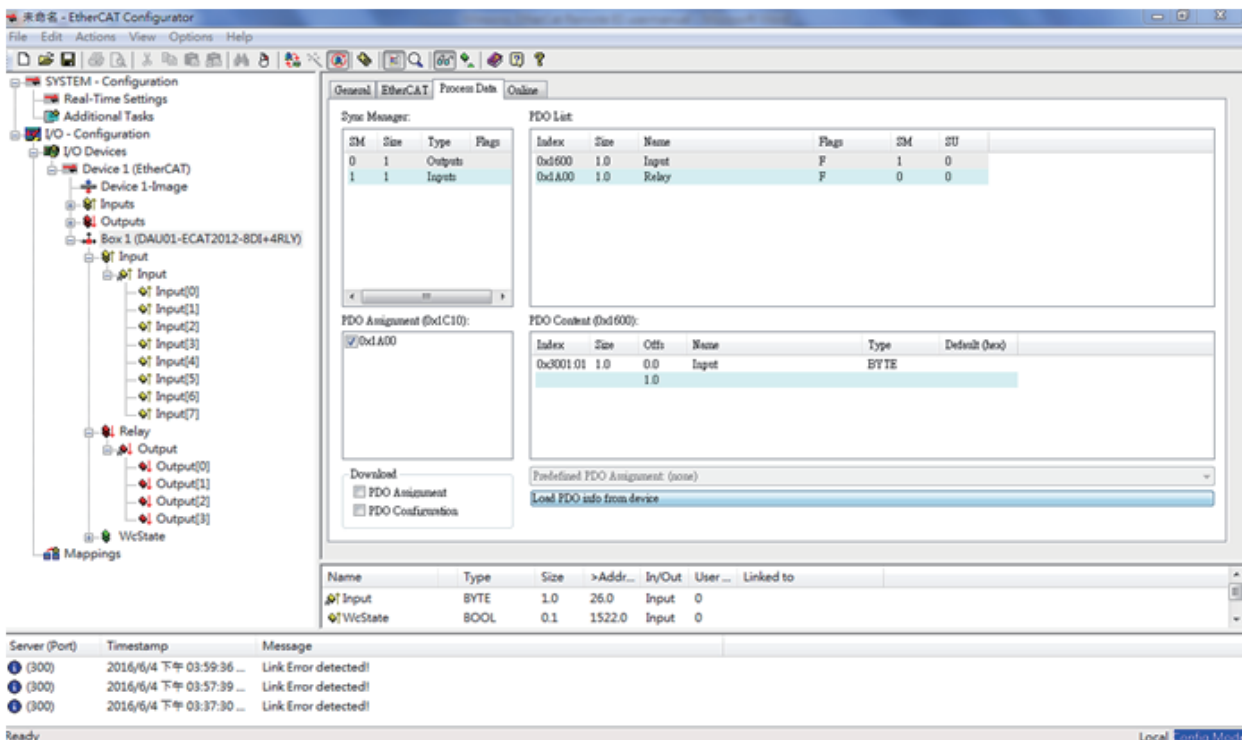


Model: DAU01-ECAT2012-8DI+4RLY

10. The DAU01-ECAT2016-8DI+4RLY (Box 1) is now shown in the EtherCAT Configurator.



11. The input and output variables contained in the ESI (\*.xml) file of the DAU01-ECAT2012-8DI+4RLY are displayed as Box1 with input channel 0 ~ 7 mapping to the DAU01-ECAT2012-8DI+4DO 1~8 input channel and the Relay output channel 0 ~ 3 mapping to the DAU01-ECAT2012-8DI+4RLY 1~4 Relay output channels.





## 4. Appendix

### 4.1 Order information

Ethercat DIO module	
DAU01-ECAT2012-8DI+4RLY	Ethercat IO unit with 8Digital Input,4 Relay output

### 4.2 Technical Support

If you have any difficulties using your DAU01-ECAT2012-8DI+4RLY series modules, please contact us or send a description for the problem to [sales@ewinsonic.com](mailto:sales@ewinsonic.com).