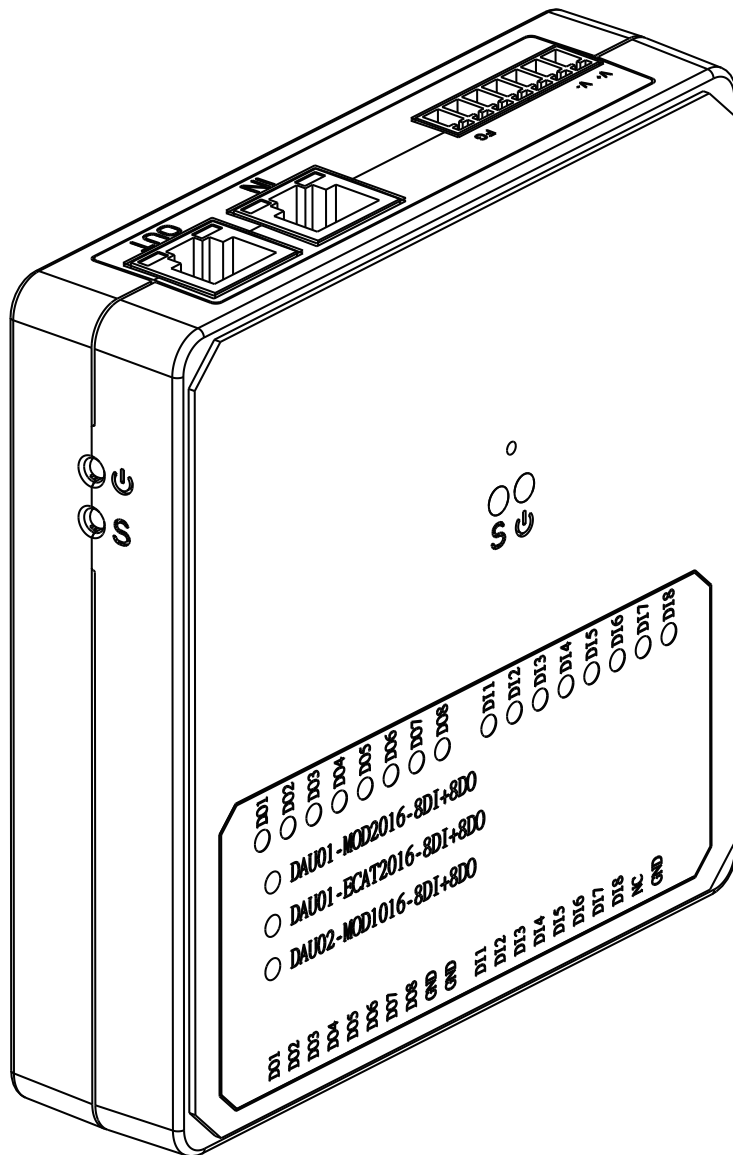# Winsonic EtherCat Remote IO user manual Rev. 1.0

Model: DAU01-ECAT2216-16DO

LEGAL NOTICE

Warranty

All products manufactured by Winsonic are under warranty regarding defective materials for a period of one year, beginning from the date of delivery to the original purchaser.

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Model: DAU01-ECAT2216-16DO

Table of Contents

1. Introduction

The DAU01-ECAT2216-16DO series are industrial EtherCAT slave remote output 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-ECAT2216-16DO against the harmful interference and environment.

The DAU01-ECAT2216-16DO provided industrial digital output connection in combination with service-friendly wiring of supply voltage.
The 100BASE-TX EtherCAT® interface is compatible to IEEE 802.3.
Configuration is done by EtherCAT® 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.
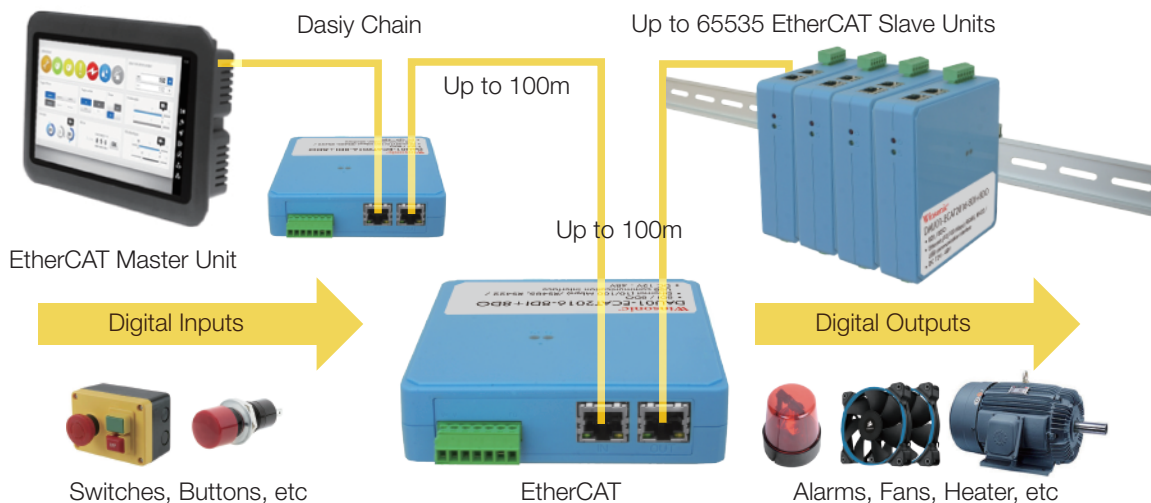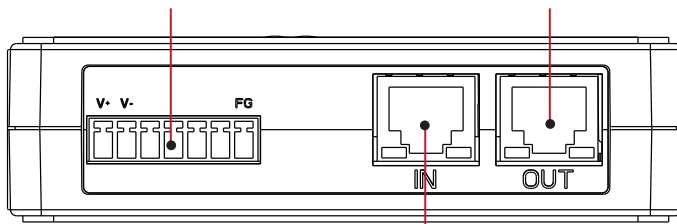

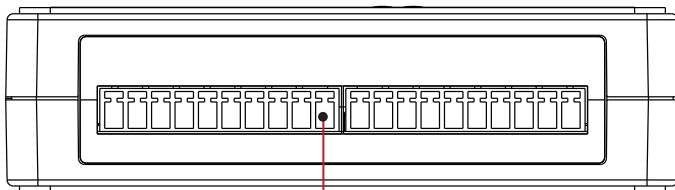*Figure 1.1 Typical Application of DAU01-ECAT2XXX series*

2. Hardware Information

2.1 DAU01-ECAT2216-16DO General Technical Data
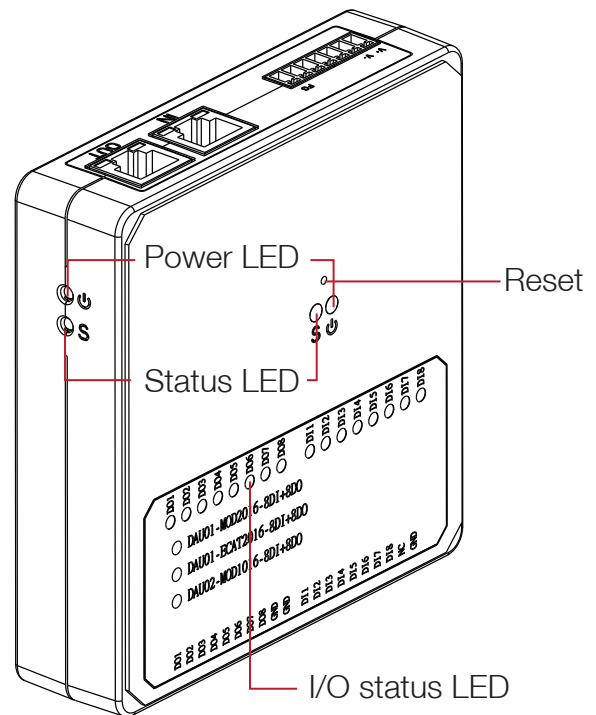
Figure 2.1 Appearance of DAU01-ECAT2016-8DI+8DO

2.1.1 Ethercat Interface

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

2.1.2 Power and FG connector

Notation	Description
V+	Power supply with 12V~48V DC (±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

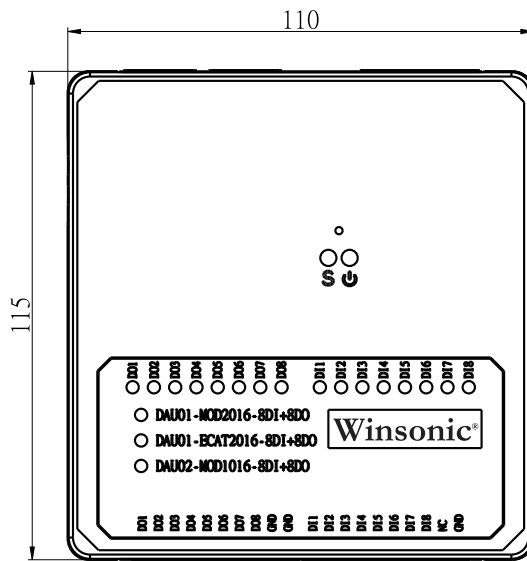| Notation	Color	States	Description
S	Green	Off	The device is in state INIT
		Blinking(on 200ms, off 200 ms)	The device is in state Pre-Operational
		Single Flash(on 200ms, off 1000 ms)	The device is in state Safe-Operational
		On	The device is in state Operational
		Flickering(on 50ms,off 50ms)	The 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)

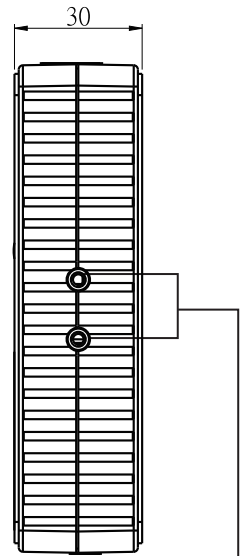## Model: DAU01-ECAT2216-16DO
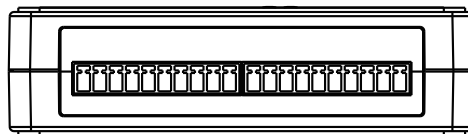
2.1.5 Dimensions

Top view

110

115

30
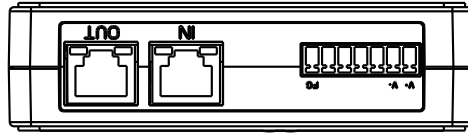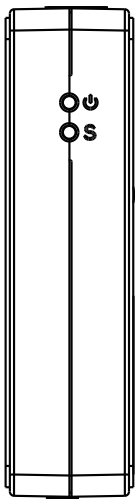
Left side view

Front view

DAU01-MOD2016-8DI+8DO
DAU01-ECAT2016-8DI+8DO
DAU02-MOD1016-8DI+8DO

Winsonic®

Right side view
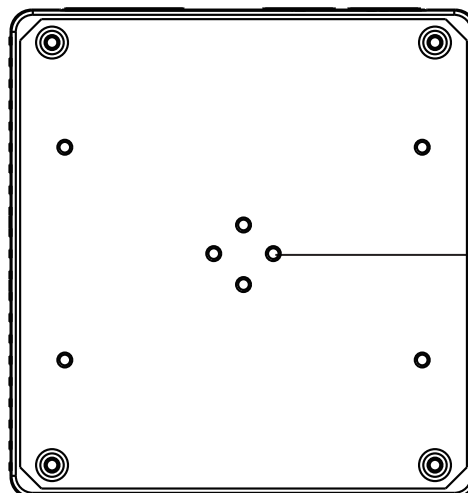
Bottom view
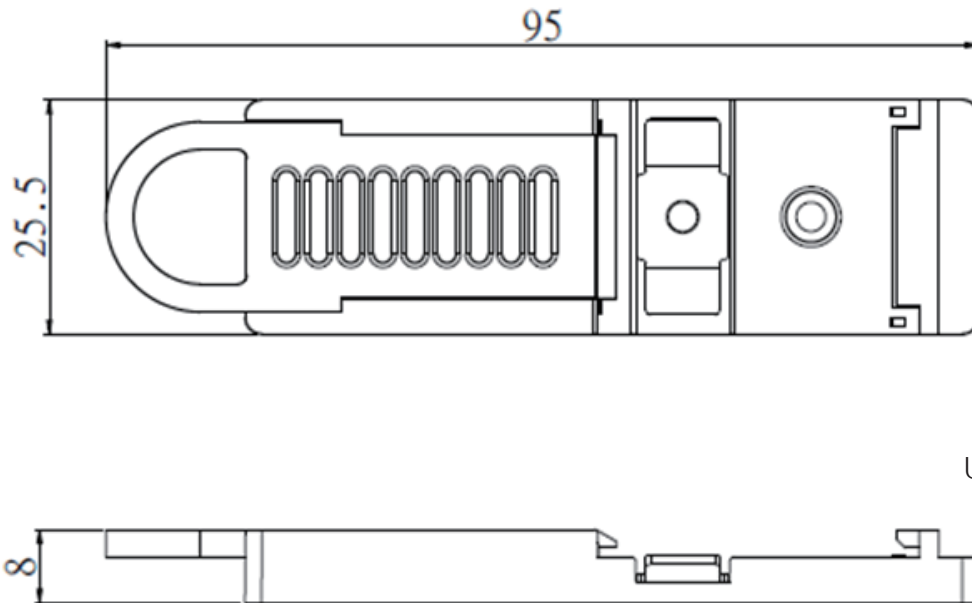
DIN Rail screw hole

Unit:mm

Rear view

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.
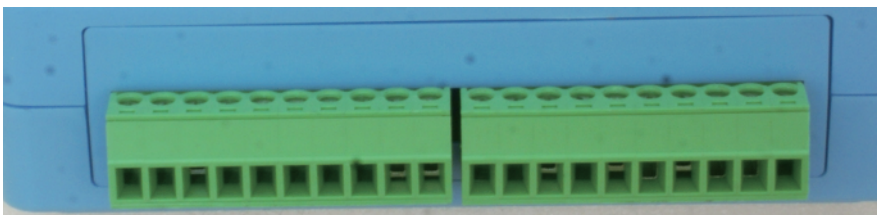

Unit:mm

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.
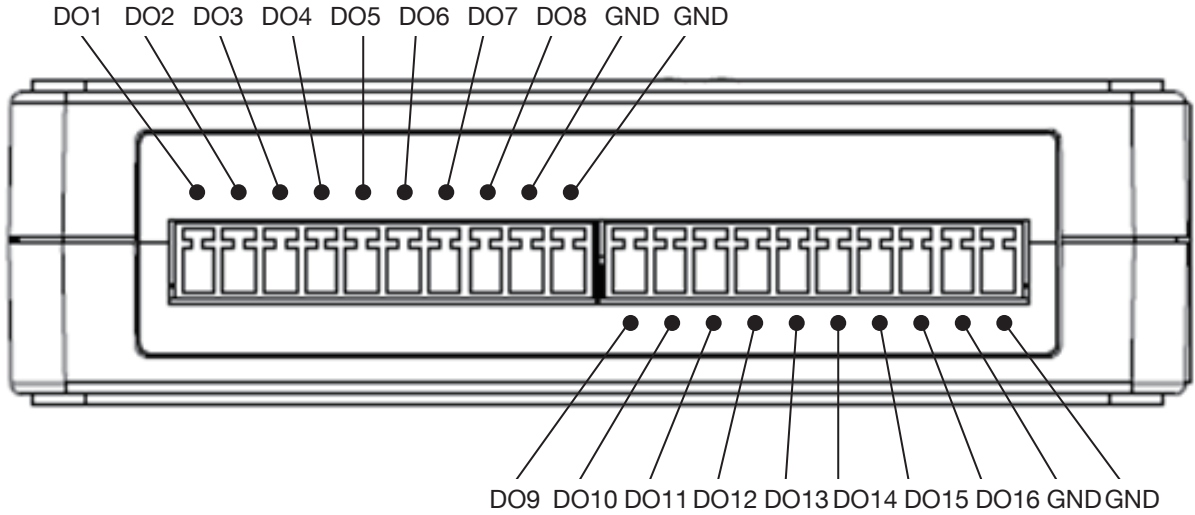
Model: DAU01-ECAT2216-16DO

2.2 DAU01-ECAT2216-16DO IO technical data

The DAU01-ECAT2216-16DO is an industrial EtherCAT slave I/O module which is built in 16 digital 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 Output	
Channels	16
Output type	Open collector
Load voltage	4.5 ~32 VDC
LED	16 LEDs reflecting the DO pin status
Communication Interface	
Conncetor	2 x RJ-45
Protocal	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 (±10%)
Power Consumption	Max 2.7W(24VDC)
Mechanicism	
Installation	DIN-Rail
Dimension	115mmx110mmx30mm
Environment	
Operating Temperature	-25℃ ~75℃
Storage Temperature	-30℃~80℃
Relative Hummidity	10~90%, No Condensation

Model: DAU01-ECAT2216-16DO

2.2.2 I/O connector (pin assignment)

DO1 DO2 DO3 DO4 DO5 DO6 DO7 DO8 GND GND

DO9 DO10 DO11 DO12 DO13 DO14 DO15 DO16 GND GND

2.2.3 I/O Status LED

Notation	Color	States	Description
DO	Green	Off	The output voltage is High
		On	The output voltage is Low

2.2.4 Wire Connection

Digital Output

V+
Pull Up
DOx
GND
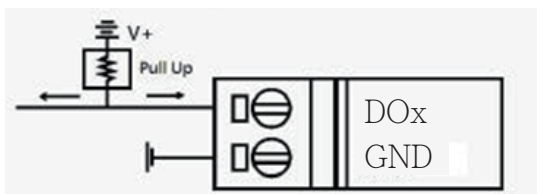
3. Software Communication

3.1 Startup

EtherCAT devices are described in an XML file, ESI (EtherCAT Slave Information) file, which describes the modules of the DAU01-ECAT2216-16DO named "DAU01-ECAT2216-16-DO-NODC.xml."

1. Download the ESI file, DAU01-ECAT2216-16DO-NODC.xml, from the website
   http://www.ewinsonic.com/

2. Copy the file "DAU01-ECAT2216-16DO-NODC.xml" to the destination folder of EtherCAT Master Tools(Beckhoff EtherCAT Configurator or TwinCAT etc.)
   C:\EtherCAT Configurator\EtherCAT\DAU01-ECAT2216-16DO-NODC.xml
   C:\TwinCAT\Io\EtherCAT\DAU01-ECAT2216-16DO-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-ECAT2216-16DO and the EtherCAT Configurator supplied by Beckhoff. Otherwise, if another tool is used, choose a configuration met hod as applicable.
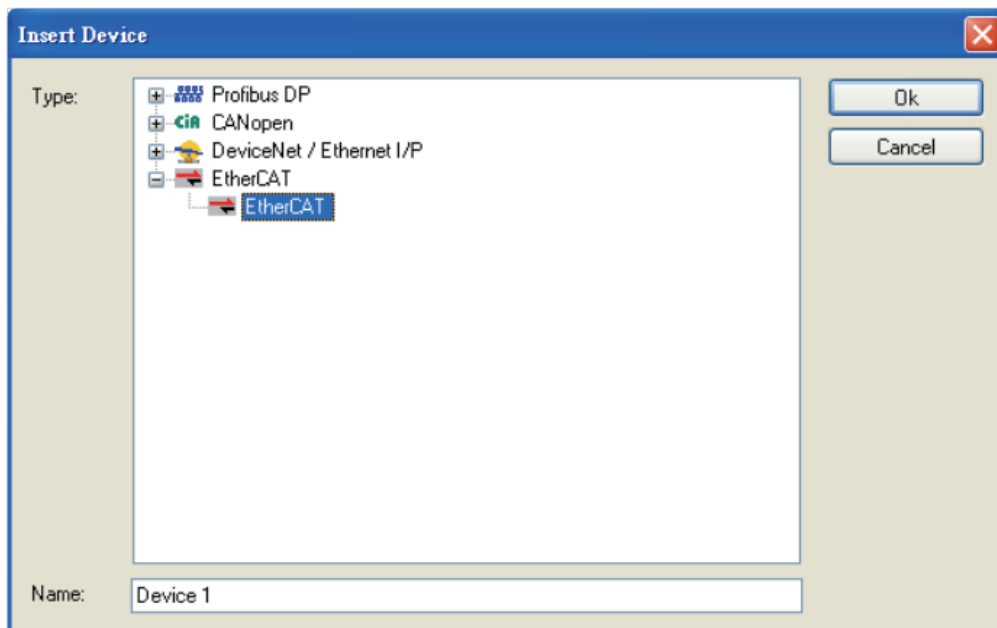
1. Start your EtherCAT Configurator.
2. Choose File, New to create a new I/O Configuration

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3. Click I/O Device with the right mouse button and choose Append Device... in the menu, and
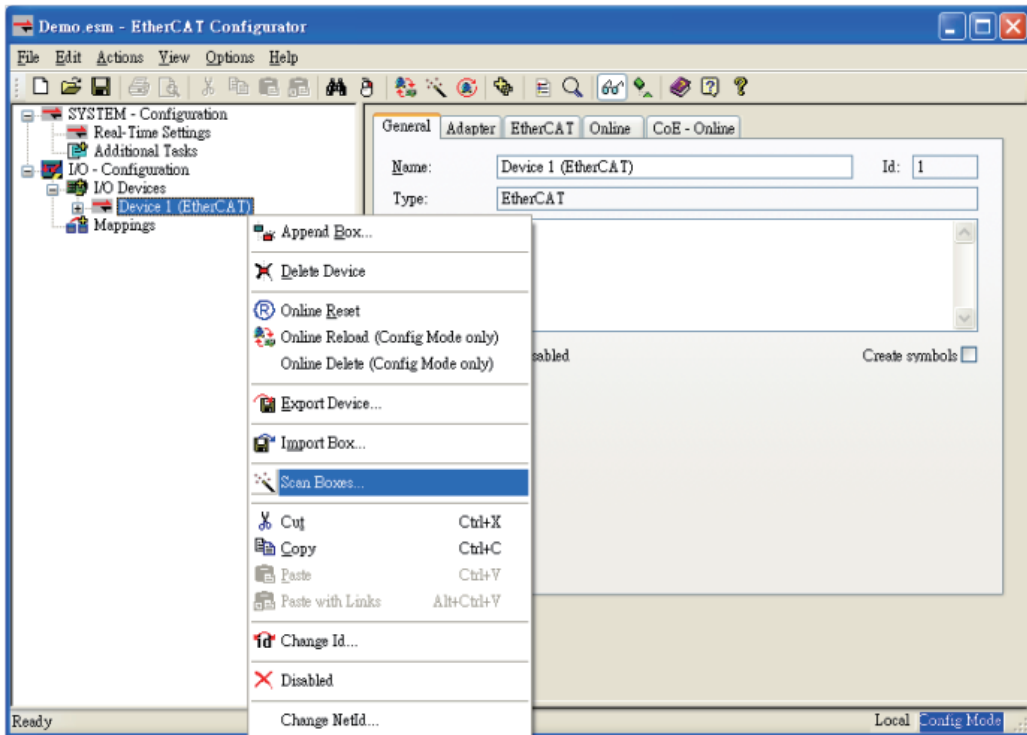   then the dialog window Insert Device is opened
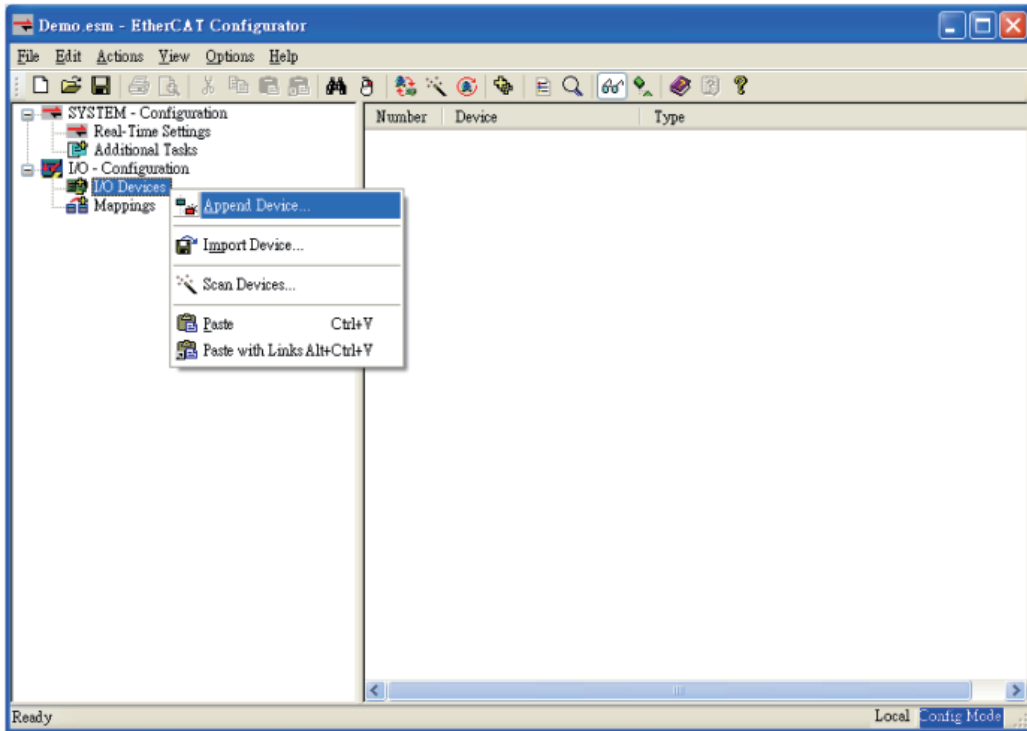
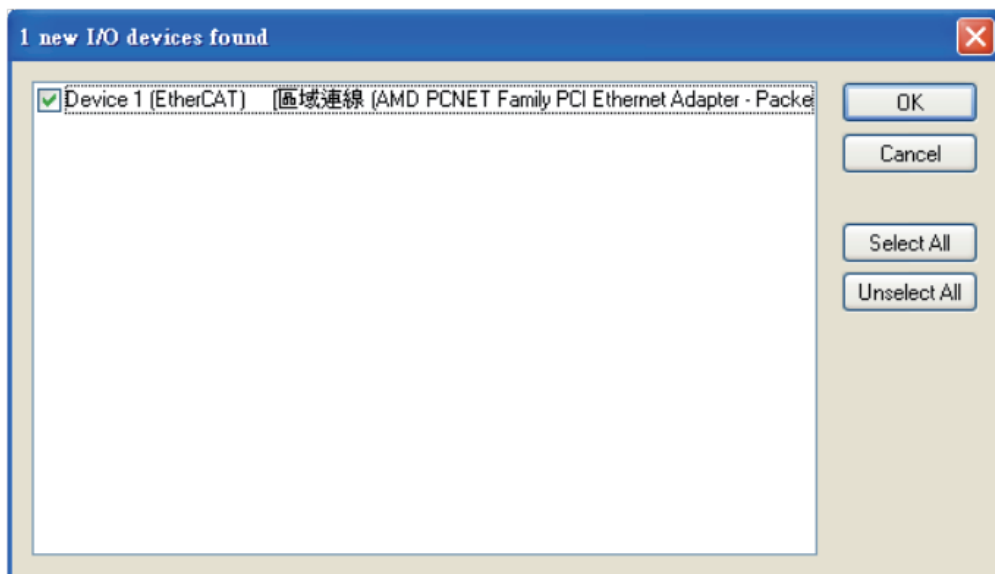4. Select the EtherCAT type in this dialog window and confirm with OK.

Model: DAU01-ECAT2216-16DO

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

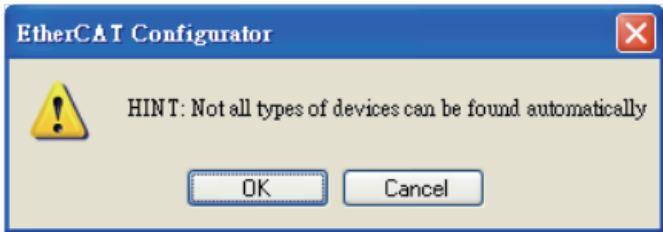Click **Device 1(EtherCAT)** with the right mouse button and choose **Scan Boxes...** in the menu.

6. Choose the correct network device which is connected to DAU01-ECAT2216-16DO.

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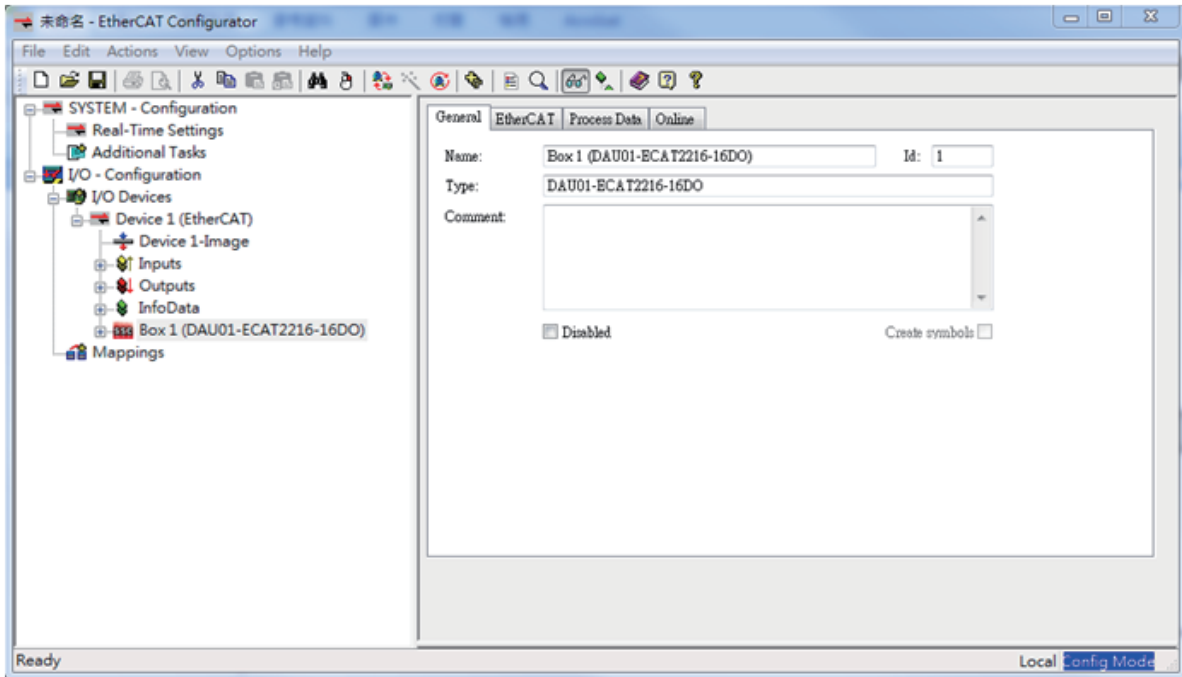

8. Click Yes to start scanning for DAU01-ECAT2216-16DO.

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

10. The DAU01-ECAT2216-16DO (Box 1) is now shown in the EtherCAT Configurator.

11. The input and output variables contained in the ESI (*.xml) file of the DAU01-ECAT2216-16-DO are displayed as Box1 with outputs-lower channel 0 ~ 7 mapping to the DAU01-ECAT2216-16DO 1~8 output channel and the output-higher channel 0 ~ 7 mapping to the DAU01-ECAT2216-16DO 9~16 output channels.
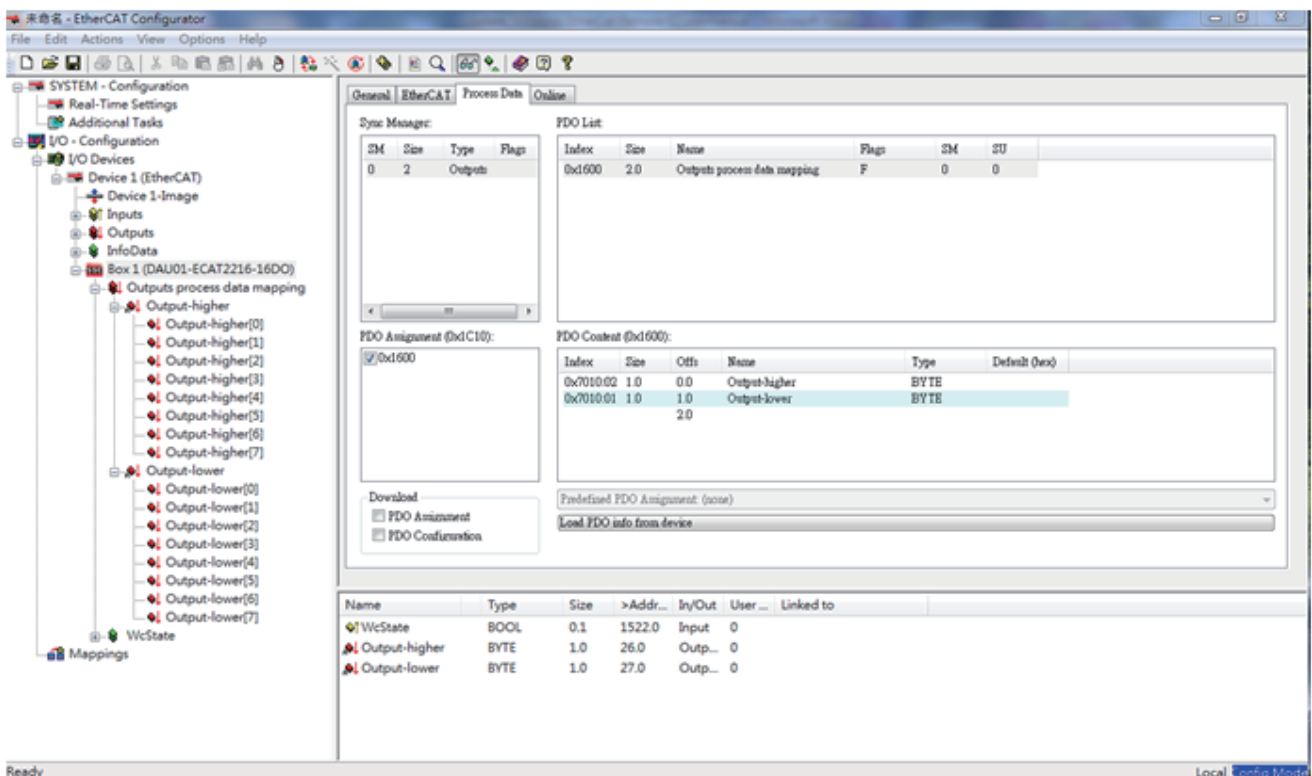
4. Appendix

4.1 Order information

Ethercat DIO module	
DAU01-ECAT2216-16DO	Ethercat IO unit with 16Digital output.

4.2 Technical Support

If you have any difficulties using your DAU01-ECAT2216-16DO series modules, please contact us or send a description for the problem to sales@ewinsonic.com.