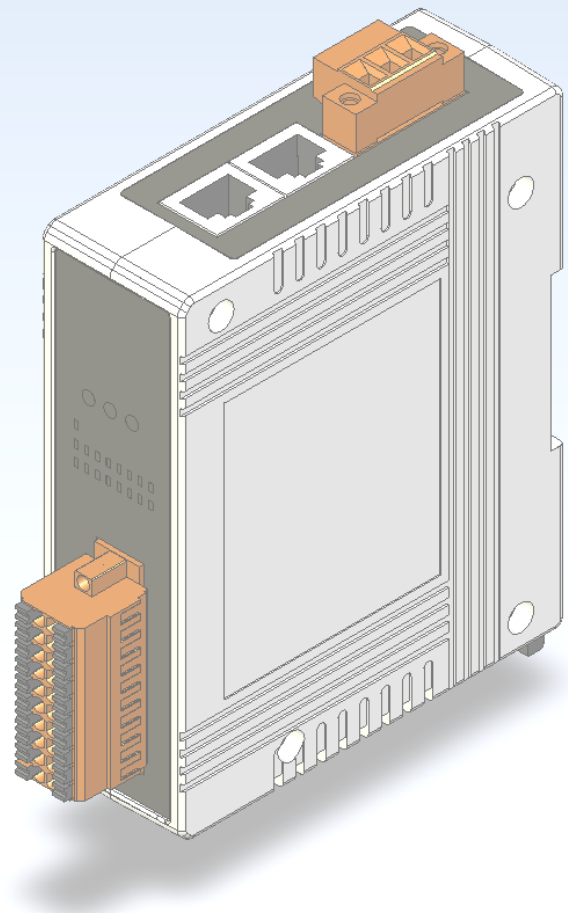


User Manual for



Ether**CAT**[®] Slave Modules

ECAT-2000 with Digital Inputs and Outputs



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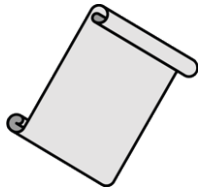
If you have any question for our products, please contact us directly or email to service@icpdas.com.

Shipping Items

The shipping package includes the following items:



ECAT-2000



Quick Start



CD

NOTICE

If any of these items is missing or damaged, please contact your local distributor for more information. Keep the shipping materials and overall package in case you want to ship the module back in the future.

More Information

- Manual:

CD: \fieldbus_cd\ethercat\slave\ecat-2000>manual

http://ftp.icpdas.com/pub/cd/fieldbus_cd/ethercat/slave/ecat-2000/manual/

- ENI:

CD: \fieldbus_cd\ethercat\slave\ecat-2000\software

http://ftp.icpdas.com/pub/cd/fieldbus_cd/ethercat/slave/ecat-2000/software/

- FAQ:

<http://www.icpdas.com/root/support/faq/faq.html>

Table of Contents

1	INTRODUCTION	1
2	HARDWARE INFORMATION	2
2.1	ECAT-2000 GENERAL TECHNICAL DATA	2
2.1.1	<i>EtherCAT Interface</i>	3
2.1.2	<i>Power and F.G. Connector</i>	3
2.1.3	<i>Power LED</i>	3
2.1.4	<i>Status LEDs</i>	3
2.1.5	<i>I/O Status LEDs</i>	3
2.1.6	<i>Dimensions</i>	4
2.2	ECAT-2045	5
2.2.1	<i>Specifications</i>	5
2.2.2	<i>I/O Connector (Pin Assignment)</i>	6
2.2.3	<i>I/O Status LEDs</i>	7
2.2.4	<i>Wire Connection</i>	7
2.3	ECAT-2050	8
2.3.1	<i>Specifications</i>	8
2.3.2	<i>I/O Connector (Pin Assignment)</i>	9
2.3.3	<i>I/O Status LEDs</i>	10
2.3.4	<i>Wire Connection</i>	10
2.4	ECAT-2051	12
2.4.1	<i>Specifications</i>	12
2.4.2	<i>I/O Connector (Pin Assignment)</i>	13
2.4.3	<i>I/O Status LEDs</i>	14
2.4.4	<i>Wire Connection</i>	14
2.5	ECAT-2052	15
2.5.1	<i>Specifications</i>	15
2.5.2	<i>I/O Connector (Pin Assignment)</i>	16
2.5.3	<i>I/O Status LEDs</i>	17
2.5.4	<i>Wire Connection</i>	17
2.6	ECAT-2052-NPN	18
2.6.1	<i>Specifications</i>	18
2.6.2	<i>I/O Connector (Pin Assignment)</i>	19
2.6.3	<i>I/O Status LEDs</i>	20
2.6.4	<i>Wire Connection</i>	20
2.7	ECAT-2053	22
2.7.1	<i>Specifications</i>	22
2.7.2	<i>I/O Connector (Pin Assignment)</i>	23
2.7.3	<i>I/O Status LEDs</i>	24

2.7.4	Wire Connection	24
2.8	ECAT-2055	25
2.8.1	Specifications	25
2.8.2	I/O Connector (Pin Assignment)	26
2.8.3	I/O Status LEDs	27
2.8.4	Wire Connection	27
2.9	ECAT-2057	29
2.9.1	Specifications	29
2.9.2	I/O Connector (Pin Assignment)	30
2.9.3	I/O Status LEDs	31
2.9.4	Wire Connection	31
2.10	ECAT-2057-NPN	32
2.10.1	Specifications	32
2.10.2	I/O Connector (Pin Assignment)	33
2.10.3	I/O Status LEDs	34
2.10.4	Wire Connection	34
2.11	ECAT-2060	35
2.11.1	Specifications	35
2.11.2	I/O Connector (Pin Assignment)	36
2.11.3	I/O Status LEDs	37
2.11.4	Wire Connection	37
3	SOFTWARE COMMUNICATIONS	38
3.1	STARTUP	38
3.2	CONFIGURATION	38
A	GLOSSARY	43
A.1	ORDERING INFORMATION	43
A.2	TECHNICAL SUPPORT	43

1 Introduction

The ECAT-2000 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 star, line or ring. The isolated input and output design protects the ECAT-2000 against the harmful interference and environment.

The ECAT-2000 has passed and verified by the conformance test tool, therefore eligible EtherCAT Master or configurator can manipulate it simply and implement your various applications easily. Fig 1.1 is shown a typical EtherCAT application.

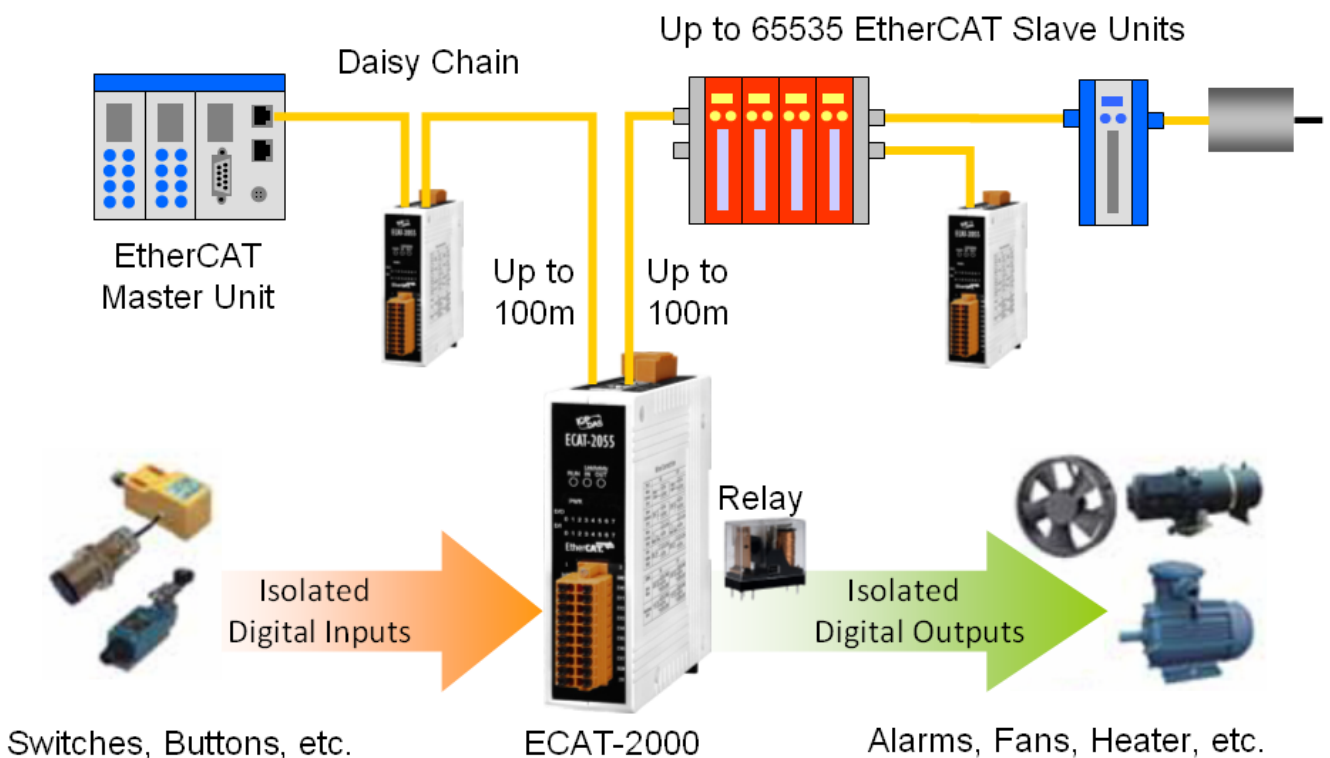


Figure 1.1 Typical Application of ECAT-2000

2 Hardware Information

2.1 ECAT-2000 General Technical Data

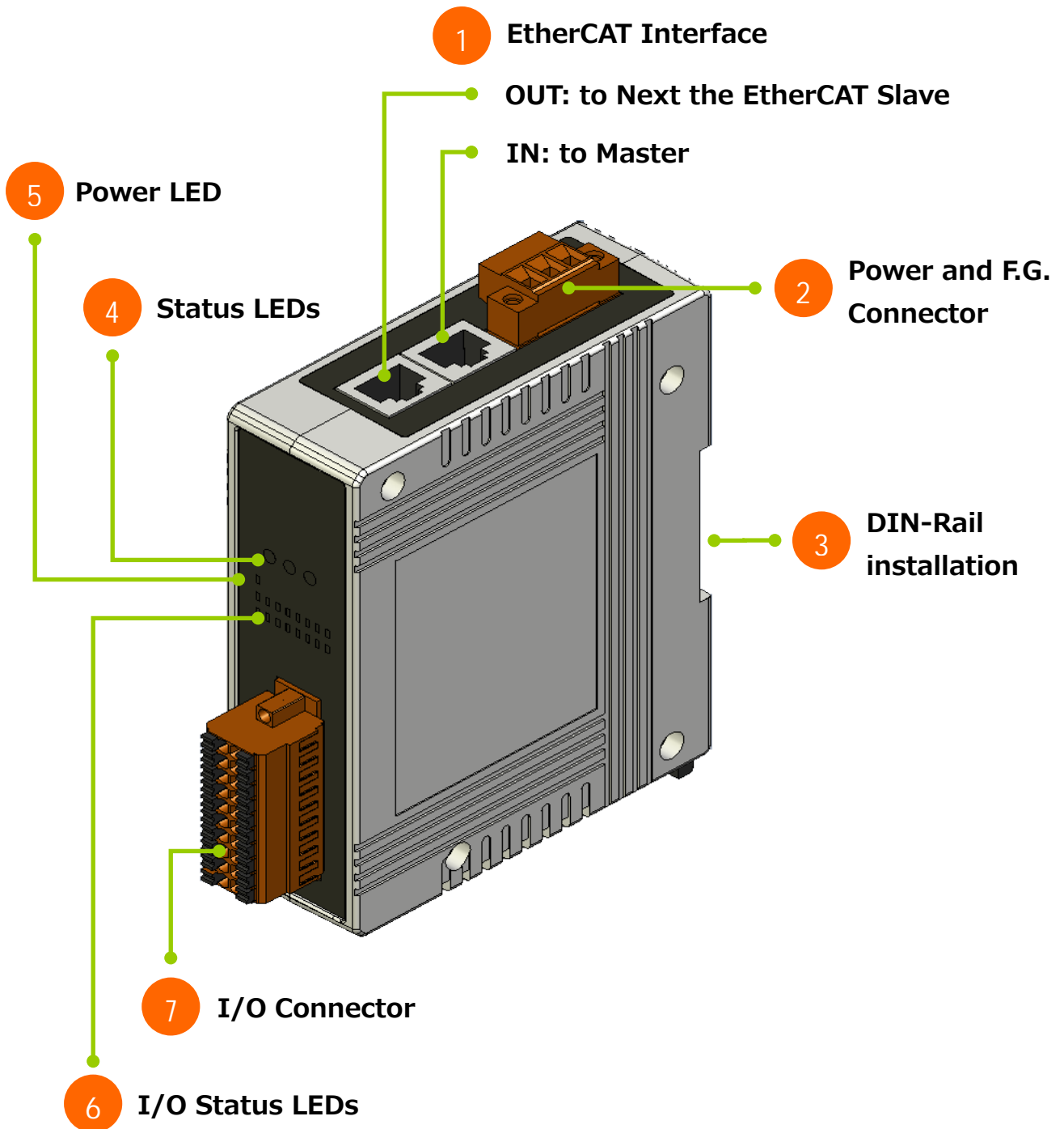


Figure 2.1 Appearance of ECAT-2000

2.1.1 EtherCAT Interface

Notation	Description
IN	EtherCAT data processing, direction to the EtherCAT master
OUT	EtherCAT data processing, direction to the next slave device

2.1.2 Power and F.G. Connector

Notation	Description
+Vs	Power Supply with +10~+30VDC
GND	Power Supply Ground
F.G.	Frame Ground; i.e. Earth Contact



2.1.3 Power LED

Notation	Color	States	Description
PWR	Green	On	The device is powered up



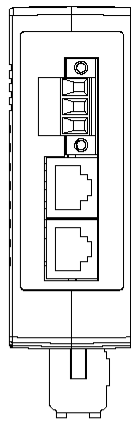
2.1.4 Status LEDs

Notation	Color	States	Description
RUN	Green	Off	The device is in state INIT
		Blinking	The device is in state PRE-OPERARIONAL
		Single Flash	The device is in state SAFE-OPERARIONAL
		On	The device is in state OPERARIONAL
Link Activity IN/OUT	Green	Off	No link
		Blinking	Link and activity
		On	Link without activity

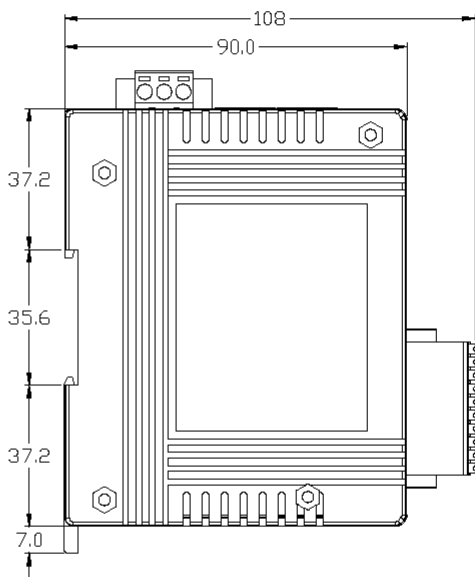
2.1.5 I/O Status LEDs

Notation	Color	States	Description
DI	Green	Off	Input voltage is below the lower switching threshold voltage
		On	Input voltage is higher than the upper switching threshold voltage
DO	Green	Off	Digital output status is "Off"
		On	Digital output status is "On"

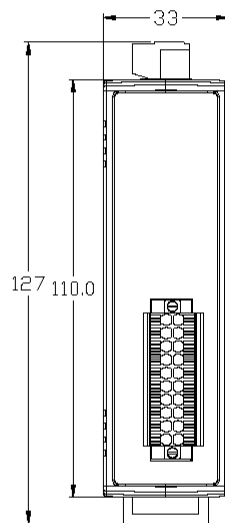
2.1.6 Dimensions



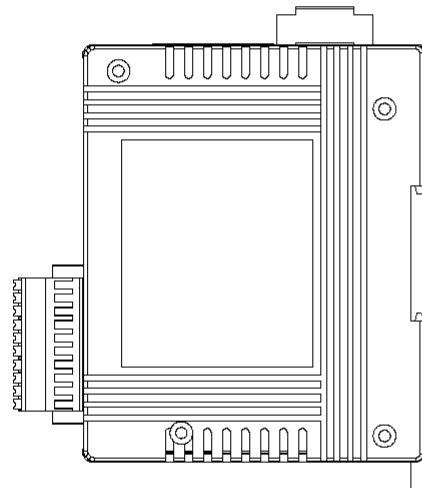
Top View



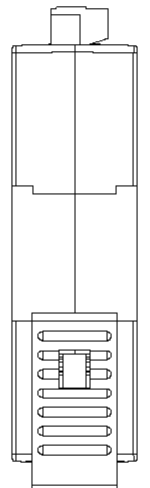
Left Side View



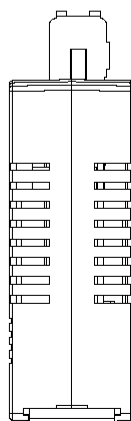
Front View



Right Side View



Rear View



Bottom View

Unit: mm

2.2 ECAT-2045



The ECAT-2045 is an industrial EtherCAT slave I/O module which is built in 16 isolated 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 (Sink)
Load Voltage	+3.5 ~ +50 V
Max. Load Current	700 mA per Channel
Isolation Voltage	3750 V _{rms}

Power

Input Voltage Range	10 V ~ 30 V _{DC}
Power Consumption	Max. 4W

Communication Interface

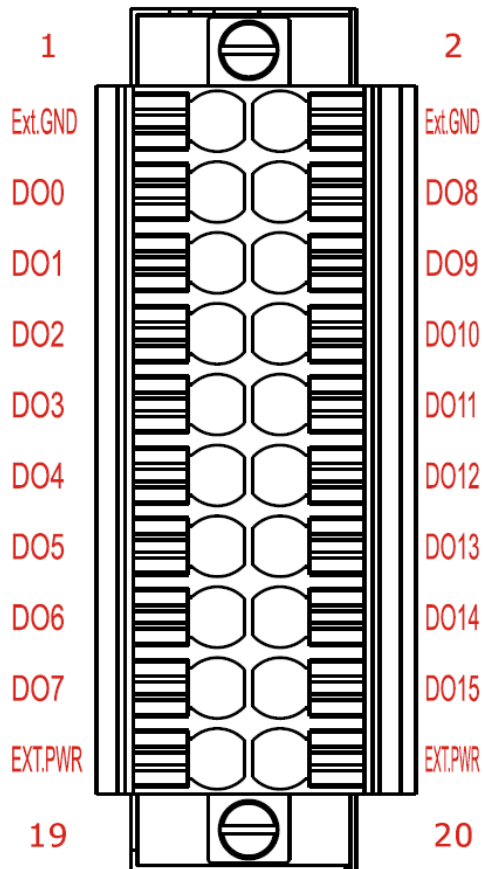
Connector	2 x RJ-45
Protocol	EtherCAT
Distance between Stations	Max. 100 m (100 BASE-TX)
Data Transfer Medium	Ethernet/EtherCAT Cable (Min. CAT 5), Shielded

Mechanism

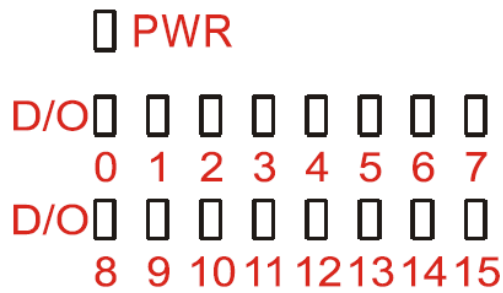
Installation	DIN-Rail
Dimensions	110 mm x 90 mm x 33 mm (H x W x D, without connectors)
Case Material	UL 94V-0 Level

Environment	
Operating Temperature	-25°C ~ 75°C
Storage Temperature	-30°C ~ 80°C
Relative Humidity	10 ~ 90%, No Condensation
ESD (IEC 61000-4-2)	4 KV Contact for Each Channel
EFT (IEC 61000-4-4)	Power: 1 KV Class A; Signal: 1 KV Class A
Surge (IEC 61000-4-5)	1 KV Class A
Hi-Pot	1KV Class A

2.2.2 I/O Connector (Pin Assignment)

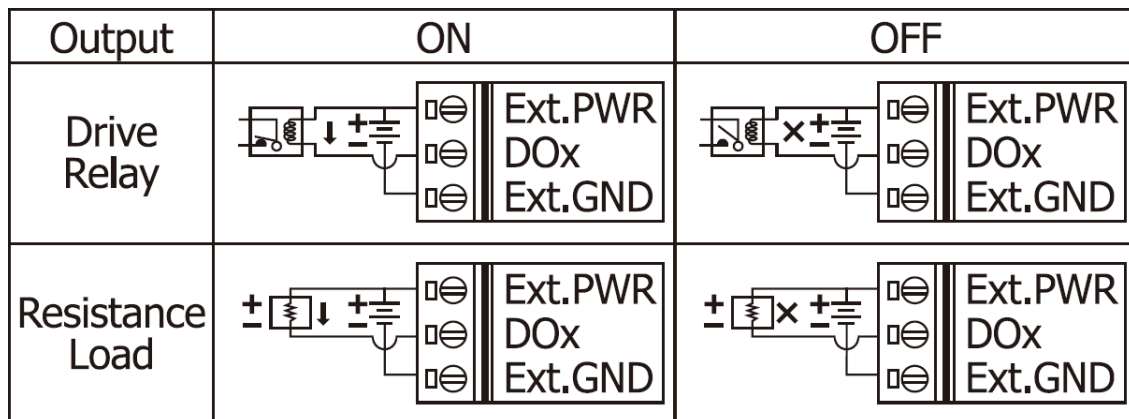


2.2.3 I/O Status LEDs



Notation	Color	States	Description
DO	Green	Off	Digital output status is "Off"
		On	Digital output status is "On"

2.2.4 Wire Connection



2.3 ECAT-2050



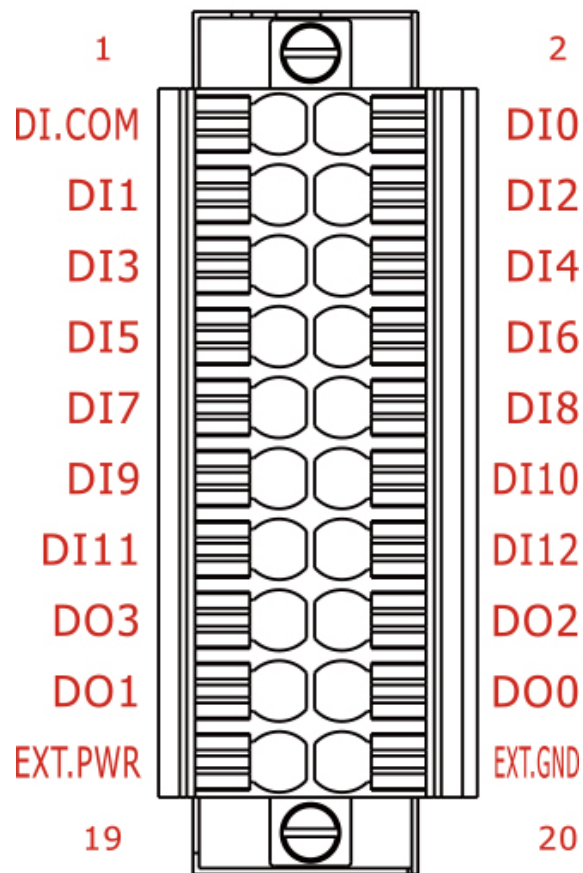
The ECAT-2050 is an industrial EtherCAT slave I/O module which is built in 13 isolated digital inputs and 4 isolated digital outputs. Users can obtain the input and output status not only via the process data but also from its LED indicators.

2.3.1 Specifications

Digital Input	
Channels	13
Input Type	Wet (Sink/Source)
Off Voltage Level	+2 V Max.
On Voltage Level	+3.5 V ~ +50 V
Isolation Voltage	3750 V _{DC}
Digital Output	
Channels	4
Output Type	Open Collector (Sink/Source)
Load Voltage	+3.5 ~ +50 V
Max. Load Current	100 mA per Channel
Isolation Voltage	3750 V _{DC}
Communication Interface	
Connector	2 x RJ-45
Protocol	EtherCAT
Distance between Stations	Max. 100 m (100 BASE-TX)
Data Transfer Medium	Ethernet/EtherCAT Cable (Min. CAT 5), Shielded
Power	
Input Voltage Range	10 V ~ 30 V _{DC}

Power Consumption	Max. 4 W
Mechanism	
Installation	DIN-Rail
Dimensions	110 mm x 90 mm x 33 mm (H x W x D, without connectors)
Case Material	UL 94V-0 Level
Environment	
Operating Temperature	-25°C ~ 75°C
Storage Temperature	-30°C ~ 80°C
Relative Humidity	10 ~ 90%, No Condensation
ESD (IEC 61000-4-2)	4 KV Contact for Each Channel
EFT (IEC 61000-4-4)	Power: 1 KV Class A; Signal: 1 KV Class A
Surge (IEC 61000-4-5)	1 KV Class A

2.3.2 I/O Connector (Pin Assignment)



2.3.3 I/O Status LEDs



Notation	Color	States	Description
DI	Green	Off	Input voltage is lower than +2 V _{DC} (Max.)
		On	Input voltage is higher than “Off” state
DO	Green	Off	Digital output status is “Off”
		On	Digital output status is “On”

2.3.4 Wire Connection

➤ **Input Wiring**

Input	ON	OFF
Relay Contact (Wet)		
NPN Output (Wet)		

➤ **NPN Output Wiring:**

(Default)



Jumpers JP2 to JP5 are used to configure the Output type as either PNP (Source) or NPN (Sink). To configure NPN (Sink) output, connect pin2 to pin3.

Output	ON	OFF
Drive Relay		
Resistance Load		

➤ **PNP Output Wiring:**



Jumpers JP2 to JP5 are used to configure the Output type as PNP (Source) or NPN (Sink). To configure PNP (Source) output, connect pin1 to pin2.

Output	ON	OFF
Drive Relay		
Resistance Load		

2.4 ECAT-2051



The ECAT-2051 is an industrial EtherCAT slave I/O module which is built in 16 isolated digital inputs. Users can obtain the input and output status not only via the process data but also from its LED indicators.

2.4.1 Specifications

Digital Input

Channels	16	
Input Type	Dry (Source)	Wet (Sink/Source)
Off Voltage Level	Open	+4V Max.
On Voltage Level	Close to GND	+10 V ~ +50 V
Isolation Voltage	3750 V _{DC}	

Power

Input Voltage Range	10 V ~ 30 V _{DC}
Power Consumption	Max. 4 W

Communication Interface

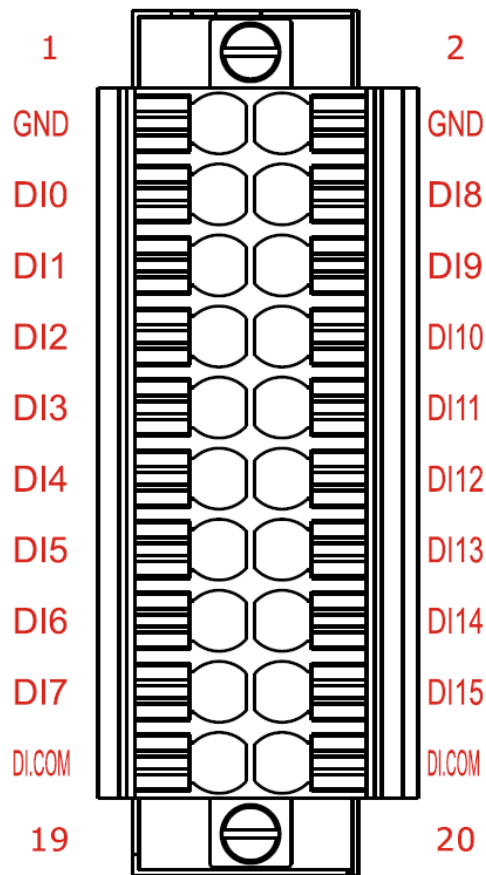
Connector	2 x RJ-45
Protocol	EtherCAT
Distance between Stations	Max. 100 m (100B ASE-TX)
Data Transfer Medium	Ethernet/EtherCAT Cable (Min. CAT 5), Shielded

Mechanism

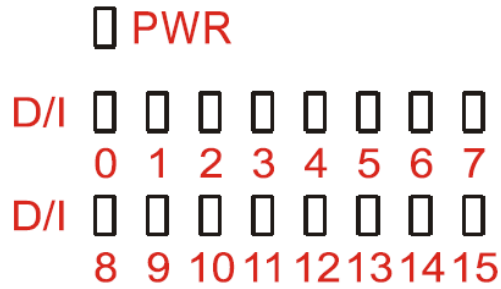
Installation	DIN-Rail
Dimensions	110 mm x 90 mm x 33 mm (H x W x D, without connectors)
Case Material	UL 94V-0 Level

Environment	
Operating Temperature	-25°C ~ 75°C
Storage Temperature	-30°C ~ 80°C
Relative Humidity	10 ~ 90%, No Condensation
ESD (IEC 61000-4-2)	4 KV Contact for Each Channel
EFT (IEC 61000-4-4)	Power: 1 KV Class A; Signal: 1 KV Class A
Surge (IEC 61000-4-5)	1 KV Class A
Hi-Pot	1KV Class A

2.4.2 I/O Connector (Pin Assignment)



2.4.3 I/O Status LEDs



Notation	Color	States	Description
DI	Green	Off	Input voltage is lower than +4 V _{DC} (Max.)
		On	Input voltage is higher than "Off" state

2.4.4 Wire Connection

Input	ON	OFF
Relay Contact (Dry)		
Open Collector (Dry)		
Relay Contact (Wet)		
NPN Output (Wet)		

2.5 ECAT-2052



The ECAT-2052 is an industrial EtherCAT industrial slave I/O module built in 8 isolated digital inputs and 8 isolated digital outputs. Users can obtain the input and output status not only via the process data but also from its LED indicators.

2.5.1 Specifications

Digital Input

Channels	8	
Input Type	Wet (Sink/Source)	
Off Voltage Level	+2V Max.	
On Voltage Level	Close to GND	+3.5 V ~ +50 V
Isolation Voltage	3750 V _{DC}	

Digital Output

Channels	8	
Output Type	Open Source (Source)	
Load Voltage	+3.5 ~ +50 V	
Max. Load Current	100 mA per Channel	
Isolation Voltage	3750 V _{rms}	

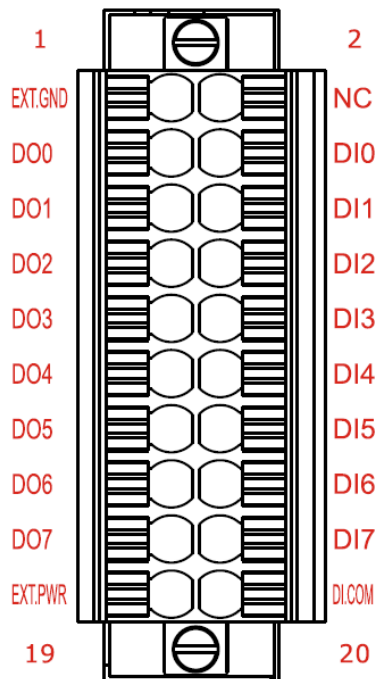
Communication Interface

Connector	2 x RJ-45	
Protocol	EtherCAT	
Distance between Stations	Max. 100 m (100 BASE-TX)	
Data Transfer Medium	Ethernet/EtherCAT Cable (Min. CAT 5), Shielded	

Power

Input Voltage Range	10 V ~ 30 V _{DC}
Power Consumption	Max. 4 W
Mechanism	
Installation	DIN-Rail
Dimensions	110 mm x 90 mm x 33 mm (H x W x D, without connectors)
Case Material	UL 94V-0 Level
Environment	
Operating Temperature	-25°C ~ 75°C
Storage Temperature	-30°C ~ 80°C
Relative Humidity	10 ~ 90%, No Condensation
ESD (IEC 61000-4-2)	4 KV Contact for Each Channel
EFT (IEC 61000-4-4)	Power: 1 KV Class A; Signal: 1 KV Class A
Surge (IEC 61000-4-5)	1 KV Class A
Hi-Pot	1KV Class A

2.5.2 I/O Connector (Pin Assignment)

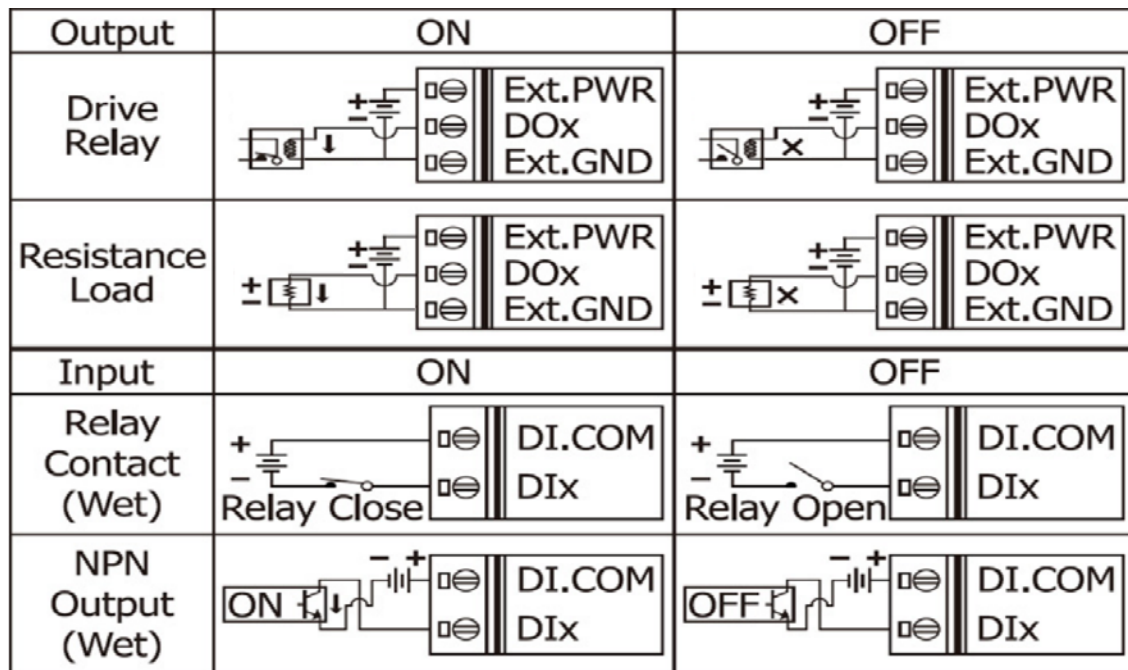


2.5.3 I/O Status LEDs



Notation	Color	States	Description
DI	Green	Off	Input voltage is lower than +3.5 V _{DC} (Max.)
		On	Input voltage is higher than "Off" state
DO	Green	Off	Digital output status is "Off"
		On	Digital output status is "On"

2.5.4 Wire Connection



2.6 ECAT-2052-NPN



The ECAT-2052-NPN is an industrial EtherCAT industrial slave I/O module built in 8 isolated digital inputs and 8 isolated digital outputs. Users can obtain the input and output status not only via the process data but also from its LED indicators.

2.6.1 Specifications

Digital Input

Channels	8
Input Type	Wet (Sink/Source)
Off Voltage Level	+2V Max.
On Voltage Level	+3.5 V ~ +50 V
Isolation Voltage	3750 V _{DC}

Digital Output

Channels	8
Output Type	Open Collector
Load Voltage	+3.5 ~ +50 V
Max. Load Current	100 mA per Channel
Isolation Voltage	3750 V _{rms}

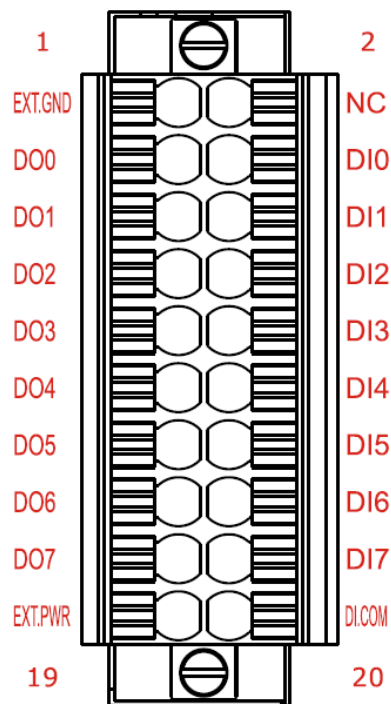
Communication Interface

Connector	2 x RJ-45
Protocol	EtherCAT
Distance between Stations	Max. 100 m (100 BASE-TX)
Data Transfer Medium	Ethernet/EtherCAT Cable (Min. CAT 5), Shielded

Power

Input Voltage Range	10V ~ 30VDC
Power Consumption	Max. 4W
Mechanism	
Installation	DIN-Rail
Dimensions	110 mm x 90 mm x 33 mm (H x W x D, without connectors)
Case Material	UL 94V-0 Level
Environment	
Operating Temperature	-25°C ~ 75°C
Storage Temperature	-30°C ~ 80°C
Relative Humidity	10 ~ 90%, No Condensation
ESD (IEC 61000-4-2)	4 KV Contact for Each Channel
EFT (IEC 61000-4-4)	Power: 1 KV Class A; Signal: 1 KV Class A
Surge (IEC 61000-4-5)	1 KV Class A
Hi-Pot	1KV Class A

2.6.2 I/O Connector (Pin Assignment)





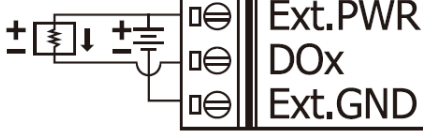
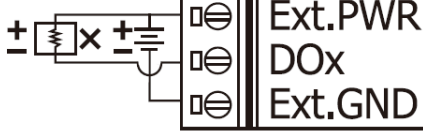
2.6.3 I/O Status LEDs



Notation	Color	States	Description
DI	Green	Off	Input voltage is lower than +3.5 V _{DC} (Max.)
		On	Input voltage is higher than “Off” state
DO	Green	Off	Digital output status is “Off”
		On	Digital output status is “On”

2.6.4 Wire Connection

Input	ON	OFF
Relay Contact (Dry)		
Open Collector (Dry)		
Relay Contact (Wet)		
NPN Output (Wet)		

Output	ON	OFF
Drive Relay		
Resistance Load		

2.7 ECAT-2053



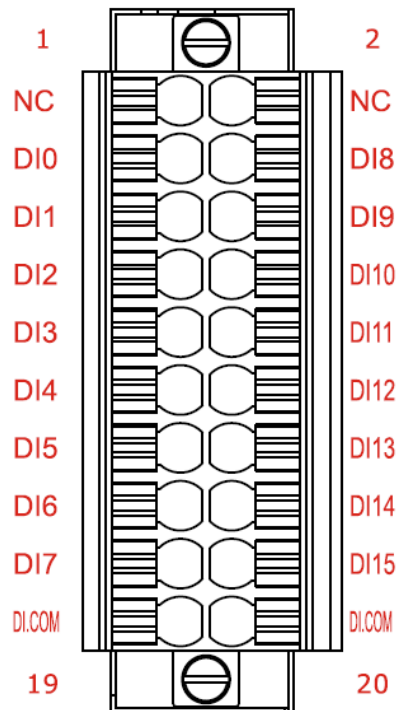
The ECAT-2053 is an industrial EtherCAT slave I/O module which is built in 16 isolated digital inputs. Users can obtain the input and output status not only via the process data but also from its LED indicators.

2.7.1 Specifications

Digital Input	
Channels	16
Input Type	Wet (Sink/Source)
Off Voltage Level	+2V Max.
On Voltage Level	+3.5 V ~ +50 V
Isolation Voltage	3750 V _{DC}
Power	
Input Voltage Range	10 V ~ 30 V _{DC}
Power Consumption	Max. 4 W
Communication Interface	
Connector	2 x RJ-45
Protocol	EtherCAT
Distance between Stations	Max. 100 m (100 BASE-TX)
Data Transfer Medium	Ethernet/EtherCAT Cable (Min. CAT 5), Shielded
Mechanism	
Installation	DIN-Rail
Dimensions	110 mm x 90 mm x 33 mm (H x W x D, without connectors)
Case Material	UL 94V-0 Level
Environment	

Operating Temperature	-25°C ~ 75°C
Storage Temperature	-30°C ~ 80°C
Relative Humidity	10 ~ 90%, No Condensation
ESD (IEC 61000-4-2)	4 KV Contact for Each Channel
EFT (IEC 61000-4-4)	Power: 1 KV Class A; Signal: 1 KV Class A
Surge (IEC 61000-4-5)	1 KV Class A
Hi-Pot	1KV Class A

2.7.2 I/O Connector (Pin Assignment)

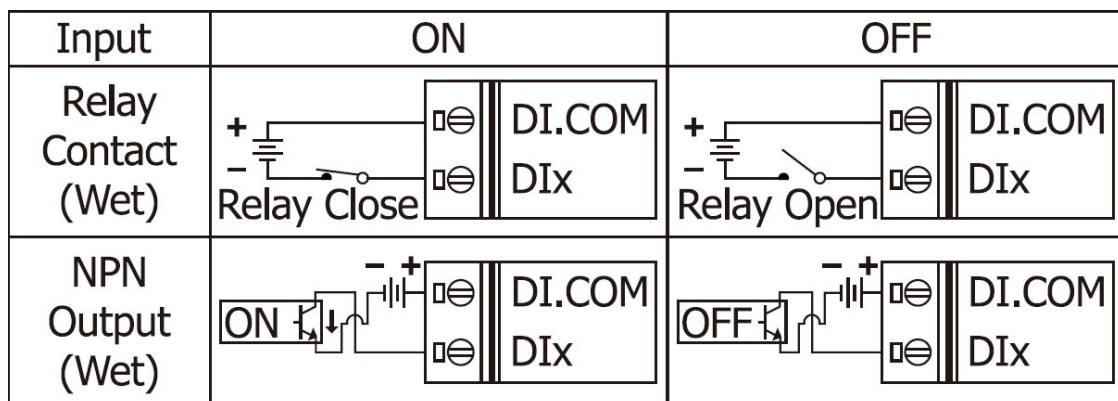


2.7.3 I/O Status LEDs



Notation	Color	States	Description
DI	Green	Off	Input voltage is lower than +3.5 V _{DC} (Max.)
		On	Input voltage is higher than “Off” state

2.7.4 Wire Connection



2.8 ECAT-2055



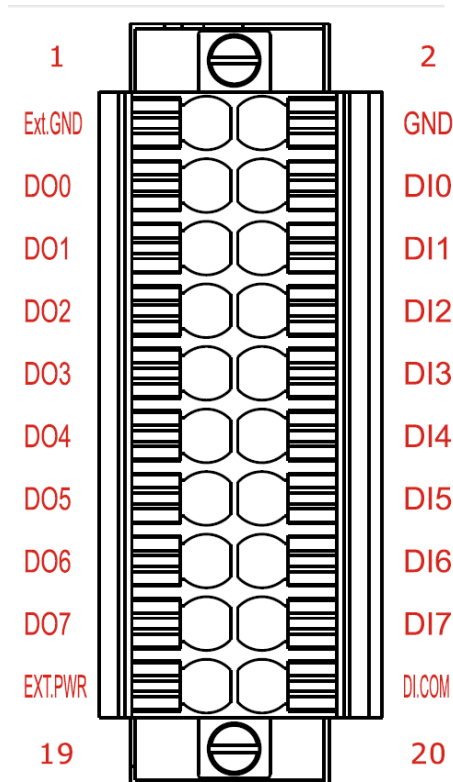
The ECAT-2055 is an industrial slave I/O module built in 8 isolated digital inputs and 8 isolated digital outputs. Users can obtain the input and output status not only via the process data but also from its LED indicators.

2.8.1 Specifications

Digital Input		
Channels	8	
Input Type	Dry (Source)	Wet (Sink/Source)
Off Voltage Level	Open	+4V Max.
On Voltage Level	Close to GND	+10 V ~ +50 V
Isolation Voltage	3750 V _{DC}	
Digital Output		
Channels	8	
Output Type	Open Collector (Sink)	
Load Voltage	+3.5 ~ +50 V	
Max. Load Current	700 mA per Channel	
Isolation Voltage	3750 V _{rms}	
Communication Interface		
Connector	2 x RJ-45	
Protocol	EtherCAT	
Distance between Stations	Max. 100 m (100 BASE-TX)	
Data Transfer Medium	Ethernet/EtherCAT Cable (Min. CAT 5), Shielded	
Power		
Input Voltage Range	10 V ~ 30 V _{DC}	

Power Consumption	Max. 4W
Mechanism	
Installation	DIN-Rail
Dimensions	110 mm x 90 mm x 33 mm (H x W x D, without connectors)
Case Material	UL 94V-0 Level
Environment	
Operating Temperature	-25°C ~ 75°C
Storage Temperature	-30°C ~ 80°C
Relative Humidity	10 ~ 90%, No Condensation
ESD (IEC 61000-4-2)	4 KV Contact for Each Channel
EFT (IEC 61000-4-4)	Power: 1 KV Class A; Signal: 1 KV Class A
Surge (IEC 61000-4-5)	1 KV Class A
Hi-Pot	1KV Class A

2.8.2 I/O Connector (Pin Assignment)





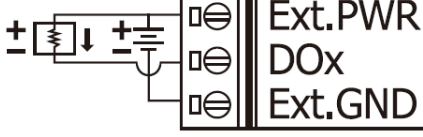
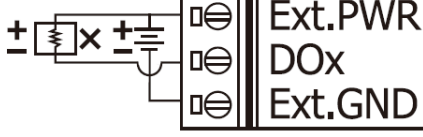
2.8.3 I/O Status LEDs



Notation	Color	States	Description
DI	Green	Off	Input voltage is lower than +4 V _{DC} (Max.)
		On	Input voltage is higher than “Off” state
DO	Green	Off	Digital output status is “Off”
		On	Digital output status is “On”

2.8.4 Wire Connection

Input	ON	OFF
Relay Contact (Dry)		
Open Collector (Dry)		
Relay Contact (Wet)		
NPN Output (Wet)		

Output	ON	OFF
Drive Relay		
Resistance Load		

2.9 ECAT-2057



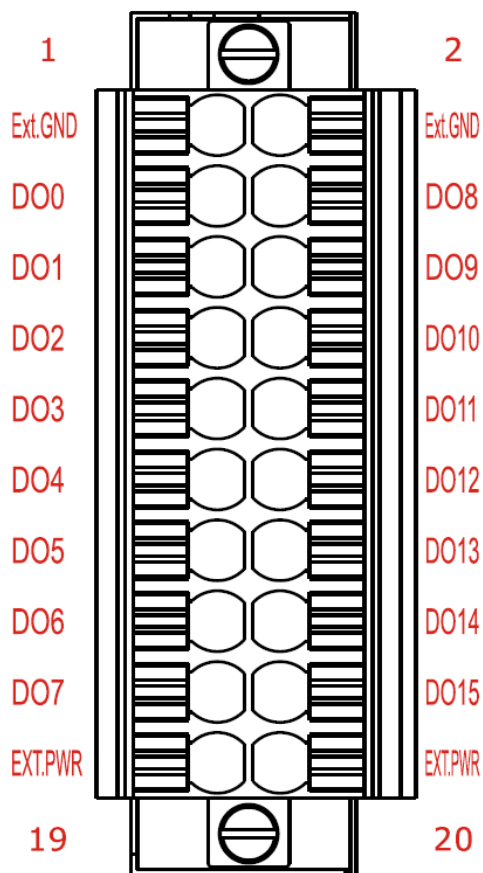
The ECAT-2057 is an industrial EtherCAT slave I/O module which is built in 16 isolated digital outputs. Users can obtain the input and output status not only via the process data but also from its LED indicators.

2.9.1 Specifications

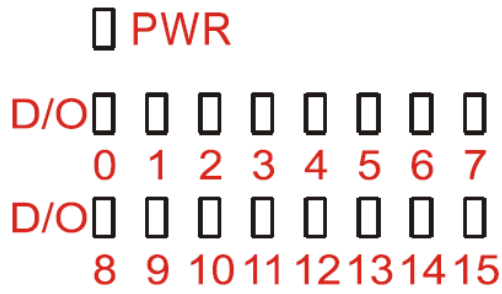
Digital Output	
Channels	16
Output Type	Open Source (Source)
Load Voltage	+3.5 ~ +30 V
Max. Load Current	100 mA per Channel
Isolation Voltage	3750 V _{rms}
Power	
Input Voltage Range	10 V ~ 30 V _{DC}
Power Consumption	Max. 4 W
Communication Interface	
Connector	2 x RJ-45
Protocol	EtherCAT
Distance between Stations	Max. 100 m (100 BASE-TX)
Data Transfer Medium	Ethernet/EtherCAT Cable (Min. CAT 5), Shielded
Mechanism	
Installation	DIN-Rail
Dimensions	110 mm x 90 mm x 33 mm (H x W x D, without connectors)
Case Material	UL 94V-0 Level

Environment	
Operating Temperature	-25°C ~ 75°C
Storage Temperature	-30°C ~ 80°C
Relative Humidity	10 ~ 90%, No Condensation
ESD (IEC 61000-4-2)	4 KV Contact for Each Channel
EFT (IEC 61000-4-4)	Power: 1 KV Class A; Signal: 1 KV Class A
Surge (IEC 61000-4-5)	1 KV Class A
Hi-Pot	1KV Class A

2.9.2 I/O Connector (Pin Assignment)

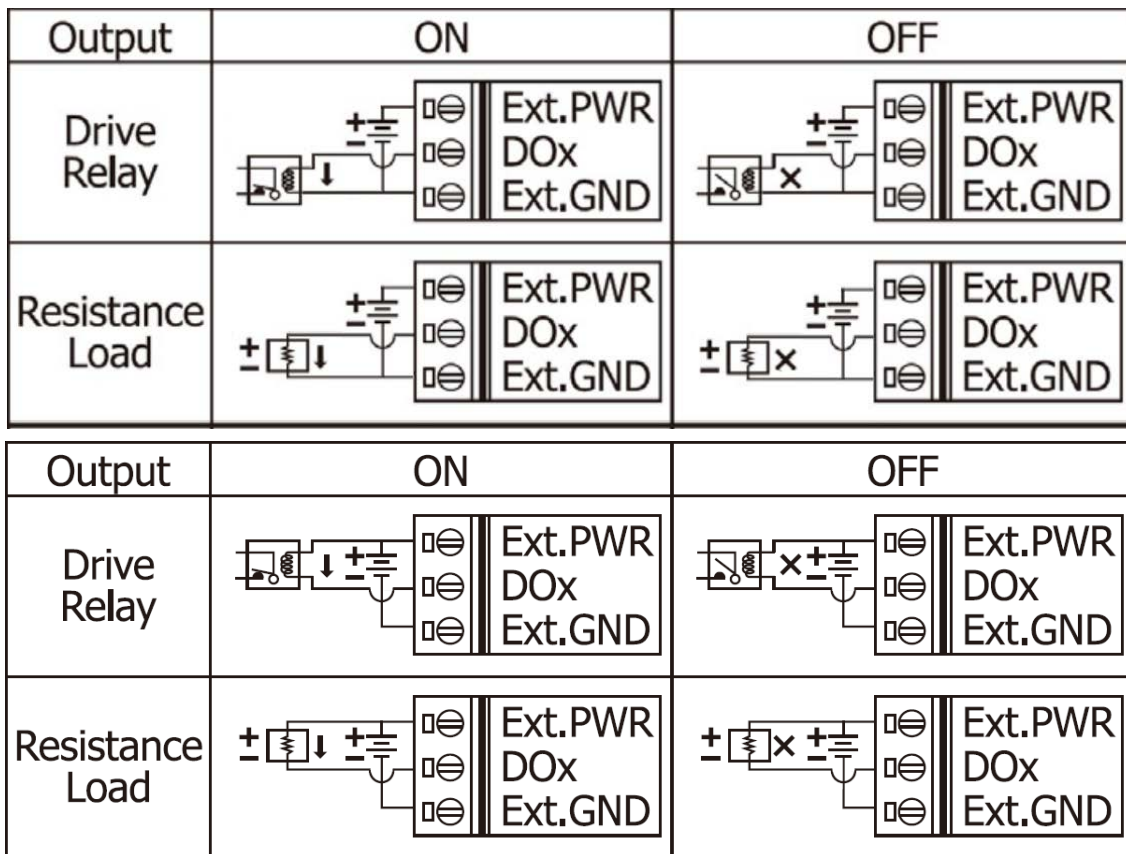


2.9.3 I/O Status LEDs



Notation	Color	States	Description
DO	Green	Off	Digital output status is "Off"
		On	Digital output status is "On"

2.9.4 Wire Connection



2.10 ECAT-2057-NPN



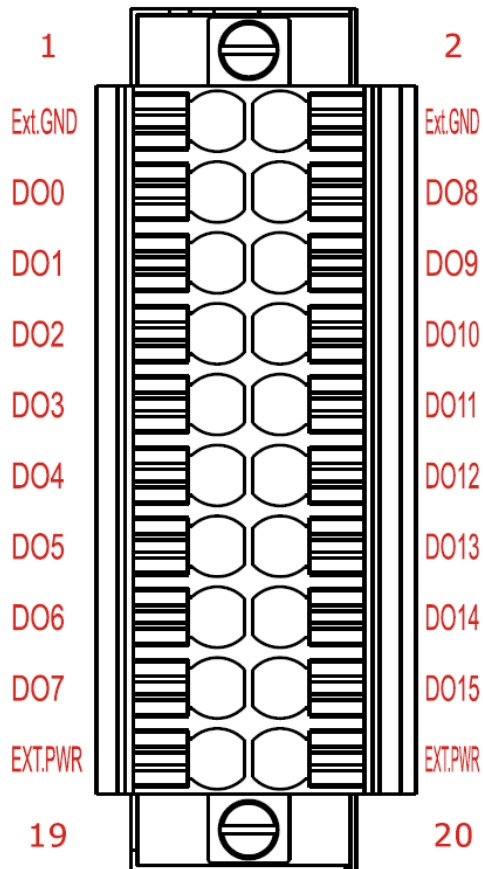
The ECAT-2057-NPN is an industrial EtherCAT slave I/O module which is built in 16 isolated digital outputs. Users can obtain the input and output status not only via the process data but also from its LED indicators.

2.10.1 Specifications

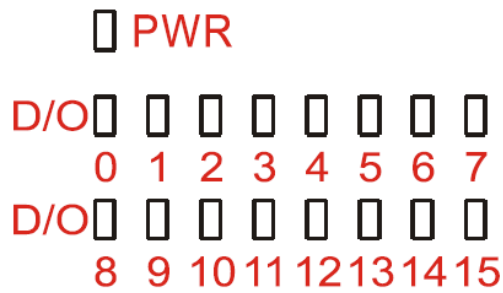
Digital Output	
Channels	16
Output Type	Open Collector (Sink)
Load Voltage	+3.5 ~ +30 V
Max. Load Current	100 mA per Channel
Isolation Voltage	3750 V _{rms}
Power	
Input Voltage Range	10 V ~ 30 V _{DC}
Power Consumption	Max. 4W
Communication Interface	
Connector	2 x RJ-45
Protocol	EtherCAT
Distance between Stations	Max. 100 m (100 BASE-TX)
Data Transfer Medium	Ethernet/EtherCAT Cable (Min. CAT 5), Shielded
Mechanism	
Installation	DIN-Rail
Dimensions	110 mm x 90 mm x 33 mm (H x W x D, without connectors)
Case Material	UL 94V-0 Level

Environment	
Operating Temperature	-25°C ~ 75°C
Storage Temperature	-30°C ~ 80°C
Relative Humidity	10 ~ 90%, No Condensation
ESD (IEC 61000-4-2)	4 KV Contact for Each Channel
EFT (IEC 61000-4-4)	Power: 1 KV Class A; Signal: 1 KV Class A
Surge (IEC 61000-4-5)	1 KV Class A
Hi-Pot	1KV Class A

2.10.2 I/O Connector (Pin Assignment)

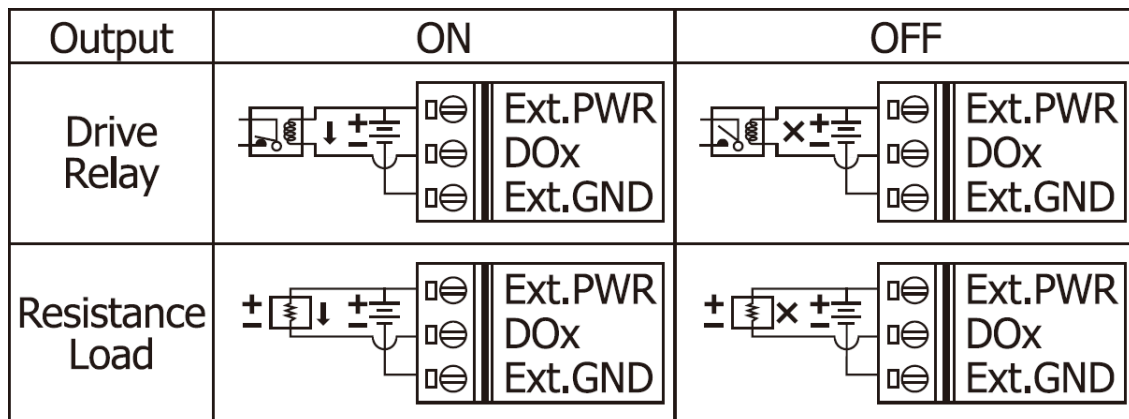


2.10.3 I/O Status LEDs



Notation	Color	States	Description
DO	Green	Off	Digital output status is "Off"
		On	Digital output status is "On"

2.10.4 Wire Connection



2.11 ECAT-2060



The ECAT-2060 is an industrial slave I/O module built in 6 isolated digital inputs and 6 isolated relay outputs. Users can obtain the input and output status not only via the process data but also from its LED indicators.

2.11.1 Specifications

Digital Input

Channels	6	
Input Type	Dry (Source)	Wet (Sink/Source)
Off Voltage Level	Open	+4 V Max.
On Voltage Level	Close to GND	+10 V ~ +50 V
Isolation Voltage	3750 V _{DC}	

Digital Output

Channels	6	
Output Type	Form A (SPST-NO)	
Contact Rating (Resistive Load)	5 A @ 30 V _{DC} ; 5 A @ 125/250 V _{AC} (47~63Hz)	
Operate Time	10 ms Max.	
Release Time	5 ms Max.	
Mechanical Endurance	2 x 10 ⁷ Ops.	
Electrical Endurance	10 ⁵ Ops.	

Power

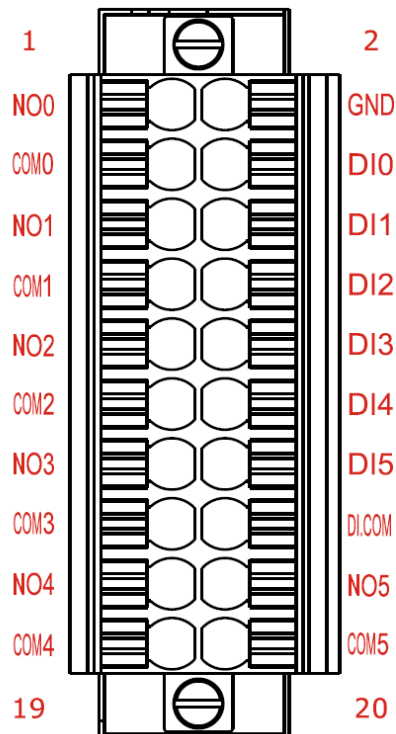
Input Voltage Range	10 V ~ 30 V _{DC}
Power Consumption	Max. 4 W

Communication Interface

Connector	2 x RJ-45
Protocol	EtherCAT

Distance between Stations	Max. 100 m (100 BASE-TX)
Data Transfer Medium	Ethernet/EtherCAT Cable (Min. CAT 5), Shielded
Mechanism	
Installation	DIN-Rail
Dimensions	110 mm x 90 mm x 33 mm (H x W x D, without connectors)
Case Material	UL 94V-0 Level
Environment	
Operating Temperature	-25°C ~ 75°C
Storage Temperature	-30°C ~ 80°C
Relative Humidity	10 ~ 90%, No Condensation
ESD (IEC 61000-4-2)	4 KV Contact for Each Channel
EFT (IEC 61000-4-4)	Power: 1 KV Class A; Signal: 1 KV Class A
Surge (IEC 61000-4-5)	1 KV Class A
Hi-Pot	1KV Class A

2.11.2 I/O Connector (Pin Assignment)

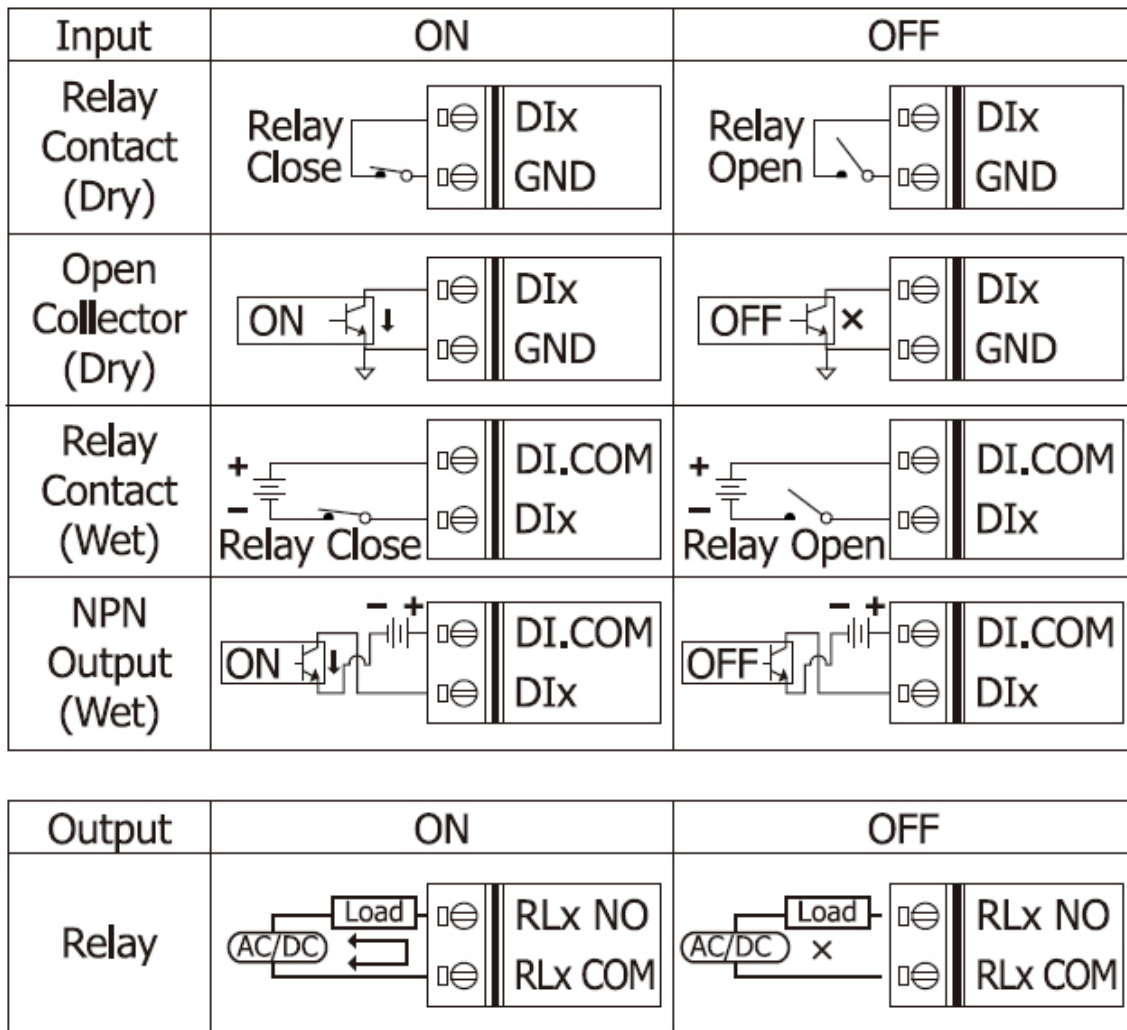


2.11.3 I/O Status LEDs



Notation	Color	States	Description
DI	Green	Off	Input voltage is lower than +4 V _{DC} (Max.)
		On	Input voltage is higher than “Off” state
DO	Green	Off	Digital output status is “Off”
		On	Digital output status is “On”

2.11.4 Wire Connection



3 *Software Communications*

3.1 Startup

EtherCAT devices are described in an XML file, ESI (EtherCAT Slave Information) file, which describes the modules of the ECAT-2000 series named "*ICPDAS ECAT-2000.xml*."

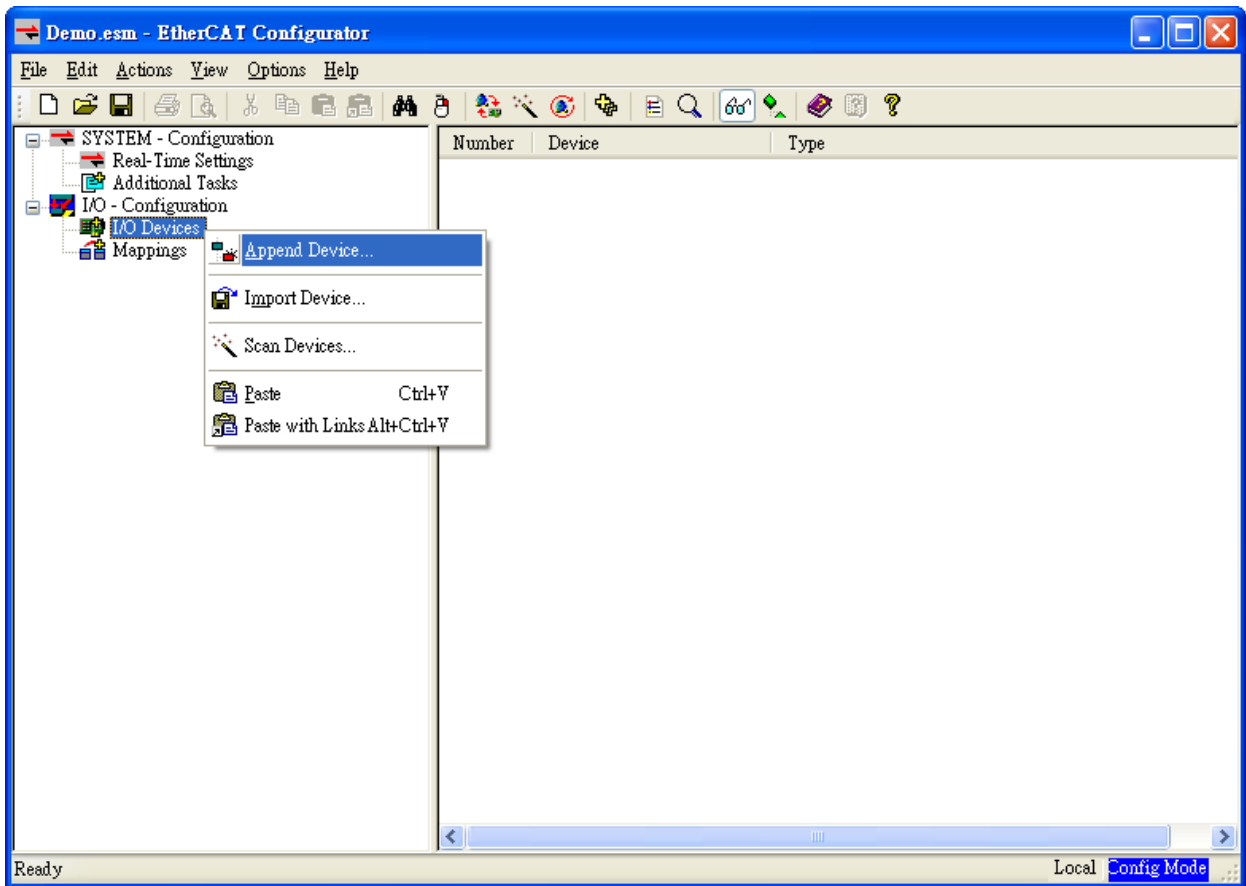
1. Download the ESI file, *ICPDAS ECAT-2000.xml*, from the website http://ftp.icpdas.com/pub/cd/fieldbus_cd/ethercat/slave/ecat-2000/software/ or from the CD in the shipping package
CD: \fieldbus_cd\ethercat\slave\ecat-2000\software
2. Copy the file "*ICPDAS ECAT-2000.xml*" to the destination folder of EtherCAT Master Tools(*Beckhoff EtherCAT Configurator* or *TwinCAT* etc.)
C:\EtherCAT Configurator\EtherCAT\ICPDAS ECAT-2000.xml
C:\TwinCAT\Io\EtherCAT\ICPDAS ECAT-2000.xml
Otherwise, if you are using another tool, to the folder set for that tool.

3.2 Configuration

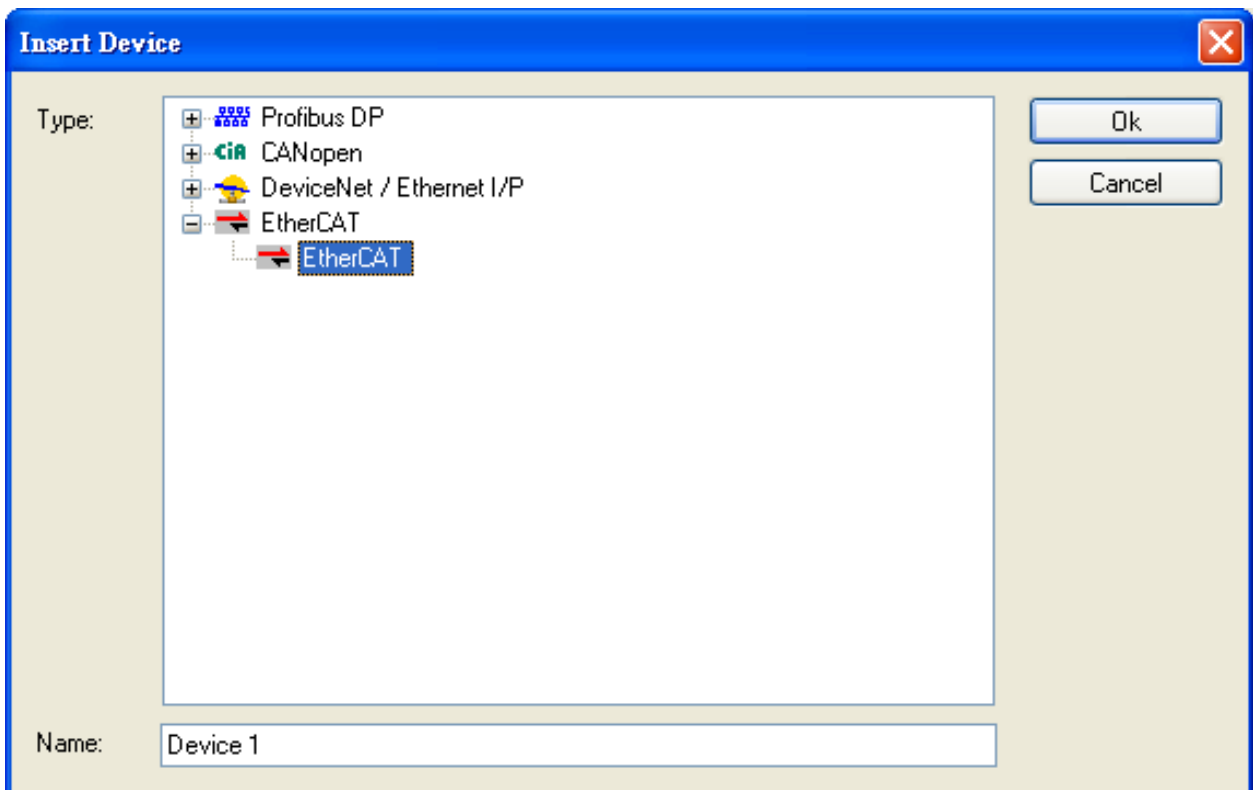
This section is described the configuration using the example of ECAT-2055 and the *EtherCAT Configurator* supplied by Beckhoff. Otherwise, if another tool is used, choose a configuration method as applicable.

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

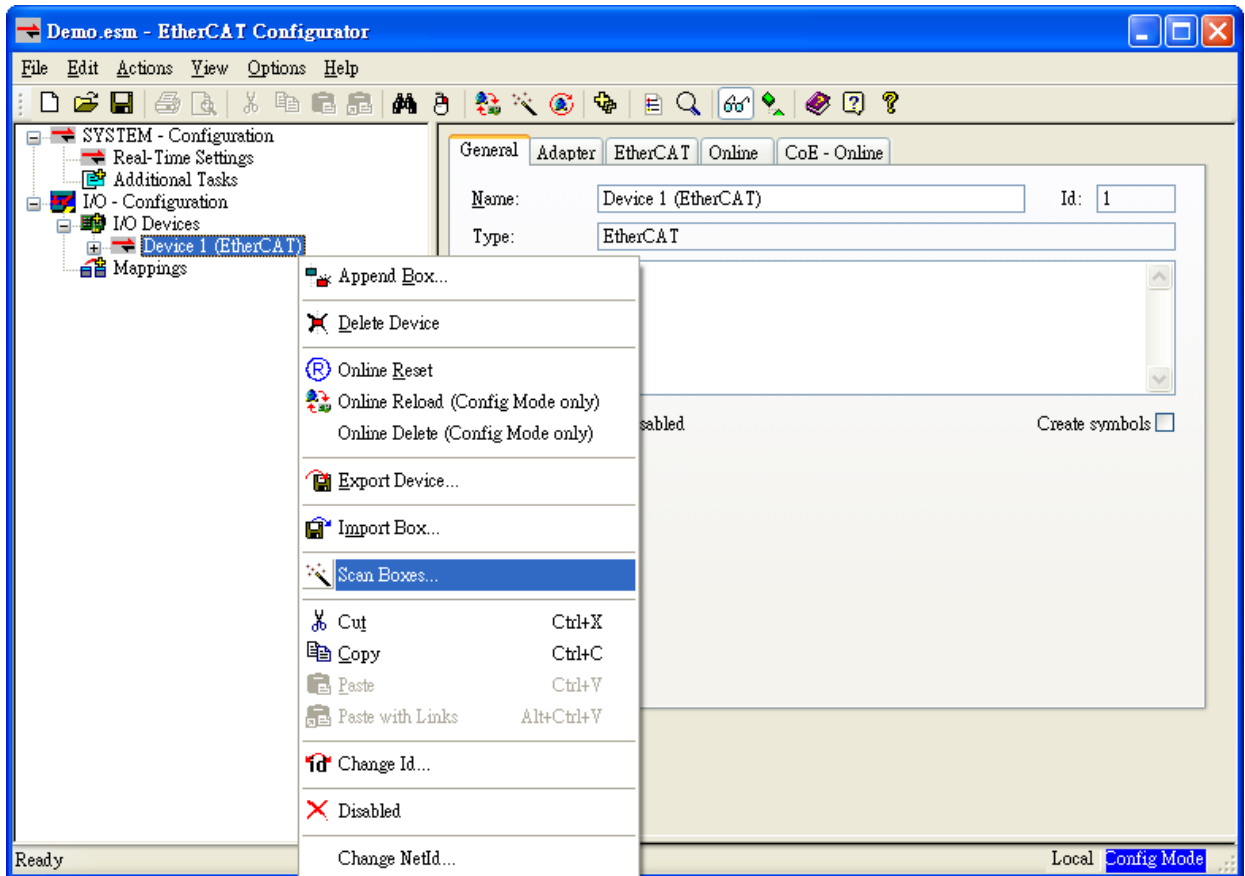
3. Click **I/O Device** with the right mouse button and choose **Append Device...** in the menu, and then the dialog window Insert Device is opened.



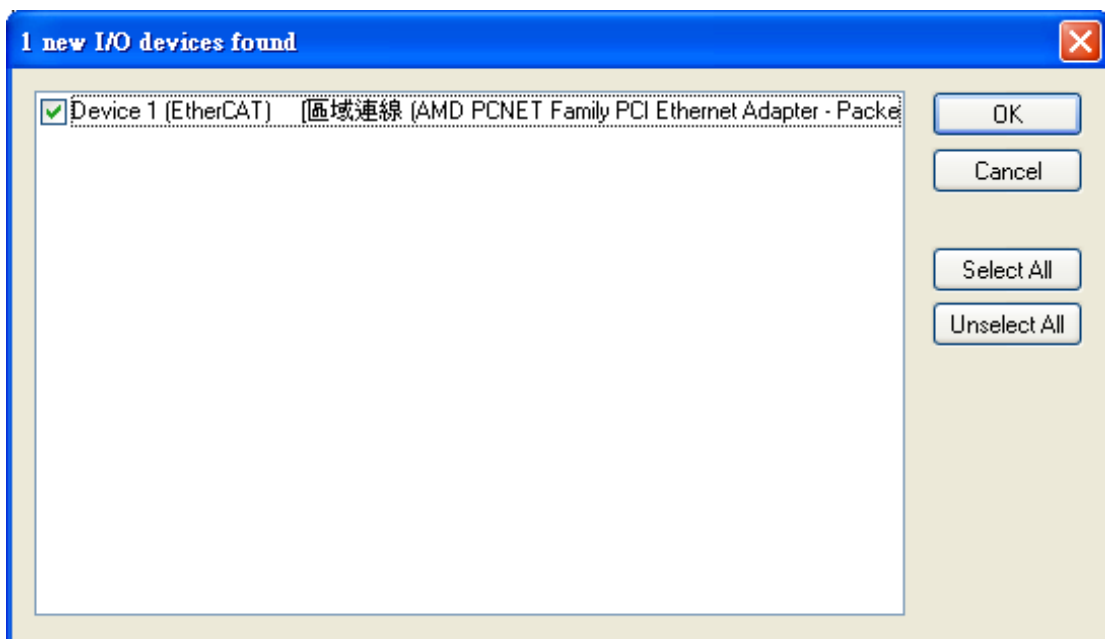
4. Select the **EtherCAT** type in this dialog window and confirm with **OK**.



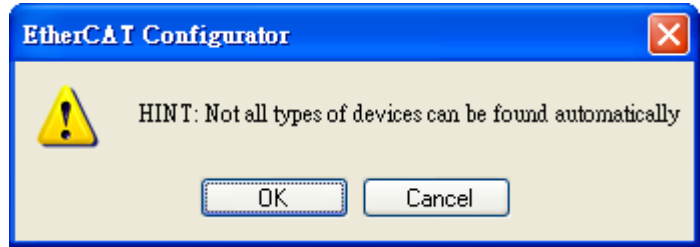
5. **Device 1 (EtherCAT)** is added to to your configuration, i.e. a new EtherCAT line. Click **Device 1(EtherCAT)** with the right mouse button and choose **Scan Boxes...** in the menu.



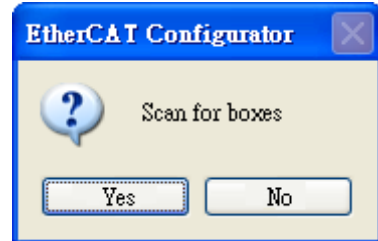
6. Choose the correct network device which is connected to ECAT-2000.



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



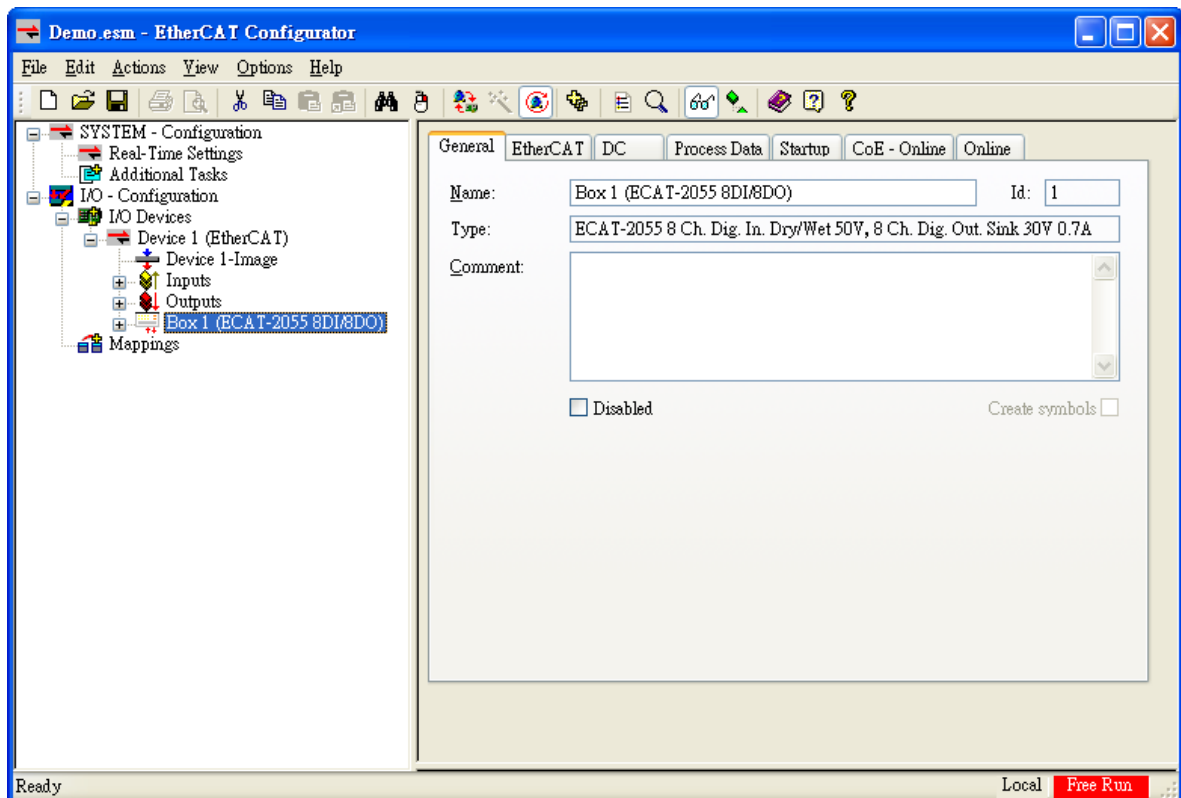
8. Click **Yes** to start scanning for ECAT-2000.



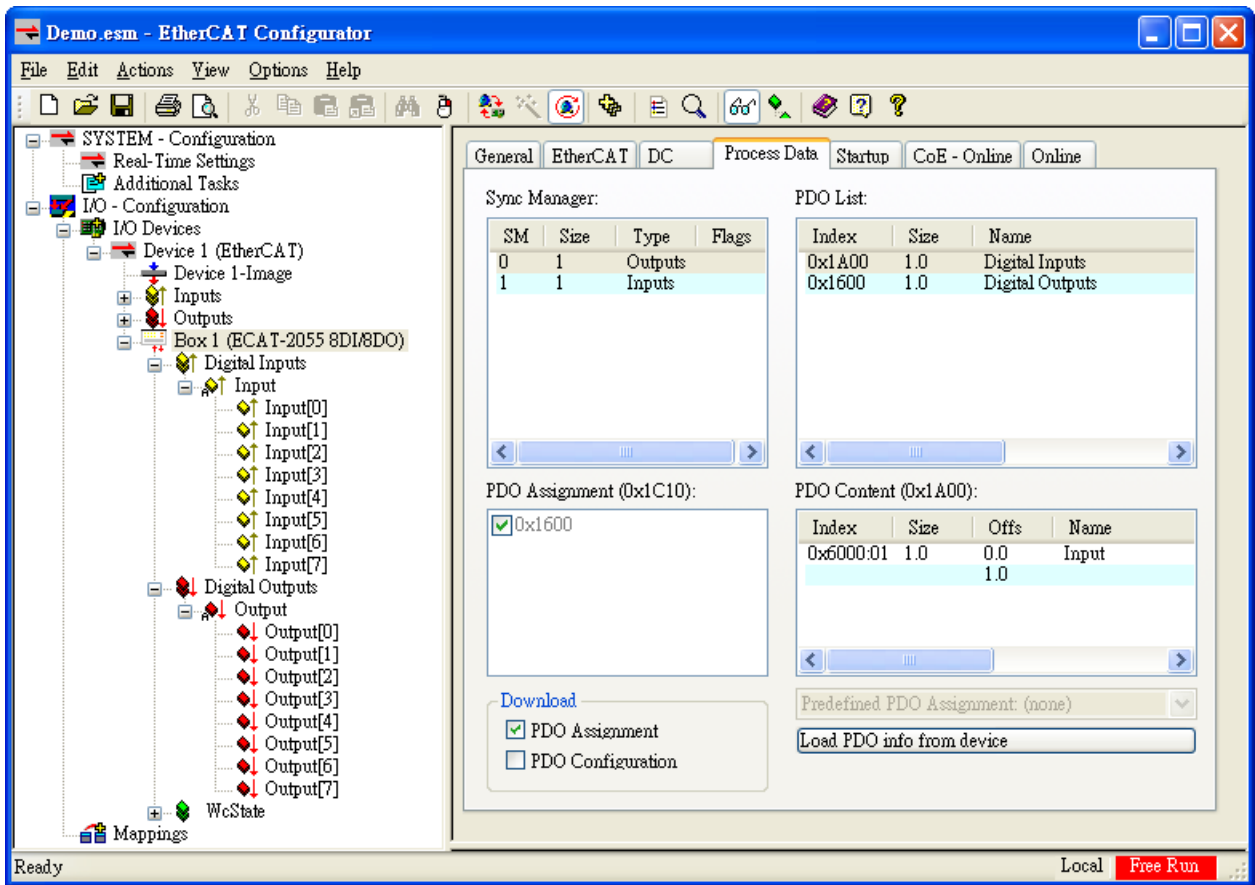
9. Click **Yes** to activate the free run mode for EtherCAT Configurator.



10. The **ECAT-2000 (Box 1)** is now shown in the EtherCAT Configurator.



- The input and output variables contained in the ESI (*.xml) file of the ECAT-2000 are displayed as CANopen Process Data Objects(PDO). The PDOs are listed in the **PDO List** of the **Process Data** tab.



A *Glossary*

A.1 Ordering Information

EtherCAT Slave DIO Modules	
ECAT-2045CR	EtherCAT Slave I/O Module with Isolated 16-ch DO (Sink)(RoHS)
ECAT-2050 CR	EtherCAT Slave I/O Module with Isolated 4-ch DO (Sink/Source) and 13-ch DI (Wet) (RoHS)
ECAT-2051 CR	EtherCAT Slave I/O Module with Isolated 16-ch DI (Dry/Wet) (RoHS)
ECAT-2052 CR	EtherCAT Slave I/O Module with Isolated 8-ch DO (Source) and 8-ch DI (Wet) (RoHS)
ECAT-2052-NPN CR	EtherCAT Slave I/O Module with Isolated 8-ch DO (Sink) and 8-ch DI (Wet) (RoHS)
ECAT-2053 CR	EtherCAT Slave I/O Module with Isolated 16-ch DI (Wet) (RoHS)
ECAT-2055 CR	EtherCAT Slave I/O Module with Isolated 8-ch DO (Sink) and 8-ch DI (Dry/Wet)(RoHS)
ECAT-2057 CR	EtherCAT Slave I/O Module with Isolated 16-ch DO (Source) (RoHS)
ECAT-2057-NPN CR	EtherCAT Slave I/O Module with Isolated 16-ch DO (Sink) (RoHS)
ECAT-2060 CR	EtherCAT Slave I/O Module with Isolated 6-ch Relay DO and 6-ch DI (Dry/Wet) (RoHS)

A.2 Technical Support

If you have any difficulties using your ECAT-2000 series modules, please contact us or send a description for the problem to service@icpdas.com.