ICP DAS

ECAT-2051/ECAT-2053

EtherCAT Slave I/O Module with Isolated 16-channel Digital Inputs

Features

- On the fly processing: EtherCAT
- Powerful MCU handles efficient network traffic
- 2 x RJ-45 bus interface
- Distance between stations up to 100 m (100 BASE-TX)
- Support daisy chain connection
- EtherCAT conformance test tool verified
- Removable terminal block connector
- LED indicators for the input status
- Built-In isolated 16 digital inputs
- RoHS compliant
- ESD Protection 4 KV Contact for each channel
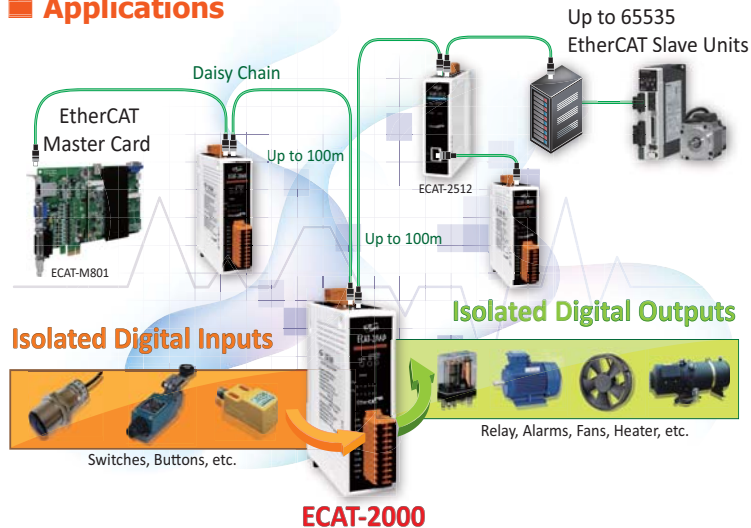
Introduction

The ECAT-2051 is an industrial slave I/O module built in 16 digital inputs. It is equipped with the EtherCAT* protocol and installed by daisy chain connection that provides a more scalable system with fewer wires. Users can obtain the input and output status not only via the process data but also from its LED indicators. The ECAT-2051 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.

∗ EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.
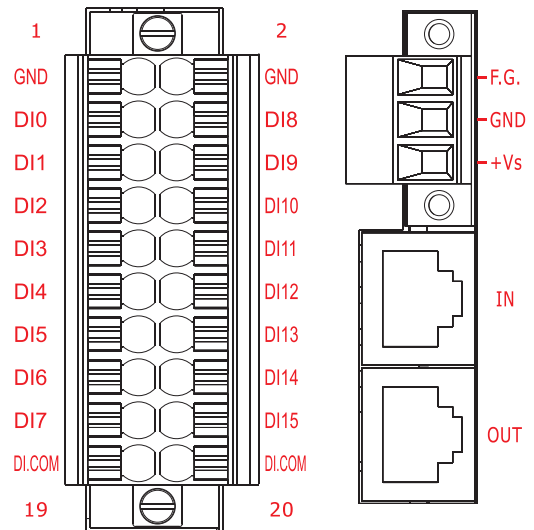
Hardware Specifications

Model		ECAT-2051	ECAT-2053
Digital Input			
Channels		16	
Input Type		Wet (Sink/Source)/ Dry (Source)	Wet (Sink/Source)
Wet Contact	ON Voltage Level	+4 V Max.	+2 V Max.
	OFF Voltage Level	+10 V ~ +50 V	+3.5 V ~ +50 V
Dry Contact	ON Voltage Level	Open	-
	OFF Voltage Level	Close to GND	-
Photo-Isolation		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	
EMS Protection			
ESD (IEC 61000-4-2)		±4 kV Contact for Each Terminal	
EFT (IEC 61000-4-4)		Signal: 1 KV Class A; Power: 1 KV Class A	
Surge (IEC 61000-4-5)		1 KV Class A	
Power			
Input Voltage Range		+10 ~ +30 V_{DC}	
Power Consumption		4 W Max.	
Mechanical			
Dimensions (W x L x H)		33 mm x 127 mm x 108 mm	
Installation		DIN-Rail Mounting	
Case Material		UL 94V-0 Housing	
Environment			
Operating Temperature		-25 ~ +75°C	
Storage Temperature		-30 ~ +80°C	
Relative Humidity		10 ~ 90% RH, Non-condensing	

■ Applications

Up to 65535 EtherCAT Slave Units

Daisy Chain

EtherCAT Master Card

Up to 100m

ECAT-2512

Up to 100m

ECAT-M801

Isolated Digital Inputs

Isolated Digital Outputs

ECAT-2000

Switches, Buttons, etc.

Relay, Alarms, Fans, Heater, etc.

■ Pin Assignments

1		2
GND		GND
DI0		DI8
DI1		DI9
DI2		DI10
DI3		DI11
DI4		DI12
DI5		DI13
DI6		DI14
DI7		DI15
DI.COM		DI.COM
19		20

F.G.
GND
+Vs

IN

OUT

■ Wire Connections

ECAT-2051 / ECAT-2053		
Digital Input/ Counter	Readback as 1	Readback as 0
Sink	+10 ~ +50 V$_{DC}$	OPEN or <4 V$_{DC}$
	DIx 10K DI.COM To other channels	DIx 10K DI.COM To other channels
Source	+10 ~ +50 V$_{DC}$	OPEN or <4 V$_{DC}$
	DIx 10K DI.COM To other channels	DIx 10K DI.COM To other channels

ECAT-2051		
Digital Input/ Counter	Readback as 1	Readback as 0
	Close to GND	Open
Dry	DI.GND +S5 V DIx To other channels	DI.GND +S5 V DIx To other channels

■ Dimensions (Units: mm)

108
90
37.2
35.6
37.2
7

Left Side View

33
127
110

Front View

Right Side View

Rear View

Top View

Bottom View
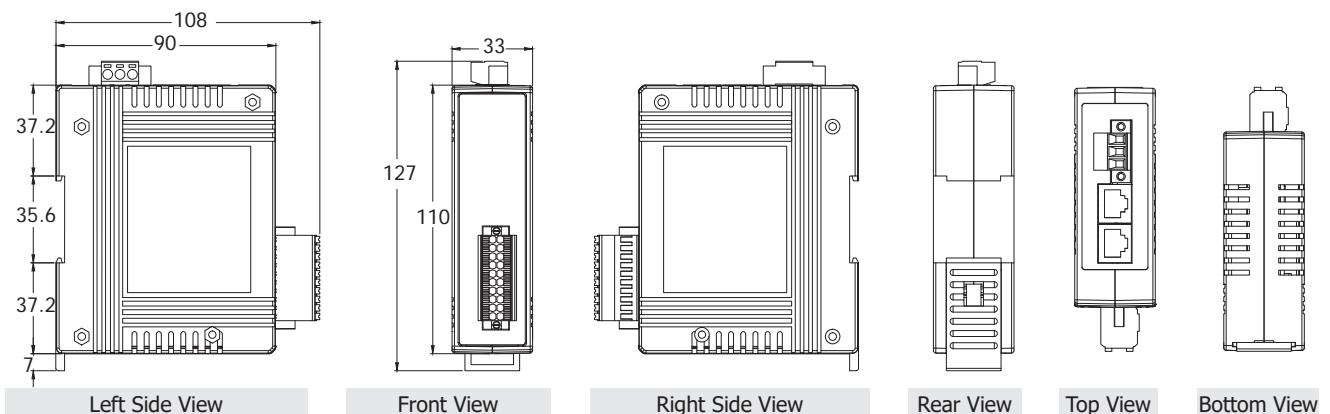
■ Ordering Information

ECAT-2051 CR	EtherCAT Slave I/O Module with Isolated 16-channel DI (RoHS)
ECAT-2053 CR	EtherCAT Slave I/O Module with Isolated 16-channel DI (RoHS)