

ETS Hardware Reference Manual



8CHANNEL **DIGITAL INPUT/OUTPUT** MODULE

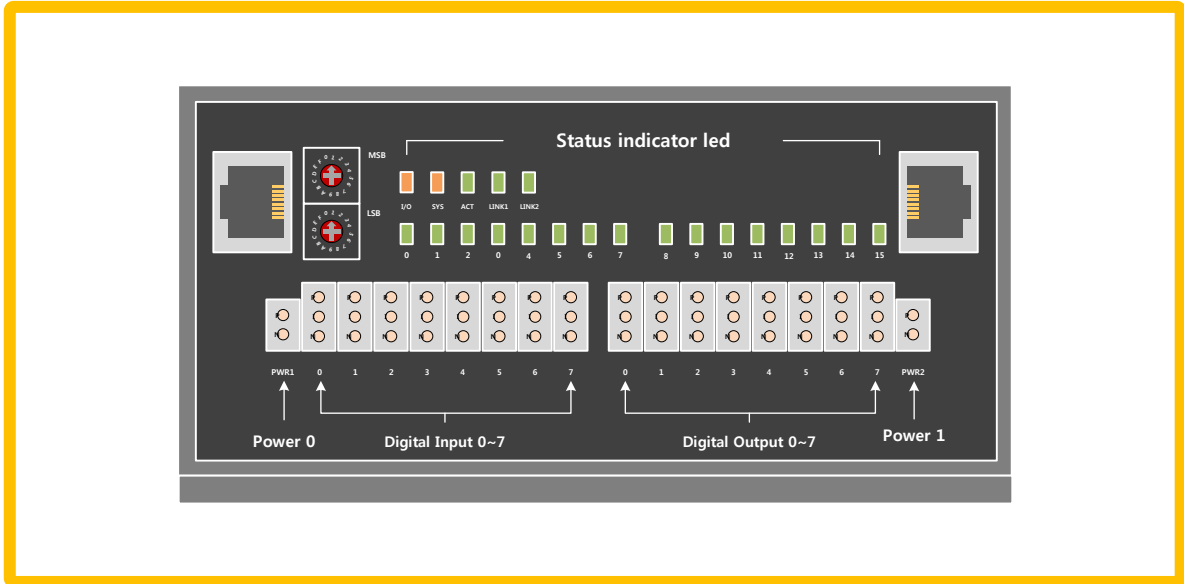
ETS-D08MN

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개요

ETS - D08MN / Digital Input / Output (NPN)

ETS-D08MN는 EtherCAT 기반 제어기인 ETS Series의 8채널 Digital 입력 / 8채널 Digital 출력 모듈입니다. 각 채널의 내부 제어신호와 외부 입출력 신호는 포토커플러를 사용하여 절연됩니다. 본 매뉴얼은 ETS-D08MN의 하드웨어 구성과 기능에 대해 설명하는 하드웨어 매뉴얼입니다.

제품사양
Power Specification

ITEM	Details
Power Dissipation(System)	Max. 40mA @ 24.0V DC
Power Dissipation(I/O)	Max. 30mA @ 24.0V DC
Rated Input Voltage	24V DC (-15%/+20%, ripple ratio within 5%) EN 61131-2

Comm. Specification

ITEM	Details
Transmission speed for EtherCAT	100 Mbit/s with Full Duplex
MDI/MDI-X	MDI/MDI-X auto-crossover.
ESD Protection	Contact Discharge (Typ.) 4kV
	Air Discharge (Typ.) 8kV

Digital Specification

Contents	Details
Number of Inputs	Isolated 8 Input
Input type	Current sinking type (PNP)
Input Range	DC 0 ~ 24V
Input Current	Min. 3.6mA / channel
Input Impedance	5.1 KOhm
Input Level Tolerant	Low (Min. 0V ~ Max. 5V)
	High (Min. 18V ~ Max. 24V)
Isolation	1 KV Channel to Channel

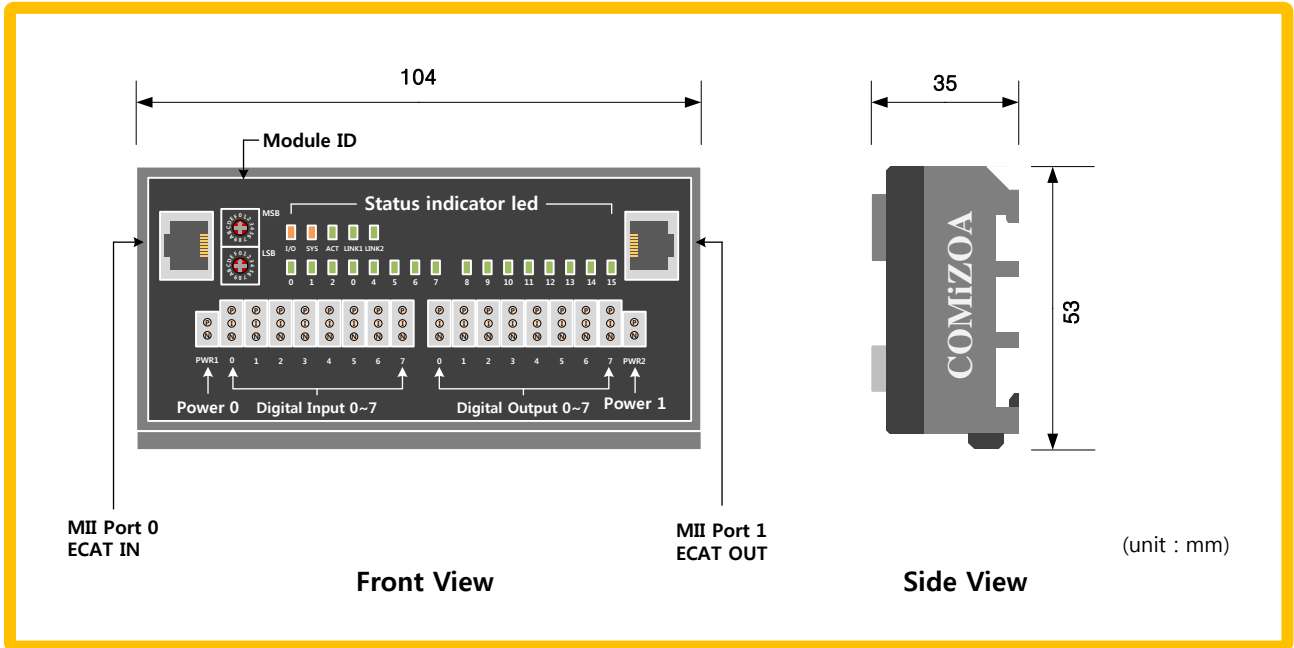
Digital Input Specification

Contents	Details
Number of Outputs	Isolated 8 Output
Output type	MOSFET with common ground (NPN)
Output Voltage	Min. 5V ~ Max. 35V
Sink Current	Max. 500mA / channel
Rds(On state resistance)	Max. 500mOhm
Throughput	10Khz (0.1ms)
Overload Shutdown	1.1A Min ~ 2A Max

Digital Output Specification
Environmental Specification

ITEM	Details
Dimension	104 * 53 * 35 (mm)
Install	Industrial DIN rail
Operating Temperature Range	0℃ ~ 50℃
Storage Temperature Range	-20℃ ~ 80℃
Operating Humidity Range	5% ~ 90%RH, non-condensing
Storage Humidity Range	5% ~ 90%RH, non-condensing

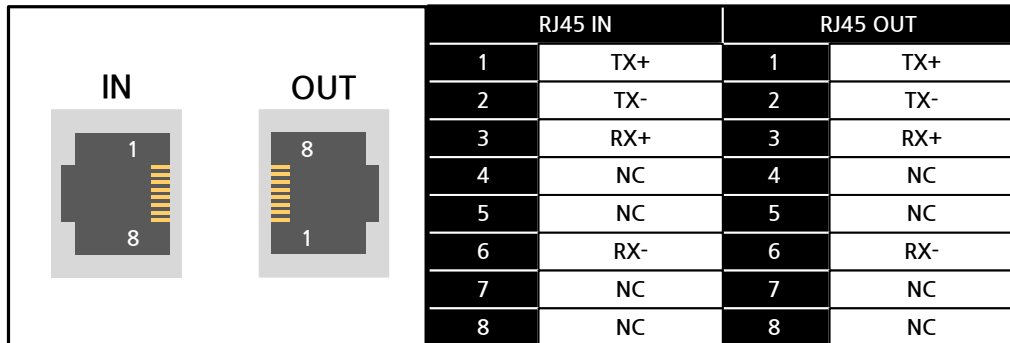
제품사양



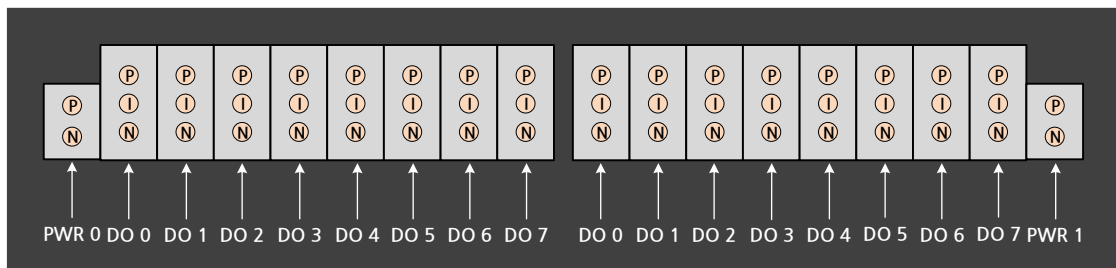
Dimension

Wiring

■ RJ45 Connector

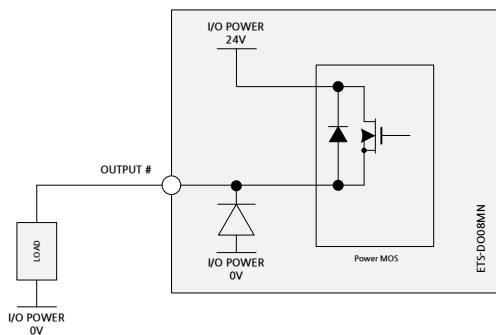


■ Contact Number

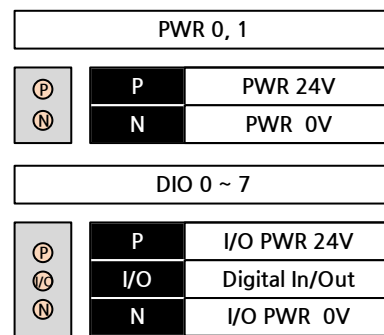


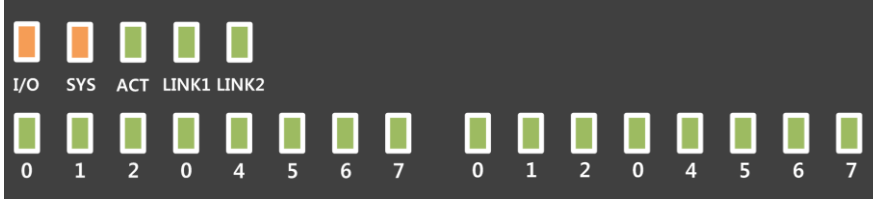
※ All numberings are zero based

■ Circuit Diagram



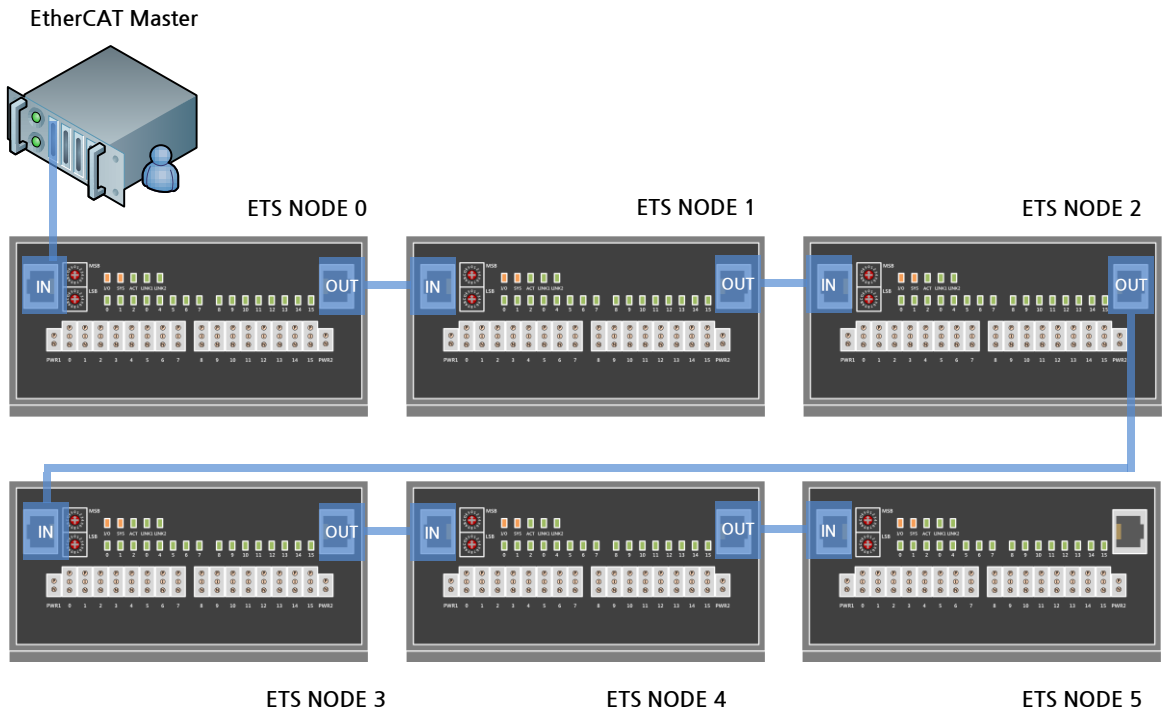
■ PIN MAP



Indicators


I/O	I/O POWER LED	ON	DIGITAL I/O POWER(24V DC) ON
		OFF	DIGITAL I/O POWER(24V DC) OFF
SYS	SYSTEM POWER LED	ON	SYSTEM POWER(3.3V DC) ON
		OFF	SYSTEM POWER(3.3V DC) OFF
ACT	EtherCAT AL STATE LED	OFF	INIT
		Blinking(slow)	PRE-OP
		Single Flash	SAFE-OP
		ON	OP
		Flickering(fast)	BOOTSTRAP
LINK 0(1)	LINK 0(1) STATE LED	Blinking(slow)	MII Port 0(1) OPEN
		OFF	MII Port 0(1) Closed
DO 0-15	OUTPUT STATE LED	ON	OUTPUT ON STATE (LOGIC ' 1')
		OFF	OUTPUT ON STATE (LOGIC ' 0')

Interface Connect



Device ID Setting

	NODE ID setting	$I.P = MSB * 16 + LSB$
	NODE ID range	1 ~ 256

Hardware Reference Manual Update List

No.	Version	Date	Changes in
1			First Edition
2	1.01	2016.02.26	글꼴변경 (나눔고딕, 굴림)

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