

# ECS Hardware Reference Manual



16CHANNEL **DIGITAL OUTPUT** MODULE

**ECS-DO16N**

FEB 2016  
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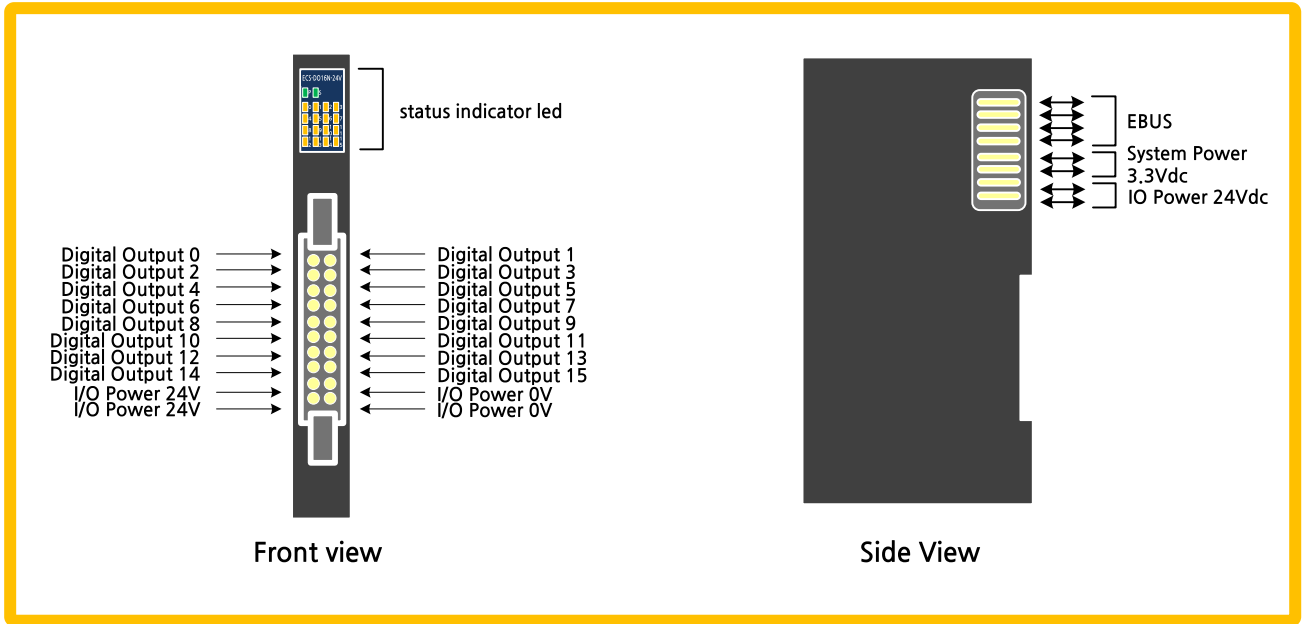
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개요



ECS Series - ECS-DO16N (Digital Output 16ch NPN)

ECS-DO16N는 EtherCAT 기반 제어기인 ECS Series의 16채널 Digital 출력 모듈입니다.

각 채널의 내부 제어신호와 외부 입출력 신호는 포토커플러를 사용하여 절연됩니다.

본 매뉴얼은 ECS-DO16N의 하드웨어 구성과 기능에 대해 설명하는 하드웨어 매뉴얼입니다.

**제품사양**
**▣ Digital Specification**

ITEM	ECS-DO16N-24V
Number of Inputs	16 output ( 1 Wire )
Output type	MOSFET with Common Ground (NPN)
Isolation	Photo-coupler(Viso=3,000Vrms)
OFF State Current	Max. 100uA / Point
On State Max Sink Current	Max. 500mA / Point
Rds(On state resistance)	Max. 1.4Ω (±5%)
Over-Temperature Shutdown	160°C
Over-Current Shutdown	0.7A (Min.) ~ 2A (Max.)
Wiring contact	Ribbon Cable connector( HIF3B-20PA-2.54DS )

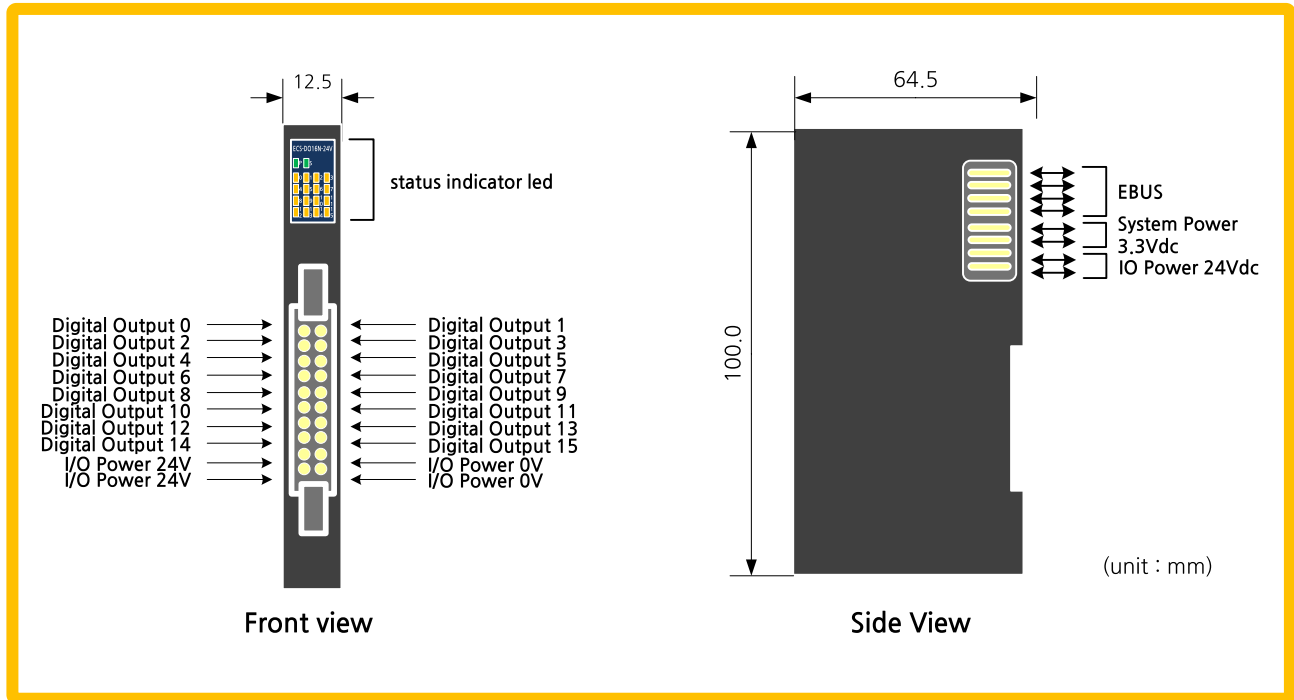
**▣ Power Specification**

ITEM	ECS-DO16N-24V
Power Dissipation(System)	Max. 100mA @ 5.0V DC
Power Dissipation(I/O)	Max. 30mA @ 24.0V DC
Rated Input Voltage	24V DC (-15%/+20%, ripple ratio within 5%) EN 61131-2

**▣ Environmental Specification**

ITEM	ECS-DO16N-24V
Dimension	65 * 100 * 12.5 (mm)
Install	Industrial DIN rail
Operating Temperature Range	0°C ~ 50°C
Storage Temperature Range	-20°C ~ 80°C
Operating Humidity Range	5% ~ 90%RH, non-condensing
Storage Humidity Range	5% ~ 90%RH, non-condensing

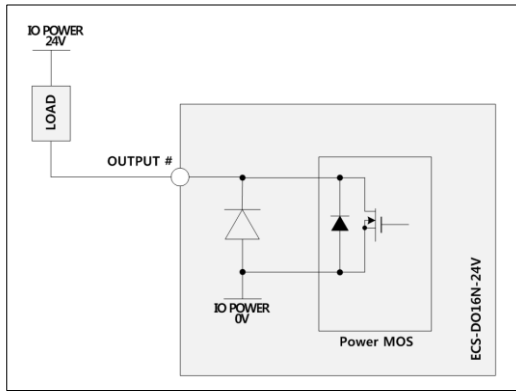
제품사양



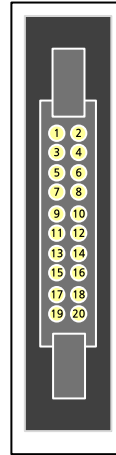
Dimension

Wiring

■ Circuit Diagram

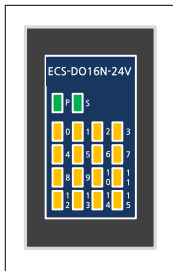


■ PIN MAP



1	OUTPUT 0	2	OUTPUT 1
4	OUTPUT 2	4	OUTPUT 3
5	OUTPUT 4	6	OUTPUT 5
7	OUTPUT 6	8	OUTPUT 7
9	OUTPUT 8	10	OUTPUT 9
11	OUTPUT 10	12	OUTPUT 11
13	OUTPUT 12	14	OUTPUT 13
15	OUTPUT 14	16	OUTPUT 15
17	I/O PWR 24V	18	I/O PWR 0V
19	I/O PWR 24V	20	I/O PWR 0V

Indicators



P	SYSTEM POWER LED	ON	SYSTEM POWER(5V DC) ON
		OFF	SYSTEM POWER(5V DC) OFF
S	EtherCAT AL STATE LED	OFF	INIT
		Blinking(slow)	PRE-OP
		Single Flash	SAFE-OP
		ON	OP
0-15	OUTPUT STATE LED	Flickering(fast)	BOOTSTRAP
		ON	OUTPUT ON STATE (LOGIC '1')
		OFF	OUTPUT OFF STATE (LOGIC '0')

## Hardware Reference Manual Update List

No.	Version	Date	Changes in
1			First Edition
2	1.01	2016.02.29	글꼴변경 (나눔고딕, 굴림)

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