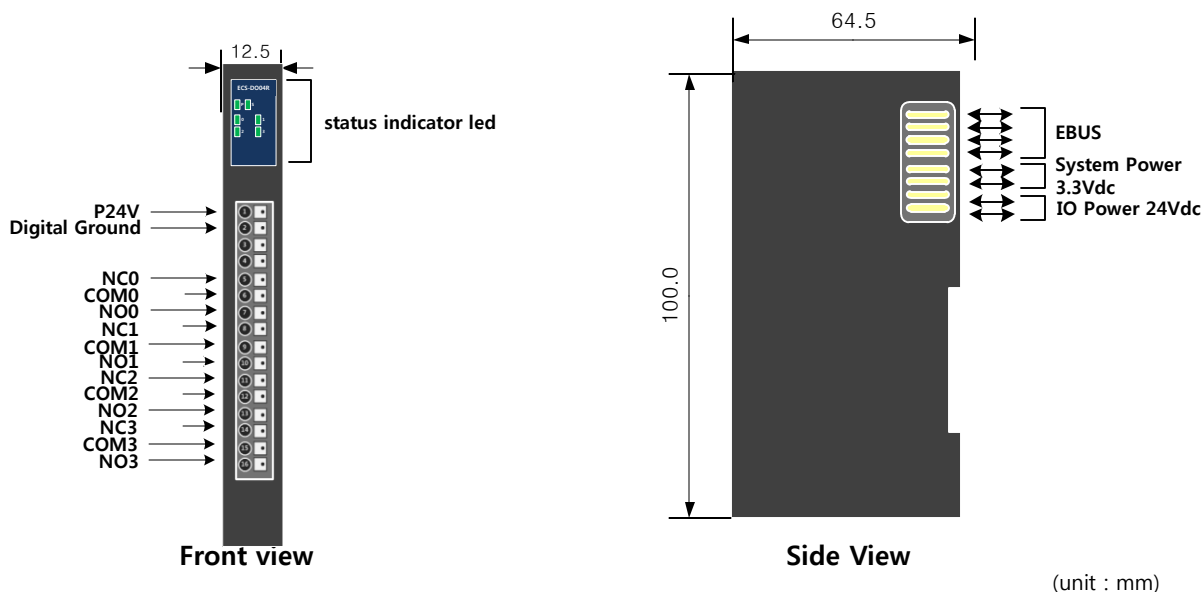




ECS-DO04R-24V | 4 Digital Output, 24V DC, 0.5A, Current Sourcing

Outline Drawing



Specification

■ Digital Specification

ITEM	ECS-DO04R
Number of Inputs	4 input (1 Wire)
Output type	MOSFET with Common Ground (PNP)
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-DO04R
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-DO04R
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

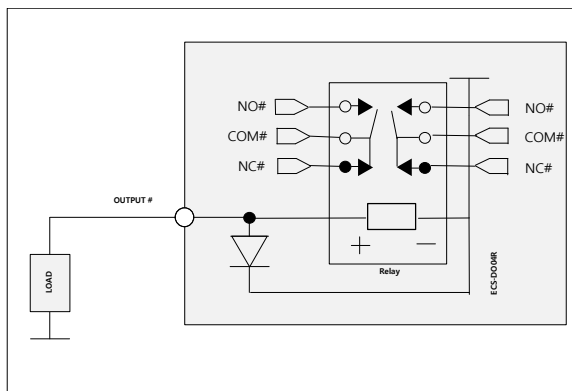
Specification

Relay Specification

Characteristic	ITEM	ECS-DO04R	
Contact	Arrangement	2 Form C	
	Initial contact resistance, max.	Max. 100 mΩ (By voltage drop 6 V DC 1A)	
	Contact material	Stationary contact: AgPd+Au clad Movable contact: AgPd	
Rating	Nominal switching capacity	2 A 30 V DC, 1 A 30 V DC, 0.3 A 125 V AC (resistive load)	
	Max. switching power	60 W (DC), 30 W (DC), 37.5 V A (AC) (resistive load)	
	Max. switching voltage	110 V DC, 125 V AC	
	Max. switching current	2 A	
	Min. switching capacity (Reference value)*1	10μA 10 mV DC	
	Nominal operating power	Single side stable	140mW (1.5 to 12 V DC), 230mW (24 V DC)
High sensitivity single side stable type		100mW (1.5 to 12 V DC), 120mW (24 V DC)	
1 coil latching			
Electrical characteristics	Insulation resistance (Initial)	Min. 1,000MΩ (at 500V DC) Measurement at same location as "Initial breakdown voltage" section.	
	Breakdown voltage (Initial)	Between open contacts	750 Vrms for 1min. (Detection current: 10mA)
		Between contact and coil	1,500 Vrms for 1min. (Detection current: 10mA)
		Between contact sets	1,000 Vrms for 1min. (Detection current: 10mA)
	Surge breakdown voltage (Initial)	Between open contacts	1,500 V (10×160μs) (FCC Part 68)
		Between contacts and coil	2,500 V (2×10μs) (Telcordia)
	Temperature rise (at 20°C 68°F)		Max. 50°C (By resistive method, nominal coil voltage applied to the coil; contact carrying current: 1A.)
	Operate time [Set time] (at 20°C 68°F)		Max. 4 ms [Max. 4 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.)
Release time [Reset time] (at 20°C 68°F)		Max. 4 ms [Max. 4 ms] (Nominal coil voltage applied to the coil, excluding contact bounce time.) (without diode)	
Mechanical characteristics	Shock resistance	Functional	Min. 750 m/s ² (Half-wave pulse of sine wave: 6 ms; detection time: 10μs.)
		Destructive	Min. 1,000 m/s ² (Half-wave pulse of sine wave: 6 ms.)
	Vibration resistance	Functional	10 to 55 Hz at double amplitude of 3.3 mm (Detection time: 10μs.)
		Destructive	10 to 55 Hz at double amplitude of 5 mm
Expected life	Mechanical	Min. 5 × 10 ⁷ (at 180 cpm)	
	Electrical	Min. 5 × 10 ⁴ (2 A 30 V DC resistive), Min. 10 ⁵ (1 A 30 V DC resistive), Min. 10 ⁵ (0.3 A 125 V AC resistive) (at 20 cpm)	
Conditions	Conditions for operation, transport and storage*2	Ambient temperature: (Single side stable, 1 coil latching type) -40°C to +85°C -40°F to +185°F (High sensitivity single side stable type) -40°C to +70°C -40°F to +158°F Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature)	
	Max. operating speed (at rated load)	20 cpm	
Unit weight		Approx. 1 g .035 oz	

Wiring

Circuit Diagram

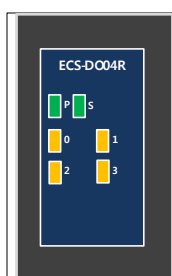


PIN MAP



1	P24V
2	N24V
3	
4	
5	NC0
6	COM0
7	NO0
8	NC1
9	COM1
10	NO1
11	NC2
12	COM2
13	NO2
14	NC3
15	COM3
16	NO3

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
0-3	OUTPUT STATE LED	ON	OP
		Flickering(fast)	BOOTSTRAP
		ON	OUTPUT ON STATE (LOGIC '1')
		OFF	OUTPUT OFF STATE (LOGIC '0')