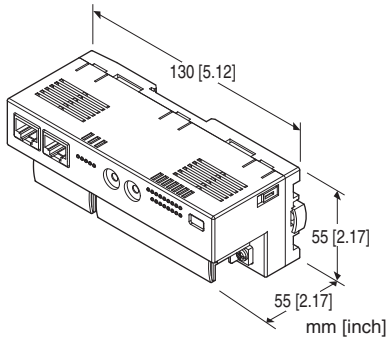
Remote I/O R7G4H Series

EtherNet/IP I/O MODULE

(PNP transistor output, 16 points, screw terminal block)

Functions & Features

- 16 points PNP transistor output module for EtherNet/IP
- Supports DLR (Device Level Ring) to form a ring topology



MODEL: R7G4HEIP-6-DC16B-R[1]

ORDERING INFORMATION

- Code number: R7G4HEIP-6-DC16B-R[1]

Specify a code from below for [1].
(e.g. R7G4HEIP-6-DC16B-R/Q)

- Specify the specification for option code /Q
(e.g. /C01)

TERMINAL BLOCK

6: Screw terminal block for power supply
RJ-45 Modular jack for communication
Screw terminal block for I/O

I/O TYPE

DC16B: PNP transistor output, 16 points

POWER INPUT

DC power

R: 24 V DC
(Operational voltage range: ±10 %; ripple 10 %p-p max.)

[1] OPTIONS

blank: none
/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to our web site.)

/C01: Silicone coating
/C02: Polyurethane coating
/C03: Rubber coating

RELATED PRODUCTS

- PC configurator software (model: R7CFG)
- EDS file

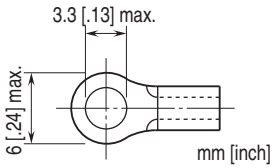
The EDS files and configurator software are downloadable at our web site.
For connecting to PC, use commercially available Mini-B type USB cable. (provided by user)

GENERAL SPECIFICATIONS

Connection

EtherNet/IP: RJ-45 modular jack
Power input, output: M3 separable screw terminal (torque 0.5 N·m)
Solderless terminal: Refer to the drawing at the end of the section.
Recommended manufacturer: J.S.T. Mfg. Co., Ltd., NICHIFU Co., Ltd.
Applicable wire size: 0.25 to 1.65 mm^2 (AWG 22 to 16)
Screw terminal: Nickel-plated steel
Housing material: Flame-resistant resin (gray)
Isolation: Output to EtherNet/IP or FE to power
Output at the loss of communication: Configurable via R7CFG
Status indicator LEDs: PWR, RUN
(Refer to the instruction manual)
Discrete output status indicator LED: Green LED turns on with output ON

■Recommended solderless terminal



EtherNet/IP COMMUNICATION

Communication Standard: IEEE 802.3u
Transmission: 10BASE-T, 100BASE-TX
Baud rate: 10/100 Mbps (Auto Negotiation function)
Protocol: EtherNet/IP
Max. number of socket connections: 3
Connection type: Exclusive owner / Listen only / Input only
Transmission media: 10BASE-T (STP, Category 5), 100BASE-TX (STP, Category 5e)
Network topology: Line, star and ring
Max. length of fieldbus segment: 100 meters
IP address: 192.168.0.250 (factory setting);
Only host address in IP address is configurable via rotary

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switches, the other items via PC configurator software (model: R7CFG)
DLR supported
Port No.: 2222, 44818
I/O data size: One (1) word
Status indicator LEDs: MS, NS (Refer to the instruction manual for details)

OUTPUT SPECIFICATIONS

Common: Positive common (PNP) per 16 points
Maximum outputs applicable at once: No limit (at 24 V DC)
Rated load voltage: 24 V DC ±10 %, ripple 5 %p-p max.
Rated output current: 0.1 A per point, 1.6 A per common
Residual voltage: ≤ 1.2 V
Leakage current: ≤ 0.1 mA
ON delay: ≤ 0.2 msec.
OFF delay: ≤ 0.5 msec.
Overload current protection function: Limits the current value when overcurrent is detected
Overheat protection function: Turns OFF the outputs when overheat is detected
(When driving an inductive load, connect a diode in parallel with the load.)

INSTALLATION

Current consumption
•**DC**: Approx. 50 mA
Operating temperature: -10 to +55°C (14 to 131°F)
Storage temperature: -20 to +65°C (-4 to +149°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Atmosphere: No corrosive gas or heavy dust
Mounting: Surface or DIN rail (35 mm rail)
Weight: 200 g (0.44 lb)

PERFORMANCE

Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 1500 V AC @ 1 minute
(output to EtherNet/IP or FE to power)

STANDARDS & APPROVALS

EU conformity:
EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2
RoHS Directive

PC CONFIGURATOR

The following parameters can be set with using PC Configurator Software (model: R7CFG)
Refer to the users manual for the R7CFG for detailed operation of the software program.

■ CHANNEL BATCH SETTING

PARAMETER	SETTING RANGE	DEFAULT SETTING
Output Hold / Clear	Hold / Clear	Hold

■ EtherNet SETTING

PARAMETER	SETTING RANGE	DEFAULT SETTING
IP Address	0.0.0.0 - 255.255.255.255	192.168.0.250
Subnet Mask	0.0.0.0 - 255.255.255.255	255.255.255.0
Default Gateway	0.0.0.0 - 255.255.255.255	192.168.0.1
Time Out	0.0 - 3276.7 (sec.)	3.0 (sec.)
Use IP Address	DHCP / CONFIG	CONFIG

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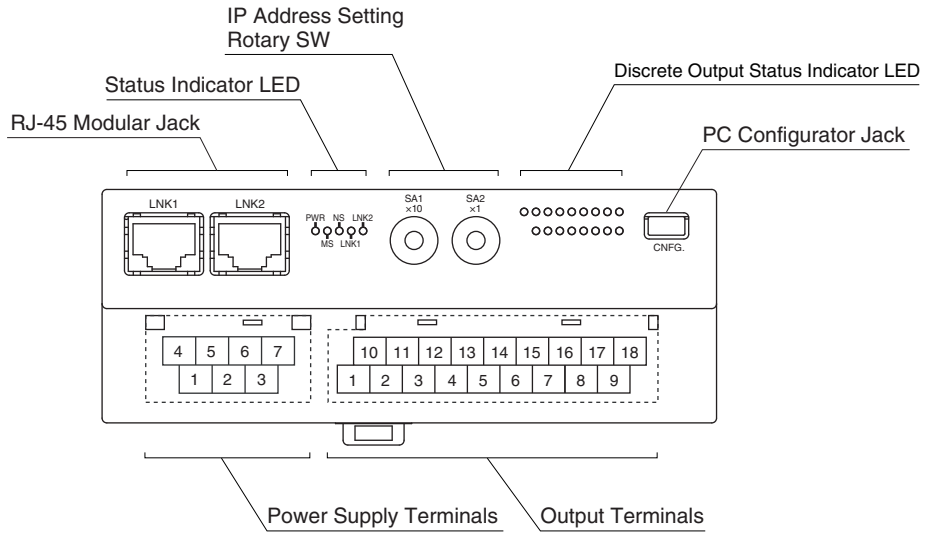
EXTERNAL VIEW



TERMINAL ASSIGNMENTS

■ OUTPUT TERMINAL ASSIGNMENT

10	11	12	13	14	15	16	17	18
V+	Y1	Y3	Y5	Y7	Y9	Y11	Y13	Y15
1	2	3	4	5	6	7	8	9
V−	Y0	Y2	Y4	Y6	Y8	Y10	Y12	Y14

NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	V−	0V	10	V+	24V DC (Out. Common)
2	Y0	Output 0	11	Y1	Output 1
3	Y2	Output 2	12	Y3	Output 3
4	Y4	Output 4	13	Y5	Output 5
5	Y6	Output 6	14	Y7	Output 7
6	Y8	Output 8	15	Y9	Output 9
7	Y10	Output 10	16	Y11	Output 11
8	Y12	Output 12	17	Y13	Output 13
9	Y14	Output 14	18	Y15	Output 15

■ POWER SUPPLY TERMINAL ASSIGNMENT

4	5	6	7
NC	NC	+24V	0V
1	2	3	
NC	NC	FE	

1. NC –
2. NC –
3. FE Functional earth
4. NC –
5. NC –
6. +24V Power supply (24V DC)
7. 0V Power supply (0V)

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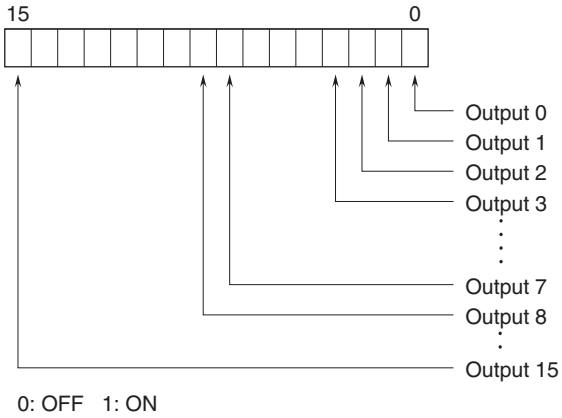
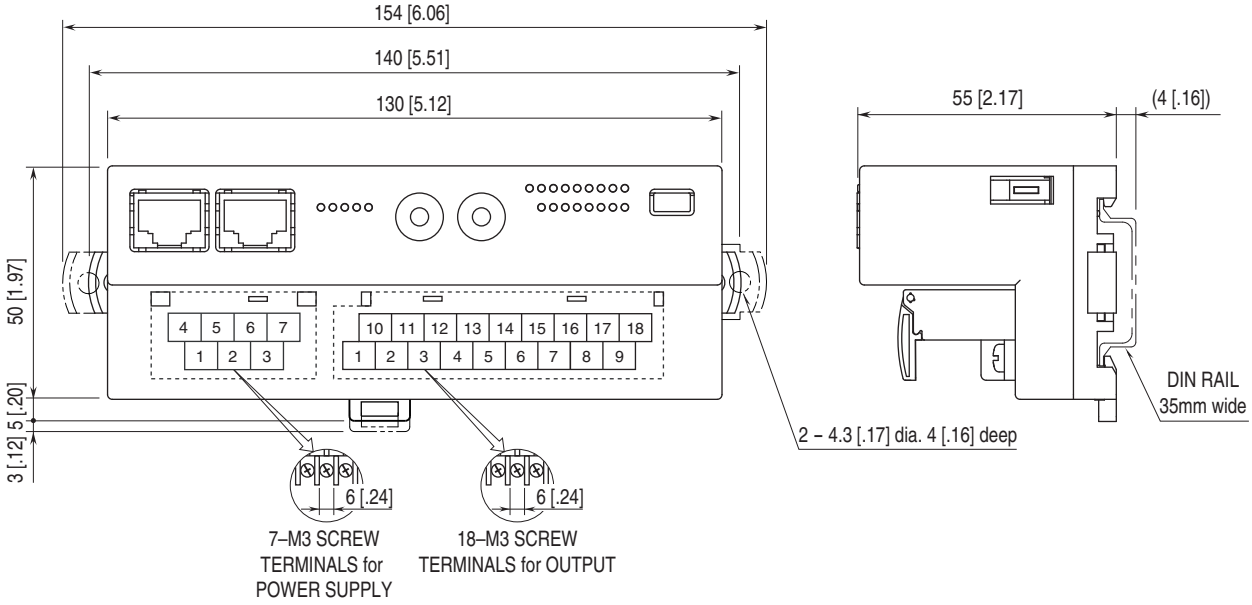
I/O DATA DESCRIPTIONS

■ **DISCRETE OUTPUT**

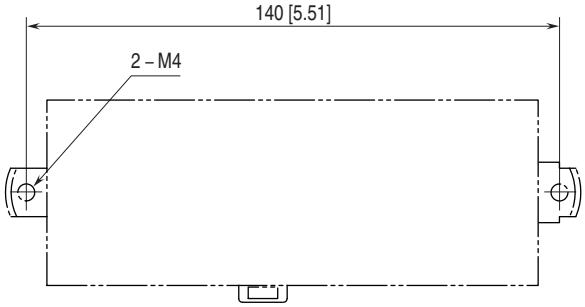


0: OFF 1: ON

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



MOUNTING REQUIREMENTS unit: mm [inch]



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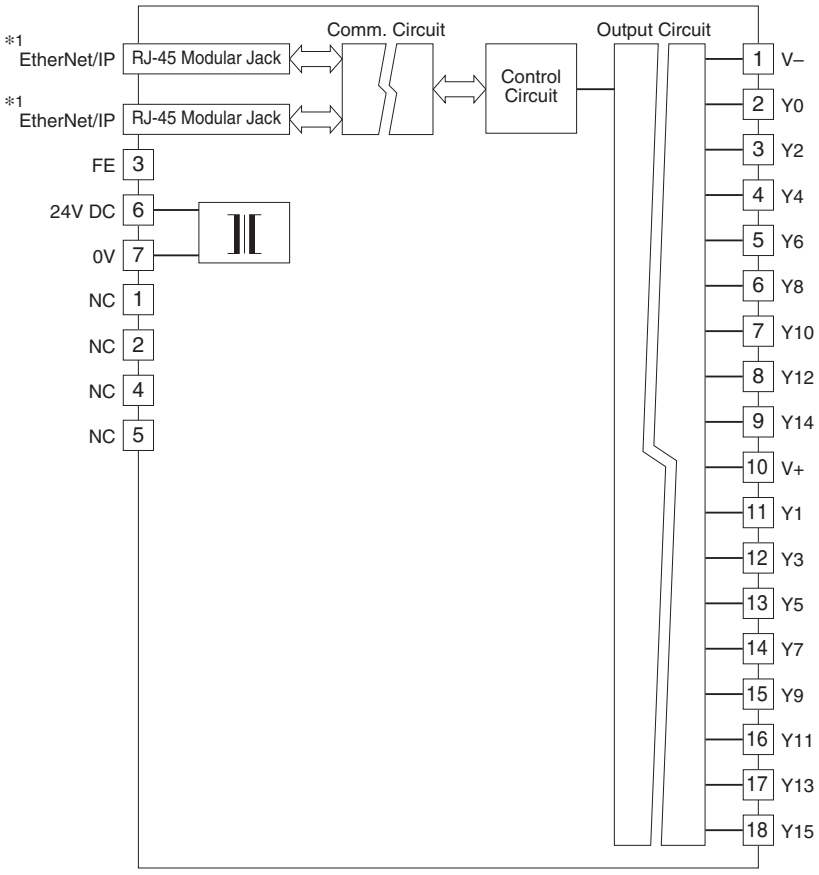
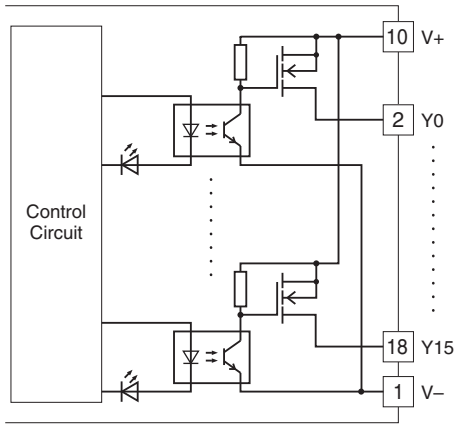
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

Note: In order to improve EMC performance, bond the FE terminal to ground.
Caution: FE terminal is NOT a protective conductor terminal.

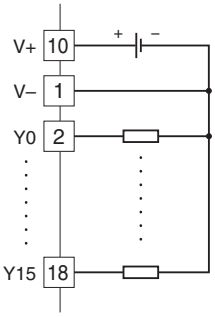


*1. The network cable can be connected to either one.

■ **Output Circuit**



■ **Output Connection Examples**



⚠ Specifications are subject to change without notice.

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