

# MODEL: R7G4HEIP-6-DC16A

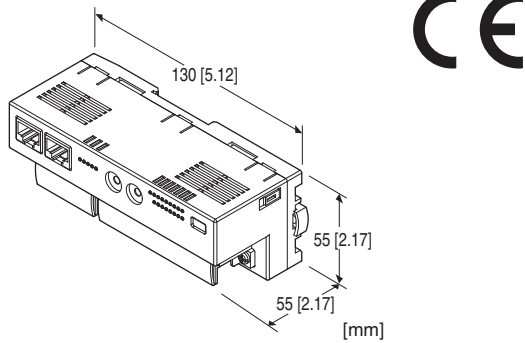
## Remote I/O R7G4H Series

### EtherNet/IP I/O MODULE

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

#### Functions & Features

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



## MODEL: R7G4HEIP-6-DC16A-R[1]

### ORDERING INFORMATION

- Code number: R7G4HEIP-6-DC16A-R[1]  
Specify a code from below for [1].  
(e.g. R7G4HEIP-6-DC16A-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

DC16A: NPN transistor output, 16 points

### POWER INPUT

#### DC power

R: 24 V DC

(Operational voltage range:  $\pm 10\%$ ; 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 M-System's 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 M-System's 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:** Japan Solderless Terminal MFG.Co.Ltd, Nichifu Co.,Ltd

**Applicable wire size:** 0.25 to 1.65 mm<sup>2</sup> (AWG 22 to 16)

**Screw terminal:** Nickel-plated steel

**Housing material:** Flame-resistant resin (gray)

**Isolation:** Output to EtherNet/IP or FE to power

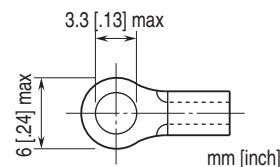
**Output at the loss of communication:** Configurable via R7CFG

**Status indicator LED:** 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

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:** Negative common (NPN) per 16 points  
**Maximum outputs applicable at once:** No limit (at 24 V DC)  
**Rated load voltage:** 24 V DC  $\pm 10\%$ , ripple 5 %p-p max.  
**Rated output current:** 0.1 A per point, 1.6 A per common  
**Residual voltage:**  $\leq 1.2$  V  
**Leakage current:**  $\leq 0.1$  mA  
**ON delay:**  $\leq 0.2$  msec.  
**OFF delay:**  $\leq 0.5$  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:**  $\geq 100$  M $\Omega$  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.

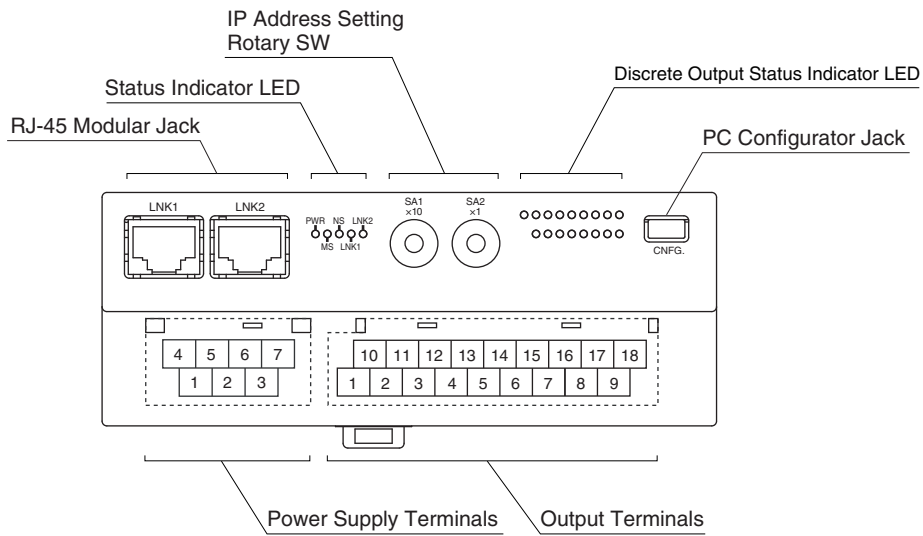
### ■ CHANNEL BATCH SETTING

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

## 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 (Out. Common)	10	V+	24V DC
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

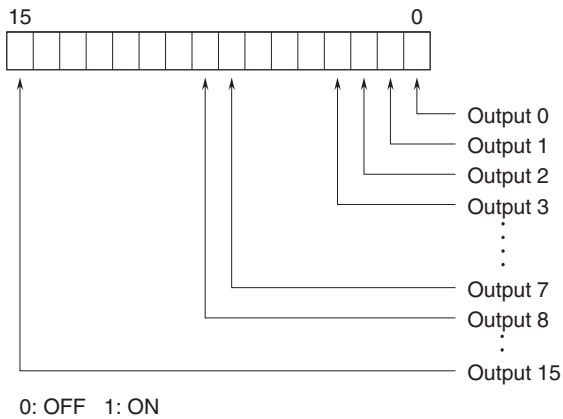
### POWER SUPPLY TERMINAL ASSIGNMENT

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

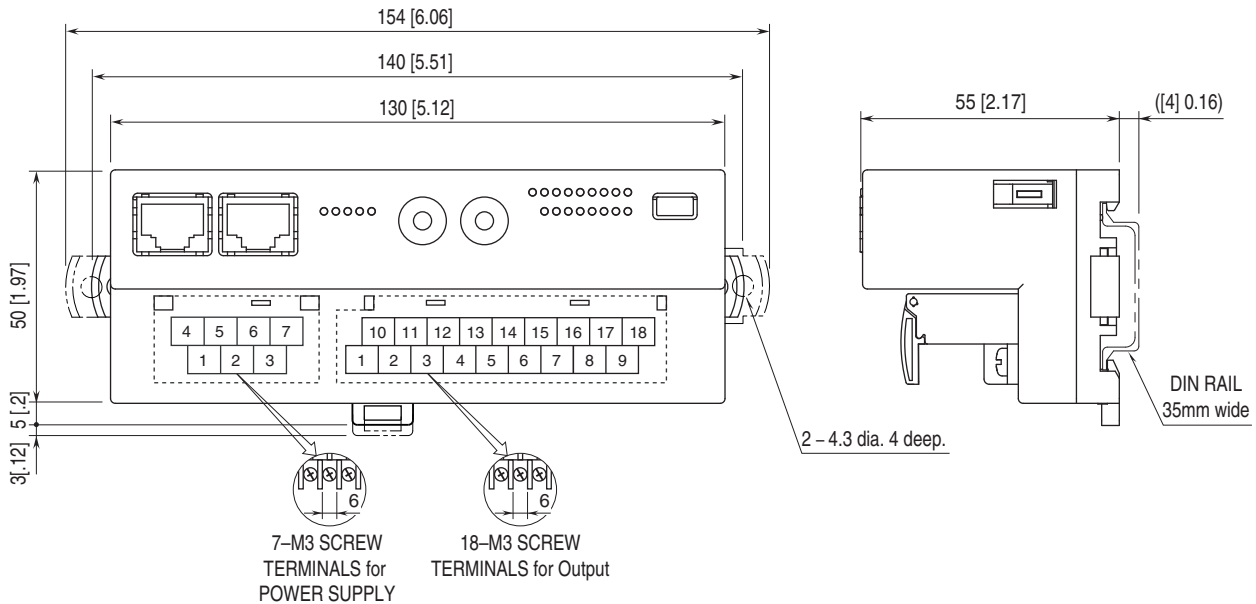
- 1. NC -
- 2. NC -
- 3. FE Functional earth
- 4. NC -
- 5. NC -
- 6. +24V Power supply (24V DC)
- 7. 0V Power supply (0V)

## I/O DATA DESCRIPTIONS

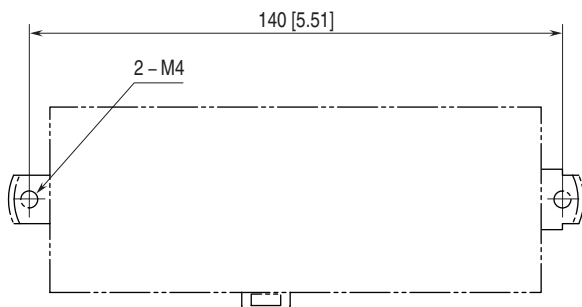
### ■ DISCRETE OUTPUT



## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm



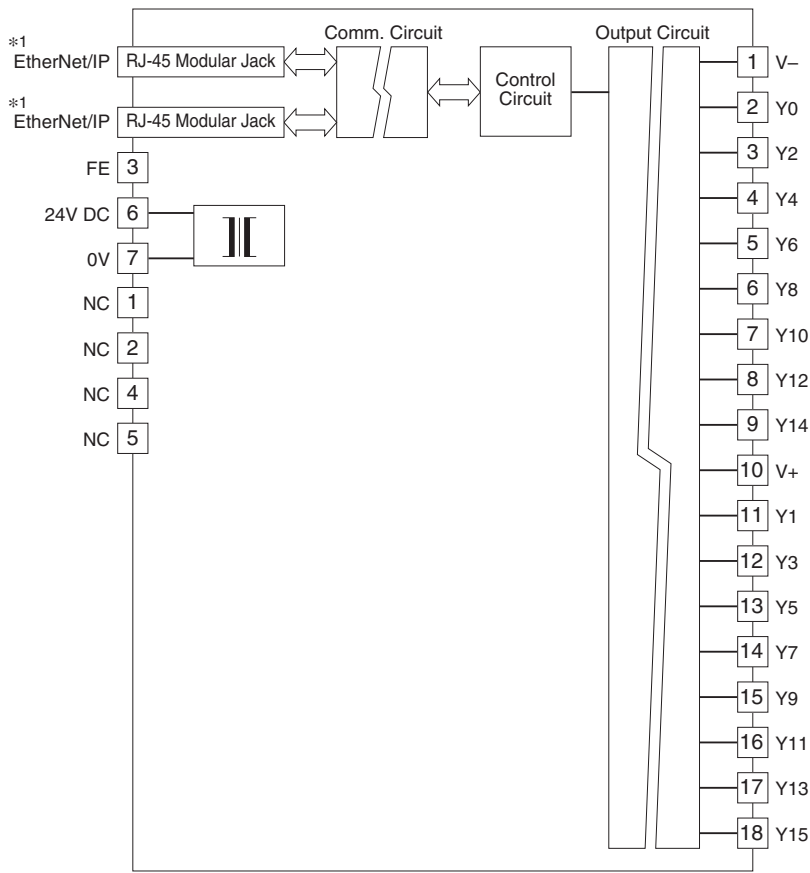
## MOUNTING REQUIREMENTS unit: mm [inch]



## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

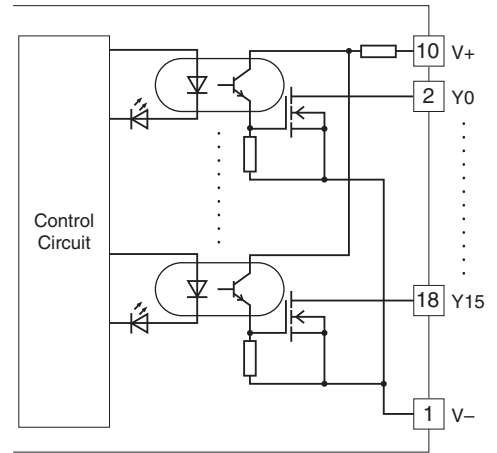
Note: In order to improve EMC performance, bond the FE terminal to ground.

Caution: FE terminal is NOT a protective conductor terminal.

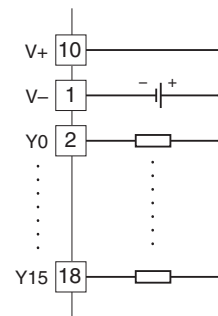


\*1. The network cable can be connected to either one.

### Output Circuit



### Output Connection Examples



Specifications are subject to change without notice.