

# MODEL: R7G4HEIP-6-DA16

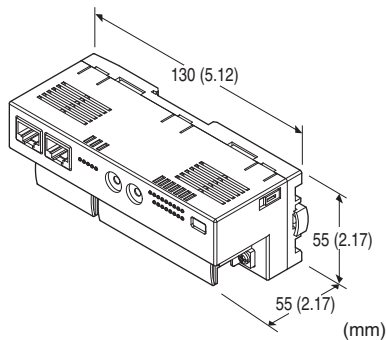
## Remote I/O R7G4H Series

### EtherNet/IP I/O MODULE

(NPN/PNP discrete input, 16 points, screw terminal block)

#### Functions & Features

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



## MODEL: R7G4HEIP-6-DA16-R[1]

### ORDERING INFORMATION

- Code number: R7G4HEIP-6-DA16-R[1]  
Specify a code from below for [1].  
(e.g. R7G4HEIP-6-DA16-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

DA16: NPN/PNP discrete input, 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, input: 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: Input to EtherNet/IP or FE to power

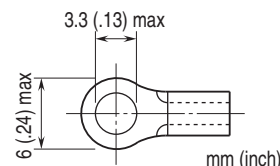
Status indicator LED: PWR, RUN

(Refer to the instruction manual)

Discrete input status indicator LED: Green LED turns on with input ON

Read rate: Selectable with R7CFG

#### ■ 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: R7G4HEIP-6-DA16

(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)

## INPUT SPECIFICATIONS

**Common:** Positive or negative common (NPN/PNP) per 16 points

**Maximum inputs applicable at once:** No limit (at 24 V DC)

**Rated input voltage:** 24 V DC  $\pm 10\%$ ; ripple 5 %p-p max.

**ON voltage / current:**  $\geq 15$  V DC (input - COM) /  $\geq 3.5$  mA

**OFF voltage / current:**  $\leq 5$  V DC (input - COM) /  $\leq 1$  mA

**Input current:**  $\leq 5.5$  mA per point at 24 V DC

**Input resistance:** Approx. 4.4 k $\Omega$

**ON delay:**  $\leq 0.2$  msec.

**OFF delay:**  $\leq 0.5$  msec.

## INSTALLATION

**Current consumption:** Approx. 45 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

(input 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

EN 50581

## 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.

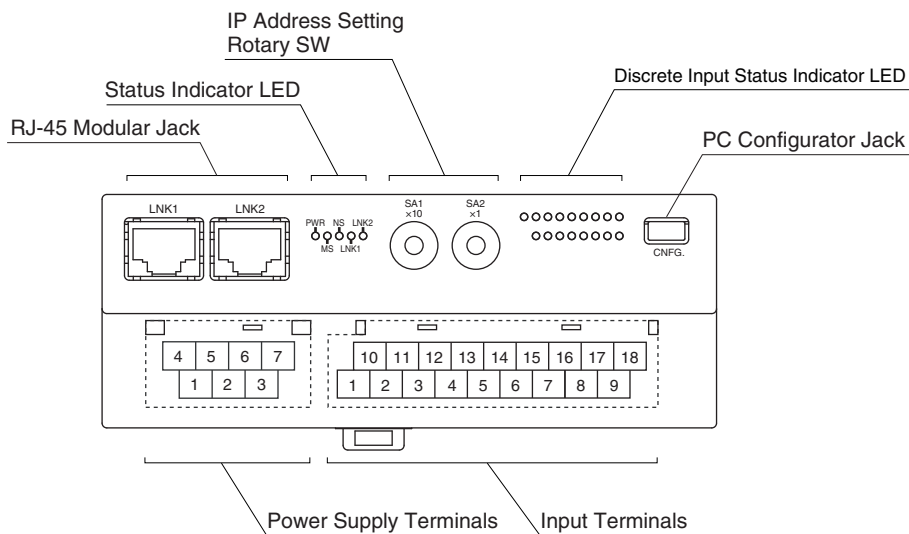
### ■ CHANNEL BATCH SETTING

PARAMETER	SETTING RANGE	DEFAULT SETTING
Conversion rate	1 ms, 5 ms, 10 ms, 20 ms, 50 ms, 70 ms, 100 ms, 200 ms	10 ms

### ■ 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

### INPUT TERMINAL ASSIGNMENT

10	11	12	13	14	15	16	17	18
COM	X1	X3	X5	X7	X9	X11	X13	X15
1	2	3	4	5	6	7	8	9
COM	X0	X2	X4	X6	X8	X10	X12	X14

NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	COM	Common	10	COM	Common
2	X0	Input 0	11	X1	Input 1
3	X2	Input 2	12	X3	Input 3
4	X4	Input 4	13	X5	Input 5
5	X6	Input 6	14	X7	Input 7
6	X8	Input 8	15	X9	Input 9
7	X10	Input 10	16	X11	Input 11
8	X12	Input 12	17	X13	Input 13
9	X14	Input 14	18	X15	Input 15

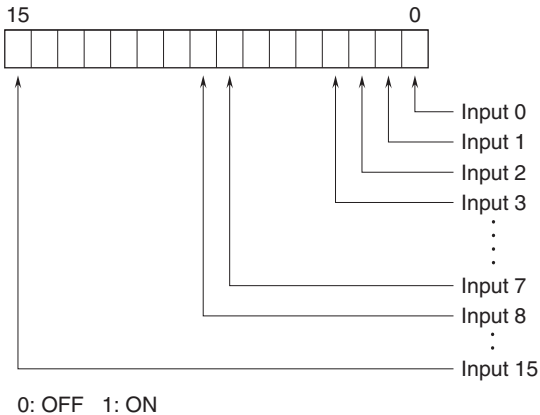
### POWER SUPPLY TERMINAL ASSIGNMENT

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

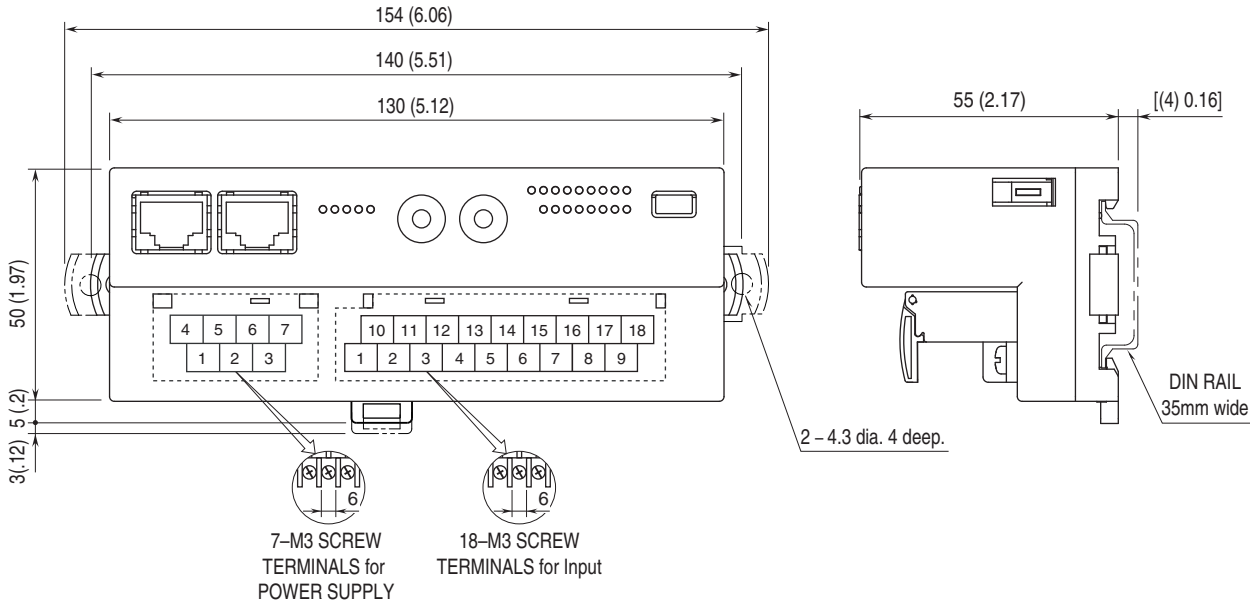
- 1. NC                    -
- 2. NC                    -
- 3. FE                    Functional earth
- 4. NC                    -
- 5. NC                    -
- 6. +24V                 Power supply (24V DC)
- 7. 0V                    Power supply (0V)

## I/O DATA DESCRIPTIONS

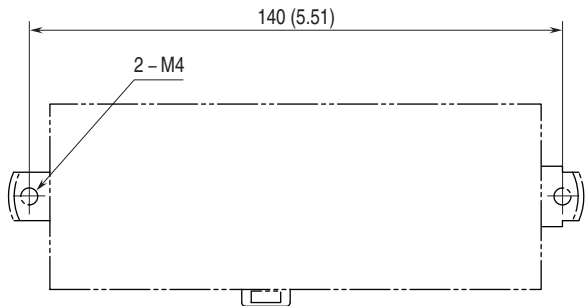
### ■ DISCRETE INPUT



## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm

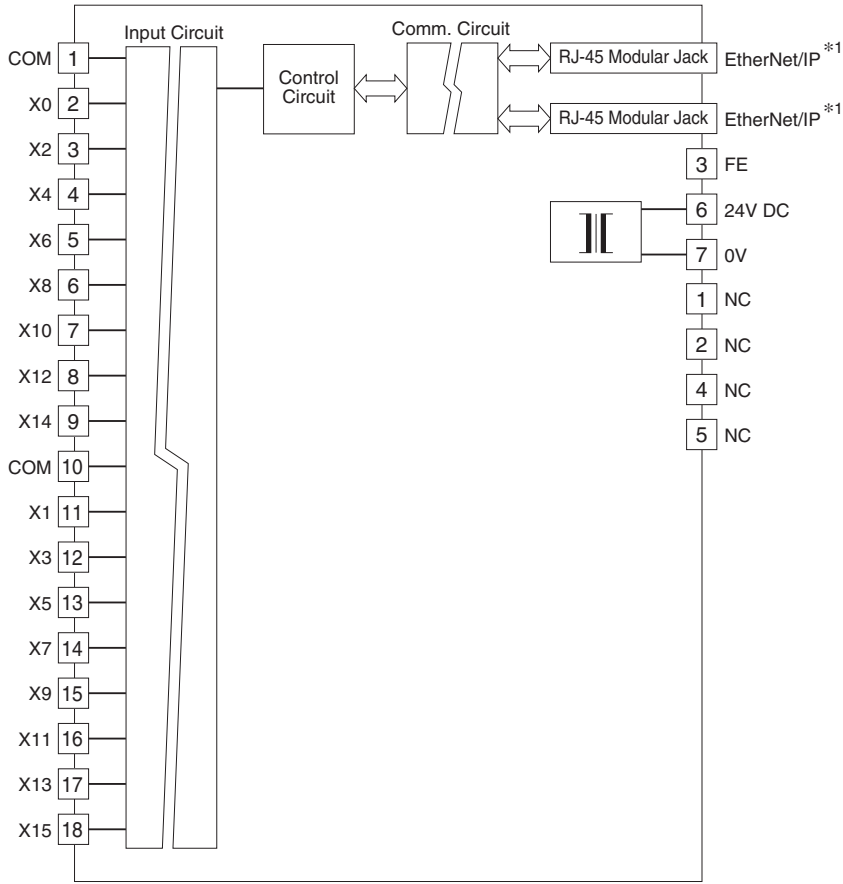


## MOUNTING REQUIREMENTS unit: mm (inch)



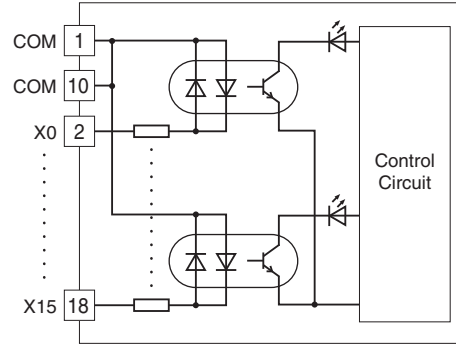
## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

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



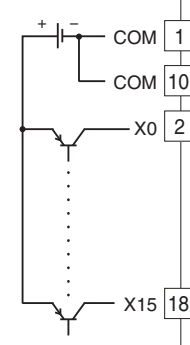
\*1. The network cable can be connected to either one.

### Input Circuit

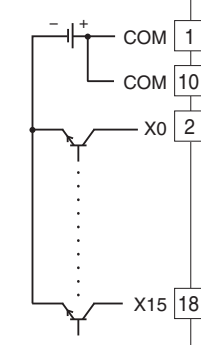


### Input Connection Examples

PNP Connection



NPN Connection



Specifications are subject to change without notice.