

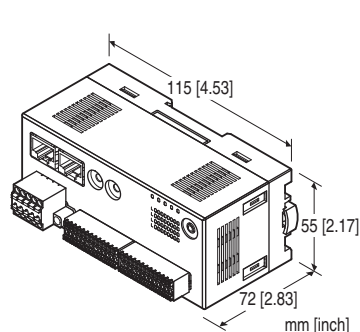
Remote I/O R7F4HEIP Series

EtherNet/IP I/O MODULE

(NPN transistor output, 32 points, tension clamp terminal block)

Functions & Features

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



MODEL: R7F4HEIP-DC32A-4-R[1]

ORDERING INFORMATION

- Code number: R7F4HEIP-DC32A-4-R[1]
Specify a code from below for [1].
(e.g. R7F4HEIP-DC32A-4-R/Q)
- Specify the specification for option code /Q
(e.g. /C01)

I/O TYPE

DC32A: NPN transistor output, 32 points

TERMINAL BLOCK

- 4: Tension clamp terminal block for power supply
- RJ-45 Modular jack for communication
- Tension clamp terminal block for I/O
(applicable wire size: 0.14 - 0.5mm²)

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 our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

RELATED PRODUCTS

- PC Configurator cable (model: MCN-CON or COP-US)
- PC configurator software (model: R7CFG)
- EDS file

The EDS files and configurator software are downloadable at our web site.

GENERAL SPECIFICATIONS

Connection

EtherNet/IP: RJ-45 Modular Jack

Power supply, exc. supply, output: Tension clamp terminal

Housing material: Flame-resistant resin (gray)

Isolation: Output or exc. supply to EtherNet/IP or FE to power

Output at the loss of communication: Configurable via R7CFG

Status indicator LED: PWR, LNK1, LNK2

(Refer to the instruction manual)

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

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: Two (2) words

Status indicator LEDs: MS, NS (Refer to the instruction manual for details)

OUTPUT SPECIFICATIONS

Common: Negative common (NPN) per 16 points
Number of output: 32 points
Maximum outputs applicable at once: No limit (at 24 V DC)
Sensor excitation: 24 V DC $\pm 10\%$, ripple 5 %p-p max.,
 ≤ 2 A (including discrete output load charge)
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. 80 mA
 (contact I/O load charge is not included)
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: 170 g (0.37 lb)

PERFORMANCE

Insulation resistance: ≥ 100 M Ω with 500 V DC
Dielectric strength: 1500 V AC @ 1 minute
 (output or exc. supply 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.

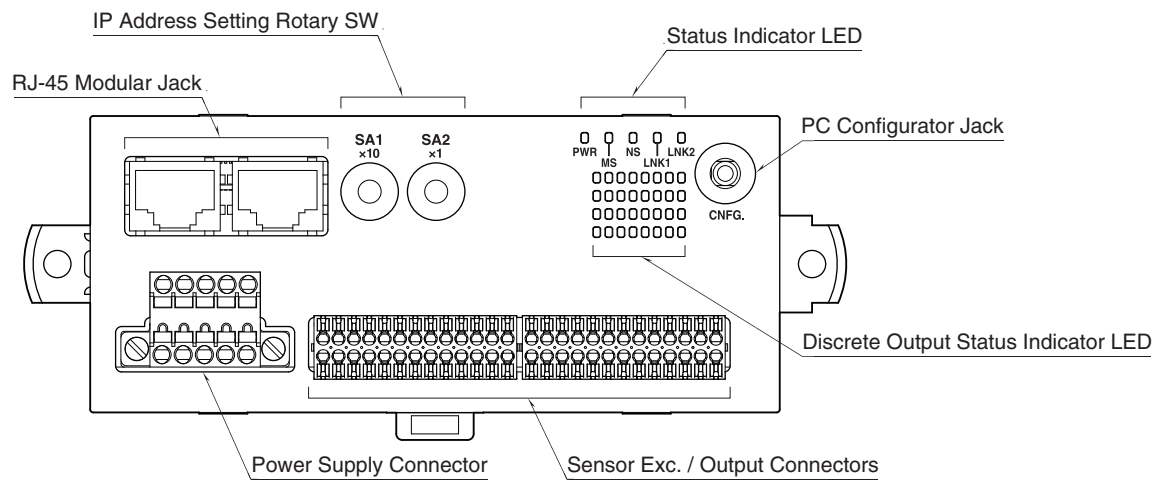
■ CHANNEL BATCH SETTING

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

■ ETHERNET SETTING

PARAMETER	SETTING RANGE	DEFAULT
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
TimeOut	0 - 32767 (0.1 sec.)	30 (0.1 sec.)

EXTERNAL VIEW



TERMINAL ASSIGNMENTS**■SENSOR EXC. / OUTPUT CONNECTION**

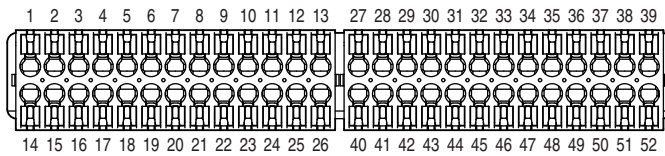
Applicable connector: DFMC0,5/13-ST-2,54 (Phoenix Contact) (included in the package)

Applicable wire size: 0.14 - 0.5mm², stripped length 7mm

Recommended solderless terminal:

- AI0,14-6GY 0.14mm² (Phoenix Contact)
- AI0,14-8GY 0.14mm² (Phoenix Contact)
- AI0,25-6YE 0.25mm² (Phoenix Contact)
- AI0,25-8YE 0.25mm² (Phoenix Contact)
- A0,25-7 0.25mm² (Phoenix Contact)
- A0,34-7 0.34mm² (Phoenix Contact)

Note: If the stripped length does not match the length of recommended solderless terminal, adjust to the stripped length of 7mm by cutting the terminal if it is too long, or by extending the wire if the terminal is too short.



PIN No.	ID	FUNCTION	PIN No.	ID	FUNCTION
1	+24V1	24V DC	27	+24V2	24V DC
2	Y0	Output 0	28	Y16	Output 16
3	Y2	Output 2	29	Y18	Output 18
4	+24V1	24V DC	30	+24V2	24V DC
5	Y4	Output 4	31	Y20	Output 20
6	Y6	Output 6	32	Y22	Output 22
7	+24V1	24V DC	33	+24V2	24V DC
8	Y8	Output 8	34	Y24	Output 24
9	Y10	Output 10	35	Y26	Output 26
10	+24V1	24V DC	36	+24V2	24V DC
11	Y12	Output 12	37	Y28	Output 28
12	Y14	Output 14	38	Y30	Output 30
13	+24V1	24V DC	39	+24V2	24V DC

PIN No.	ID	FUNCTION	PIN No.	ID	FUNCTION
14	GND1	0V	40	GND2	0V
15	Y1	Output 1	41	Y17	Output 17
16	Y3	Output 3	42	Y19	Output 19
17	GND1	0V	43	GND2	0V
18	Y5	Output 5	44	Y21	Output 21
19	Y7	Output 7	45	Y23	Output 23
20	GND1	0V	46	GND2	0V
21	Y9	Output 9	47	Y25	Output 25
22	Y11	Output 11	48	Y27	Output 27
23	GND1	0V	49	GND2	0V
24	Y13	Output 13	50	Y29	Output 29
25	Y15	Output 15	51	Y31	Output 31
26	GND1	0V	52	GND2	0V

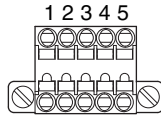
■ POWER SUPPLY TERMINAL ASSIGNMENT

Applicable connector: TFMC1,5 / 5-STF-3,5(Phoenix Contact)
(included in the package)

Applicable wire size: 0.2 – 1.5 mm²; stripped length 10 mm

Recommended solderless terminal

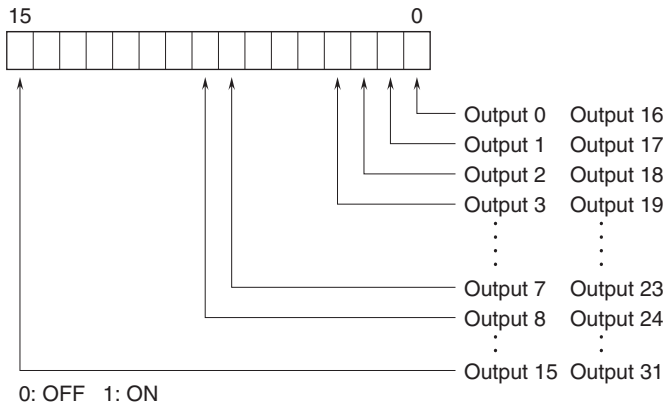
- AI0,25-10YE 0.25 mm² (Phoenix Contact)
- AI0,34-10TQ 0.34 mm² (Phoenix Contact)
- AI0,5-10WH 0.5 mm² (Phoenix Contact)
- AI0,75-10GY 0.75 mm² (Phoenix Contact)
- A1-10 1.0 mm² (Phoenix Contact)
- A1,5-10 1.5 mm² (Phoenix Contact)



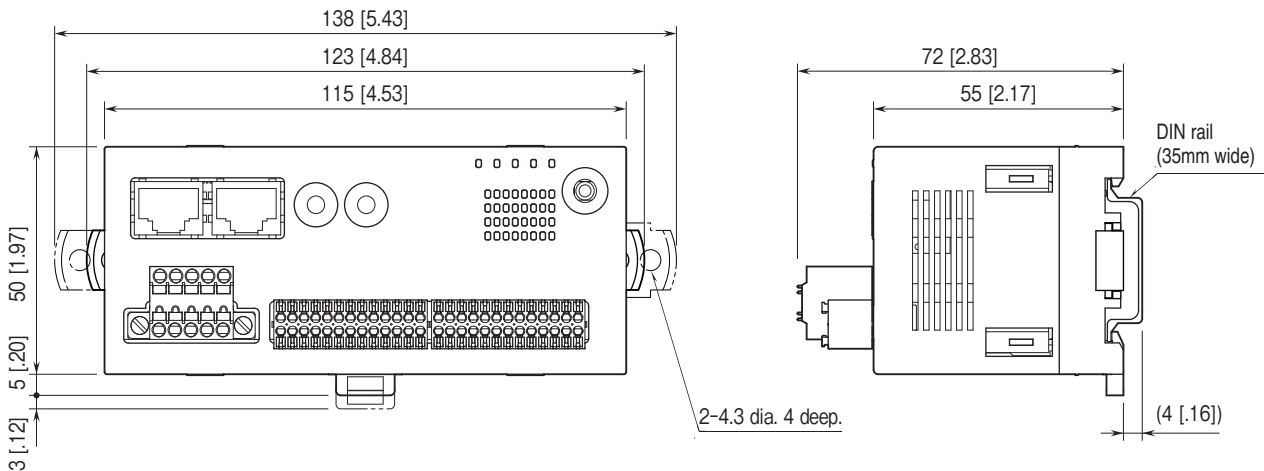
- | | |
|---------|----------------------|
| 1. FE | Functional Earth |
| 2. NC | — |
| 3. NC | — |
| 4. +24V | Power Input (24V DC) |
| 5. 0V | Power Input (0V) |

I/O DATA DESCRIPTIONS

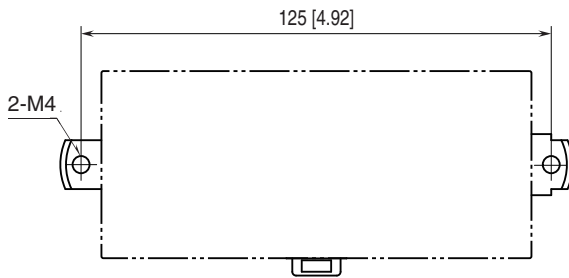
■ DISCRETE OUTPUT



EXTERNAL DIMENSIONS unit: mm [inch]



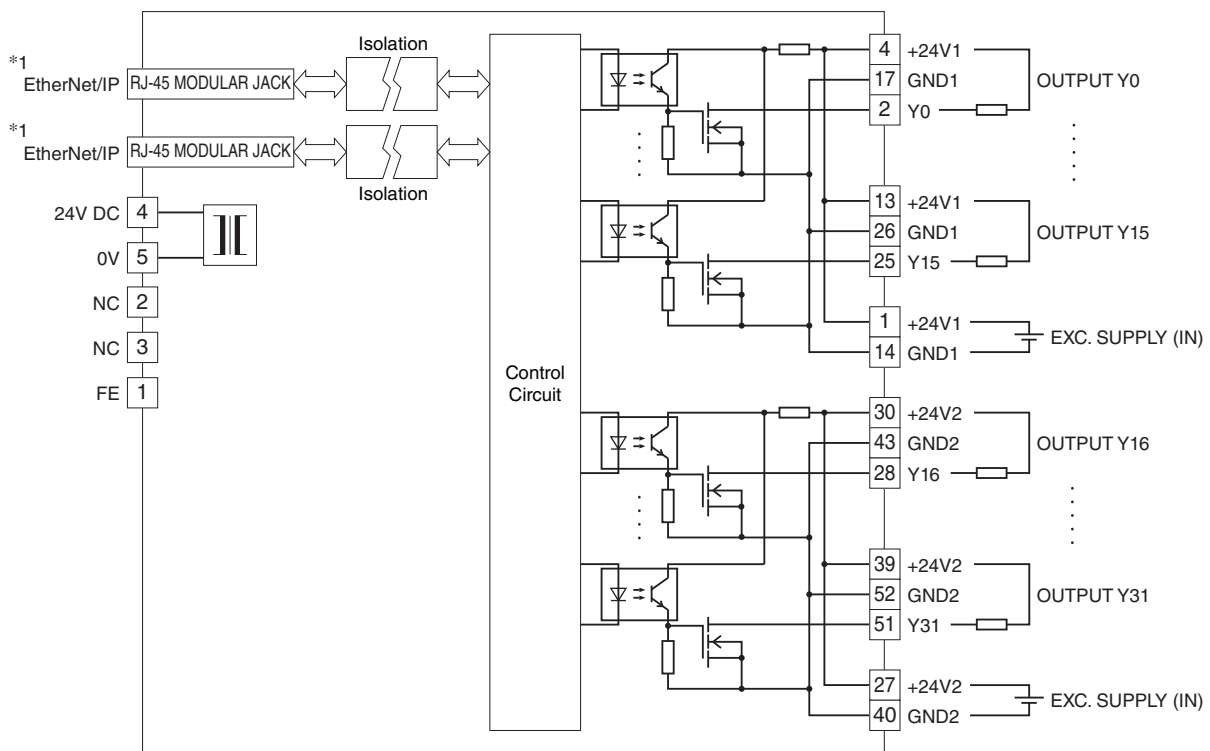
MOUNTING REQUIREMENTS unit: mm [inch]



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.



Specifications are subject to change without notice.