

Remote I/O R7 Series

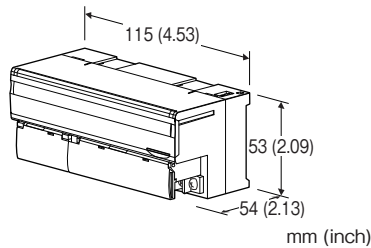
FLEX NETWORK I/O MODULE

(8 points relay output)

Functions & Features

- 8 points relay output module for FLEX NETWORK

FLEX NETWORK is registered trademark of Digital Electronics Corporation in Japan.



MODEL:R7FN-DC8C-R[1]

ORDERING INFORMATION

- Code number: R7FN-DC8C-R[1]
- Specify a code from below for [1].
(e.g. R7FN-DC8C-R/Q)
- Specify the specification for option code /Q
(e.g. /C01/SET)

I/O TYPE

DC8C: Relay contact output, 8 points

POWER INPUT

DC Power

R: 24 V DC

(Operational voltage range 24 V \pm 10 %, ripple 10 %p-p max.)

[1] OPTIONS

blank: none

/Q: Options other than the above (specify the specification)

SPECIFICATIONS OF OPTION: Q (multiple selections)

COATING (For the detail, refer to M-System's web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

EX-FACTORY SETTING

/SET: Preset according to the Ordering Information Sheet

(No. ESU-7808-DC16)

GENERAL SPECIFICATIONS

Connection: M3 separable screw terminal (torque 0.5 N·m)
Solderless terminal: Refer to the drawing at the end of the section.

• Communication cable

Recommended manufacture: Japan Solderless Terminal MFG.Co.Ltd

Applicable wire size: 0.2 to 0.5 mm² (AWG 26 to 22)

• Others

Recommended manufacture: Japan solderless terminal MFG.Co.Ltd, Nichifu Co.,Ltd

Applicable wire size: 0.25 to 1.65 mm² (AWG 22 to 16)

Screw terminal: Nickel-plated steel

Housing material: Flame-resistant resin (gray)

Isolation: Output to FLEX NETWORK to power to FG

Output at the loss of communication:

Output hold (*), Output clear

Selectable with the front DIP SW

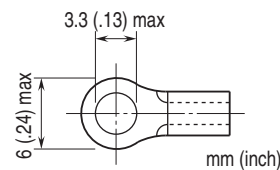
(*) factory default setting

Status indicator LED: PWR, RUN

(Refer to the instruction manual)

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

■ Recommended solderless terminal



FLEX NETWORK COMMUNICATION

Communication configuration: 1: N

Connection method: Multi-drop Connection

Communication method: Cyclic Time Division, half-duplex

Communication I/F: Differential, pulse transfer isolation

Error Check: Format, bit, CRC-12 verification

Max. Number of Nodes: 63 (1008 I/O points)

Required node: 1

Network cable: Pro-face's following cable

FN-CABLE2010-31-MS (10 m)

FN-CABLE2050-31-MS (50 m)

FN-CABLE2200-31-MS (200 m)

Transmission distance: 12 Mbps: 100 meters (328 ft) (*)

6 Mbps: 200 meters (656 ft)

(*) Factory default setting

Station address: Rotary switch

(Refer to the instruction manual)

Terminating resistor: Built-in

OUTPUT SPECIFICATIONS

Common: 1 common per 4 points (4 points)

Maximum load current: 1.0 A per point

Common current: Max. 4 A (4 terminals)

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

Output supply voltage/current: 24 V DC $\pm 10\%$ / ≥ 60 mA

Rated load: 250 V AC @ 2A, 30 V DC @ 2A

(Use as Measurement Category I or less than 125 V AC to conform with EU Directive)

Maximum switching voltage: 250 V AC, 30 V DC

Maximum switching power: 500 VA (AC), 60 W (DC)

Minimum applicable load: 24 V DC @ 5 mA

Mechanical life: 2×10^7 cycles (300 cycles per min.)

When driving an inductive load, external contact protection and noise quenching recommended.

ON delay time: ≤ 10 msec.

OFF delay time: ≤ 10 msec.

INSTALLATION

Current consumption

- DC: Applox 50 mA
- Relay driving current: Applox. 60 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: DIN rail (35 mm rail)

Weight: 200 g (0.44 lb)

PERFORMANCE

Insulation resistance: ≥ 100 M Ω with 500 V DC

Dielectric strength: 1500 V AC @ 1 minute (output to FLEX NETWORK to power to FG)

STANDARDS & APPROVALS

EU conformity:

EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

Low Voltage Directive

EN 61010-1, EN 61010-2-201

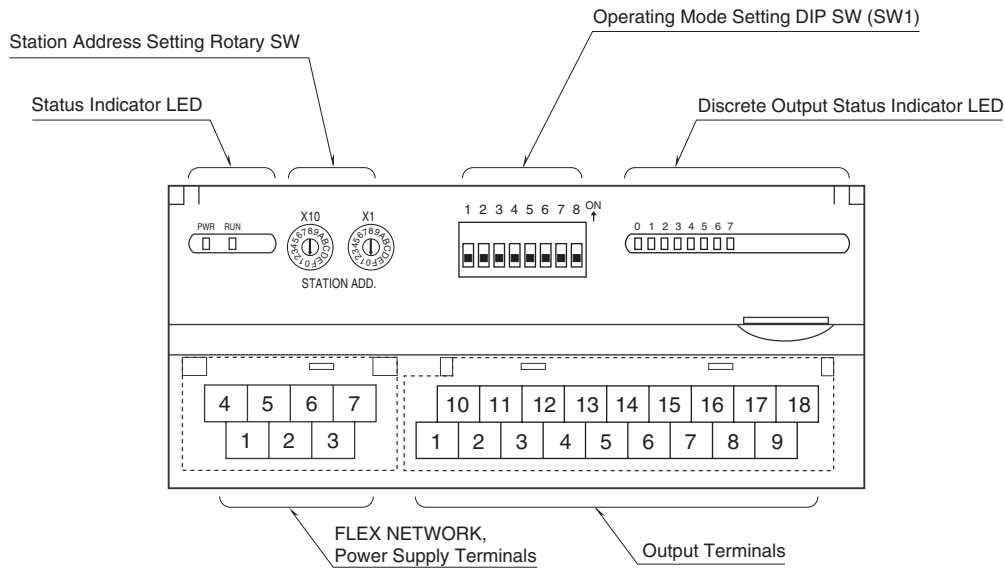
Measurement Category II (output)

Pollution Degree 2

Output to power: Basic insulation (150 V)

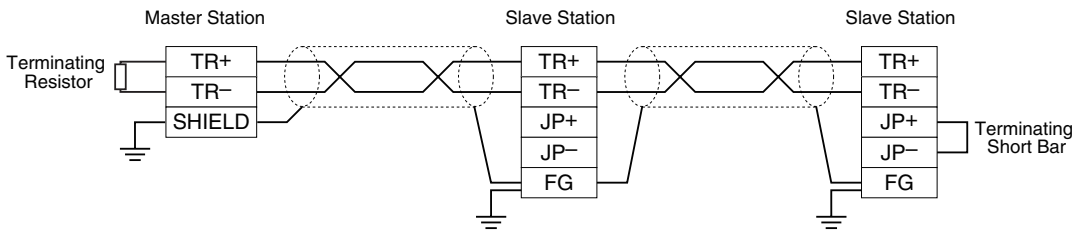
RoHS Directive

EXTERNAL VIEW



CONNECTION DIAGRAMS

MASTER CONNECTION



Note: Be sure to use the terminator(s) located at both ends of the modules.

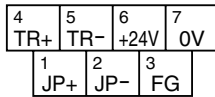
TERMINAL ASSIGNMENTS

OUTPUT TERMINAL ASSIGNMENT

10	11	12	13	14	15	16	17	18
+24 V	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7
1	2	3	4	5	6	7	8	9
0 V	COM0	COM0	COM0	COM0	COM1	COM1	COM1	COM1

NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	0 V	0 V	10	+24 V	24 V DC
2	COM0	Common 0	11	Y0	Output 0
3	COM0	Common 0	12	Y1	Output 1
4	COM0	Common 0	13	Y2	Output 2
5	COM0	Common 0	14	Y3	Output 3
6	COM1	Common 1	15	Y4	Output 4
7	COM1	Common 1	16	Y5	Output 5
8	COM1	Common 1	17	Y6	Output 6
9	COM1	Common 1	18	Y7	Output 7

■ NETWORK, POWER SUPPLY TERMINAL ASSIGNMENT

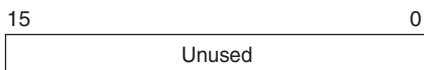


NO.	ID	FUNCTION, NOTES
1	JP+	Terminating resistor
2	JP-	Terminating resistor
3	FG	FG
4	TR+	Network
5	TR-	Network
6	+24V	Power input (24V DC)
7	0V	Power input (0V)

I/O DATA DESCRIPTIONS

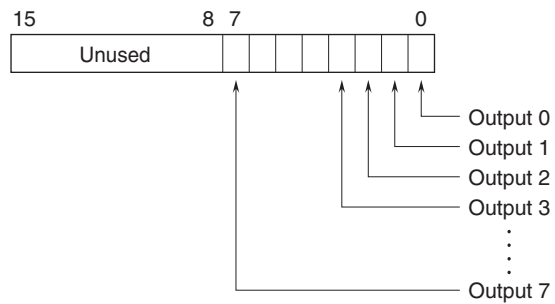
■ RELAY CONTACT OUTPUT

• Di

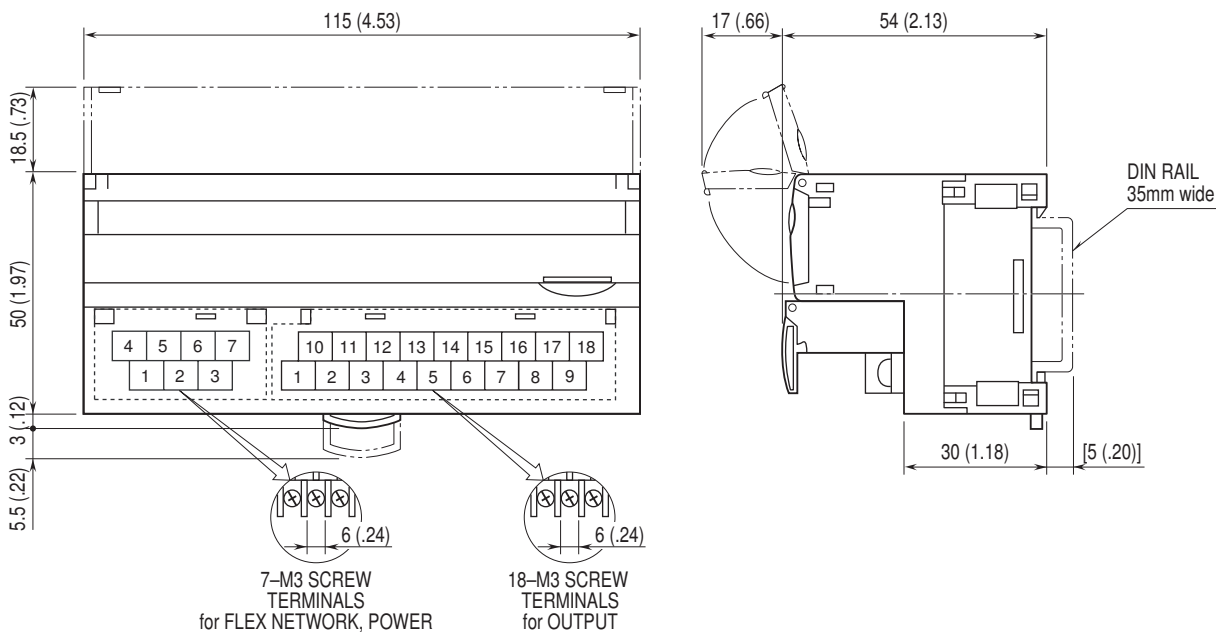


0: OFF
1: ON

• Do



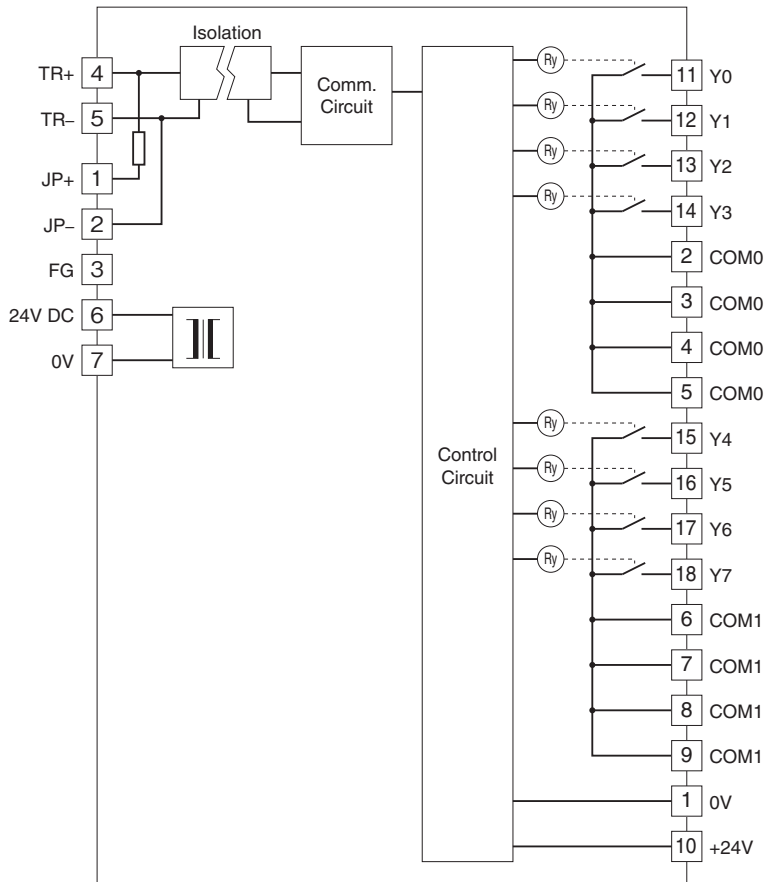
EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

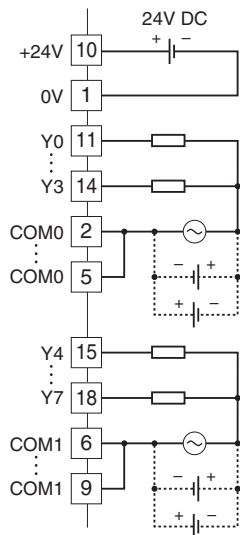
Note: In order to improve EMC performance, bond the FG terminal to ground.

Caution: FG terminal is NOT a protective conductor terminal.

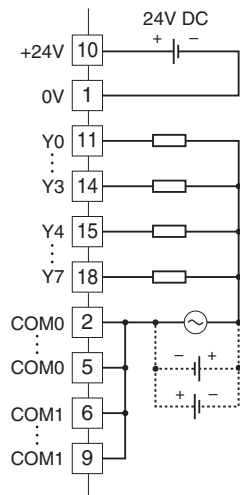


Output Connection Example

4 points / common



8 points / common



Specifications are subject to change without notice.