

## Remote I/O R7 Series

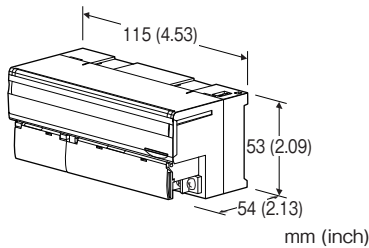
### FLEX NETWORK I/O MODULE

(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 mm<sup>2</sup> (AWG 26 to 22)

##### • Others

**Recommended manufacture:** 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 FLEX NETWORK to power to FG

##### Output at the loss of communication:

Output hold (\*), Output clear

Selectable with the front DIP SW

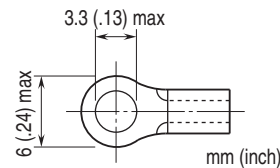
(\* ) factory default setting

**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  $\pm 10\%$  /  $\geq 60$  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:  $2 \times 10^7$  cycles (300 cycles per min.)

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

**ON delay time:**  $\leq 10$  msec.

**OFF delay time:**  $\leq 10$  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:**  $\geq 100$  M $\Omega$  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

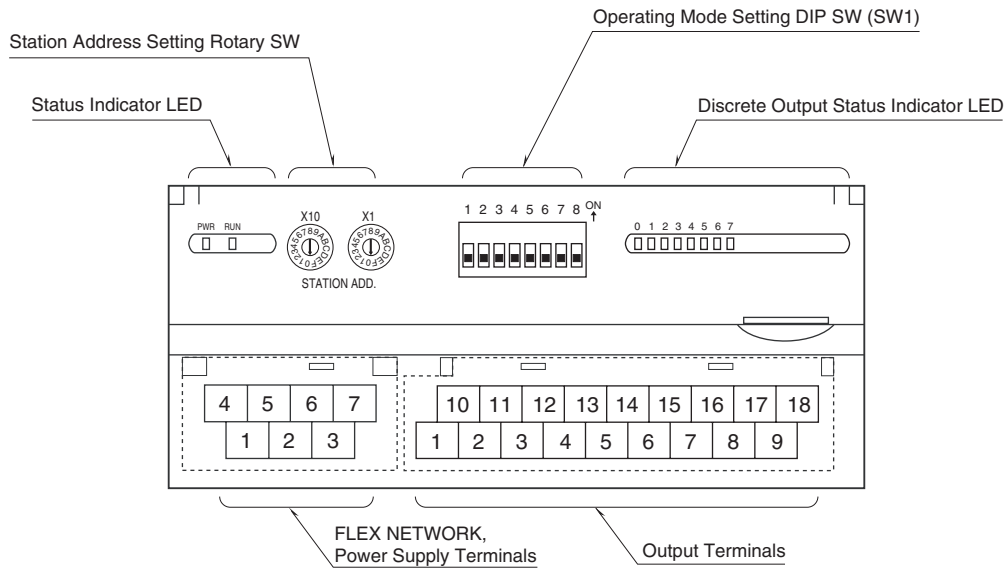
Measurement Category II (output)

Pollution Degree 2

Output to power: Basic insulation (150 V)

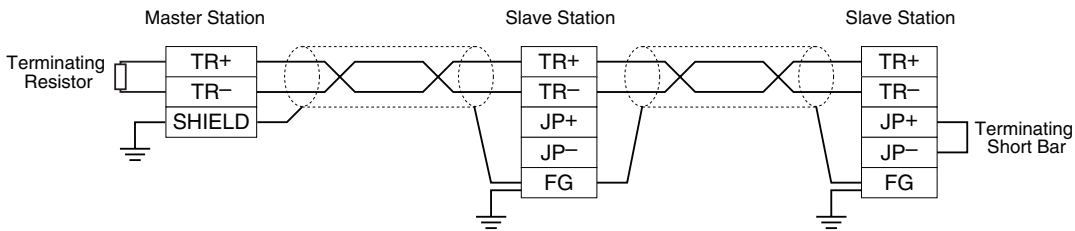
RoHS Directive

## EXTERNAL VIEW



## CONNECTION DIAGRAMS

### MASTER CONNECTION



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

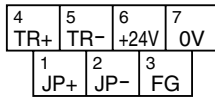
## TERMINAL ASSIGNMENTS

### 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

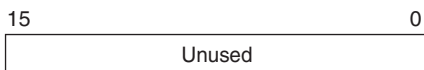


NO.	ID	FUNCTION, NOTES
1	JP+	Terminating resistor
2	JP-	Terminating resistor
3	FG	FG
4	TR+	Network
5	TR-	Network
6	+24V	Power input (24V DC)
7	0V	Power input (0V)

## I/O DATA DESCRIPTIONS

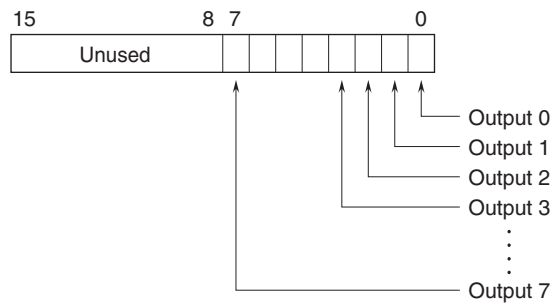
### ■ RELAY CONTACT OUTPUT

• Di

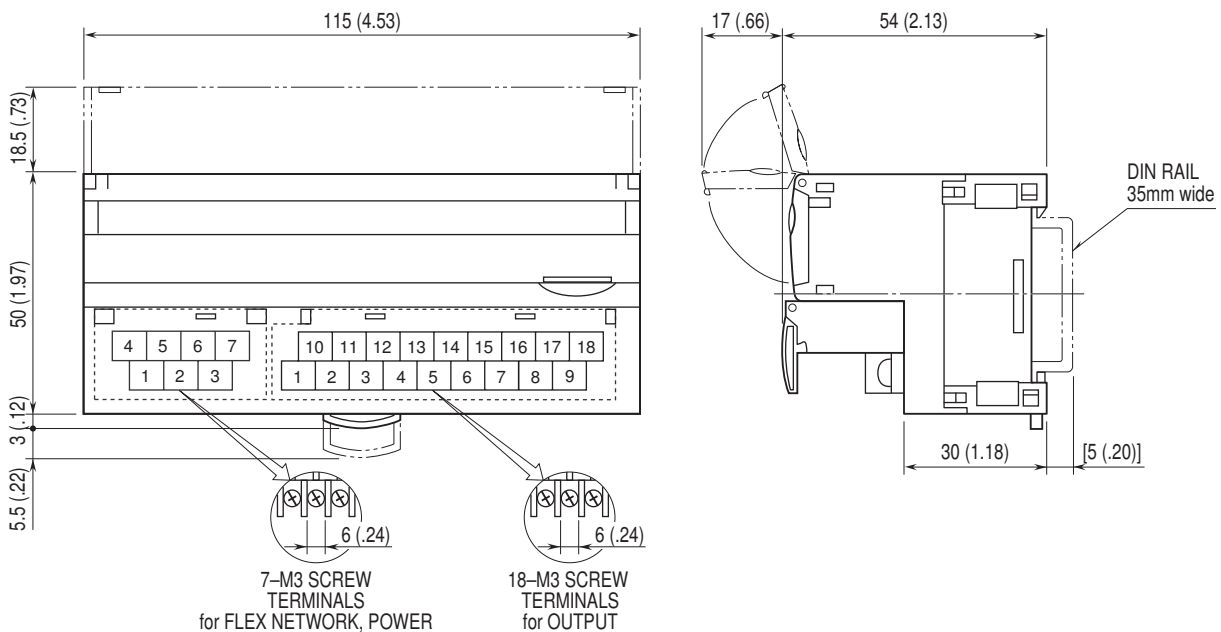


0: OFF  
1: ON

• Do



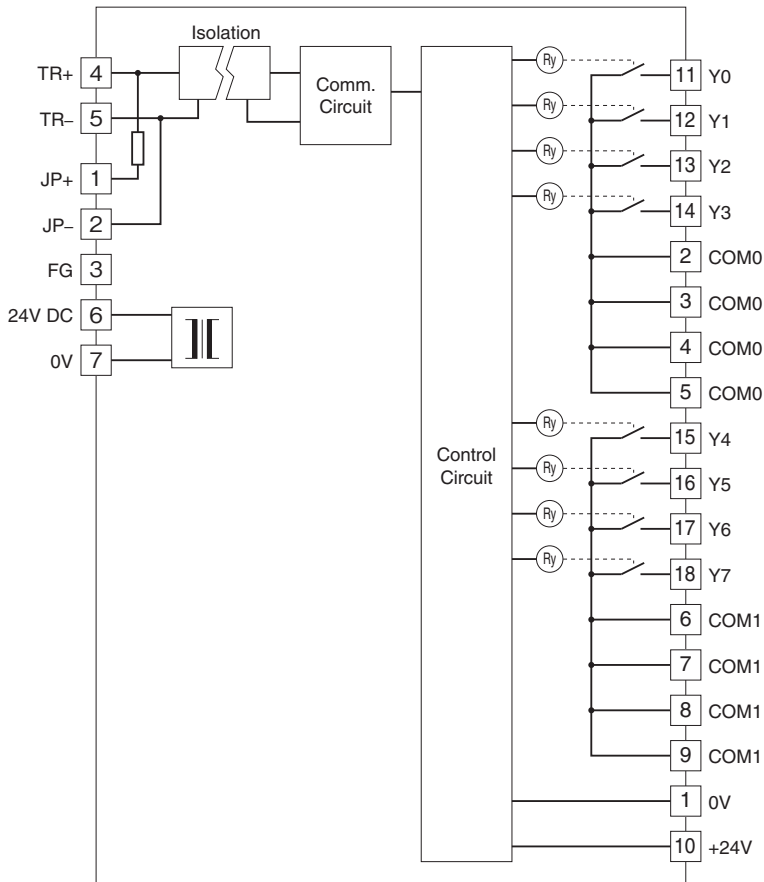
## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

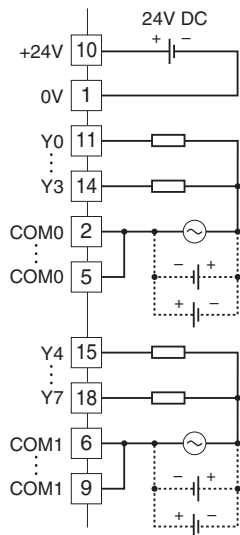
Note: In order to improve EMC performance, bond the FG terminal to ground.

Caution: FG terminal is NOT a protective conductor terminal.

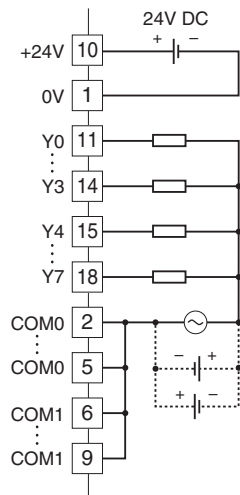


### Output Connection Example

4 points / common



8 points / common



Specifications are subject to change without notice.