

Remote I/O R7 Series

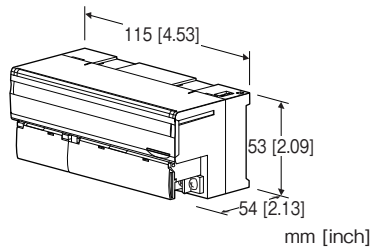
FLEX NETWORK I/O MODULE

(Discrete input, 16 points)

Functions & Features

- 16 points discrete input module for FLEX NETWORK

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



MODEL:R7FN-DA16-R[1]

ORDERING INFORMATION

- Code number: R7FN-DA16-R[1]
Specify a code from below for [1].
(e.g. R7FN-DA16-R/Q)
- Specify the specification for option code /Q
(e.g. /C01/SET)

I/O TYPE

DA16: Discrete input, 16 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 our 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-DA16)

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)

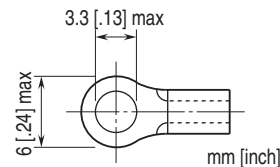
Isolation: Input to FLEX NETWORK to power to FG

Status indicator LED: PWR, RUN

(Refer to the instruction manual)

Discrete input status indicator LED: LED turns on with input 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

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: ≤ 5 V DC (input - COM) / ≤ 1 mA
Input current: ≤ 5.5 mA per point at 24 V DC
Input resistance: Approx. 4.4 k Ω
ON delay: ≤ 2.0 msec.
OFF delay: ≤ 2.0 msec.

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: DIN rail (35 mm rail)
Weight: 200 g (0.44 lb)

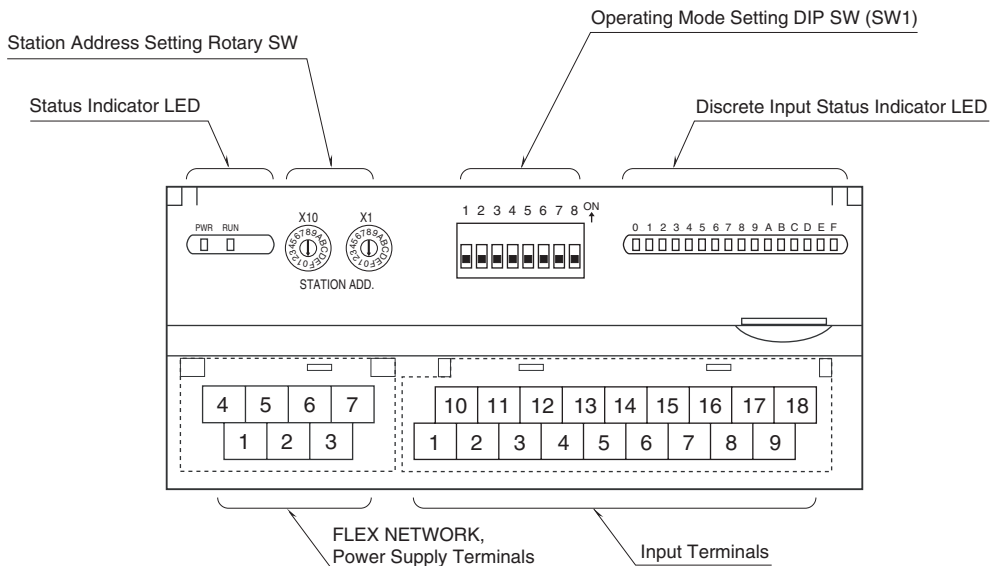
PERFORMANCE

Insulation resistance: ≥ 100 M Ω with 500 V DC
Dielectric strength: 1500 V AC @ 1 minute (input to FLEX NETWORK to power to FG)

STANDARDS & APPROVALS

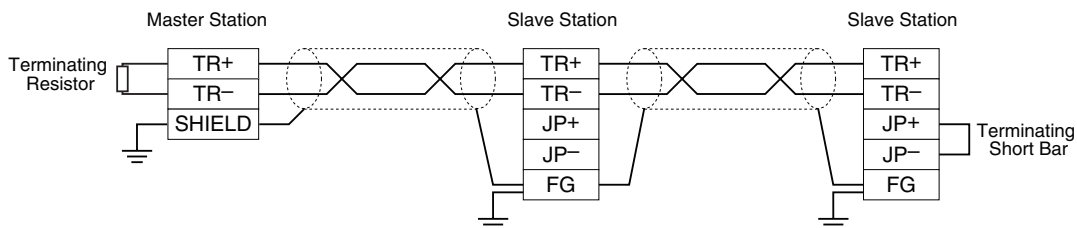
EU conformity:
EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2
RoHS Directive

EXTERNAL VIEW



CONNECTION DIAGRAMS

■ MASTER CONNECTION



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

TERMINAL ASSIGNMENTS

■ INPUT TERMINAL ASSIGNMENT

10	11	12	13	14	15	16	17	18
COM	X1	X3	X5	X7	X9	XB	XD	XF
1	2	3	4	5	6	7	8	9
COM	X0	X2	X4	X6	X8	XA	XC	XE

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	XA	Input 10	16	XB	Input 11
8	XC	Input 12	17	XD	Input 13
9	XE	Input 14	18	XF	Input 15

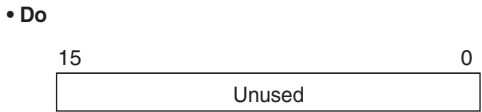
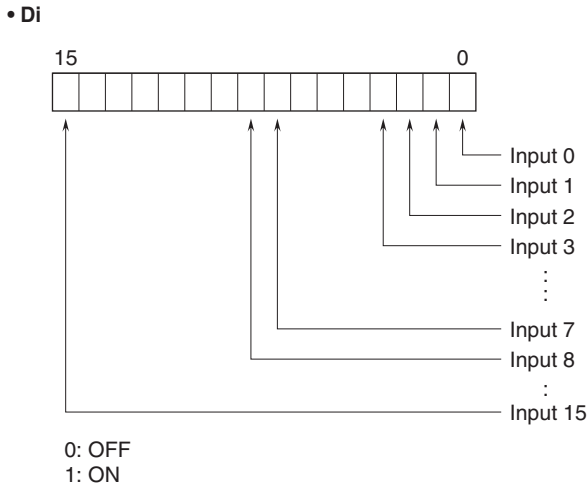
■ NETWORK, POWER SUPPLY TERMINAL ASSIGNMENT

4	5	6	7
TR+	TR-	+24V	0V
1	2	3	
JP+	JP-	FG	

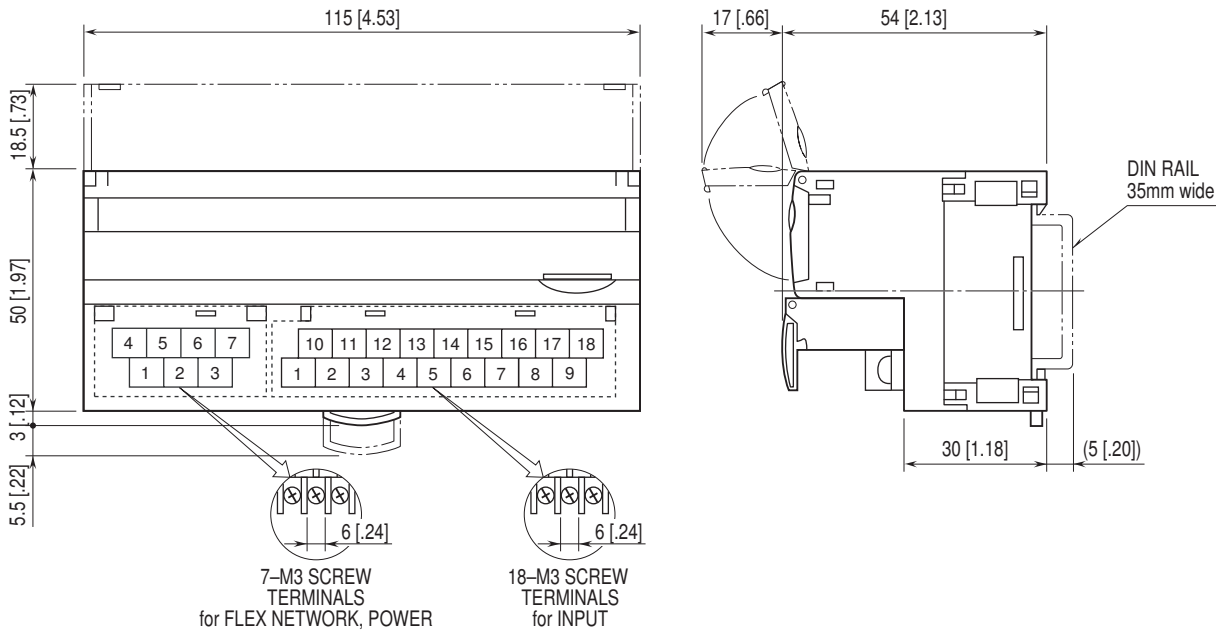
NO.	ID	FUNCTION, NOTES
1	JP+	Terminating resistor
2	JP-	Terminating resistor
3	FG	FG
4	TR+	Network
5	TR-	Network
6	+24V	Power input (24V DC)
7	0V	Power input (0V)

I/O DATA DESCRIPTIONS

■ DISCRETE INPUT



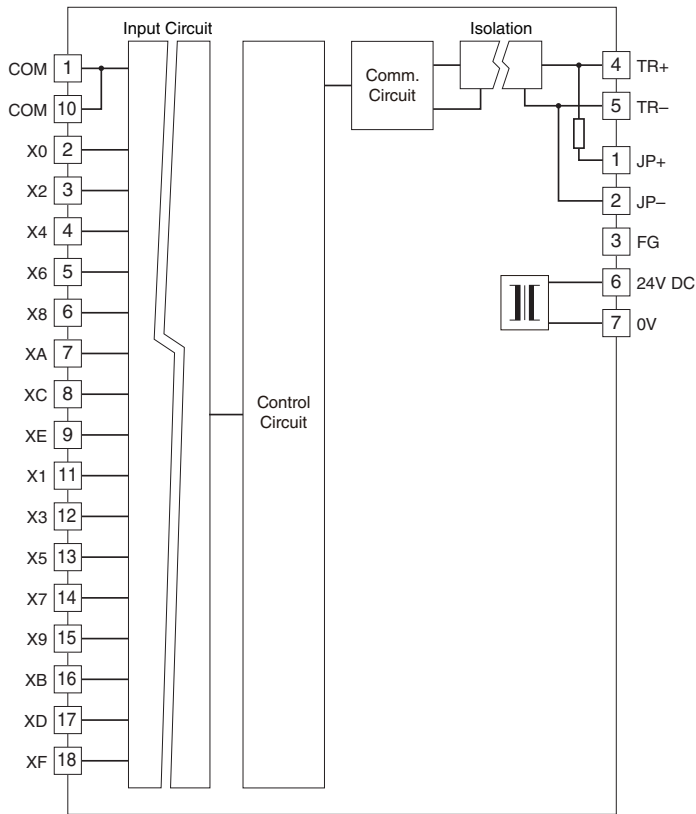
EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



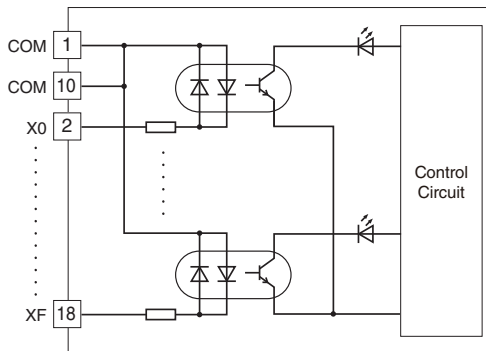
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

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

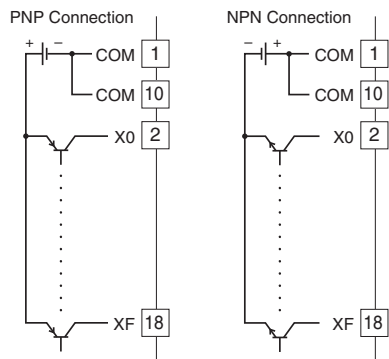
Caution: FG terminal is NOT a protective conductor terminal.



Input Circuit



Input Connection Example





Specifications are subject to change without notice.