

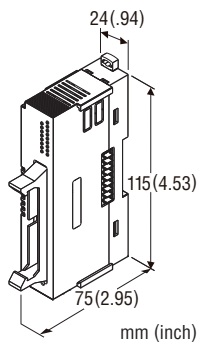
Remote I/O R8 Series

DC VOLTAGE/CURRENT INPUT MODULE

(built-in excitation, 16 points, non-isolated)

Functions & Features

- DC current input and DC voltage input compact size remote I/O module
- Switching between current input and voltage input with PC configurator (model: R8CFG)
- Accepts direct input from power output as sensor power and outputs from terminals
- 40 pin MIL connector



MODEL: R8-FS16N[1]

ORDERING INFORMATION

- Code number: R8-FS16N[1]
Specify a code from below for [1].
(e.g. R8-FS16N/Q)
- Specify the specification for option code /Q
(e.g. /C01)

[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

RELATED PRODUCTS

- PC configurator software (model: R8CFG)
The configurator software is downloadable at M-System's web site.
A dedicated cable is required to connect the module to the PC. Please refer to the users manual for the PC configurator for applicable cable types.

GENERAL SPECIFICATIONS

Connection

- **Input:** 40-pin MIL connector
PWB connector XG4A-4034 (Omron)
Recommended socket XG5N-401 (Omron)
Recommended contact XG5W-0231 (Omron)
Applicable wire size AWG22, number of conductor 17, diameter of conductor 0.16 mm (The cable connector is not included in the package. Refer to the specifications of the product.)

•Excitation supply, internal bus:

Connected to internal bus connector

•Internal power:

Supplied from internal bus connector
Isolation: Input or exc. supply to internal bus or internal power

Input type: Selectable between current input and voltage input individually for each 16 points with configurator software (model: R8CFG)

Module address: With rotary switch

Terminating resistor: Built-in (DIP Switch, default: disable)

Status indicator: Bi-color (red/green) LED; Refer to the instruction manual.

Input status indicators: Red LED; Refer to the instruction manual.

INPUT SPECIFICATIONS

■ DC Voltage:

Input range: -10 - +10 V DC

Input setting value: Available to set in the input range

Operational range: -5 - +105 % (% of input setting value)

Input resistance: $\geq 1 \text{ M}\Omega$

■ DC Current:

Input range: -20 - +20 mA DC

Input setting value: Available to set in the input range

Operational range: -5 - +105 % (% of input setting value)

Input resistance: 50Ω (1/4 W)

Factory default (Input type and input setting value):

Voltage input, input range -10 - +10 V DC for all 16 points.

INSTALLATION

Max. current consumption: 100 mA

Operating temperature: -10 to +55°C (14 to 131°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Atmosphere: No corrosive gas or heavy dust

Mounting: DIN rail

Weight: 110 g (0.24 lb)

PERFORMANCE

Conversion accuracy (in percentage of input range)

Voltage input: $\pm 0.05 \%$

Current input: $\pm 0.1 \%$

Conversion accuracy is inversely proportional to input span.

Conversion rate: 8 msec.

Input circuit time constant: Approx. 1 msec.

Data range: 0 - 10000 of the input range
(Scaling of converted data is configurable with the configurator software)

Data allocation: 2

Module addresses in use: 8

Power output (input terminal): Rated current 3 A DC (rated current 3 A for internal fuse (slow blow fuse i^2t (A²sec) max. 5.04)

Temp. coefficient: ± 0.015 %/°C (± 0.008 %/°F)

Insulation resistance: ≥ 100 M Ω with 500 V DC

Dielectric strength: 1500 V AC @ 1 minute
(input or exc. supply to internal bus or internal power to ground)

CALCULATION EXAMPLES OF CONVERSION ACCURACY

■ Voltage input:

For input setting value 1 - 5 V DC

Conversion accuracy = Input range span (20 V) \div input setting value span (4 V) \times 0.05 (%) = 0.25 (%)

■ Current input:

For input setting value 4 - 20 mA DC

Conversion accuracy = Input range span (40 mA) \div input setting value span (16 mA) \times 0.1 (%) = 0.25 (%)

STANDARDS & APPROVALS

EU conformity:

EMC Directive

EMI EN 61000-6-4

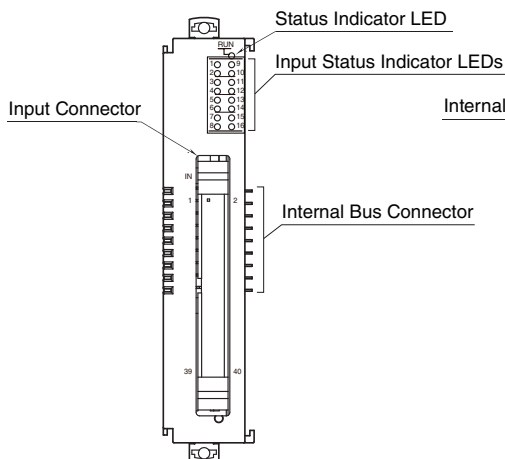
EMS EN 61000-6-2

RoHS Directive

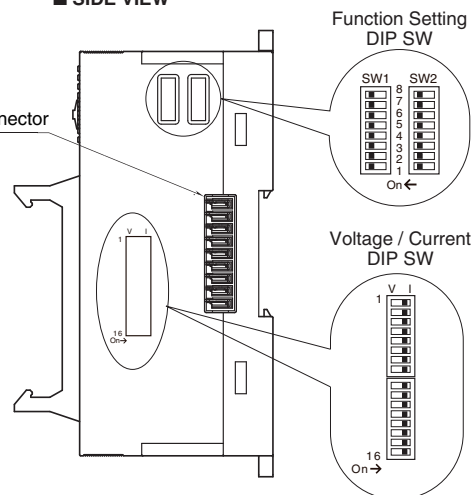
EN 50581

EXTERNAL VIEW

■ FRONT VIEW



■ SIDE VIEW



OPERATING MODE SETTING

(*) Factory default

Be sure to set unused SW 2-1 through 2-5 and 2-7, 2-8 to OFF

■ Module Address

SW 1-1 through 1-4 determine the tenth place digit, while SW 1-5 through 1-8 do the ones place digit of the address. Address is selected between 0 to 24.

(Factory setting: 0)

MODULE ADDRESS	SW1				
	x10 x1	1 5	2 6	3 7	4 8
0		OFF	OFF	OFF	OFF
1		OFF	OFF	OFF	ON
2		OFF	OFF	ON	OFF
3		OFF	OFF	ON	ON
4		OFF	ON	OFF	OFF
5		OFF	ON	OFF	ON
6		OFF	ON	ON	OFF
7		OFF	ON	ON	ON
8		ON	OFF	OFF	OFF
9		ON	OFF	OFF	ON

■ Terminator DIP SW

TERMINATOR SW	SW2
	6
Without (*)	OFF
With	ON

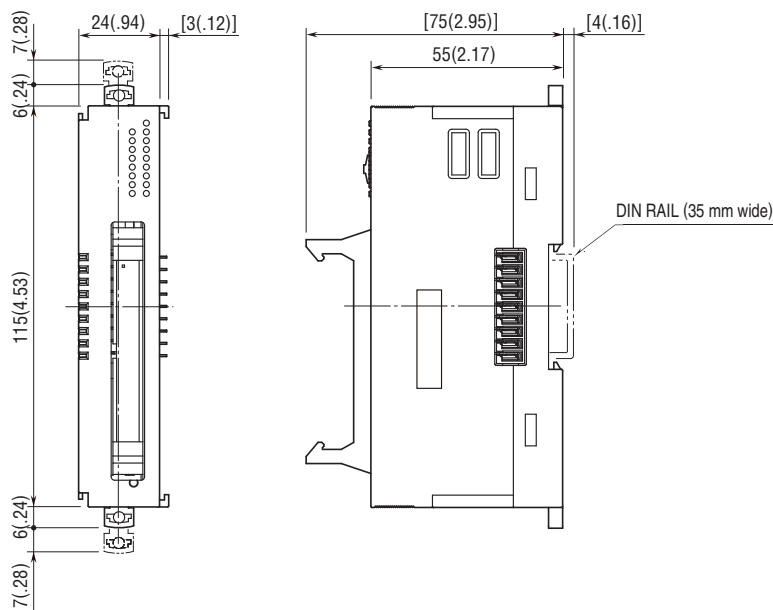
■ Voltage / Current DIP SW

For voltage input, set the switch OFF.

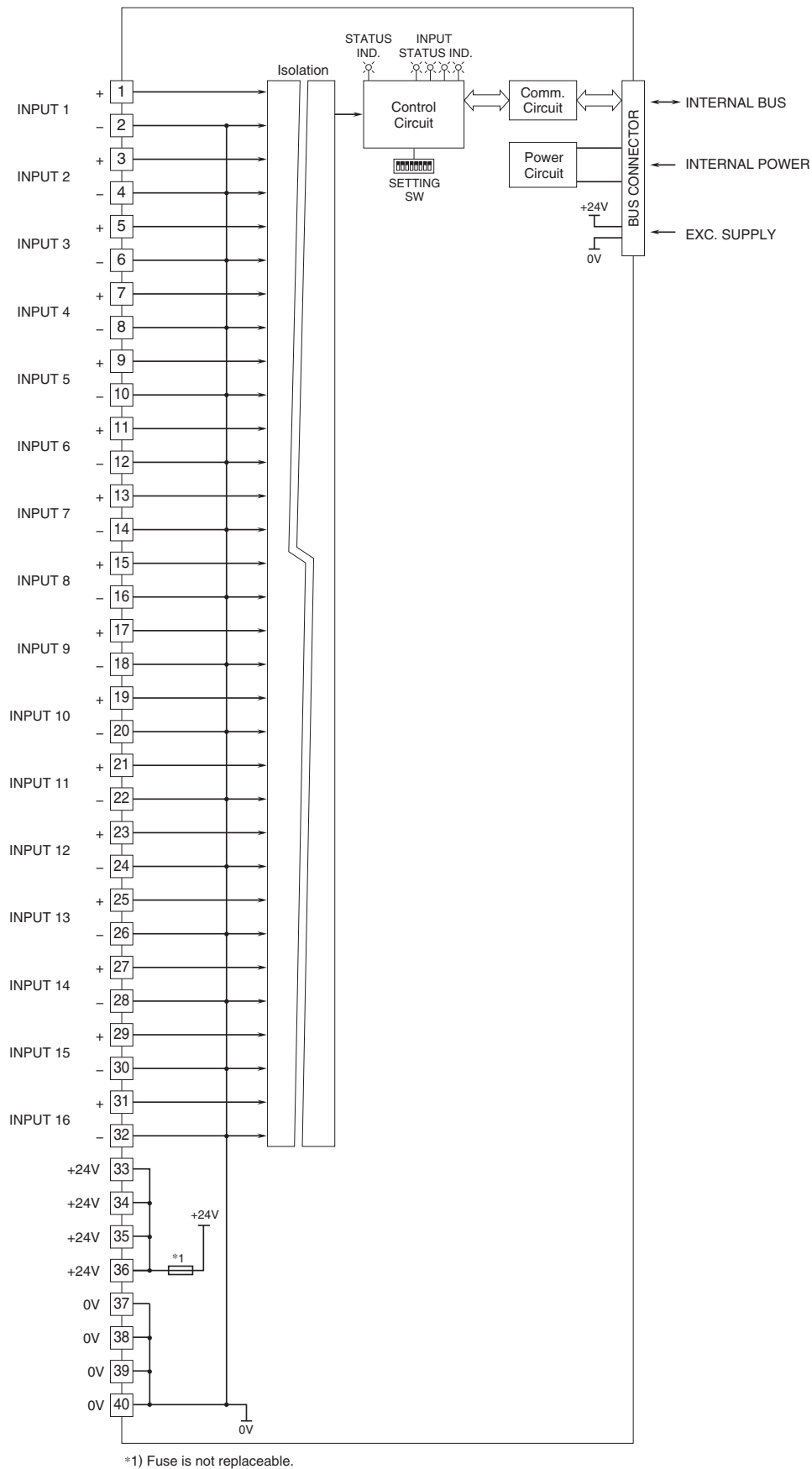
For current input set the switch ON.

Note: To configure the input, setting from configurator software and the setting of this switch are required.

DIMENSIONS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM





Specifications are subject to change without notice.