

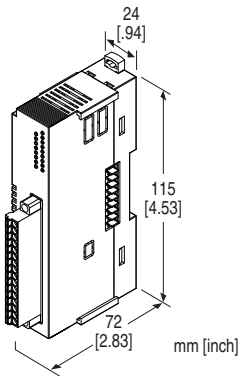
Remote I/O R80 Series

DC VOLTAGE/CURRENT INPUT MODULE, 4 points

(built-in excitation, 4 points, non-isolated, Tension clamp terminal block)

Functions & Features

- 4 points DC voltage input and DC current input remote I/O module
- Accepts direct input from power output as sensor power and outputs from terminals
- Non-isolated
- Tension clamp terminal block



MODEL: R80FST4NJ[1]

ORDERING INFORMATION

- Code number: R80FST4NJ[1]
Specify a code from below for [1].
(e.g. R80FST4NJ/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 our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

RELATED PRODUCTS

- PC configurator software (model: R80CFG)
Downloadable at our web site.
For connecting to PC, use commercially available Mini-B type USB cable. (provided by user)

GENERAL SPECIFICATIONS

Connection

Input: Separable tension clamp terminal

Internal bus, internal power: Connected to internal bus connector

Housing material: Flame-resistant resin (black)

Isolation: Input 1-4 or excitation supply to internal bus or internal power to FE

Input type: Configuration mode that selectable between current input and voltage input and available to configure scaling individually for each 4 points with configurator software (model: R80CFG) is available.

Module address: With DIP 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 4 points.

INSTALLATION

Current consumption: 120 mA

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

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

Operating humidity: 10 to 90 %RH (non-condensing)

Atmosphere: No corrosive gas or heavy dust

Mounting: DIN rail

Weight: 120 g (0.26 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: 1 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)

Power output (input connector): Rated current 0.5 A DC per channel (rated current 3 A for internal fuse (slow blow fuse i^2t (A²sec.) max. 5.04); Total: 1 A DC

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

Insulation resistance: ≥ 100 MΩ with 500 V DC

Dielectric strength: 1500 V AC @ 1 minute
(input1-4 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) ÷ input setting value span (4 V) × 0.05 (%) = 0.25 (%)

■ Current input:

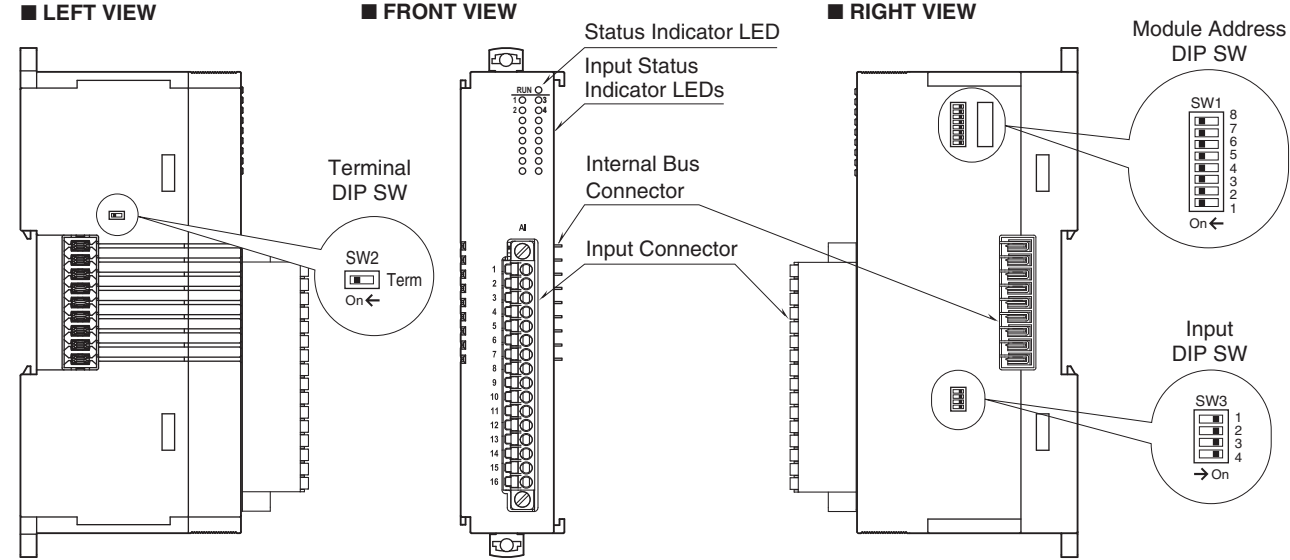
For input setting value 4 - 20 mA DC
Conversion accuracy = Input range span (40 mA) ÷ input setting value span (16 mA) × 0.1 (%) = 0.25 (%)

STANDARDS & APPROVALS

EU conformity:

- EMC Directive
 - EMI EN 61000-6-4
 - EMS EN 61000-6-2
- RoHS Directive

EXTERNAL VIEW



CONNECTION DIAGRAMS

■ Tension clamp terminal block

Unit side connector: MC1,5/16-GF-3,5 (Phoenix Contact)

Applicable connector: FMC1,5/16-STF-3,5 (Phoenix Contact)

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)

OPERATING MODE SETTING

(*) factory default setting

Note: Be sure to set unused SW1-5 to 8 to OFF.

• Module Address Setting

Configure the module address with DIP Switch.

0 - 15 are available for module address.

MODULE ADDRESS	SW1			
	1	2	3	4
0(*)	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
4	OFF	OFF	ON	OFF
5	ON	OFF	ON	OFF
6	OFF	ON	ON	OFF
7	ON	ON	ON	OFF
8	OFF	OFF	OFF	ON
9	ON	OFF	OFF	ON
10	OFF	ON	OFF	ON
11	ON	ON	OFF	ON
12	OFF	OFF	ON	ON
13	ON	OFF	ON	ON
14	OFF	ON	ON	ON
15	ON	ON	ON	ON

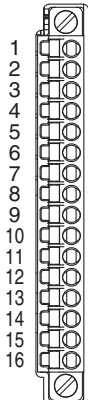
• Terminator Setting

Terminator	SW2
Disabled (*)	OFF
Enabled	ON

• Input Setting

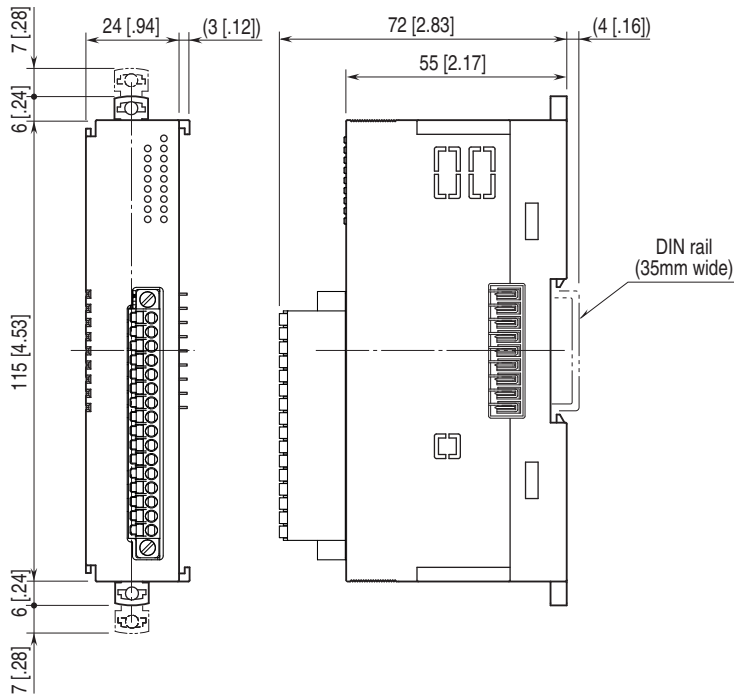
Input Setting	SW3			
	1	2	3	4
DC voltage (*)	OFF	OFF	OFF	OFF
DC Current	ON	ON	ON	ON

TERMINAL ASSIGNMENTS

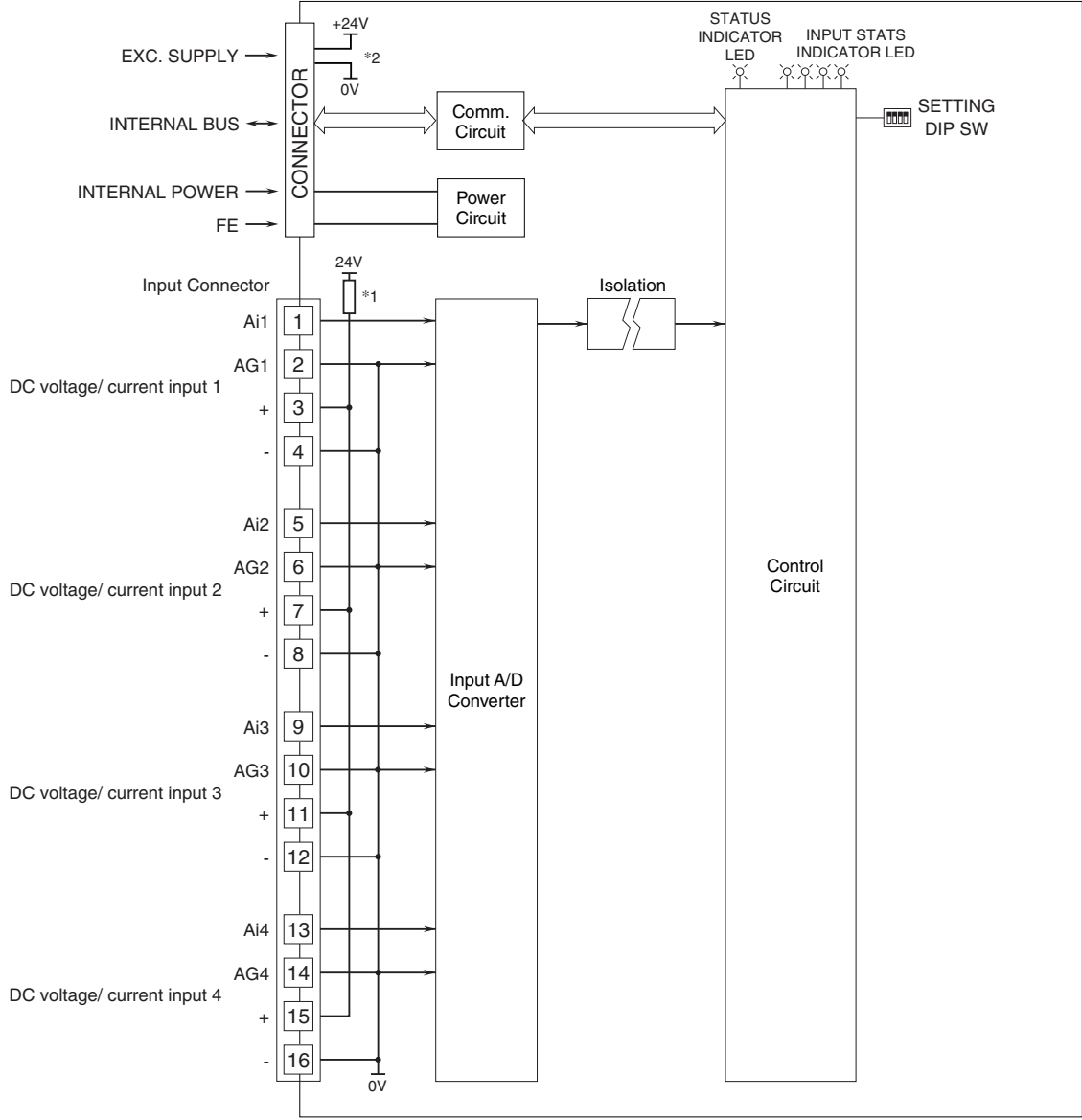


PIN No.	ID	FUNCTION
1	Ai1	Input 1 (+)
2	AG1	Input 1 (-)
3	+	Excitation supply (+)
4	-	Excitation supply (-)
5	Ai2	Input 2 (+)
6	AG2	Input 2 (-)
7	+	Excitation supply (+)
8	-	Excitation supply (-)
9	Ai3	Input 3 (+)
10	AG3	Input 3 (-)
11	+	Excitation supply (+)
12	-	Excitation supply (-)
13	Ai4	Input 4 (+)
14	AG4	Input 4 (-)
15	+	Excitation supply (+)
16	-	Excitation supply (-)


EXTERNAL DIMENSIONS unit: mm [inch]



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*1 The fuse is not replaceable.
 *2 A power supply isolated from exc. supply and internal power.

 Specifications are subject to change without notice.