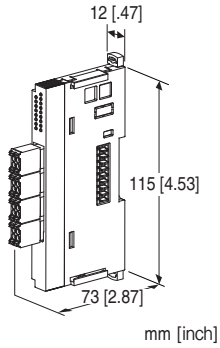
Remote I/O R8 Series

ENCODER TOTALIZED PULSE INPUT MODULE, 1 point
(NPN / PNP / voltage pulse input)

Functions & Features
- Measuring the totalized pulse of encoder input
- Signed 32-bit data
- Reset signal input available (can also be used as preset or capture function)
- Compatible with various counting methods



MODEL: R8-RPAT1-[1][2]

ORDERING INFORMATION

- Code number: R8-RPAT1-[1][2]

Specify a code from below for each of [1] and [2].
(e.g. R8-RPAT1-A/Q)
- Specify the specification for option code /Q
(e.g. /C01)

[1] INPUT

A: NPN input
B: PNP input
C: Voltage pulse input

[2] 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 cable (model: MCN-CON or COP-US)
- PC configurator software (model: R8CFG)
Downloadable at our web site.

GENERAL SPECIFICATIONS

Connection
- **Input**: Separable tension clamp terminal
- **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
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

Number of input: 1 point (phase A, phase B, reset)
Operation display: LED turns on when pulse is input.
- **NPN input**
Pull-up resistance: 4 kΩ
ON voltage, current: ≤ 4 V (input – G), ≥ 5 mA
OFF voltage, current: ≥ 16 V (input – G), ≤ 2 mA
- **PNP input**
Pull-down resistance: 4 kΩ
ON voltage, current: ≤ 4 V (input – V), ≥ 5 mA
OFF voltage, current: ≥ 16 V (input – V), ≤ 2 mA
- **Voltage pulse input**
Input resistance: 4 kΩ
ON voltage: ≥ 16 V (input – G)
OFF voltage: ≤ 4 V (input – G)

Maximum input frequency: 60 kHz
Pulse input minimum pulse width: ≥ 4 µsec.
Reset input minimum width: ≥ 1 msec.
Accumulated pulse width: Signed 32 bit
(-1,000,000,000 to +1,000,000,000)
Overflow process: Stop at upper limit or lower limit
Counting method:
- Two-phase pulse input (Non-multiplication, double multiplication or quad multiplication)
- Pulse + direction input
- Add + subtract pulse input

Reset input: Select from reset, preset or capture function.

INSTALLATION

Max. current consumption: 40 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

MG CO., LTD.
www.mgco.jp

Mounting: DIN rail
Weight: 70 g (2.5 oz)

PERFORMANCE

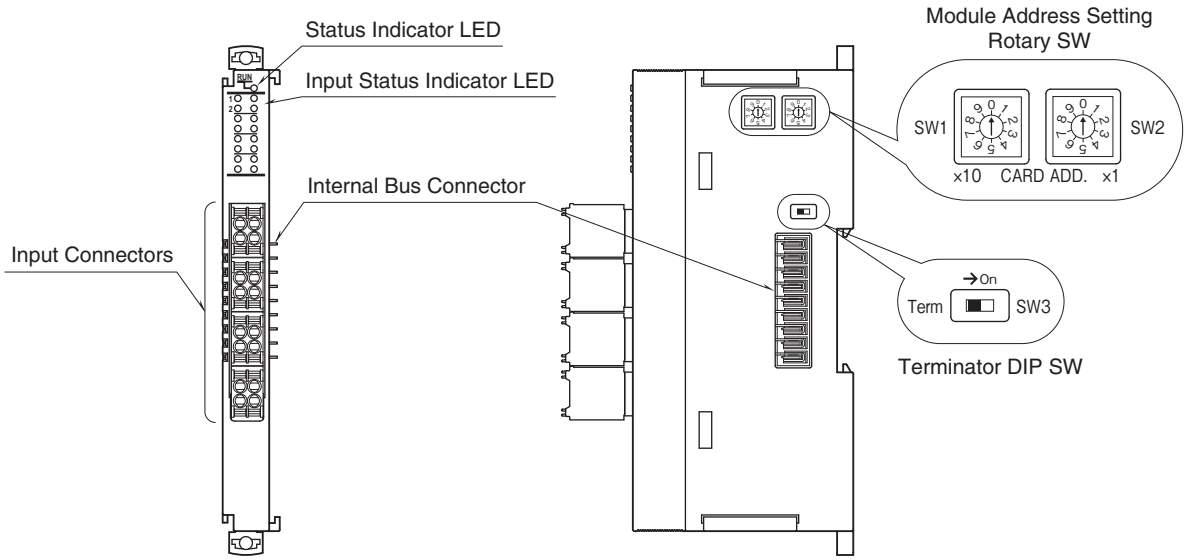
Data allocation: 2
Module addresses in use: 2
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 1500 V AC @ 1 minute
(input or exc. supply to internal bus or internal power to ground)

STANDARDS & APPROVALS

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

EXTERNAL VIEW

■ **FRONT VIEW** ■ **SIDE VIEW**



MG CO., LTD.
www.mgco.jp

WIRING

■ SEPARABLE TENSION CLAMP TERMINAL

Unit side connector: In-house made

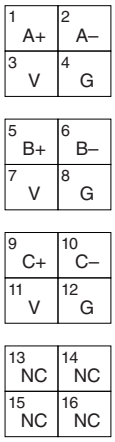
Cable side connector: DFMC1,5/2-ST-3,5 (Phoenix Contact) (included in the package)

Applicable wire size: 0.2 - 1.5 mm^2

Stripped length: 10 mm

Recommended solderless terminal

- AI0,25-10YE 0.25 mm^2 (Phoenix Contact)
- AI0,34-10TQ 0.34 mm^2 (Phoenix Contact)
- AI0,5-10WH 0.5 mm^2 (Phoenix Contact)
- AI0,75-10GY 0.75 mm^2 (Phoenix Contact)
- A1-10 1.0 mm^2 (Phoenix Contact)
- A1,5-10 1.5 mm^2 (Phoenix Contact)



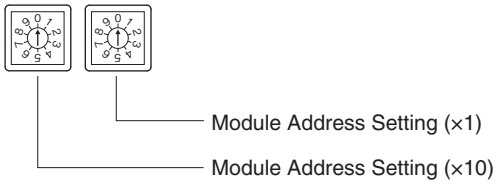
PIN No.	ID	FUNCTION
1	A+	Phase A pulse input
2	A–	Phase A pulse input
3	V	Excitation supply (+)
4	G	Excitation supply (–)
5	B+	Phase B pulse input
6	B–	Phase B pulse input
7	V	Excitation supply (+)
8	G	Excitation supply (–)
9	C+	Reset signal input
10	C–	Reset signal input
11	V	Excitation supply (+)
12	G	Excitation supply (–)
13	NC	No Connection
14	NC	No Connection
15	NC	No Connection
16	NC	No Connection

OPERATING MODE SETTING

(*) Factory default setting

■ **MODULE ADDRESS (SW1, 2)**

The left switch determines the tenth place digit, while the right one does the ones place digit of the module address. Address is selected between 0 to 30. (Factory setting: 0)

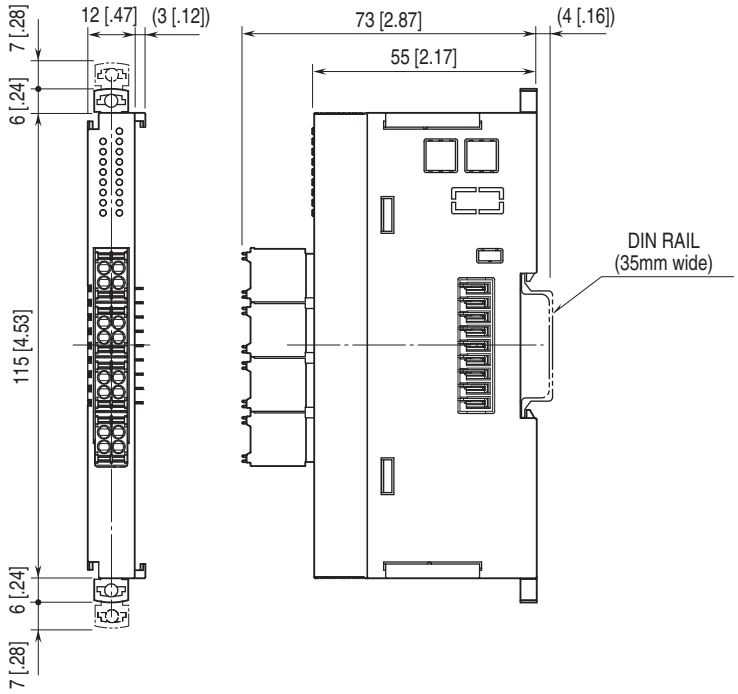


■ **TERMINATOR (SW3)**

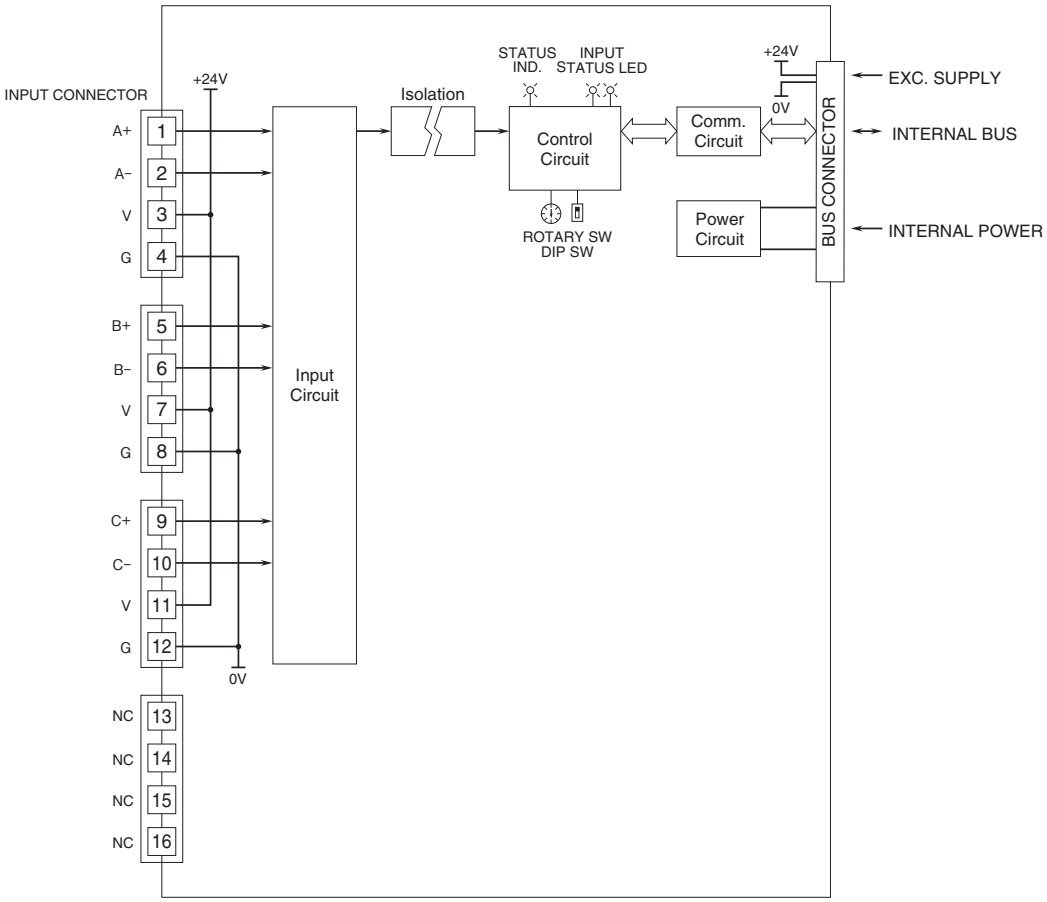
TERMINATOR	SW3
WIthout (*)	OFF
With	ON

MG CO., LTD.
www.mgco.jp

EXTERNAL DIMENSIONS unit: mm [inch]

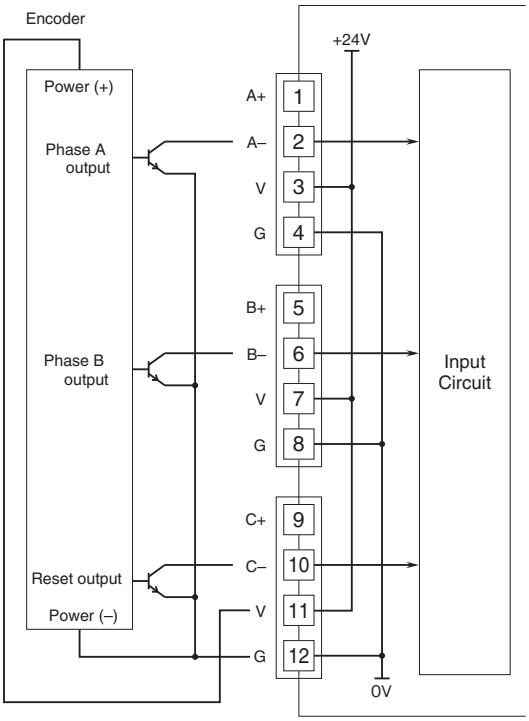


SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

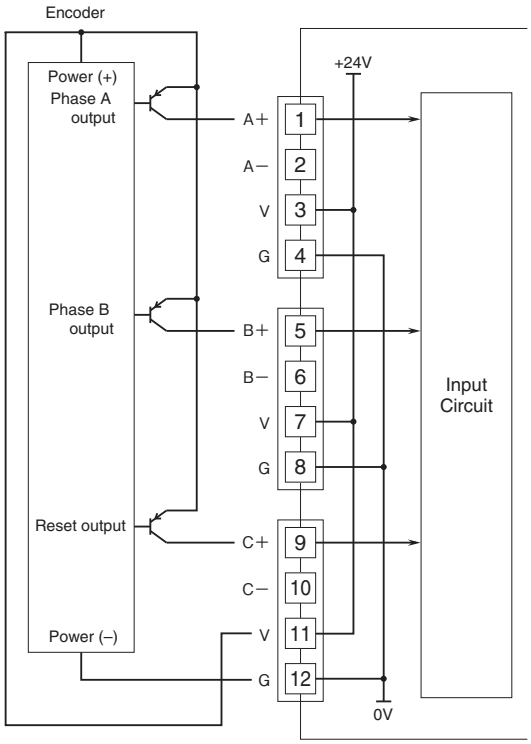


MG CO., LTD.
www.mgco.jp

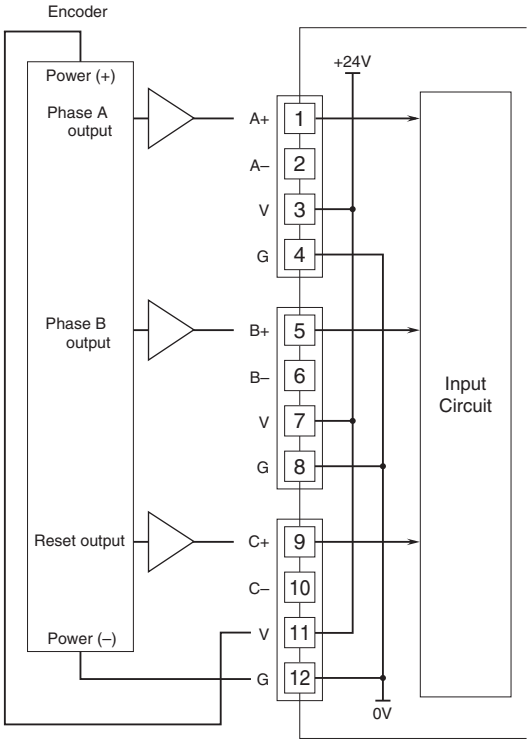
■ **INPUT CIRCUIT (NPN INPUT)**



■ **INPUT CIRCUIT (PNP INPUT)**



■ **INPUT CIRCUIT (VOLTAGE PULSE INPUT)**



⚠ Specifications are subject to change without notice.

MG CO., LTD.
www.mgco.jp