

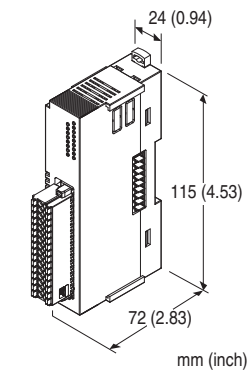
## Remote I/O R8 Series

### NPN DISCRETE INPUT MODULE, 8 points

(tension clamp terminal block)

#### Functions & Features

- 8 channels for discrete input, compact size remote I/O module
- 32 pins tension clamp connector



### MODEL: R8-DAT8A2[1]

#### ORDERING INFORMATION

- Code number: R8-DAT8A2[1]
- Specify a code from below for [1].  
(e.g. R8-DAT8A2/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)  
Downloadable at M-System's web site.  
A dedicated cable is required to connect the module to the PC. Please refer to the internet software download site or the users manual for the PC configurator for applicable cable types.

#### GENERAL SPECIFICATIONS

##### Connection

- **Input:** Tension clamp
- **Excitation supply, internal bus:**  
Connected to internal bus connector
- **Internal power:** Via bus connector

**Isolation:** Input or exc. supply to internal bus or internal power

**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.

**Discrete input status indicators:** Green LED; Refer to the instruction manual.

#### INPUT SPECIFICATIONS

**Common:** Positive common (NPN)

**Number of input:** 8 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 - 24V) /  $\geq 2.3$  mA

**OFF voltage / current:**  $\leq 5$  V DC (input - 24V) /  $\leq 1$  mA

**Input current:**  $\leq 4.5$  mA per point at 24 V DC

**Input resistance:** Approx. 5.7 k $\Omega$

**ON delay:**  $\leq 2.0$  msec.

**OFF delay:**  $\leq 2.0$  msec.

#### 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

**Data allocation:** 1

**Module addresses in use:** 1

**Power output (input connector):** Rated current 0.5 A DC per channel (rated current 3 A for internal fuse (slow blow fuse  $i^2t$  (A<sup>2</sup>sec.) max. 5.04); Total: 3 A DC

**Insulation resistance:**  $\geq 100$  M $\Omega$  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:**

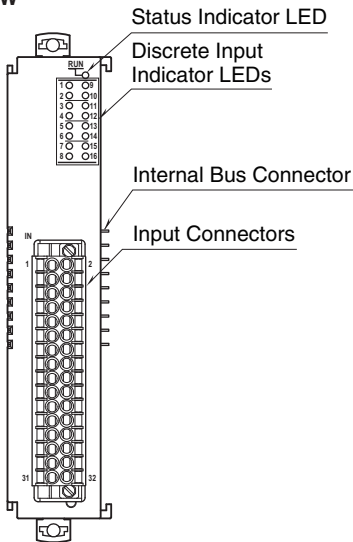
EMC Directive

EMI EN 61000-6-4

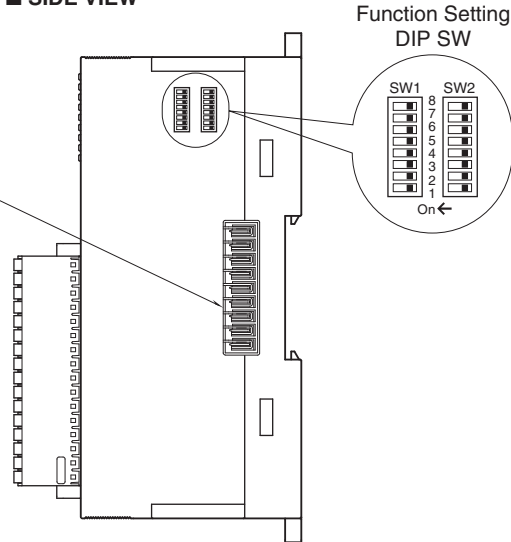
EMS EN 61000-6-2  
 RoHS Directive  
 EN 50581

## EXTERNAL VIEW

### FRONT VIEW



### SIDE VIEW



## CONNECTION DIAGRAMS

### Tension clamp terminal block

Unit side connector: DMC1,5/1,6-G1F-3,5-LR P26THR (Phoenix Contact)

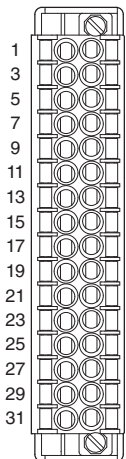
Cable side connector: DFMC1,5/16-STF-3,5 (Phoenix Contact)

Applicable wire size: 0.2 – 1.5 mm<sup>2</sup>

Stripped length: 10 mm

### Recommended solderless terminal

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



PIN No.	ID	FUNCTION	PIN No.	ID	FUNCTION
1	Di 1	Input 1	17	Di 5	Input 5
2	0V	Excitation supply (-)	18	0V	Excitation supply (-)
3	24V	Excitation supply (+)	19	24V	Excitation supply (+)
4	0V	Excitation supply (-)	20	0V	Excitation supply (-)
5	Di 2	Input 2	21	Di 6	Input 6
6	0V	Excitation supply (-)	22	0V	Excitation supply (-)
7	24V	Excitation supply (+)	23	24V	Excitation supply (+)
8	0V	Excitation supply (-)	24	0V	Excitation supply (-)
9	Di 3	Input 3	25	Di 7	Input 7
10	0V	Excitation supply (-)	26	0V	Excitation supply (-)
11	24V	Excitation supply (+)	27	24V	Excitation supply (+)
12	0V	Excitation supply (-)	28	0V	Excitation supply (-)
13	Di 4	Input 4	29	Di 8	Input 8
14	0V	Excitation supply (-)	30	0V	Excitation supply (-)
15	24V	Excitation supply (+)	31	24V	Excitation supply (+)
16	0V	Excitation supply (-)	32	0V	Excitation supply (-)

## OPERATING MODE SETTING

(\*) Factory default

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

### ■ Module Address

SW1-1 through 1-4 determine the tenth place digit, while SW1-5 through 1-8 do the ones place digit of the module address.

Address is selected between 0 to 31.

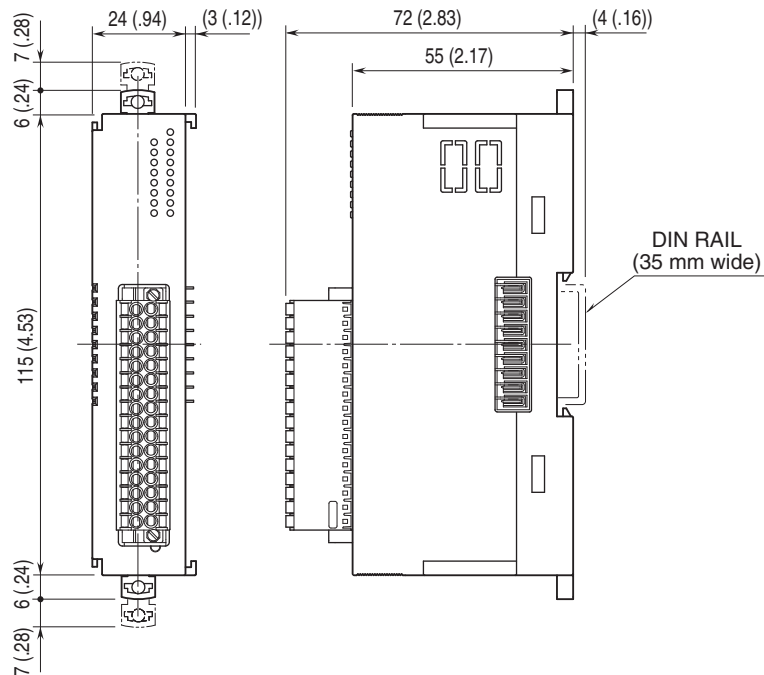
(Factory setting: 0)

MODULE ADDRESS	SW1				
	×10 ×1	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

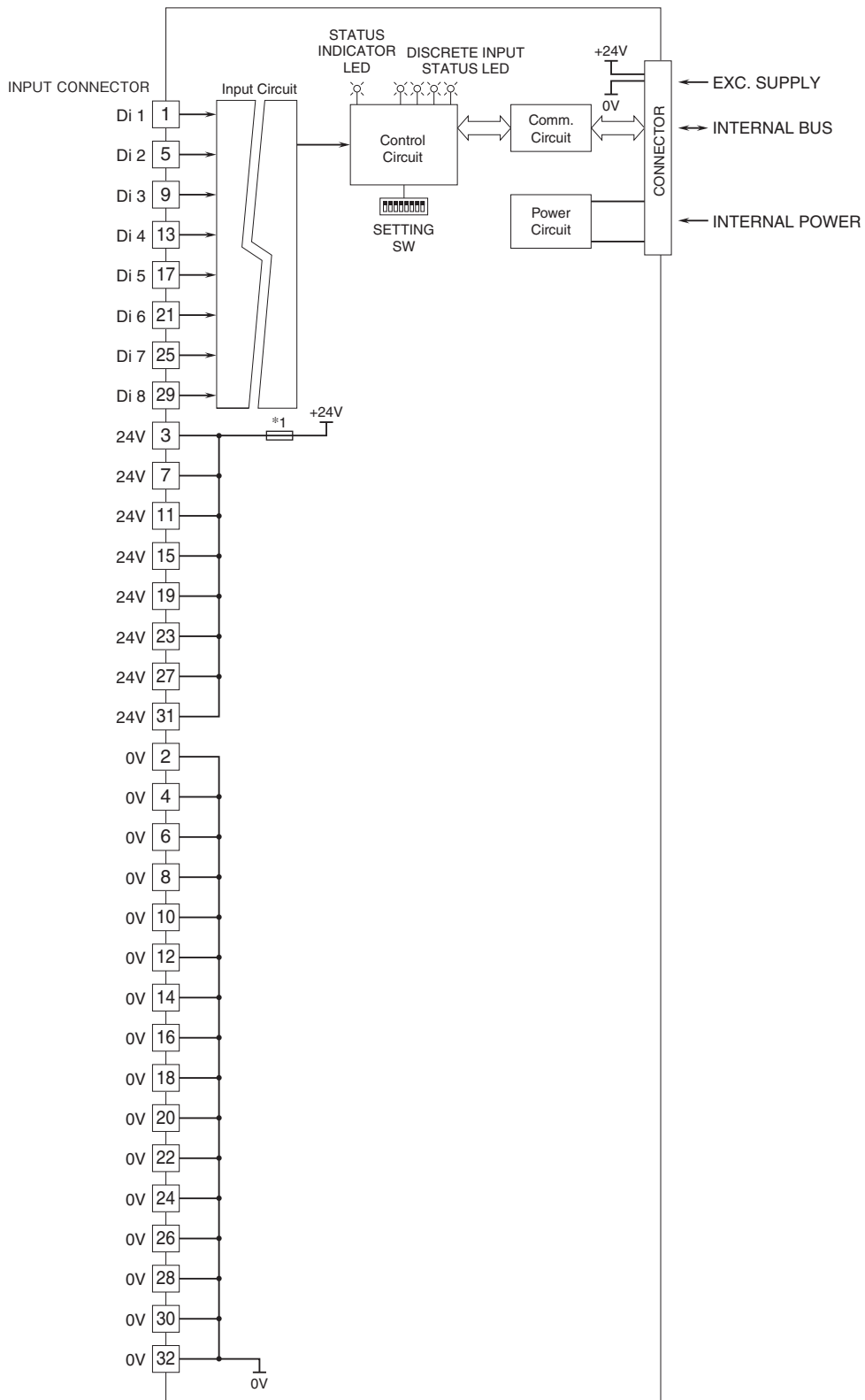
### ■ Terminator DIP SW

TERMINATOR SW	SW2 6
Without (*)	OFF
With	ON

## EXTERNAL DIMENSIONS unit: mm (inch)

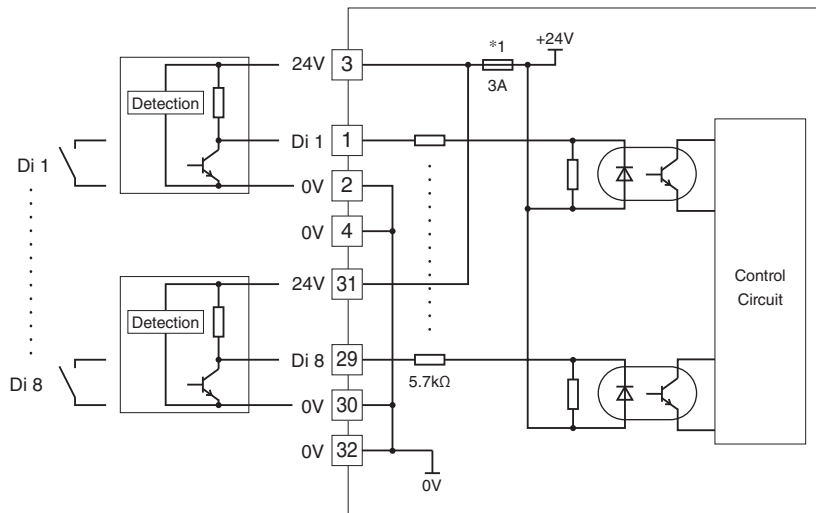


**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



\*1. Fuse is not replaceable.

## ■ INPUT CIRCUIT



Specifications are subject to change without notice.