

**DISCRETE INPUT MODULE**  
(Di 16 points; with external excitation supply)**MODEL R3-DA16A****BEFORE USE ....**

Thank you for choosing M-System. Before use, please check contents of the package you received as outlined below.

If you have any problems or questions with the product, please contact M-System's Sales Office or representatives.

**■ PACKAGE INCLUDES:**

Discrete input module.....(1)

**■ MODEL NO.**

Confirm Model No. marking on the product to be exactly what you ordered.

**■ INSTRUCTION MANUAL**

This manual describes necessary points of caution when you use this product, including installation, connection and basic maintenance procedures.

**POINTS OF CAUTION****■ CONFORMITY WITH EU DIRECTIVES**

- The external excitation 110V DC is suitable for Pollution Degree 2 and Measurement Category I (contact input, transient voltage 1500V). Reinforced insulation (input to internal bus or internal power: 150V) is maintained. Prior to installation, check that the insulation class of this unit satisfies the system requirements.
- Altitude up to 2000 meters.
- The equipment must be mounted inside the instrument panel of a metal enclosure.
- The equipment must be installed such that appropriate clearance and creepage distances are maintained to conform to CE requirements. Failure to observe these requirements may invalidate the CE conformance.
- The actual installation environments such as panel configurations, connected devices, connected wires, may affect the protection level of this unit when it is integrated in a panel system. The user may have to review the CE requirements in regard to the whole system and employ additional protective measures to ensure the CE conformity.

**■ HOT SWAPPABLE MODULES**

- Replacing the module does not affect other modules on the same base. Thus, the module can be replaced while the power is ON. However, replacing multiple modules at once may greatly change live voltage levels. We highly recommend to replace them one by one.

**■ GENERAL PRECAUTIONS**

- DO NOT set the switches on the module while the power is supplied. The switches are used only for maintenance without the power.

**■ ENVIRONMENT**

- Indoor use.
- When heavy dust or metal particles are present in the air, install the unit inside proper housing with sufficient ventilation.
- Do not install the unit where it is subjected to continuous vibration. Do not subject the unit to physical impact.
- Environmental temperature must be within -10 to +55°C (14 to 131°F) with relative humidity within 30 to 90% RH in order to ensure adequate life span and operation.

**■ WIRING**

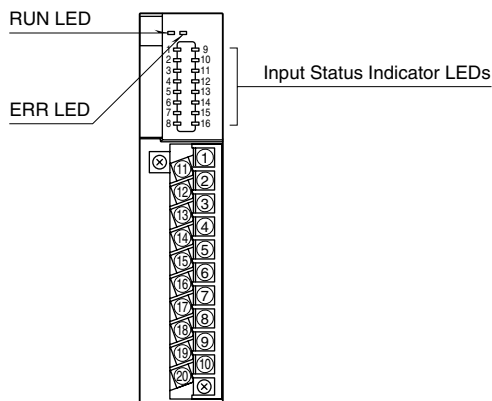
- Do not install cables close to noise sources (relay drive cable, high frequency line, etc.).
- Do not bind these cables together with those in which noises are present. Do not install them in the same duct.

**INSTALLATION**

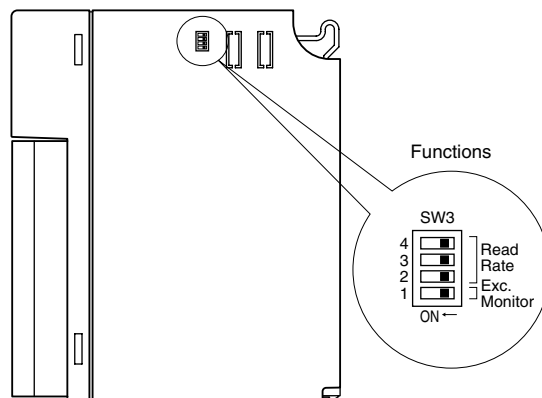
Use the Installation Base (model: R3-BSx).

## COMPONENT IDENTIFICATION

### FRONT VIEW



### SIDE VIEW



### STATUS INDICATOR LED

- RUN indicator:** Bi-color (red/green) LED;  
 Red when the bus A operates normally;  
 Green when the bus B operates normally;  
 Amber when both buses operate normally.
- ERR indicator:** Bi-color (red/green) LED;  
 Red with excitation abnormality;  
 Green in normal operating conditions.
- Input status indicator:** Red LED; turns on with the input ON.

### SIDE DIP SW

(\*) Factory setting

#### Excitation Monitor: SW3-1

SW	EXCITATION MONITOR	
	WITH (*)	WITHOUT
SW3-1	OFF	ON

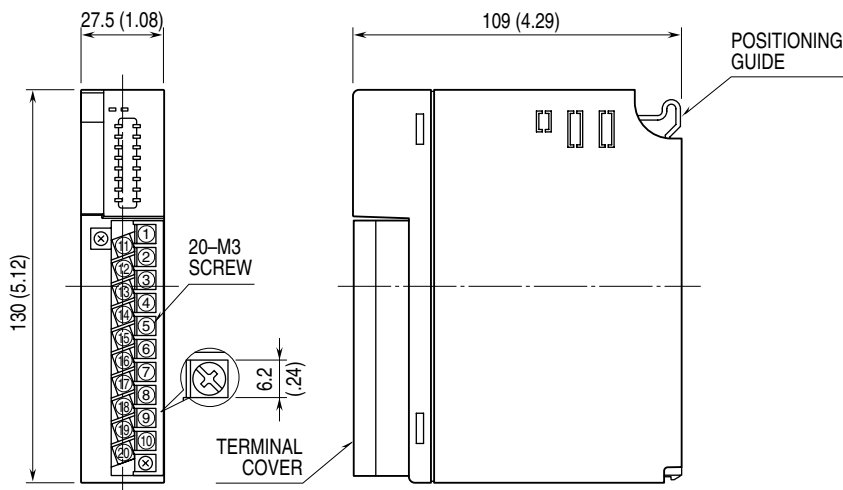
#### Read Rate: SW3-2, 3-3, 3-4

SW	READ RATE ( $\leq$ msec.)							
	10 (*)	1	5	20	50	70	100	200
SW3-2	OFF	ON	OFF	ON	OFF	ON	OFF	ON
SW3-3	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW3-4	OFF	OFF	OFF	OFF	ON	ON	ON	ON

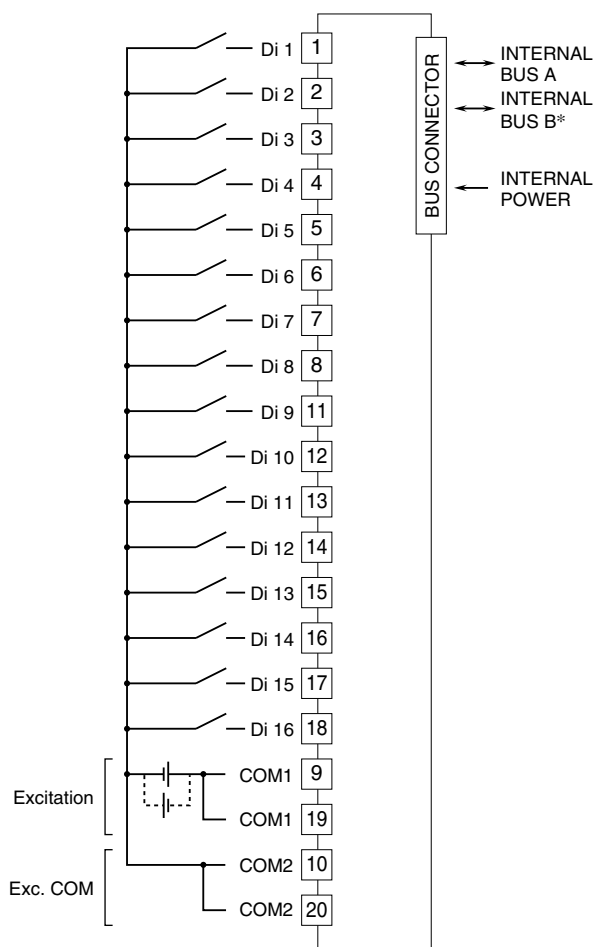
## TERMINAL CONNECTIONS

Connect the unit as in the diagram below.

### EXTERNAL DIMENSIONS unit: mm (inch)

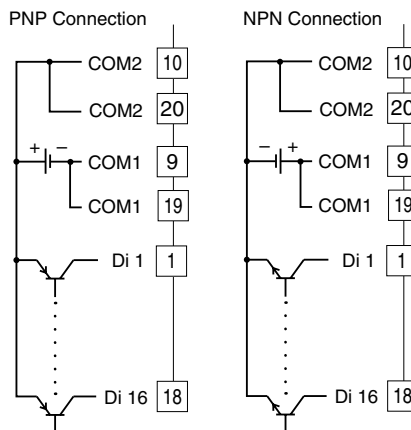


■ CONNECTION DIAGRAM



\*For dual redundant communication.

■ Input Connection Examples



WIRING INSTRUCTIONS

■ SCREW TERMINAL

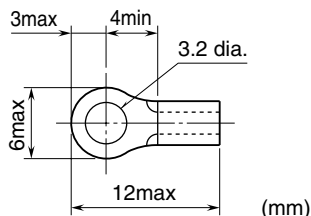
Torque: 0.5 N·m

■ SOLDERLESS TERMINAL

Refer to the drawing below for recommended ring tongue terminal size. Spade tongue type is also applicable. Solderless terminals with insulation sleeve do not fit.

Applicable wire size: 0.3 – 0.5 mm<sup>2</sup>

Recommended manufacturer: Japan Solderless Terminal MFG. Co., Ltd., Nichifu Co., Ltd.



FUNCTIONS

■ Excitation Monitor ON

The input is held at the last status when the loss of excitation is detected. The excitation must be connected across the terminal 9 (19) and 10 (20).

■ Excitation Monitor OFF

All input signals are turned off when the loss of excitation is detected.