

**DISCRETE INPUT MODULE**  
(Di 16 points; with external excitation supply)**MODEL R30XN16A****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 equipment must be mounted inside the instrument panel of a metal enclosure.
- 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.

**■ GENERAL PRECAUTIONS**

- Before you remove the terminal block or mount it, turn off input signals for safety.

**■ HOT SWAPPABLE MODULES**

- It is possible to replace a module with the power supplied provided that the module is replaced with one with the same model number and installed in the same base slot.
- Turn off input signals before replacing the module for safety. Note that replacing multiple modules at once may greatly change line voltage levels. We highly recommend to replace them one by one.

**■ ENVIRONMENT**

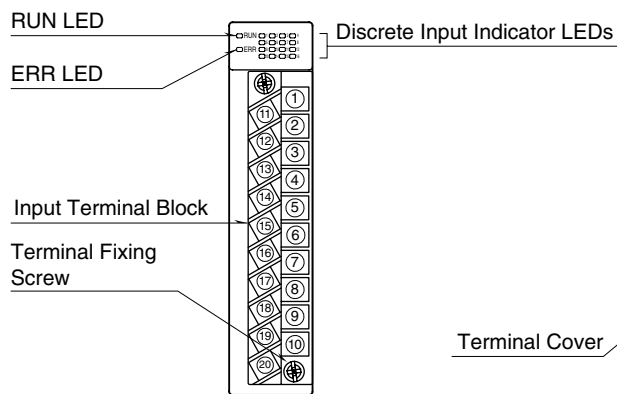
- Indoor use.
- When heavy dust or metal particles are present in the air, install the unit inside proper housing with sufficient ventilation.
- Do not install the unit where it is subjected to continuous vibration. Do not subject the unit to physical impact.
- Environmental temperature must be within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

**■ WIRING**

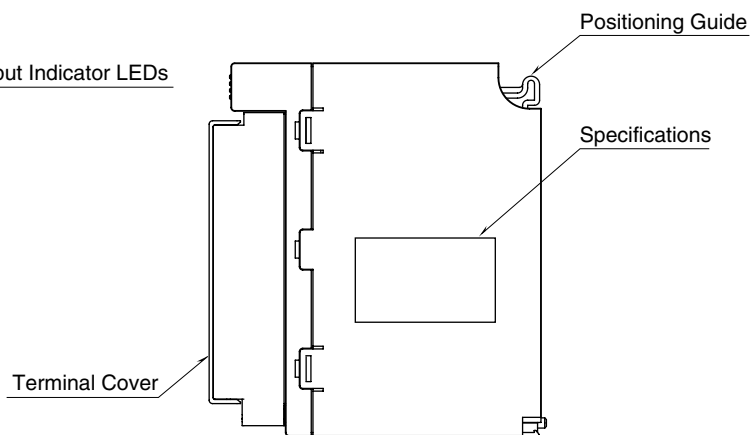
- Do not install cables close to noise sources (relay drive cable, high frequency line, etc.).
- Do not bind these cables together with those in which noises are present. Do not install them in the same duct.
- Be sure to attach the terminal cover for safety.

## COMPONENT IDENTIFICATION

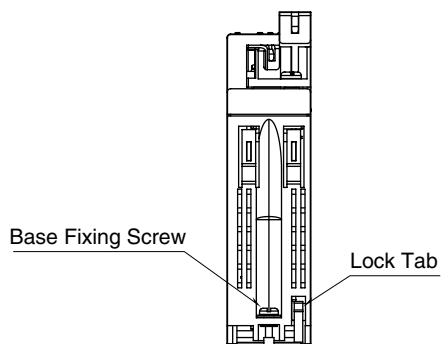
### ■ FRONT VIEW



### ■ SIDE VIEW



### ■ BOTTOM VIEW



### ■ STATUS INDICATOR LED

ID	COLOR	FUNCTION
RUN	Green	ON in normal host communication OFF in host communication error
ERR	Red	OFF when internal bus operates normally ON when an internal bus error occurs
Discrete Input	Green	ON when discrete input is ON OFF when discrete input is OFF

### ■ TERMINAL ASSIGNMENTS

	1
11	X1
X9	2
12	X2
X10	3
13	X3
X11	4
14	X4
X12	5
15	X5
X13	6
16	X6
X14	7
17	X7
X15	8
18	X8
X16	9
19	C1
C1	10
20	C2
C2	

NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	X1	Input 1	11	X9	Input 9
2	X2	Input 2	12	X10	Input 10
3	X3	Input 3	13	X11	Input 11
4	X4	Input 4	14	X12	Input 12
5	X5	Input 5	15	X13	Input 13
6	X6	Input 6	16	X14	Input 14
7	X7	Input 7	17	X15	Input 15
8	X8	Input 8	18	X16	Input 16
9	C1	Common 1	19	C1	Common 1
10	C2	Common 2	20	C2	Common 2

## INSTALLATION

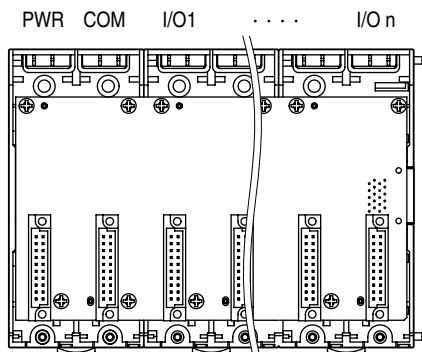
### ■ INSTALLATION TO THE BASE

Use the Installation Base (model: R30BS).

The I/O slots are numbered in the ascending order starting from the one on the immediate right side of the network module (slot 1, slot 2...).

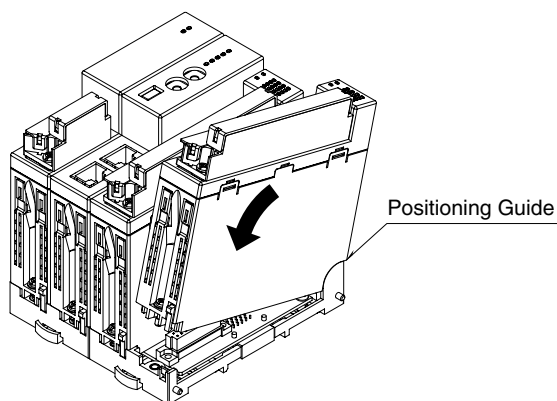
A code indicating the I/O slot number is assigned to each I/O slot and I/O data is allocated in the order of this codes.

When an I/O slot is vacant, blank data is sent or received to/from the PLC, etc.

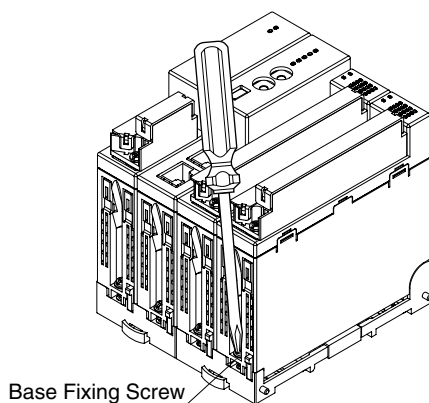


### ■ HOW TO MOUNT THE MODULE

- 1) Engage the positioning guide of the module with the Installation Base.
- 2) Pivot the module on the positioning guide and press it down until the lock tab clicks into place.

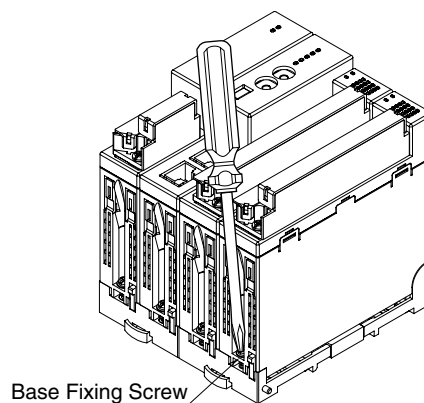


- 3) Tighten the base fixing screw using a screwdriver (stem length: 70 mm/2.76" or more) (torque 0.5 N·m).

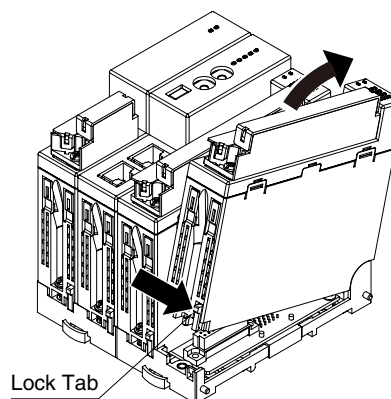


### ■ HOW TO REMOVE THE MODULE

- 1) Loosen the base fixing screw using a screwdriver (stem length: 70 mm/2.76" or more).



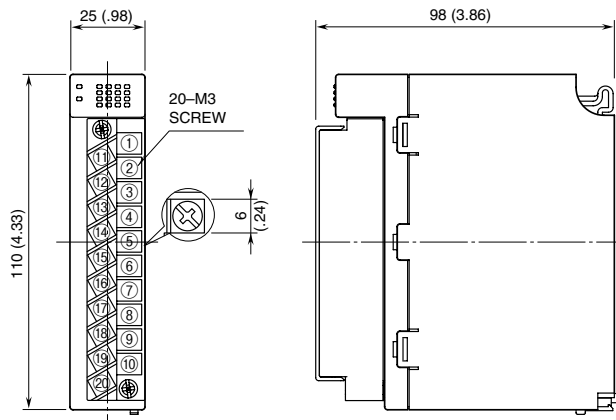
- 2) While pressing the projection on the lock tab, push the module upward.
- 3) Detach the positioning guide of the module from the Installation Base.



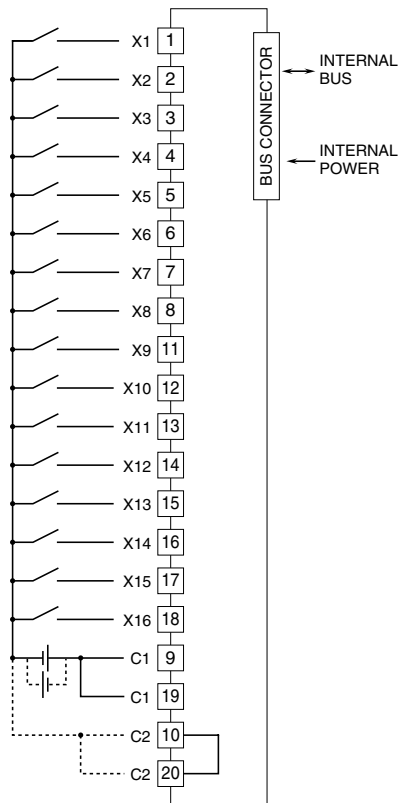
# TERMINAL CONNECTIONS

Connect the unit as in the diagram below.

## EXTERNAL DIMENSIONS unit: mm (inch)

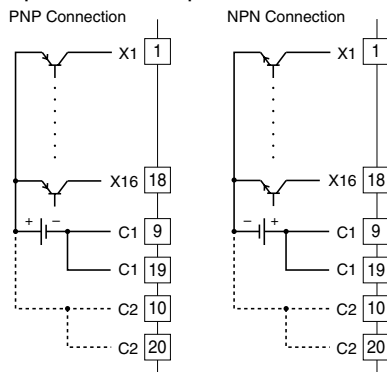


## CONNECTION DIAGRAM



Note: Terminals C2 can be used as necessary.

### Input Connection Examples



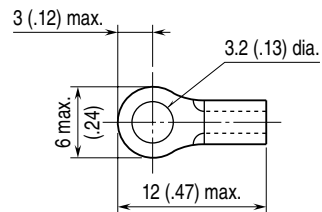
## WIRING INSTRUCTIONS

### TIGHTENING TORQUE

Separable screw terminal wiring screw: 0.5 N·m  
 Separable screw terminal fixing screw: 0.5 N·m

### SOLDERLESS TERMINAL unit: mm (inch)

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: 0.25 to 0.75 mm<sup>2</sup>  
 Recommended manufacturer: Japan Solderless Terminal MFG. Co., Ltd., Nichifu Co., Ltd.



### HOW TO REMOVE SEPARABLE SCREW TERMINAL

The terminal block is separable in two pieces. Evenly loosen two screws on top and bottom of the terminal block to separate.