# DISCRETE INPUT MODULE
## (Di 16 points; with external excitation supply)

MODEL **R30XN16A**

## BEFORE USE ....

Thank you for choosing us. 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 our 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.
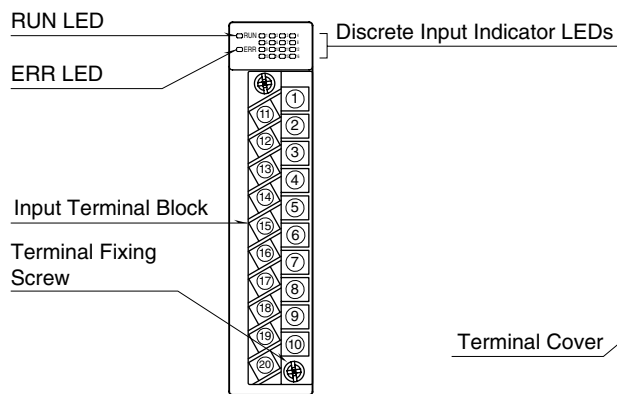
### ■ ENVIRONMENT

• 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.
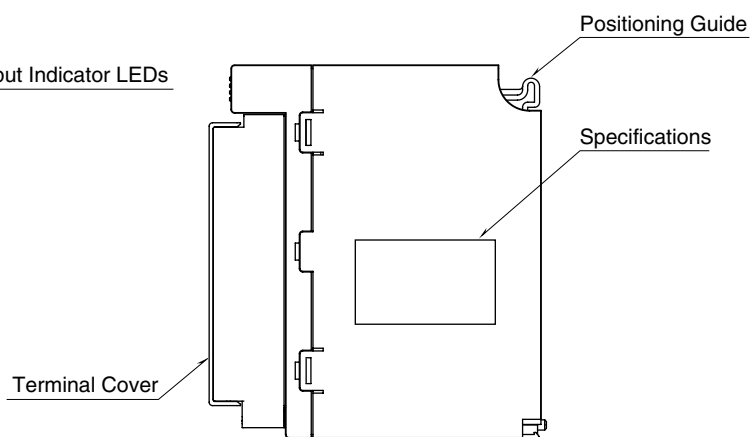
### ■ WIRING

• 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.
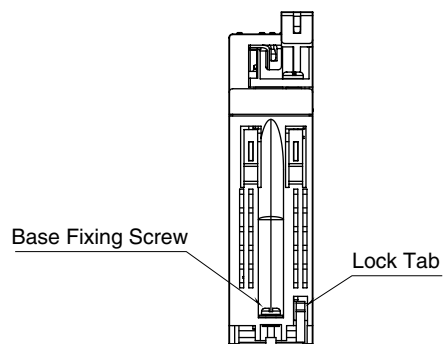
# COMPONENT IDENTIFICATION

■ **FRONT VIEW**

RUN LED

ERR LED

Discrete Input Indicator LEDs

Input Terminal Block

Terminal Fixing
Screw

■ **SIDE VIEW**

Positioning Guide

Specifications

Terminal Cover

■ **BOTTOM VIEW**

Base Fixing Screw

Lock Tab

■**STATUS INDICATOR LED**

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

■**TERMINAL ASSIGNMENTS**

| 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.
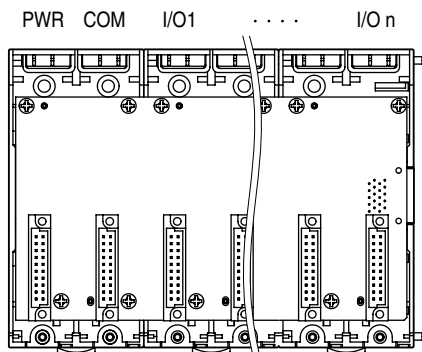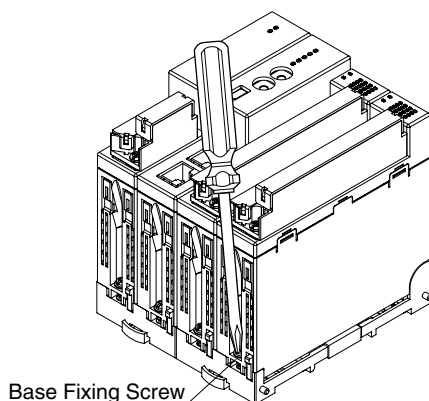
## ■ HOW TO MOUNT THE MODULE

1) Engage the positioning guide of the module with the Installation Base.
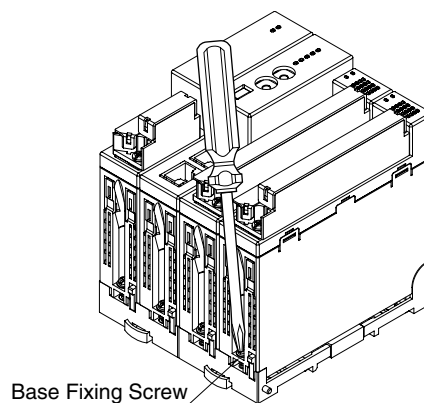2) Pivot the module on the positioning guide and press it down until the lock tab clicks into place.
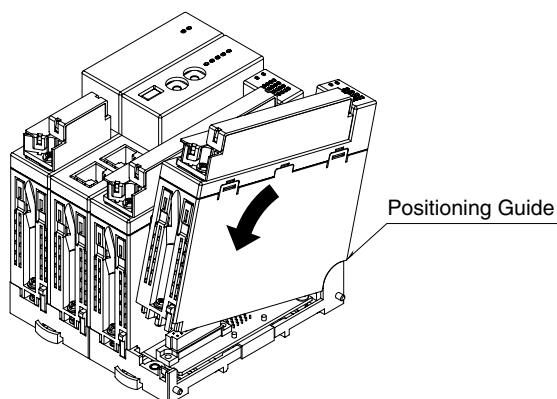
3) Tighten the base fixing screw using a screwdriver (stem length: 70 mm/2.76" or more) (torque 0.5 N·m).

## ■ HOW TO REMOVE THE MODULE

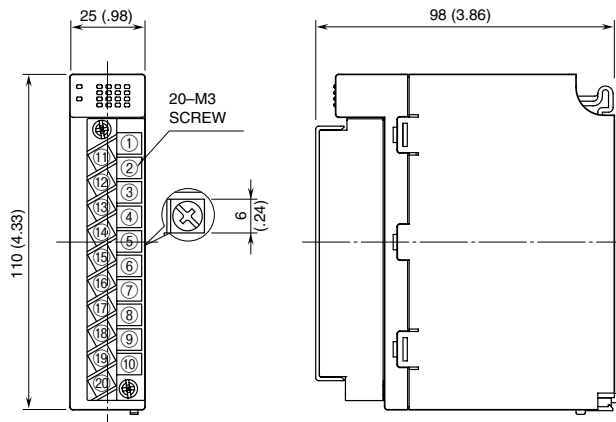1) Loosen the base fixing screw using a screwdriver (stem length: 70 mm/2.76" or more).

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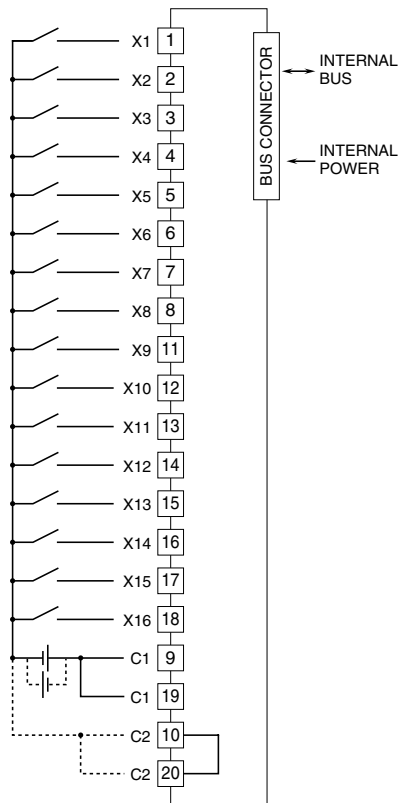3) Detach the positioning guide of the module from the Installation Base.

MG CO., LTD. www.mgco.jp
5-2-55 Minamitsumori, Nishinari-ku, Osaka 557-0063 JAPAN
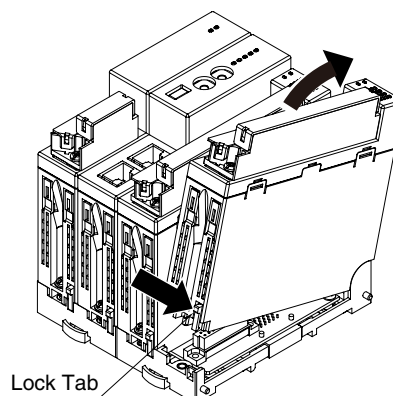
# TERMINAL CONNECTIONS

Connect the unit as in the diagram below.

## ■ EXTERNAL DIMENSIONS  unit: mm (inch)

25 (.98)  98 (3.86)  110 (4.33)  20–M3 SCREW  6 (.24)

## ■ CONNECTION DIAGRAM

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

BUS CONNECTOR

INTERNAL BUS
INTERNAL POWER

Note: Terminals C2 can be used as necessary.

### ■ Input Connection Examples

PNP Connection

X1 1
X16 18
C1 9
C1 19
C2 10
C2 20

NPN Connection

X1 1
X16 18
C1 9
C1 19
C2 10
C2 20
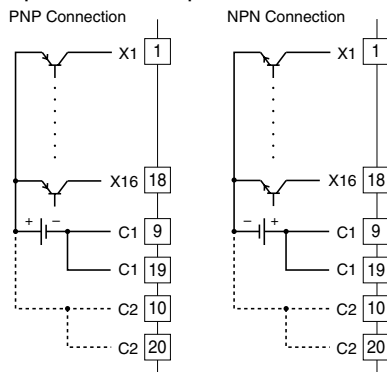
# WIRING INSTRUCTIONS

## ■ 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$^2$
Recommended manufacturer: Japan Solderless Terminal MFG. Co., Ltd., Nichifu Co., Ltd.

3 (.12) max.  3.2 (.13) dia.  6 max. (.24)  12 (.47) max.
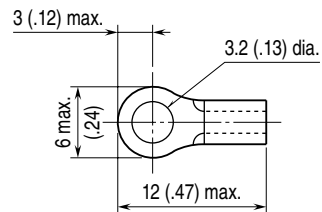
## ■ HOW TO REMOVE SEPARABLE SCREW TERMINAL

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