AC CURRENT INPUT MODULE
(4 points, isolated, clamp-on current sensor type CLSE use)

MODEL **R30CT4E**

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:

AC current 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 and 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 CE conformity.

■ GENERAL PRECAUTIONS

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

■ HOT INSERTION/REMOVAL OF MODULES

• It is possible to replace the module with the power supplied, provided that modules are of the same model number and that the same Installation Base slot is used.
• Turn off input signals before replacing the module for safety. Note that replacing multiple modules at once may greatly change line voltage levels. We recommend that you 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.
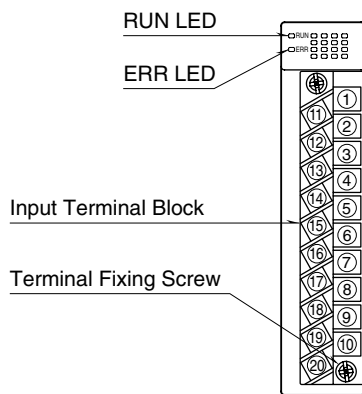
■ WIRING

• 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.
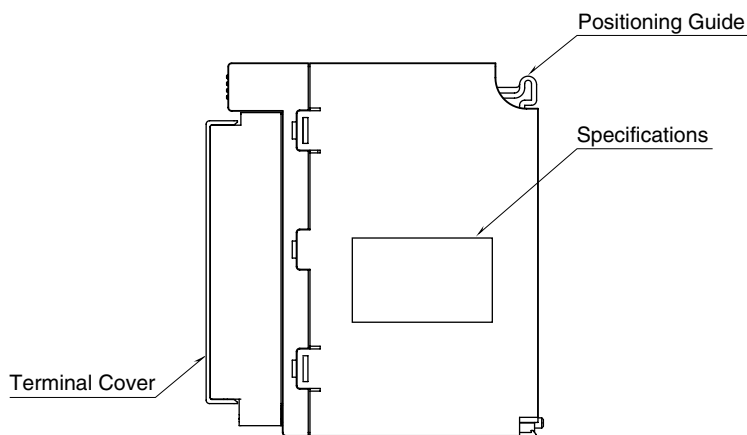• Be sure to attach the terminal cover for safety.

■ AND ....

• The unit is designed to function as soon as power is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data sheet.
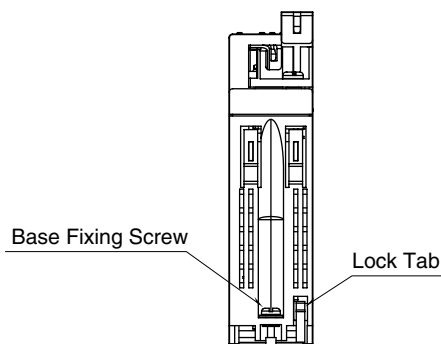
COMPONENT IDENTIFICATION

■ **FRONT VIEW**

RUN LED

ERR LED

Input Terminal Block

Terminal Fixing Screw

■ **SIDE VIEW**

Positioning Guide

Specifications

Terminal Cover

■ **BOTTOM VIEW**

Base Fixing Screw

Lock Tab

■ **STATUS INDICATORS**

LED	COLOR	FUNCTION
RUN indicator	Green	ON while network module operates normally OFF in network module error
ERR indicator	Red	OFF when input circuit and internal bus operate normally Blinks in 1 sec. cycles with input value error (≥ 115%). Blinks in 400 msec. cycles with input circuit error (AD converter response failure). ON in internal bus error

■ **TERMINAL ASSIGNMENTS**

| NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	K1	Input K1	11	NC	No connection
2	L1	Input L1	12	NC	No connection
3	K2	Input K2	13	NC	No connection
4	L2	Input L2	14	NC	No connection
5	NC	No connection	15	NC	No connection
6	K3	Input K3	16	NC	No connection
7	L3	Input L3	17	NC	No connection
8	K4	Input K4	18	NC	No connection
9	L4	Input L4	19	NC	No connection
10	NC	No connection	20	NC	No connection

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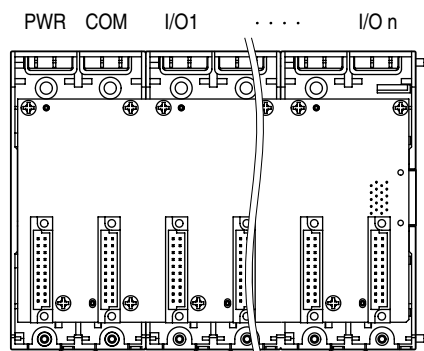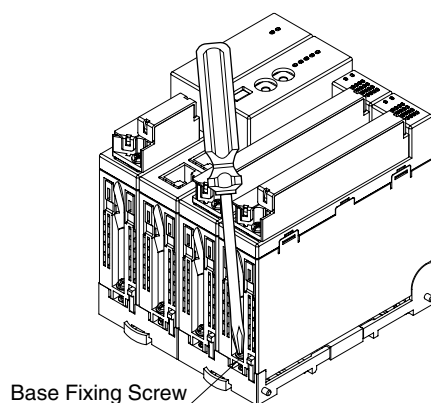

■ HOW TO MOUNT THE MODULE ON THE BASE

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 sits into place.
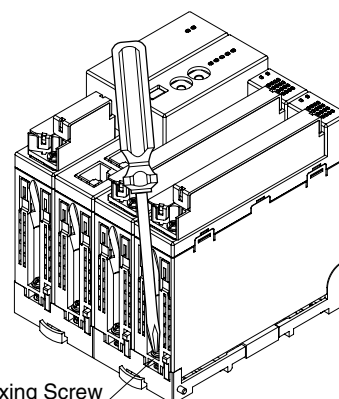

Positioning Guide
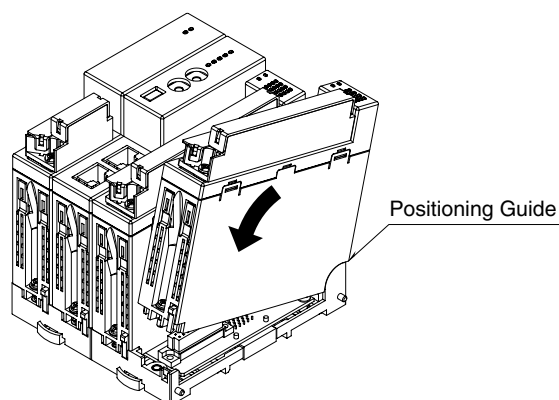
3) Tighten the base fixing screw using a screwdriver (stem length: 70 mm/2.76" or more) (torque 0.5 N·m).
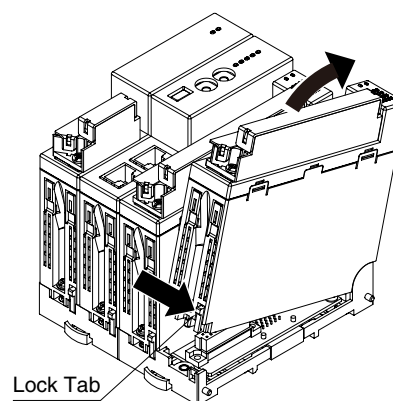

Base Fixing Screw

■ HOW TO REMOVE THE MODULE

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

Base Fixing Screw

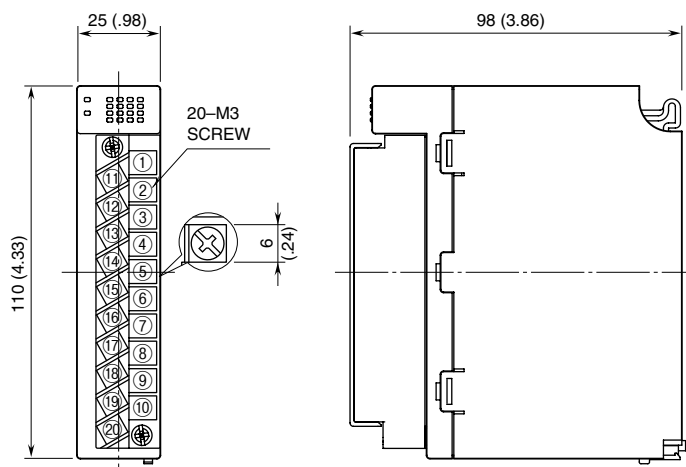2) While pressing the projection on the lock tab, push the module upward.

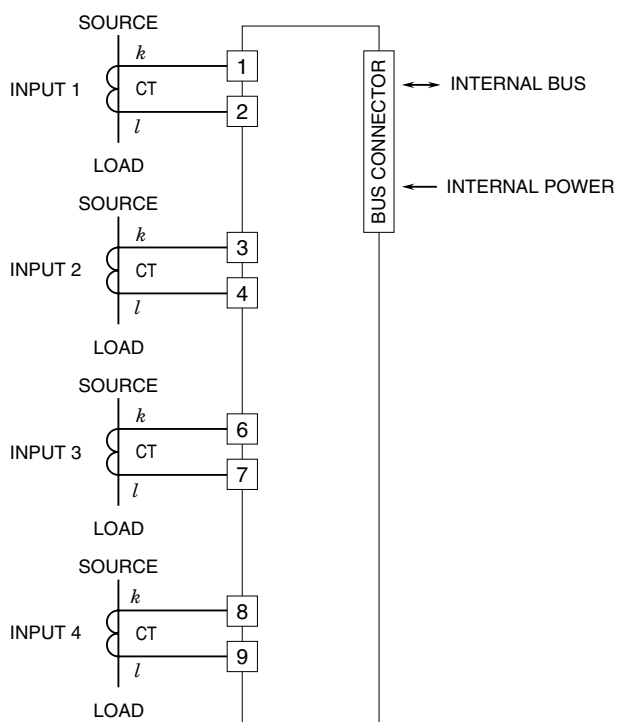3) Detach the positioning guide of the module from the Installation Base.

Lock Tab

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

SOURCE

INPUT 1

k

CT

l

1

2

LOAD

INTERNAL BUS

BUS CONNECTOR

INTERNAL POWER

SOURCE

INPUT 2

k

CT

l

3

4

LOAD

SOURCE

INPUT 3

k

CT

l

6

7

LOAD

SOURCE

INPUT 4

k

CT

l

8

9

LOAD

WIRING INSTRUCTIONS

■ TORQUE

Wiring screw for separable terminal: 0.5 N·m
Fixing screw for separable terminal: 0.5 N·m

■ SOLDERLESS TERMINAL unit: mm

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.
Recommended manufacturer: Japan Solderless Terminal MFG.Co., Ltd., Nichifu Co., Ltd.
Applicable wire size: 0.25 – 0.75 mm²
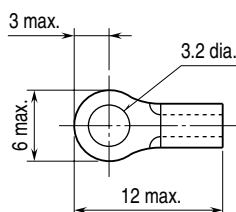
■ HOW TO REMOVE SEPARABLE SCREW TERMINAL

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

PC CONFIGURATOR

With configurator software, settings shown below are available. Refer to the software manual of R30CFG for detailed operation.

■ CHANNEL INDIVIDUAL SETTING

ITEM	USABLE RANGE	DEFAULT SETTING
Unused setting	CH enabled CH disabled	CH enabled
Input range	CLSE-60 CLSE-40 CLSE-20 CLSE-10 CLSE-05 CLSE-R5	CLSE-60
Fine zero adjustment	-320.00 – +320.00 (%)	0.00 (%)
Fine gain adjustment	-3.2000 – +3.2000	1.0000
Scaled range Zero	0 – 64 000	0
Scaled range Span	0 – 64 000	0
Low-end cutout	0.5 – 50.0 (%)	1.0 (%)

■ CHANNEL BATCH SETTING

ITEM	USABLE RANGE	DEFAULT SETTING
Conversion rate	80 ms 40 ms 20 ms 10 ms	80 ms
Operational delay at power ON	0.0 – 60.0 sec.	5.0 sec.
Simulate input	Normal input Simulated data	Normal input