

DC VOLTAGE OUTPUT MODULE

(4 points, isolated)

MODEL **R30YV4**

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:

DC voltage output 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 output 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 output 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

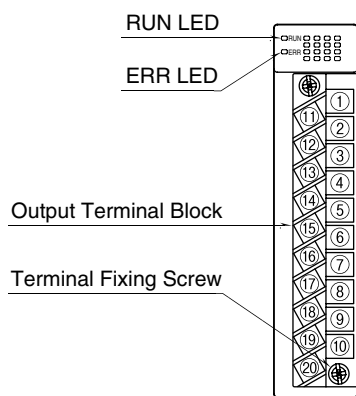
- Do not install cables close to noise sources (relay drive cable, high frequency line, etc.).
- Do not bind these cables together with those in which noises are present. Do not install them in the same duct.
- Be sure to attach the terminal cover for safety.

■ AND

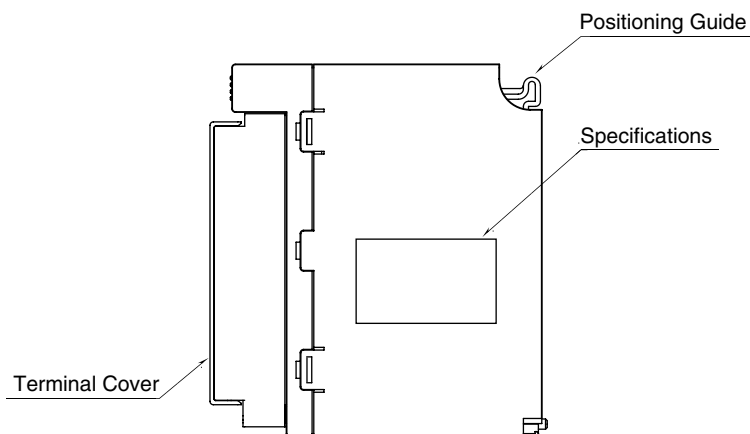
- The unit is designed to function as soon as power is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data sheet.

COMPONENT IDENTIFICATION

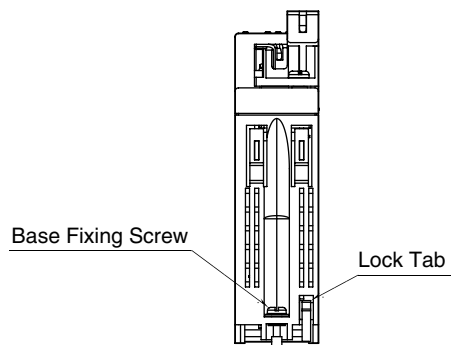
■ FRONT VIEW



■ SIDE VIEW



■ BOTTOM VIEW



■ STATUS INDICATOR LED

ID	COLOR	FUNCTION
RUN LED	Green	ON while network module operates normally OFF in network module error
ERR LED	Red	OFF when internal bus operate normally ON when internal bus error

■ TERMINAL ASSIGNMENT

11	COM1	1	V1
12	COM2	2	V2
13	COM2	3	V3
14	COM3	4	V4
15	NC	5	NC
16	NC	6	NC
17	NC	7	NC
18	NC	8	NC
19	NC	9	NC
20	NC	10	NC

NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	V1	Voltage Output 1	11	COM1	Common 1
2	V2	Voltage Output 2	12	COM2	Common 2
3	V3	Voltage Output 3	13	COM3	Common 3
4	V4	Voltage Output 4	14	COM4	Common 4
5	NC	No connection	15	NC	No connection
6	NC	No connection	16	NC	No connection
7	NC	No connection	17	NC	No connection
8	NC	No connection	18	NC	No connection
9	NC	No connection	19	NC	No connection
10	NC	No connection	20	NC	No connection

INSTALLATION

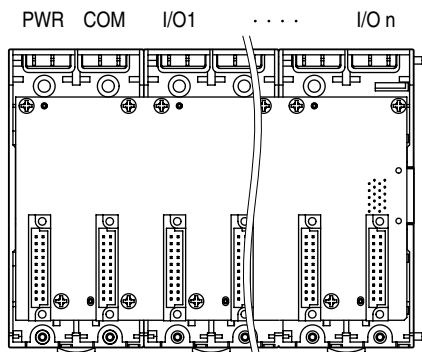
■ INSTALLATION TO THE BASE

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...).

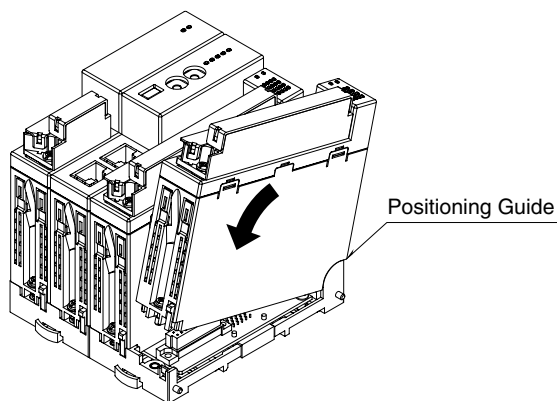
A code indicating the I/O slot number is assigned to each I/O slot and I/O data is allocated in the order of this code.

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

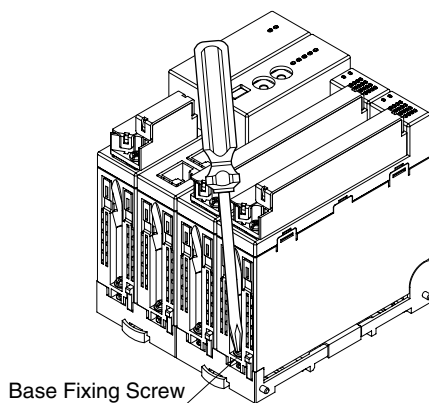


■ HOW TO MOUNT THE MODULE ON THE BASE

- 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.

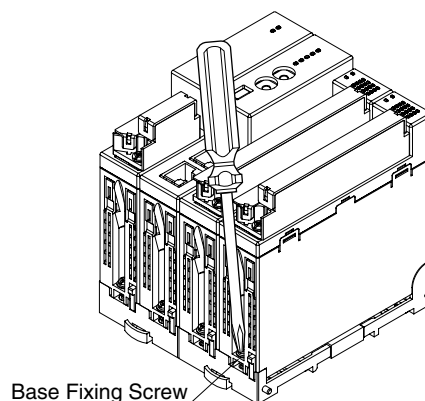


- 3) Tighten the base fixing screw using a screwdriver (stem length: 70 mm/2.76" or more) (torque 0.5 N·m).

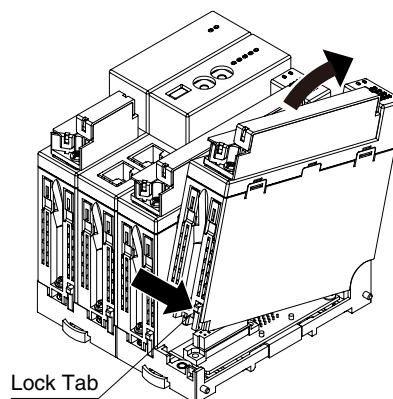


■ HOW TO REMOVE THE MODULE

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



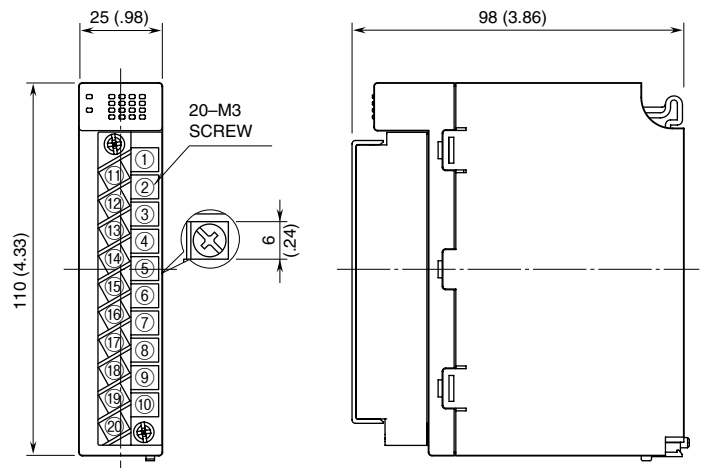
- 2) While pressing the projection on the lock tab, push the module upward.
- 3) Detach the positioning guide of the module from the Installation Base.



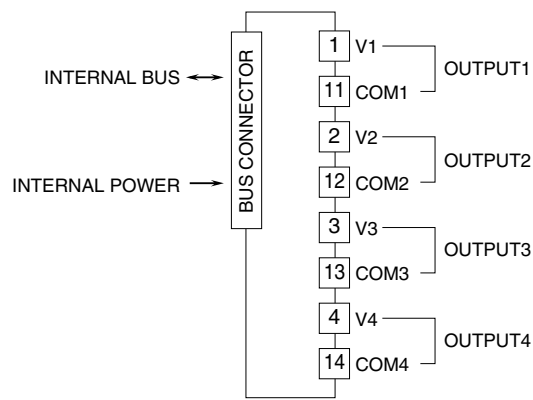
TERMINAL CONNECTIONS

Connect the unit as in the diagram below.

■ EXTERNAL DIMENSIONS unit: mm (inch)



■ CONNECTION DIAGRAM



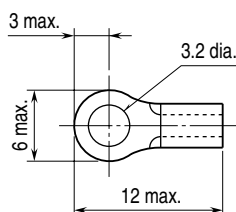
WIRING INSTRUCTIONS

■ 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.

FUNCTIONS

■ OUTPUT AT THE LOSS OF COMMUNICATION

• Output Hold

If the network module is in error, the module holds the signal at error and stands by until the communication recovers.

• Output set value

If the network module is in error, the module holds the signal at error or power up and stands by until the communication recovers. The signal at error or power up is selectable with PC configurator software (Model: R30CFG)

Not depending on output at the loss of communication setting, when power up the module holds the signal at error or power up and stands by until the normal data is received.

CONFIGURATOR SOFTWARE SETTING

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
Output range	-10 – +10V DC -5 – +5V DC 0 – 10V DC 0 – 5V DC 1 – 5V DC	-10 – +10V DC
Fine zero adjustment	-320.00 – +320.00 (%)	0.00 (%)
Fine gain adjustment	-3.2000 – +3.2000	1.0000
Scaled range zero	-32 000 – +32 000	0
Scaled range span	-32 000 – +32 000	10 000
Output range at Communication Failure or Power up	-15.00 – +115.00 (%)	-15.00 (%)

■ CHANNEL BATCH SETTING

ITEM	USABLE RANGE	DEFAULT SETTING
Simulate Output	Normal output Simulation data	Normal output
Output at the loss of communication	Hold the output data User set data output	Hold the output data