

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:

Pulse 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, 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.

■ AND

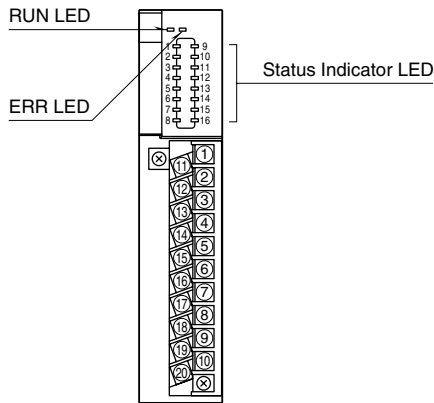
- The unit is designed to function as soon as power is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data sheet.

INSTALLATION

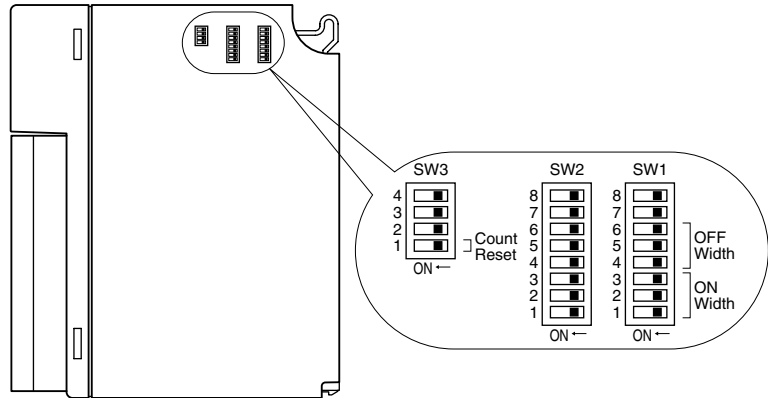
Use the Installation Base (model: R3-BSx).

COMPONENT IDENTIFICATION

FRONT VIEW



SIDE VIEW



Count Reset SW must be turned off during operation.

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 external power supply abnormality;
Green in normal operating conditions.

Output status indicator: Red LED; turns on with the output ON.

SIDE DIP SW

(*) Factory setting

• ON/OFF Pulse Width: SW1-1 through 1-6

ON			OFF			PULSE WIDTH TIME *1
1	2	3	4	5	6	
OFF	OFF	OFF	OFF	OFF	OFF	5 msec. (*)
ON	OFF	OFF	ON	OFF	OFF	10 msec.
OFF	ON	OFF	OFF	ON	OFF	50 msec.
ON	ON	OFF	ON	ON	OFF	100 msec.
OFF	OFF	ON	OFF	OFF	ON	500 msec.
ON	OFF	ON	ON	OFF	ON	1 sec.
OFF	ON	ON	OFF	ON	ON	1.5 sec.
ON	ON	ON	ON	ON	ON	2 sec.

*1. Minimum ensured time duration. For example, with 5 msec. setting, the minimum pulse width is 5 msec. and the maximum 7 msec. (approx.)

• Count Reset: SW3-1

SW	COUNT RESET	
	NORMAL	COUNT RESET
SW3-1	OFF (*)	ON

Note 1: Be sure to turn OFF during use.

Note 2: Be sure to set unused SW1-7, 1-8, SW2 and SW3-2 through 3-4 to OFF.

PC CONFIGURATOR

With configurator software, settings shown below are available.

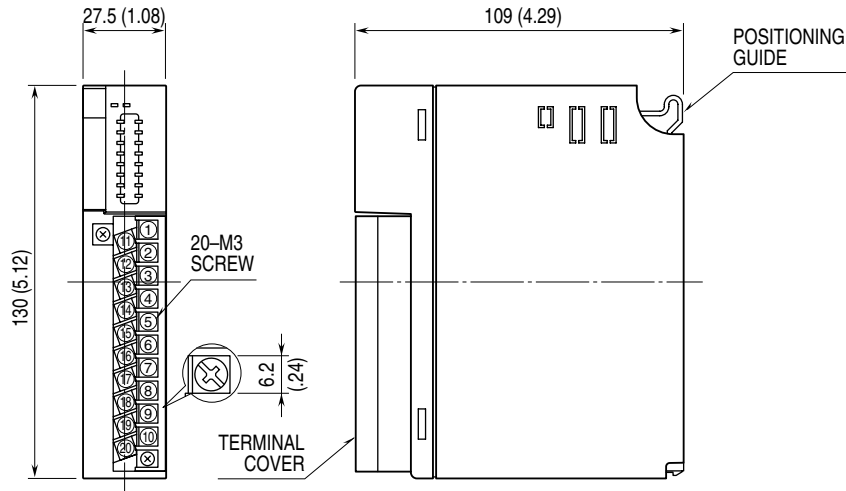
Refer to the software manual of R3CON for detailed operation.

- Maximum count limit: 1 to 65,535 (factory setting: 10,000)

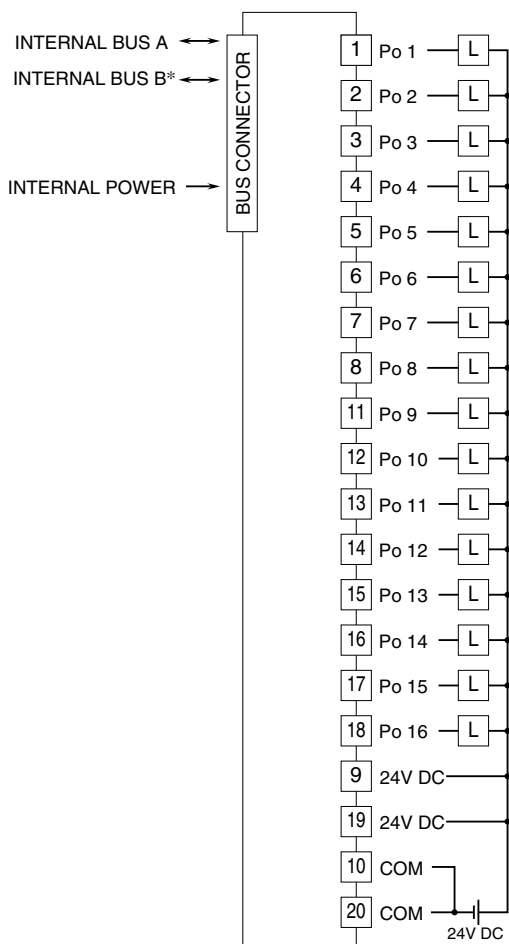
TERMINAL CONNECTIONS

Connect the unit as in the diagram below.

EXTERNAL DIMENSIONS unit: mm (inch)



CONNECTION DIAGRAM



*For dual redundant communication.

WIRING INSTRUCTIONS

SCREW TERMINAL

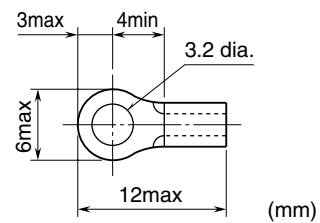
Torque: 0.5 N·m

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 mm²

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



OPERATING MODES

When writing the number of output pulse (target value) from a host, R3-PC16A outputs the difference from the number of pulse outputs until now (present value) as the remainder number of pulse.

The present value of the R3-PC16A is held even with power off. If target value is '0' or higher than totalized pulse upper limit, it is invalid. When the target value is not less than 2001 for the present value, the unit does not output the pulse and the present value is equal to the target value.

E.g.1) Present value = 1000 and target value = 1500, it outputs 500 pulses.

E.g.2) Present value = 9000 and target value = 500, it outputs 1500 pulses.

E.g.3) Present value = 1000 and target value = 3001, it does not outputs any pulse, present value = 3001.

(When the totalized pulse upper limit is initial setting, 10000.)

MANUAL COUNT RESET

- 1) Remove Network Module or its cables and interrupt communication with other devices.
- 2) Turn ON the Count Reset SW (SW3-1).
- 3) Return the module to the base and turn the power supply on.
- 4) ERR LED turns on and the module starts resetting its counter. When the resetting is complete, the LED turns to green. DO NOT remove the power while the red LED is on. The RUN LED starts blinking at the same time.
- 5) After the green LED is confirmed, turn the power supply off.
- 6) Turn OFF the Count Reset SW (SW3-1).
- 7) Return the Network module onto the base and turn the power supply on.

Note: Count Reset SW must be turned OFF after this procedure because the module does not start counting with ON state.