DC CURRENT OUTPUT MODULE
(4 points, isolated)

MODEL **R30YS4**

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:

DC current 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.

■ GENERAL PRECAUTIONS

• Before you remove the terminal block or mount it, turn off output 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 output 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.

■ UNUSED CHANNEL

• Set unused channels to "CH disabled" with PC Configurator software (model: R30CFG). Otherwise, unused outputs left open are to be break status, setting a data error at the PLC or other host devices.

■ 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.
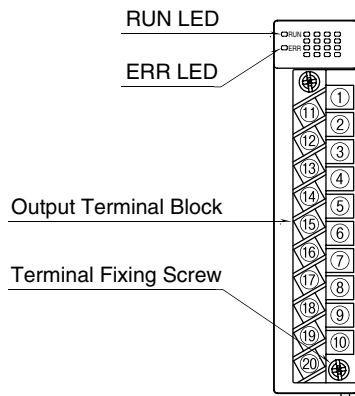
■ WIRING

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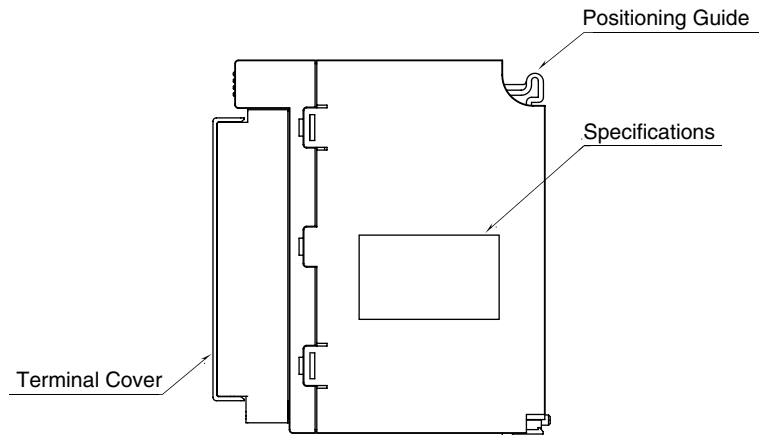• Be sure to attach the terminal cover for safety.

■ 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.
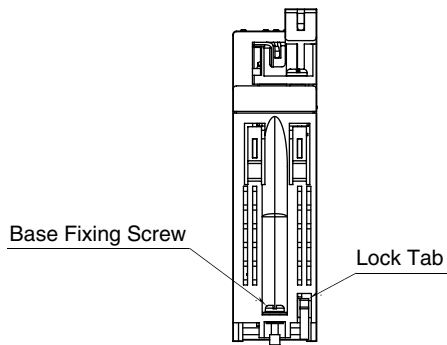
COMPONENT IDENTIFICATION

■ **FRONT VIEW**

RUN LED

ERR LED

Output 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 OFF in host communication error
ERR	Red	OFF when internal bus operates normally Blinking when output wire breakdown detected ON when an internal bus error occurs

■**TERMINAL ASSIGNMENTS**

| NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	I1	Current Output 1	11	COM1	Common 1
2	I2	Current Output 2	12	COM2	Common 2
3	I3	Current Output 3	13	COM3	Common 3
4	I4	Current 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 codes. When an I/O slot is vacant, blank data is sent or received to/from the PLC, etc.
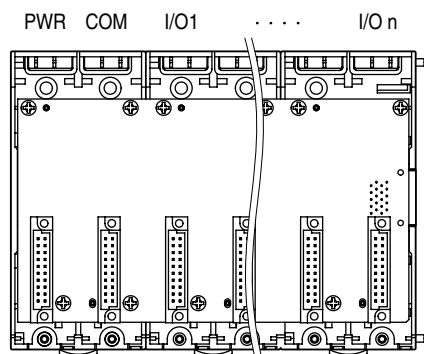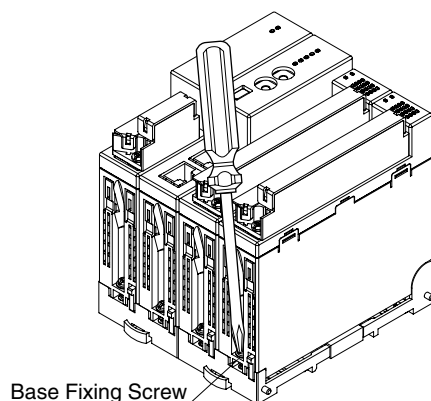

■ HOW TO MOUNT THE MODULE

1) Engage the positioning guide of the module with the Installation Base.

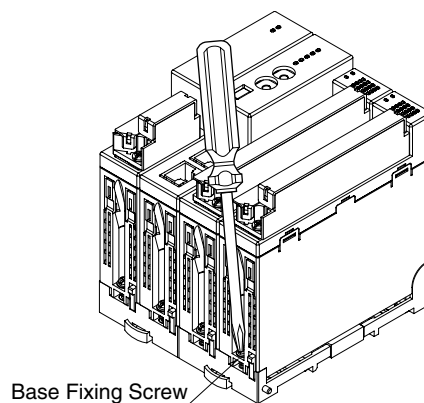2) Pivot the module on the positioning guide and press it down until the lock tab clicks into place.
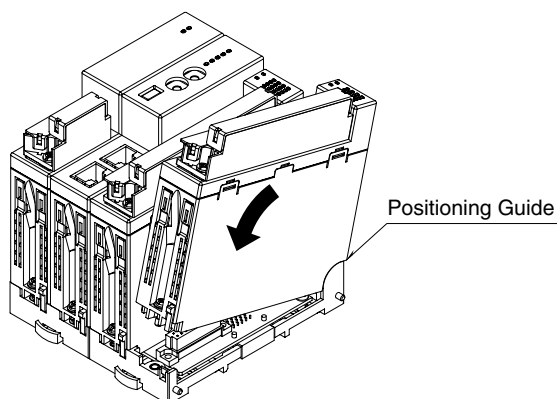
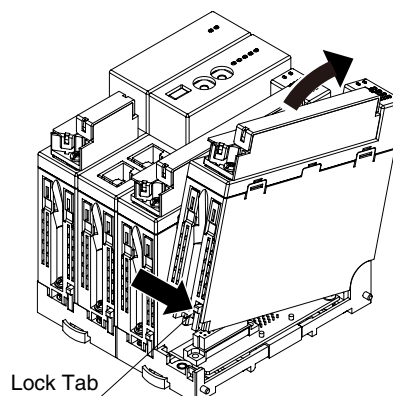3) Tighten the base fixing screw using a screwdriver (stem length: 70 mm/2.76" or more) (torque 0.5 N·m).

■ HOW TO REMOVE THE MODULE

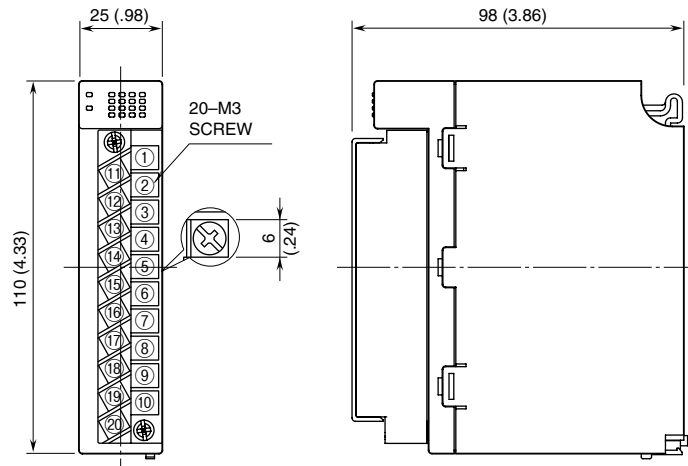1) Loosen the base fixing screw using a screwdriver (stem length: 70 mm/2.76" or more).

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

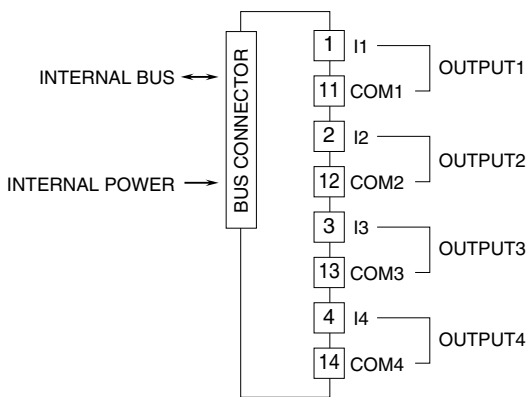3) Detach the positioning guide of the module from the Installation Base.

TERMINAL CONNECTIONS

Connect the unit as in the diagram below.
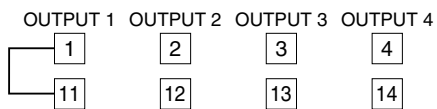
■ **EXTERNAL DIMENSIONS unit: mm (inch)**

25 (.98) 98 (3.86)

20–M3
SCREW

110 (4.33)

6 (.24)

① ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

■ **CONNECTION DIAGRAM**

INTERNAL BUS ↔

INTERNAL POWER →

BUS CONNECTOR

| 1 | I1 | OUTPUT1 |
| 11 | COM1 |

| 2 | I2 | OUTPUT2 |
| 12 | COM2 |

| 3 | I3 | OUTPUT3 |
| 13 | COM3 |

| 4 | I4 | OUTPUT4 |
| 14 | COM4 |

• **Unused Output Channels**

Close across the unused output terminals as shown below.

OUTPUT 1   OUTPUT 2   OUTPUT 3   OUTPUT 4

| 1 | 2 | 3 | 4 |
| 11 | 12 | 13 | 14 |

Unused channels left open are equal to the wire break-down, which turns the red ERR LED blink and sets a burnout flag at the PLC or the host device.
Unused channels can be specified and set so on the PC Configurator Software (model: R30CFG) without needing to short at the field terminals.

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.
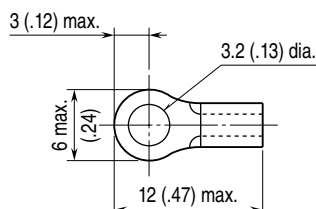
■ HOW TO REMOVE SEPARABLE SCREW TERMINAL

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 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.

■ OUTPUT WIRE BREAKDOWN DETECTION

In the case of wire breakdown, output error is detected. Then, the ERR LED blinks in red and the flag of error is set on the PLC etc.

PC CONFIGURATOR

The following parameter items can be set with using PC Configurator Software (model: R30CFG).
Refer to the users manual for the R30CFG for detailed operation of the software program.

■ CHANNEL INDIVIDUAL SETTING

PARAMETER	SETTING RANGE	DEFAULT SETTING
Unused setting	CH enabled CH disabled	CH enabled
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

PARAMETER	SETTING 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