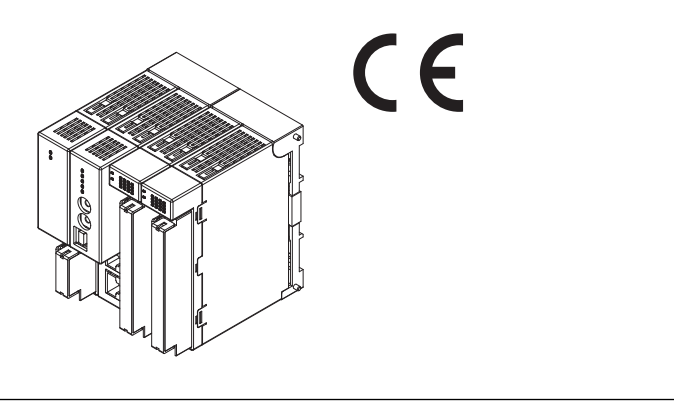## Remote I/O R30 Series

R30 SERIES GENERAL SPECIFICATIONS

Functions & Features
• Remote I/O modules which interchange analog or digital I/O signals with fieldbus (EtherCAT etc.).

CE

ORDERING INFORMATION
Refer to the specifications of the respective modules for details.

NETWORK MODULE: R30[1]
Refer to the specifications of each module for details.

[1] MODULE TYPE
NCIE1: CC-Link IE Field network
NCIT1: CC-Link IE TSN
NE1: Ethernet (Modbus/TCP)
NECT1: EtherCAT
NOUA1: OPC UA

INTERFACE I/O MODULE: R30[1]S
Refer to the specifications of each module for details.

[1] MODULE TYPE
GCIE1: CC-Link IE Field network
GECT1: EtherCAT

COMMUNICATION MODE
S: Single

BASE: R30[1][2]
Refer to the specifications of each base for details.

[1] MODULE TYPE
BS: Base

[2] NUMBER OF SLOTS
02: 2 slots
04: 4 slots
06: 6 slots
08: 8 slots
12: 12 slots
16: 16 slots

R3 I/O MODULE EXTENSION BASE: R30[1][2]
Refer to the specifications of each base for details.

[1] TYPE
TYPE
EBS: R3 I/O Module extension base

[2] NUMBER OF SLOTS
04: 4 slots
08: 8 slots

I/O MODULES: R30[1][2]
Refer to the specifications of each module for details.

[1] MODULE TYPE
• Analog Input
SV2: DC voltage/current input module, 2 points
SV4: DC voltage/current input module, 4 points
SVF4: DC voltage/current input module, high speed, 4 points
TS4: Thermocouple input module, 4 points
RS4: RTD input module, 4 points
MS4: Potentiometer input module, 4 points
CT4E: AC current input module, 4 points
US2: Universal input module, 2 points
US4: Universal input module, 4 points
• Analog Output
YV4: DC voltage output module, 4 points
YS4: DC current output module, 4 points (CE not available)
• Pulse Input
PA2: Totalized pulse input module, 2 points
• Discrete Input
XN16A: Discrete input module, 16 points
• Discrete Output
YN16A: NPN transistor output module, 16 points
YN16C: PNP transistor output module, 16 points

[2] COMMUNICATION MODE

S: Single

POWER SUPPLY MODULE: R30[1]-[2]

Refer to the specifications of each module for details.

[1] MODULE TYPE

PS1: Power supply module (current capacity 800 mA)

[2] POWER INPUT

• DC power

R: 24 V DC

BLANK FILLER MODULE: R30[1]

Refer to the specifications of each module for details.

[1] MODULE TYPE

DM: Blank filler module

FUNCTIONS & FEATURES

The R30 Series Remote I/O consists of a network module, I/O modules, a power supply module and an installation base in free combinations and doesn't require complicated settings.

Internal high speed communication bus provides fast I/O responsce.

■ NETWORK MODULE

Converts data between open network fieldbus and I/O modules, functioning as a gateway.

■ INTERFACE I/O MODULE

It is available to handle the data on the open network fieldbus (CC-Link IE Field, etc.) with different protocol interface module. (Gateway module)

■ I/O MODULE

Transmits input data to the network module or outputs data received from the network module.

■ POWER SUPPLY MODULE

Converts DC power input for use in the network module and I/O modules.

■ BASE

Supplys internal power converted by the power supply module to the network module and I/O modules. Connects the network module and internal communication bus of I/O modules.

The power supply module and network module each have a dedicated slot to mount. Up to 16 I/O modules can be mounted.

CAUTION

• The internal bus communication period for R3 series I/O modules installed on the R30EBS is as follows.

Internal bus communication period = 6 msec. × number of I/O module + 10 msec. (Data update period of main CPU)

Example: Four R3 I/O modules

6 msec. × 4 + 10 msec. = 34 msec.

Even when the R30EBS is mounted to the R30BS, the internal bus communication period of R30 series is kept to approx. 1 msec.

RELATED PRODUCTS

• PC configurator software (model: R30CFG)

• PC configurator software (model: R3CON)(Only for using R30EBS)

Downloadable at our web site.

For connecting to PC, use commercially available Mini-B type USB cable. (provided by user)

GENERAL SPECIFICATIONS

Connection: Depends upon the type of modules. Refer to the specifications for the respective modules.

Housing material: Flame-resistant resin (gray)

■ INTERNAL COMMUNICATION BUS

Read rate: Approx. 1 msec.

■ DATA CONVERSION

Depends upon the type of I/O modules. Refer to the specification for the respective I/O modules.

INSTALLATION

Operating temperature: -10 to +55°C (14 to 131°F)

Storage temperature: -20 to +65°C (-4 to +149°F)

Operating humidity: 10 to 90 %RH (non-condensing)

Atmosphere: No corrosive gas or heavy dust

Mounting: Surface or DIN rail

Weight: Refer to the specifications of the respective modules.

STANDARDS & APPROVALS

EU conformity:

EMC Directive

  EMI EN 61000-6-4

  EMS EN 61000-6-2

RoHS Directive

CURRENT CONSUMPTION

The network module and I/O modules operate with approx. 21 V DC power supply via the power supply module. The total current consumption of the network module and I/O modules is required to be not more than the max. rated output current of the power supply module. If the total current consumption exceeds the capacity of the power supply module, change the conbination of I/O modules or reduce the number of I/O modules.

■ Power Supply Module
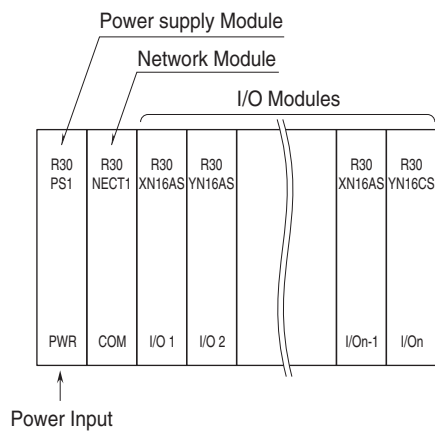
Model	Max. rated current consumption (mA)
R30PS1	800

■ Network Module

Model	Max. current consumption (mA)
R30NCIE1	160
R30NCIT1	160
R30NE1	110
R30NECT1	110
R30NOUA1	115

■ I/O Module

Model	Max. current consumption (mA)
R30XN16A	40
R30YN16A	75
R30YN16C	75
R30SV2	40
R30SV4	50
R30SVF4	50
R30TS4	55
R30RS4	50
R30MS4	60
R30CT4E	45
R30US2	45
R30US4	50
R30PA2	30
R30YV4	60
R30YS4	120
R30GCIE1	140
R30GECT1	80

BASIC CONFIGURATIONS

■ BASIC CONFIGURATIONS

Power supply Module
Network Module
I/O Modules

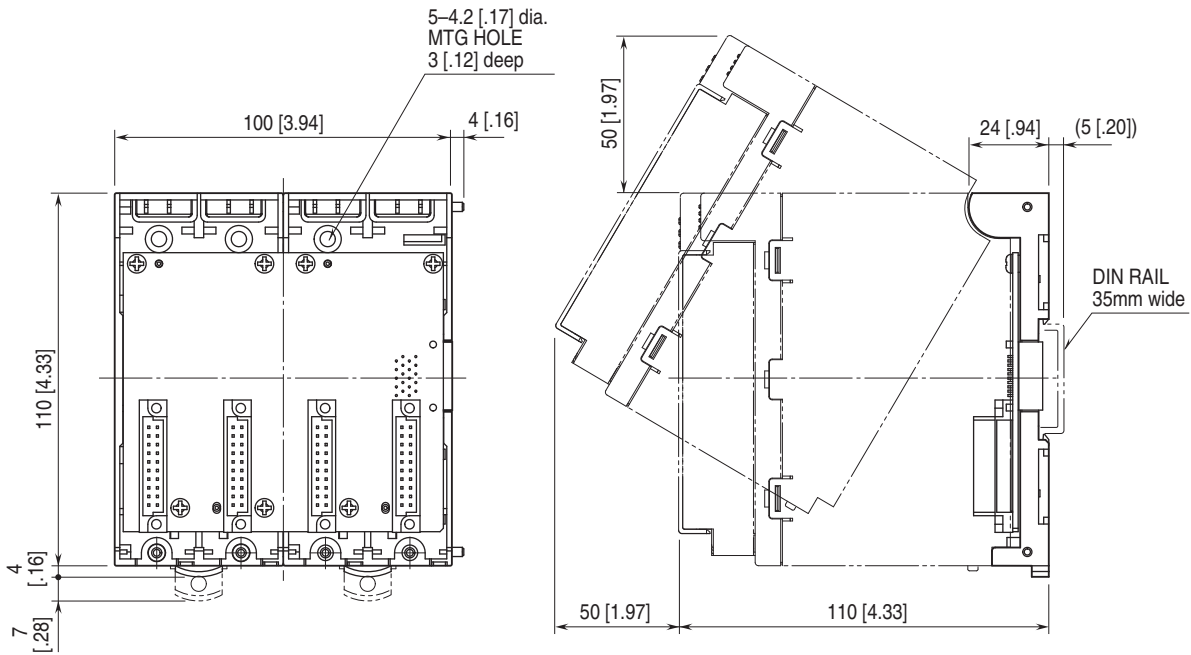| R30 PS1	R30 NECT1	R30 XN16AS	R30 YN16AS			R30 XN16AS	R30 YN16CS
PWR	COM	I/O 1	I/O 2			I/On-1	I/On

↑ Power Input

■ MODULE SLOTS

Mount the power supply module and network module on the dedicated slots (PWR and COM), and do not mount on I/O slots. PWR slot is on the left end and COM slot is on the immediate right of PWR slot.
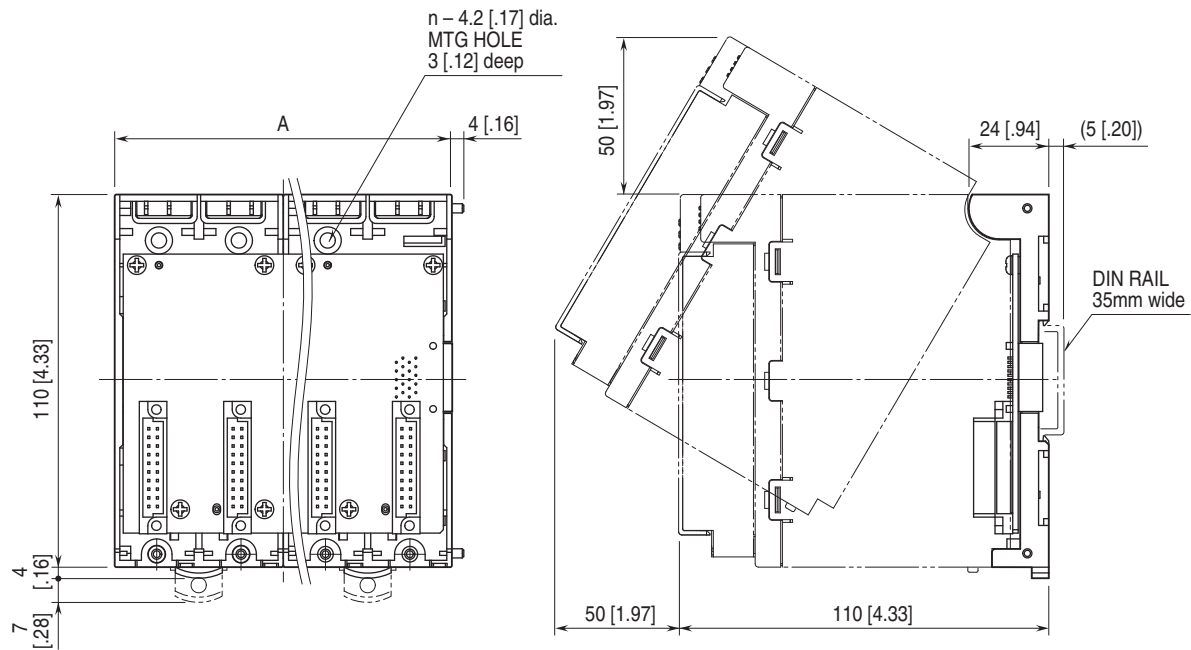
The I/O slots are numbered in the ascending order starting from the one on the immediate right of the network module (slot 1, slot 2...). A code indicating the I/O slot number is assigned to each I/O slot and I/O data is allocated in the order of this code. When an I/O slot is vacant, blank data is sent or received to/from the PLC, etc.

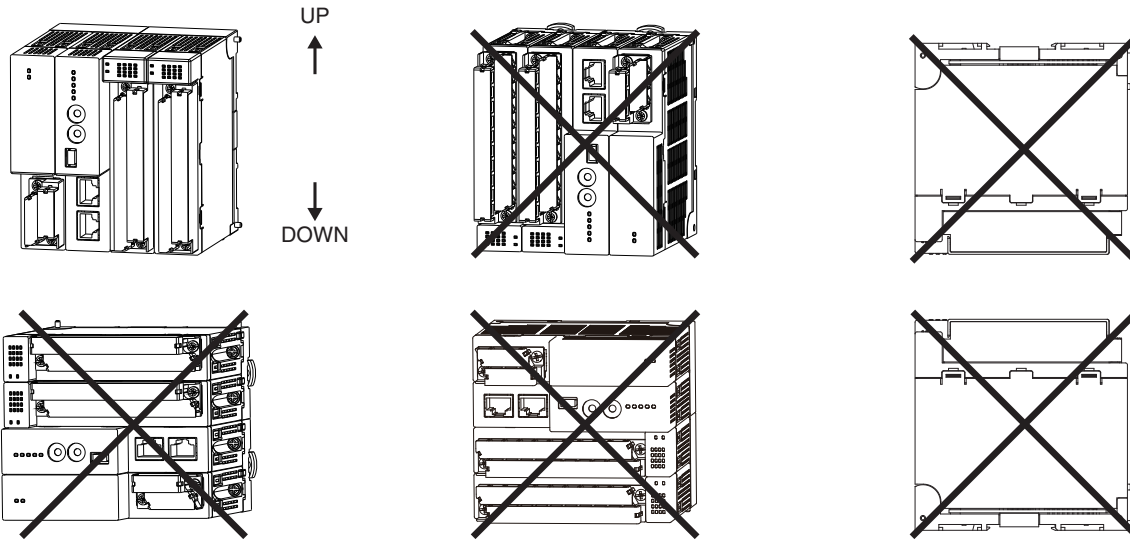## EXTERNAL DIMENSIONS   unit: mm [inch]

■R30BS02

5–4.2 [.17] dia.
MTG HOLE
3 [.12] deep

100 [3.94]

4 [.16]

50 [1.97]

24 [.94]

(5 [.20])

110 [4.33]

DIN RAIL
35mm wide

4 [.16]

7 [.28]

50 [1.97]

110 [4.33]

■R30BS04, BS06, BS08, BS12, BS16

n – 4.2 [.17] dia.
MTG HOLE
3 [.12] deep

A

4 [.16]

50 [1.97]

24 [.94]

(5 [.20])

110 [4.33]

DIN RAIL
35mm wide

4 [.16]

7 [.28]

50 [1.97]

110 [4.33]

MODEL	A (SIZE)	n (NUMBER OF SCREWS)
R30BS04	150 [5.91]	8
R30BS06	200 [7.87]	11
R30BS08	250 [9.84]	14
R30BS12	350 [13.78]	20
R30BS16	450 [17.72]	26

MG CO., LTD.
www.mgco.jp

MOUNTING REQUIREMENTS   unit: mm [inch]
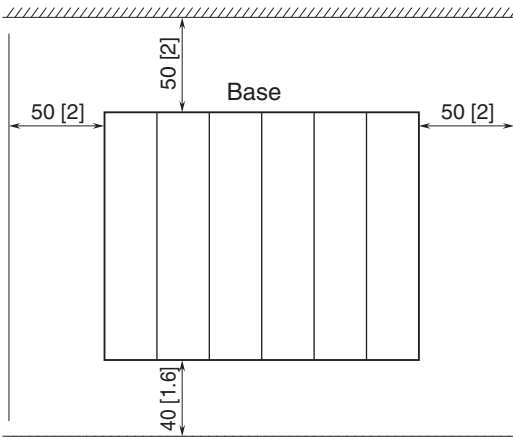
■ MOUNTING DIRECTION

Mount the unit vertically as is shown in the figure below. Mounting in other directions may cause heat build-up inside the unit
and lead to shorten its life span or degrade its performance.

UP
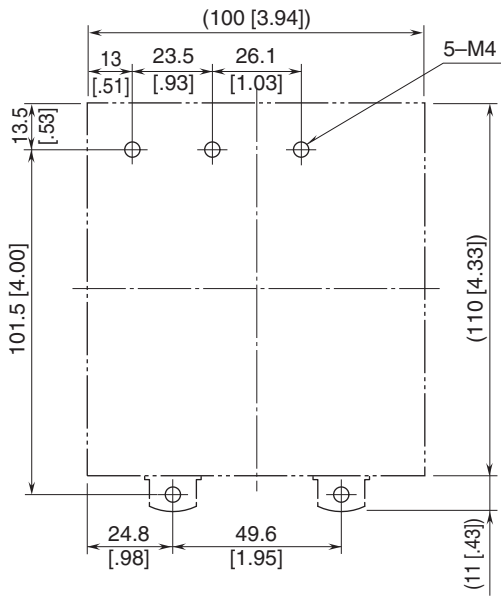
↑

DOWN

■ **MOUNTING ON CONTROL PANEL**

Secure sufficient ventilation space. Do not mount the unit right above devices
which radiate great heat such as heaters, transformers or resistors.
Maintenance space is also required above and below the unit.

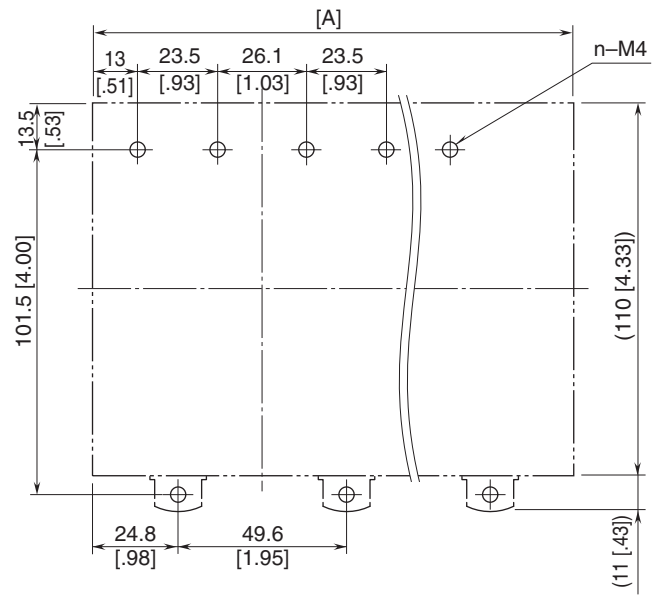Panel ceiling or wiring conduit (height ≤ 50 mm or 2 in.)

50 [2]

Base

50 [2]   50 [2]

40 [1.6]

Panel bottom or wiring conduit (height ≤ 50 mm or 2 in.)

■ **R30BS02**

(100 [3.94])

13 [.51] 23.5 [.93] 26.1 [1.03]

5–M4

13.5 [.53]

101.5 [4.00]

(110 [4.33])

24.8 [.98] 49.6 [1.95]

(11 [.43])

■ **R30BS04, BS06, BS08, BS12, BS16**

[A]

13 [.51] 23.5 [.93] 26.1 [1.03] 23.5 [.93]

n–M4

13.5 [.53]

101.5 [4.00]

(110 [4.33])

24.8 [.98] 49.6 [1.95]

(11 [.43])

⚠ Specifications are subject to change without notice.

MG CO., LTD.
www.mgco.jp