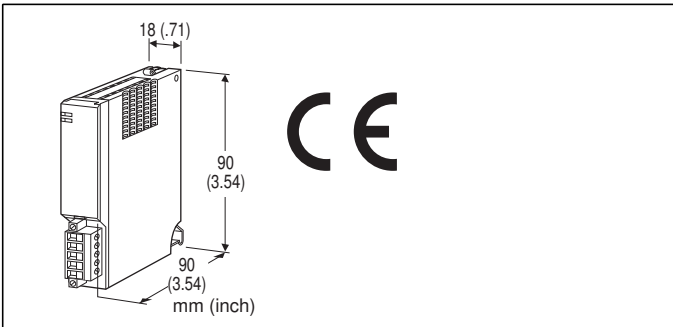


## Remote I/O R5 Series

### CC-Link INTERFACE MODULE

(CC-Link Ver.1.10; for 32-point analog signals)



### MODEL: R5-NC2[1]

#### ORDERING INFORMATION

- Code number: R5-NC2[1]  
Specify a code from below for [1].  
(e.g. R5-NC2/Q)
- Specify the specification for option code /Q  
(e.g. /C01)

#### [1] OPTIONS

blank: none

/Q: With options (specify the specification)

#### SPECIFICATIONS OF OPTION: Q

**COATING (For the detail, refer to M-System's web site.)**

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

#### RELATED PRODUCTS

- PC configurator software (model: R5CON)  
Downloadable at M-System's web site.  
A dedicated cable is required to connect the module to the PC. Please refer to the internet software download site or the users manual for the PC configurator for applicable cable types.

#### PACKAGE INCLUDES...

- Terminating resistor (110 Ω, 0.25 W)

#### GENERAL SPECIFICATIONS

Connection

CC-Link: Euro type connector terminal

Wire size AWG24-12 (0.2 - 2.5 mm<sup>2</sup>), stripped length 7 m

**Internal bus:** Via the Installation Base  
(model: R5-BS)

**Internal power:** Via the base (model: R5-BS)

**Isolation:** CC-Link to internal bus or internal power

**RUN indicator:** Bi-color (green/red) LED; green in normal communications; red when receiving (Function selected with DIP SW)

**ERR indicator:** Bi-color (green/red) LED; the green ON/ blinks in communication errors; red when transmitting (Function selected with DIP SW)

**Data allocation:** Fixed to Mode 2

#### CC-Link COMMUNICATION

**Transmission cable:** Approved for CC-Link

**CC-Link:** Conforms to Version 1.10

**Station address:** Rotary switch; 1 - 64

**Station type:** Remote device

**Number of occupied stations:** 8

(This module incorporates two (2) ASICs for four (4) stations (32 I/O, 16 words) to handle 32-word data. Two (2) remote device stations for four stations each must be assigned for this module to the host PLC.)

**Baud rate setting:** Rotary switch

156kbps, 625kbps, 2.5Mbps, 5Mbps, 10Mbps

#### INSTALLATION

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

**Operating humidity:** 30 to 90 %RH (non-condensing)

**Atmosphere:** No corrosive gas or heavy dust

**Mounting:** Installation Base (model: R5-BS)

**Weight:** 100 g (3.53 oz)

#### PERFORMANCE

**Insulation resistance:** ≥ 100 MΩ with 500 V DC

**Dielectric strength:** 2000 V AC @ 1 minute (CC-Link to internal bus or internal power)

#### STANDARDS & APPROVALS

**CE conformity:**

EMC Directive (2004/108/EC)

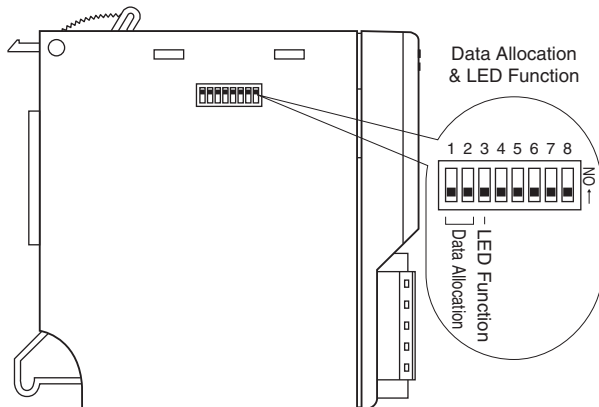
EMI EN 61000-6-4: 2007/A1: 2011

EMS EN 61000-6-2: 2005

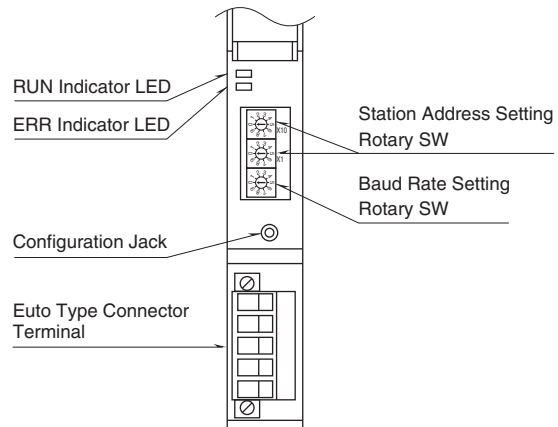


## EXTERNAL VIEW

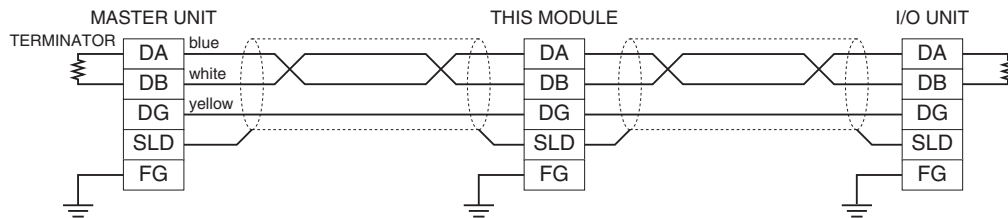
### ■ SIDE VIEW



### ■ FRONT VIEW



## COMMUNICATION CABLE CONNECTIONS



## TRANSMISSION DATA DESCRIPTIONS

The DIP SW located at the side of the module must be turned OFF except at SW3.

Data Allocation Mode 2 is used for the R5-NC2. In this mode, two (2) words are assigned for one I/O module regardless of whether the second word area is required or not. For example, discrete I/O modules require only one (1) word, but two (2) words are automatically assigned to these modules.

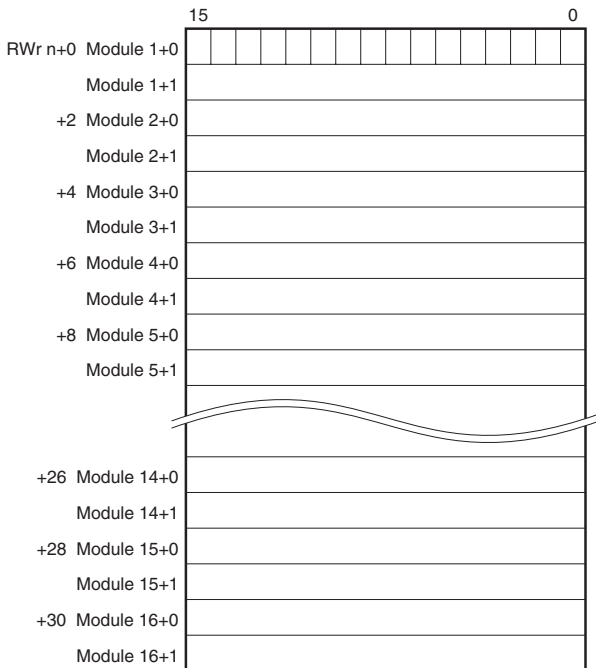
### ■ I/O CAPACITY

A maximum of 16 I/O modules can be mounted per station.

## ■ DATA ALLOCATION MODE 2

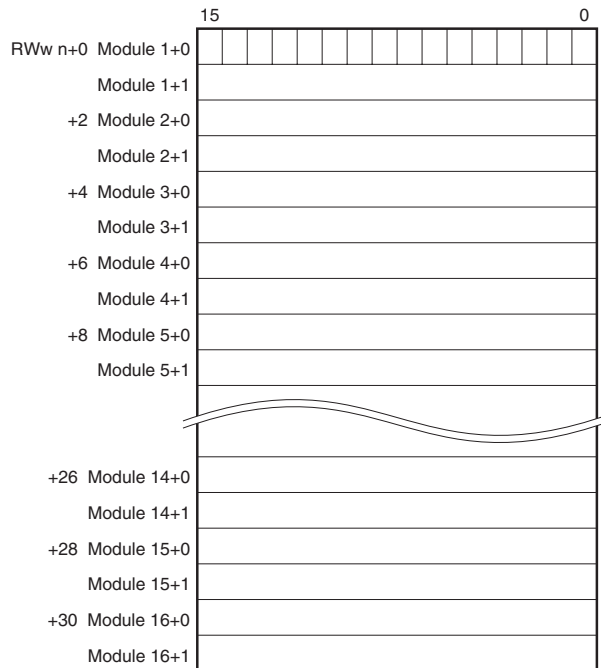
### •Output Data

The figure below shows the allocation of the data sent from the network module to the master.



### •Input Data

The figure below shows the allocation of the data sent from the master to the network module.



Each module takes two-word areas for input and output respectively, regardless of whether the module type is input or output. If a module for Data Allocation Mode 1 is used, all the bits for Module n+1 data turn to "0" (unused).

Each module can handle either input or output data. Input and output cannot be mixed in one module.

Input data from the master device is transferred to the module's output data area. The master device can read from the output data area the data it has set.

### •RX(n+0)0 through RX(n+0)F, RX(n+8)0 through RX(n+8)F

Analog input modules check high/low limits and ADC. When there is an error in one or more channels, the bit corresponding to the channels turns to "1." The bit corresponding to unmounted channels turns to "1."

RX(n+0) 0	Module 1	I/O 1
RX(n+0) 1	Module 1	I/O 2
RX(n+0) 2	Module 2	I/O 1
RX(n+0) 3	Module 2	I/O 2
:	:	:
:	:	:
RX(n+0) E	Module 8	I/O 1
RX(n+0) F	Module 8	I/O 2
RX(n+8) 0	Module 9	I/O 1
RX(n+8) 1	Module 9	I/O 2
RX(n+8) 2	Module 10	I/O 1
RX(n+8) 3	Module 10	I/O 2
:	:	:
:	:	:
RX(n+8) E	Module 16	I/O 1
RX(n+8) F	Module 16	I/O 2

Among the two bits assigned for each module, the least significant bit is used for channel 1 of a two-channel analog module or for a discrete module.

### •RX(n+1)0 through RX(n+1)F

RX(n+1)0 through RX(n+1)7 are reserved for future use. RX(n+1)8 through RX(n+1)A and RX(n+1)C through RX(n+1)F are not used, while RX(n+1)B is assigned to Ready signal, which is turned to "1" when the network module is in normal conditions.

### •RX(n+9)0 through RX(n+9)F

RX(n+9)0 through RX(n+9)7 are reserved for future use. RX(n+9)8 through RX(n+9)A and RX(n+9)C through RX(n+9)F are not used, while RX(n+9)B is assigned to Ready signal, which is turned to "1" when the network module is in normal conditions.



## I/O DATA DESCRIPTIONS

### ■ ANALOG DATA

0 to 100% of the selected I/O range is converted into 0 to 10000 (binary).

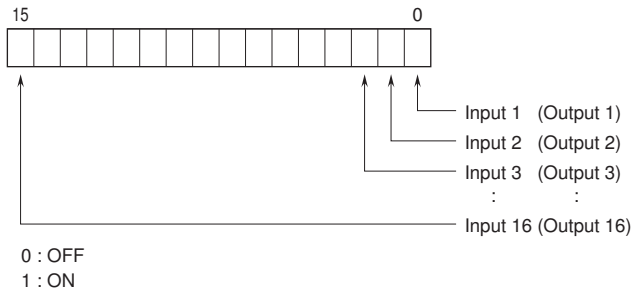
With °C temperature unit, raw data is multiplied by 10. For example, 25.5°C is converted into 255.

With °F temperature unit, the integer section of raw data is directly converted into the data. For example, 135.4°F is converted into 135.

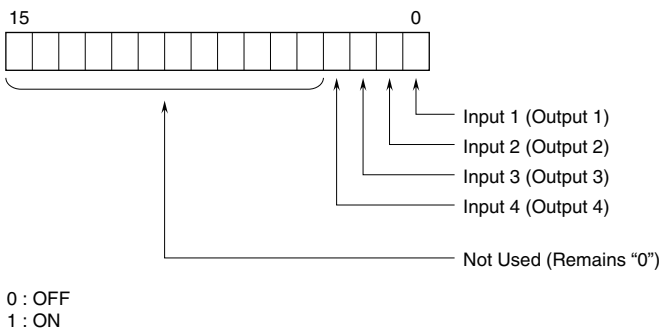
Negative values are represented in 2's complements.



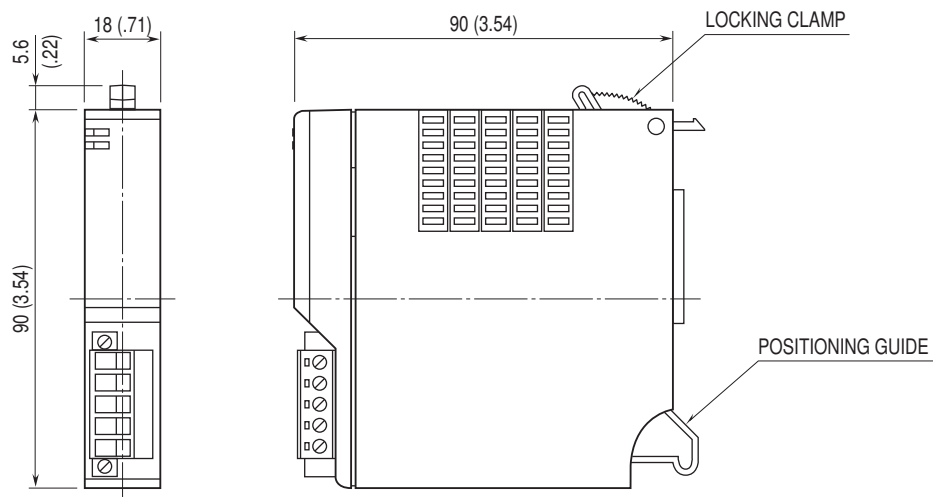
### ■ 16-POINT DISCRETE DATA



### ■ 4-POINT DISCRETE DATA



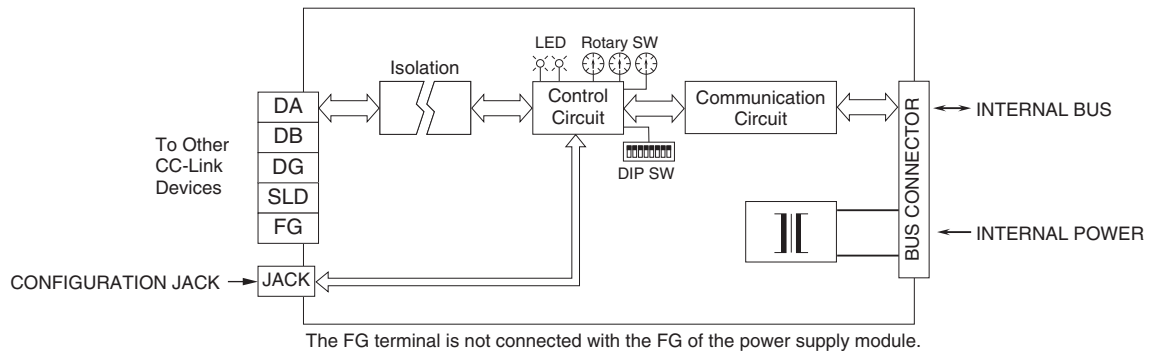
## DIMENSIONS unit: mm (inch)



**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**

Note: In order to improve EMC performance, bond the FG terminal to ground.

Caution: FG terminal is NOT a protective conductor terminal.



Specifications are subject to change without notice.

