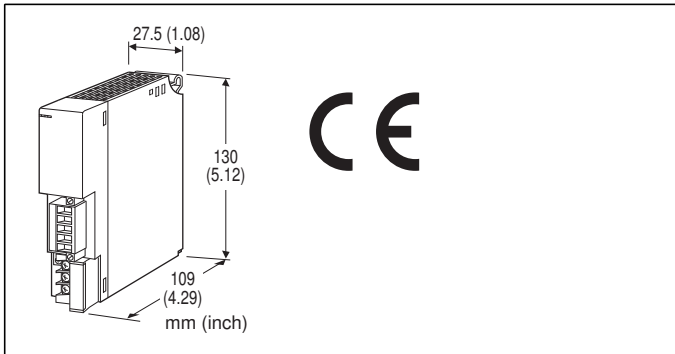


## Remote I/O R3 Series

### CC-Link INTERFACE MODULE

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



### MODEL: R3-NC2-[1][2]

#### ORDERING INFORMATION

- Code number: R3-NC2-[1][2]
- Specify a code from below for each [1] and [2].  
(e.g. R3-NC2-R/CE/Q)
- Specify the specification for option code /Q  
(e.g. /C01)

#### [1] POWER INPUT

**N:** No power supply

##### AC Power

**K3:** 100 - 120 V AC

(Operational voltage range 85 - 132 V, 47 - 66 Hz) \*  
(CE not available)

**L3:** 200 - 240 V AC

(Operational voltage range 170 - 264 V, 47 - 66 Hz) \*  
(CE not available)

##### DC Power

**R:** 24 V DC

(Operational voltage 24 V  $\pm$ 10 %, ripple 10 %p-p max.) \*

\* Not selectable for use with independent power modules.  
Not selectable for dual network.

#### [2] OPTIONS (multiple selections)

##### Standards & Approvals

**blank:** Without CE

**/CE:** CE marking

##### Other Options

**blank:** none

**/Q:** Option other than the above (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

#### PACKAGE INCLUDES...

- Terminating resistor (110  $\Omega$ , 0.25 W)

#### GENERAL SPECIFICATIONS

##### Connection

**Network:** Euro type connector terminal

**Internal bus:** Via the Installation Base

(model: R3-BSx)

**Internal power:** Via the Installation Base (model: R3-BSx)

**Power input, RUN contact output:** M3 separable screw terminal (torque 0.5 N·m)

**Screw terminal:** Nickel-plated steel

**Isolation:** CC-Link to internal bus or internal power to power supply to RUN contact output to FG

**Input error data:** Input value setting at input module error with side DIP SW

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

**ERR indicator:** Bi-color (green/red) LED;

Green ON or blinking in communication error(OFF with cable disconnection, blinking in setting error) Red when transmitting (Function selected with DIP SW)

**RUN contact:** Turns ON while the green RUN LED is ON (CC-Link in normal communication).

##### ■ RUN CONTACT OUTPUT

**Rated load:** 250 V AC @ 0.5 A (cos  $\phi$  = 1)

30 V DC @ 0.5 A (resistive load)

(Max. 50 V AC to conform with EC Directive)

**Maximum switching voltage:** 250 V AC or 30 V DC

**Maximum switching power:** 250 VA or 150 W

**Minimum load:** 1 V DC @ 1 mA

**Mechanical life:**  $2 \times 10^7$  cycles (300 cycles/min.)

When driving an inductive load, external contact protection and noise quenching recommended.

#### CC-Link COMMUNICATION

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

**Station No. setting:** Rotary switch; 1 - 64

**Main/Sub setting:** Set with the side DIP switch

**Slot assignment:** Set with the side DIP switch

**Baud rate setting:** Rotary switch

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

**Station type:** Remote device station

**Required nodes:** 8 (4 stations  $\times$  2)



(128 I/O points, 16 words) × 2  
 (This unit incorporates two ASICs, each requires 4 stations  
 (128 I/O points, 16 words), which are equivalent to two 4-  
 station remote devices.)

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

## INSTALLATION

### Power consumption

- AC: Approx. 20 VA
- DC: Approx. 12 W

**Current consumption (no power supply):** 130 mA

**Output current (power supply):** 250 mA continuous at 20 V  
 DC; 400 mA for 10 minutes

**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: R3-BSx)

**Weight:** 200 g (0.44 lb)

## PERFORMANCE

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

**Dielectric strength:** 1500 V AC @ 1 minute (CC-Link to  
 internal bus or internal power to power input to RUN contact  
 output to FG)

## STANDARDS & APPROVALS

### CE conformity:

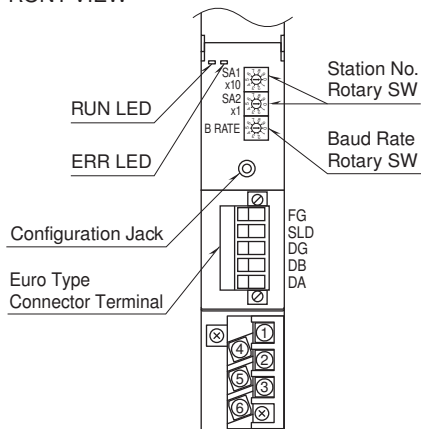
EMC Directive (2004/108/EC)

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

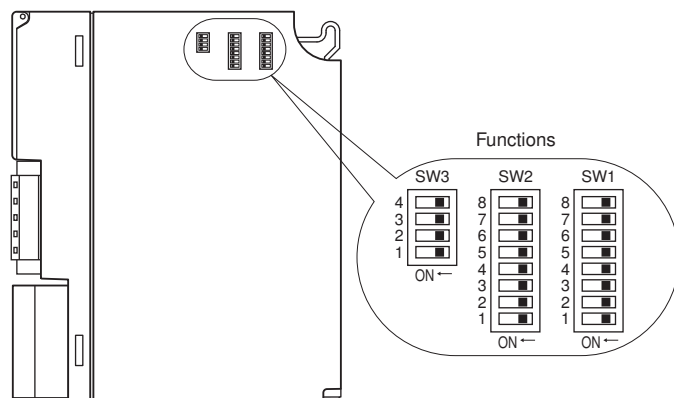
EMS EN 61000-6-2: 2005

## EXTERNAL VIEW

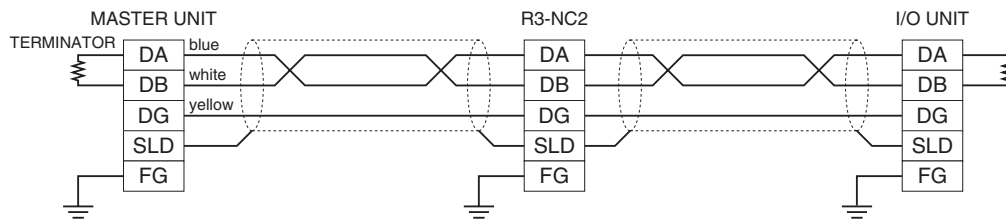
FRONT VIEW



SIDE VIEW



## COMMUNICATION CABLE CONNECTIONS



## TRANSMISSION DATA DESCRIPTIONS

The DIP SW located at the side of the module specifies each I/O module's data allocation (occupied data area).

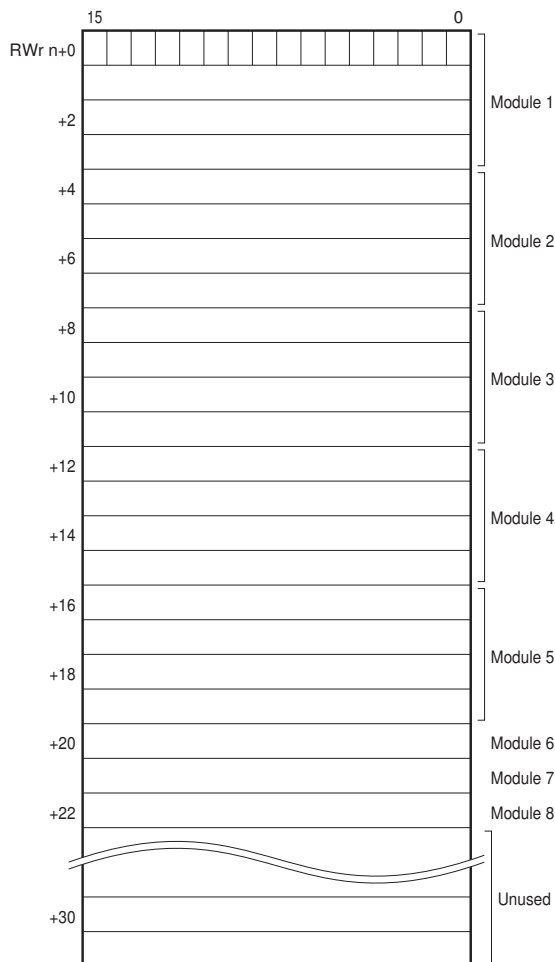
For example, when the data areas are assigned as shown below:

Module 1	4
Module 2	4
Module 3	4
Module 4	4
Module 5	4
Module 6	1
Module 7	1
Module 8	1

Then the I/O data are assigned as in the figures below:

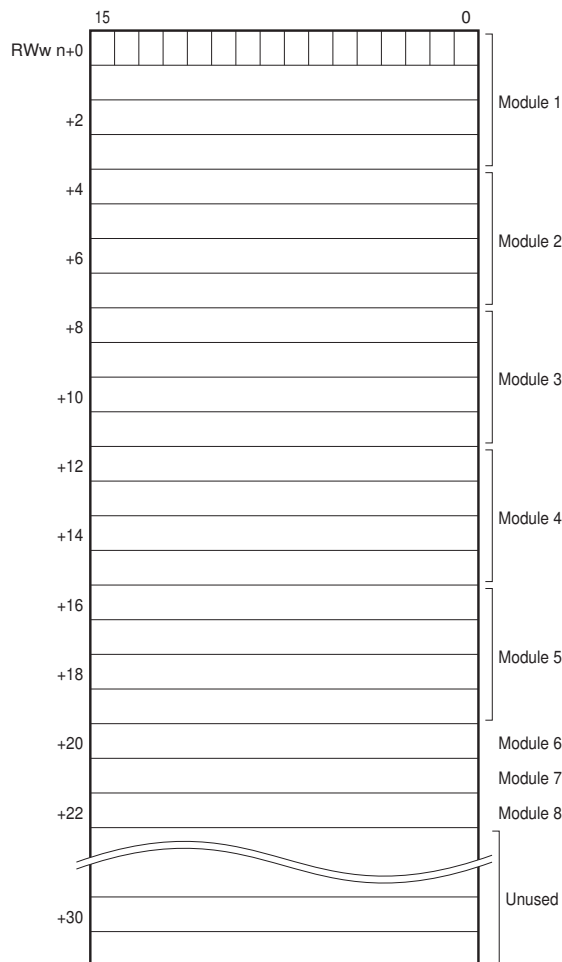
### OUTPUT DATA

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.



Thirty-two (32) data areas are available to this unit. Total data areas occupied by I/O modules must be within this limitation.

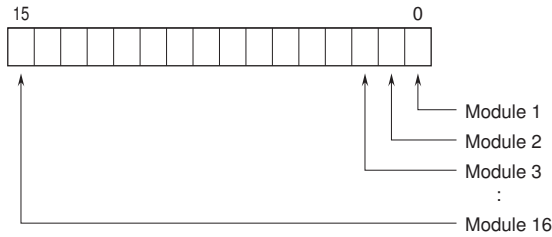




## I/O DATA DESCRIPTIONS

### ■ MODULE STATUS, ERROR STATUS, DATA ERROR STATUS

Shows each module's availability and error status.



### ■ ANALOG DATA (models: R3-SV4, YV4, DS4, YS4, US4, etc.)

16-bit binary data.

Basically, 0 to 100% of the selected I/O range is converted into 0 to 10000 (binary). Negative percentage is represented in 2's complements.



### ■ TEMPERATURE DATA (models: R3-RS4, TS4, US4, etc.)

16-bit binary data.

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

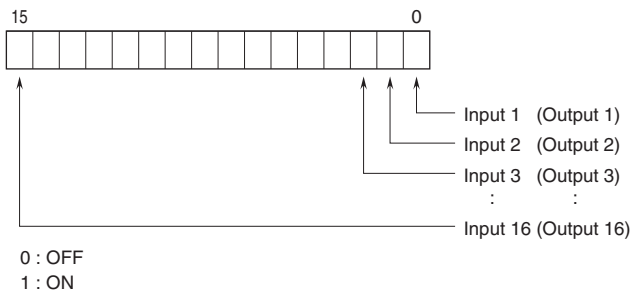
With °F temperature unit, the integer section of raw data is directly converted into the data.

For example, 135.4°F is converted into 135.

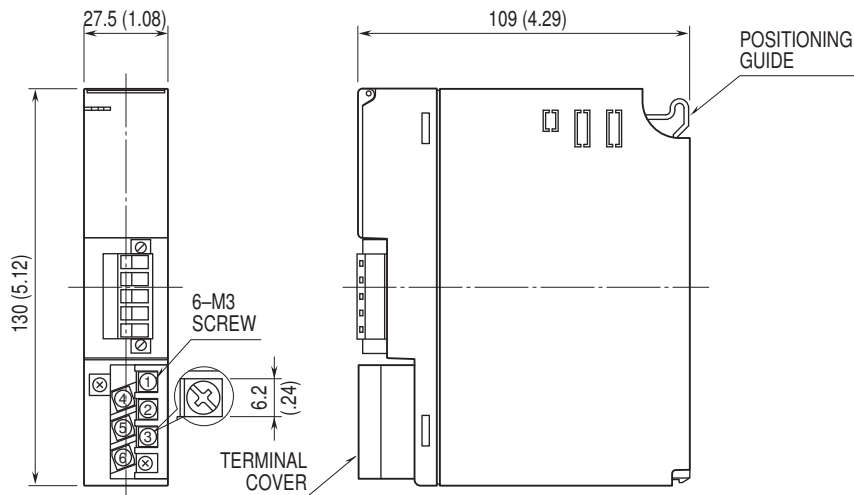
Minus temperature is converted into negative values, represented in 2's complements.



### ■ 16-POINT DISCRETE DATA (models: R3-DA16, DC16, etc.)



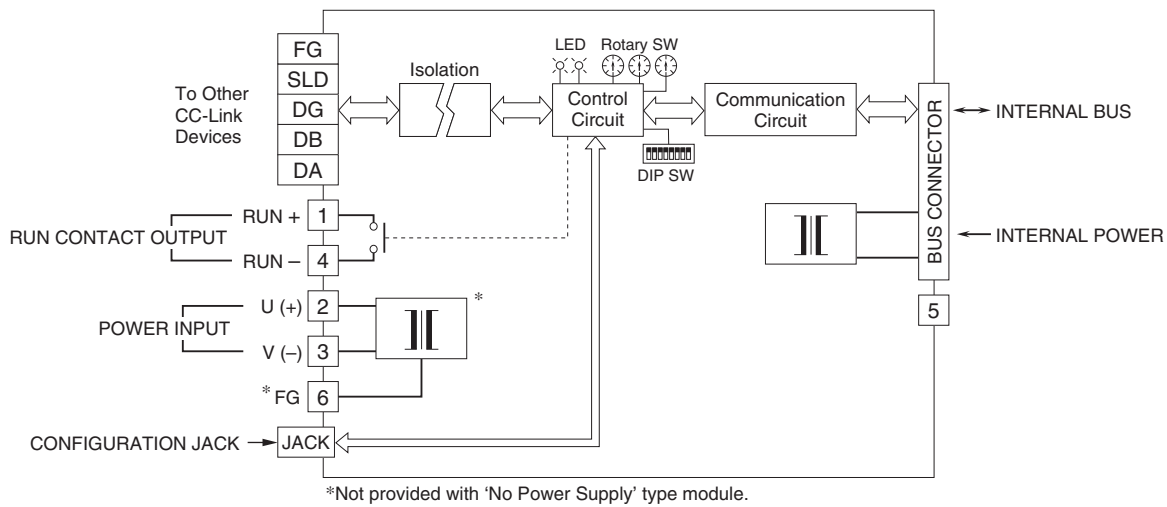
## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



## 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.