

## Remote I/O R3 Series

### REMOTE CONTROL RELAY CONTROL MODULE

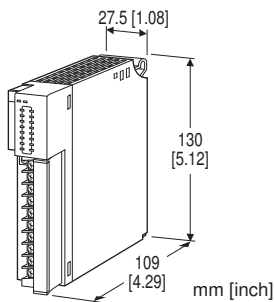
(Do 8 points)

#### Functions & Features

- Controls remote control relays for lighting control with Fieldbus
- Applicable to the remote control relays already installed
- Monitors status of remote control relays with feedback inputs from signal lines

#### Typical Applications

- Monitors and controls of lighting in buildings



## MODEL: R3-RR8[1][2]

### ORDERING INFORMATION

- Code number: R3-RR8[1][2]  
Specify a code from below for each of [1] and [2].  
(e.g. R3-RR8W/CE/Q)
- Specify the specification for option code /Q  
(e.g. /C01)

### NO. OF CHANNELS

8: 8

### [1] COMMUNICATION MODE

S: Single

W: Dual

### [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 our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

### RELATED PRODUCTS

- Interface Module (model: R3-NC1, NC3, NE1, NM1, NM3, NM4, NDx, NF2, NFL1)  
Firmware version V2.00 or higher.  
R3-NF2 is available with firmware version V0.04 or higher.,

### RECOMMENDED PRODUCTS (OPERATION CHECKED)

Remote control relay:

BR-12D, BR-22D (Mitsubishi Electric)

WR6165 (Panasonic)

Remote control transformer:

BRT-10B, BRT-20B (Mitsubishi Electric)

WR2301 (Panasonic)

Remote control switch

WR8501 (Panasonic)

### GENERAL SPECIFICATIONS

#### Connection

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

**Output:** M3 separable screw terminal (torque 0.5 N·m)

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

**Screw terminal:** Nickel-plated steel

**Isolation:** Output to internal bus or internal power

**Input Data Length:** 8 bit, 16 bit selectable with DIP switch

**Output data length:** 8 bit, 16 bit selectable with DIP switch

**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:** Green LED;

OFF in abnormality; ON in normal operating conditions.

**Input output status indicator:** Red LED;

**1 to 8:** Output bit status, turns on with bit set ON.

**9 to 16:** Feedback input status, turns on with the input ON.

### OUTPUT SPECIFICATIONS

**Number of output:** 8 points

**Common:** All 8 points (12 terminal)

**Rated load voltage:** 24 V AC  $\pm 10\%$  (supplied by the remote control transformer)

**Load voltage frequency:** 50 / 60 Hz

**Maximum outputs provided at once:** No limit

**Output ON duration:** 100 msec.

## 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: R3-BSx)  
**Weight:** 200 g (0.44 lb)

## PERFORMANCE

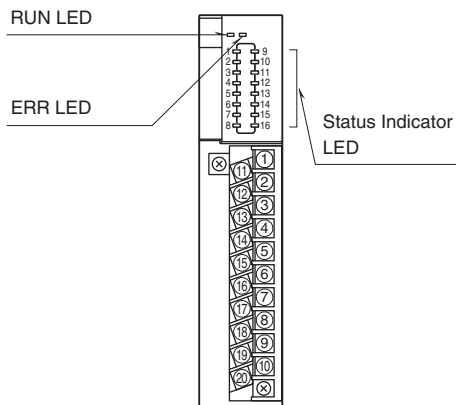
**Data allocation:** 1  
**Current consumption:** 40 mA  
**Insulation resistance:**  $\geq 100 \text{ M}\Omega$  with 500 V DC  
**Dielectric strength:** 1500 V AC @ 1 minute  
 (output to internal bus or internal power)  
 2000 V AC @ 1 minute (power input to FG; isolated on the power supply module)

## STANDARDS & APPROVALS

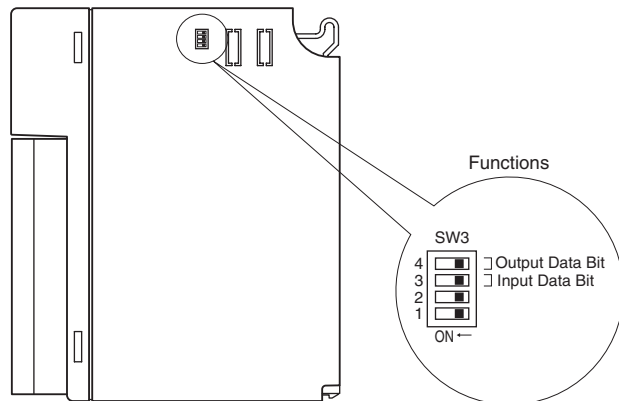
**EU conformity:**  
 EMC Directive  
 EMI EN 61000-6-4  
 EMS EN 61000-6-2  
 RoHS Directive

## EXTERNAL VIEW

### FRONT VIEW



### SIDE VIEW



**INPUT OUTPUT DATA BIT & DATA ALLOCATION**

■ **OUTPUT DATA BIT: 16 BITS (SW3-4: OFF)**

When output data bit is 16 bits, set each output with 2 bits.

The table below shows data allocation.

BIT	SETTING	OPERATION
0, 1	0, 0	No operation
	1, 0	Output 1 ON
	0, 1	Output 1 OFF
	1, 1	Output 1 RESET
2, 3	0, 0	No operation
	1, 0	Output 2 ON
	0, 1	Output 2 OFF
	1, 1	Output 2 RESET
4, 5	0, 0	No operation
	1, 0	Output 3 ON
	0, 1	Output 3 OFF
	1, 1	Output 3 RESET
6, 7	0, 0	No operation
	1, 0	Output 4 ON
	0, 1	Output 4 OFF
	1, 1	Output 4 RESET
8, 9	0, 0	No operation
	1, 0	Output 5 ON
	0, 1	Output 5 OFF
	1, 1	Output 5 RESET
10, 11	0, 0	No operation
	1, 0	Output 6 ON
	0, 1	Output 6 OFF
	1, 1	Output 6 RESET
12, 13	0, 0	No operation
	1, 0	Output 7 ON
	0, 1	Output 7 OFF
	1, 1	Output 7 RESET
14, 15	0, 0	No operation
	1, 0	Output 8 ON
	0, 1	Output 8 OFF
	1, 1	Output 8 RESET

By setting with 2 bits, the module operates as shown above. ON or OFF can be set consecutively. To output ON twice successively, set ON (1, 0), RESET (1, 1), and then set ON (1, 0) again.

■ **OUTPUT DATA BIT: 8 BITS (SW3-4: ON)**

When output data bit is 8 bits, set each output with 1 bit.

The table below shows data allocation.

BIT	SETTING	OPERATION
0	0	Output 1 OFF
	1	Output 1 ON
1	0	Output 2 OFF
	1	Output 2 ON
2	0	Output 3 OFF
	1	Output 3 ON
3	0	Output 4 OFF
	1	Output 4 ON
4	0	Output 5 OFF
	1	Output 5 ON
5	0	Output 6 OFF
	1	Output 6 ON
6	0	Output 7 OFF
	1	Output 7 ON
7	0	Output 8 OFF
	1	Output 8 ON
8	-	Unused
9	-	Unused
10	-	Unused
11	-	Unused
12	-	Unused
13	-	Unused
14	-	Unused
15	-	Unused

ON (or OFF) cannot be set consecutively, because when each bit is "1", ON is set and when each bit is "0", OFF is set.

## ■ INPUT DATA BIT: 16 BITS (SW3-3: ON)

When output data bit is 16 bits, display the status of feedback input for each output with 2 bits.

The table below shows data allocation.

BIT	DISPLAY	OPERATION
0	0	Feedback input for output 1 OFF
	1	Feedback input for output 1 ON
1	-	Reserved
2	0	Feedback input for output 2 OFF
	1	Feedback input for output 2 ON
3	-	Reserved
4	0	Feedback input for output 3 OFF
	1	Feedback input for output 3 ON
5	-	Reserved
6	0	Feedback input for output 4 OFF
	1	Feedback input for output 4 ON
7	-	Reserved
8	0	Feedback input for output 5 OFF
	1	Feedback input for output 5 ON
9	-	Reserved
10	0	Feedback input for output 6 OFF
	1	Feedback input for output 6 ON
11	-	Reserved
12	0	Feedback input for output 7 OFF
	1	Feedback input for output 7 ON
13	-	Reserved
14	0	Feedback input for output 8 OFF
	1	Feedback input for output 8 ON
15	-	Reserved

## ■ INPUT DATA BIT: 8 BITS (SW3-3: OFF)

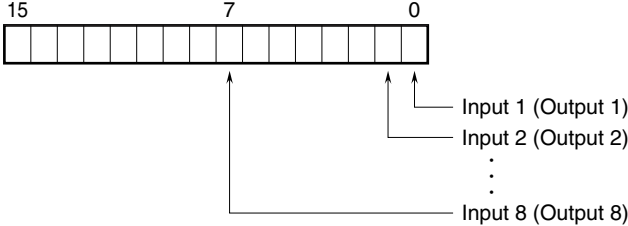
When output data bit is 8 bits, display the status of feedback input for each output with 1 bit.

The table below shows data allocation.

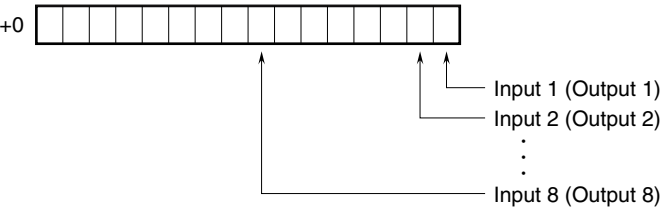
BIT	DISPLAY	OPERATION
0	0	Feedback input for output 1 OFF
	1	Feedback input for output 1 ON
1	0	Feedback input for output 2 OFF
	1	Feedback input for output 2 ON
2	0	Feedback input for output 3 OFF
	1	Feedback input for output 3 ON
3	0	Feedback input for output 4 OFF
	1	Feedback input for output 4 ON
4	0	Feedback input for output 5 OFF
	1	Feedback input for output 5 ON
5	0	Feedback input for output 6 OFF
	1	Feedback input for output 6 ON
6	0	Feedback input for output 7 OFF
	1	Feedback input for output 7 ON
7	0	Feedback input for output 8 OFF
	1	Feedback input for output 8 ON
8	-	Unused
9	-	Unused
10	-	Unused
11	-	Unused
12	-	Unused
13	-	Unused
14	-	Unused
15	-	Unused

**DATA ASSIGNMENT**

- I/O data length is 8 bit. (Bit access)

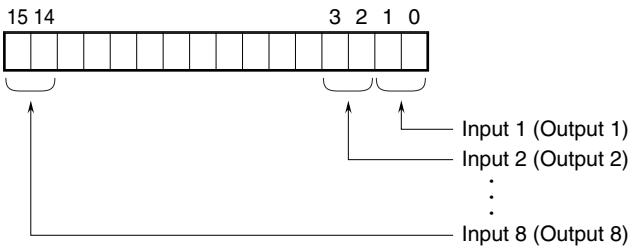


- I/O data length is 8 bit. (Word access)



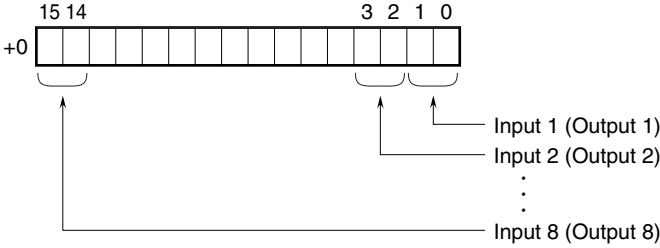
Each bit in the 1 word corresponds I/O.

- I/O data length is 16 bit. (Bit access)



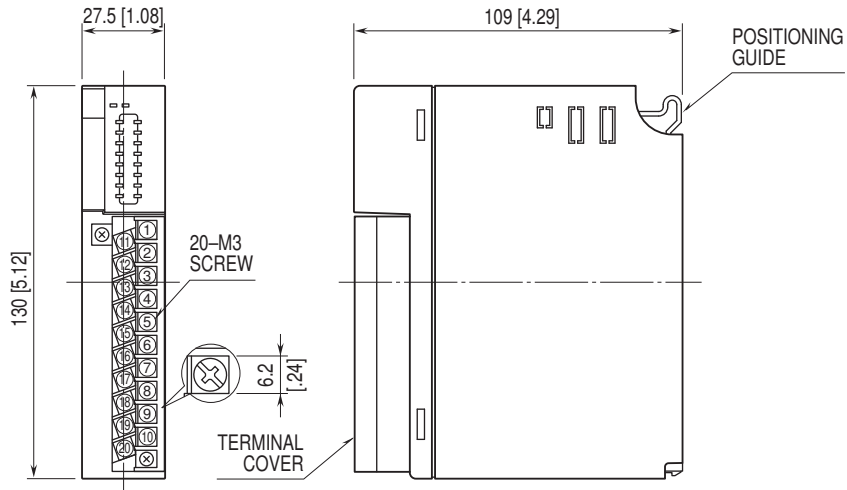
2 bits corresponds one I/O.

- I/O data length is 16 bit. (Word access)

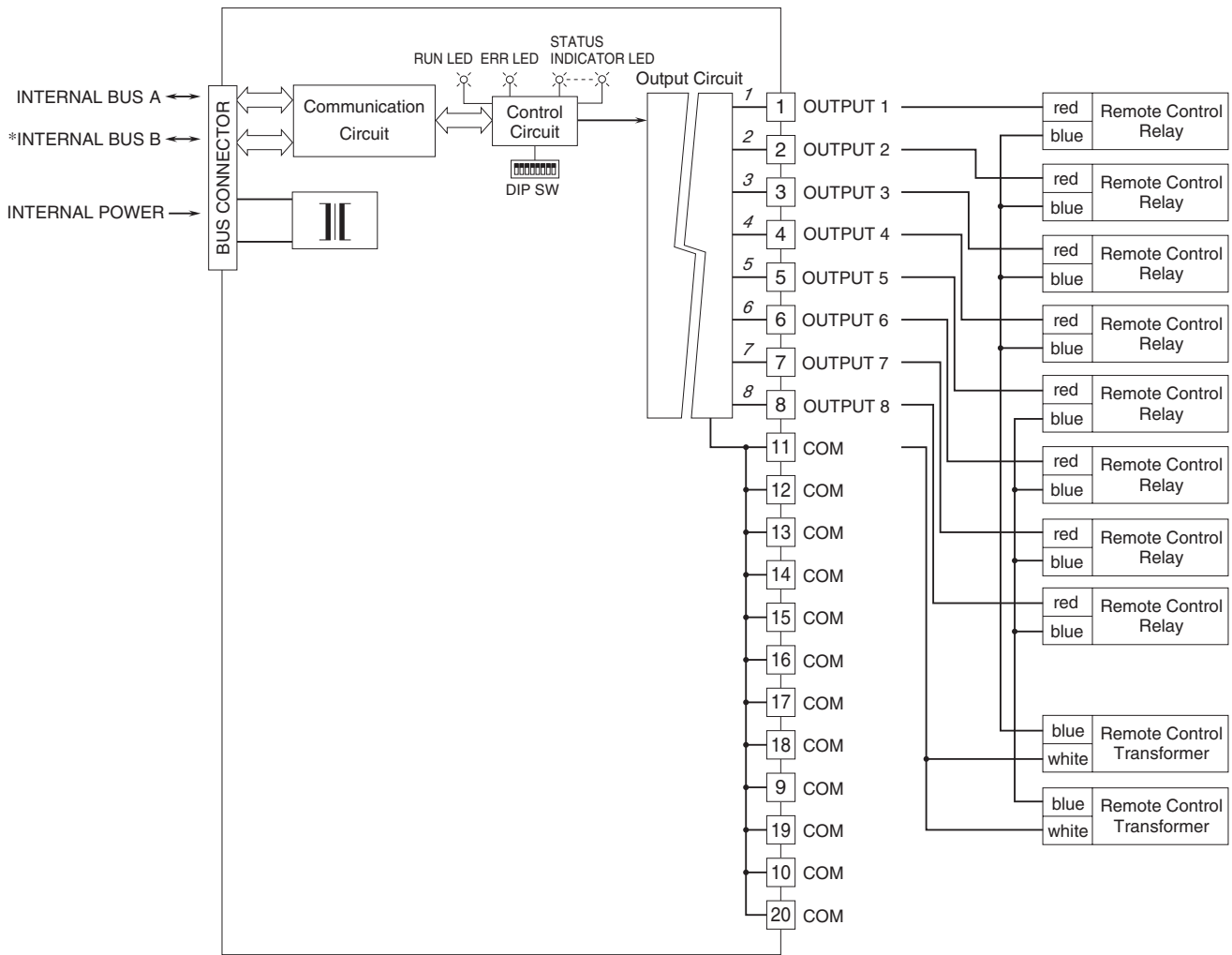


Each bit in the 1 word corresponds I/O.  
2 bits corresponds one I/O.

**EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]**

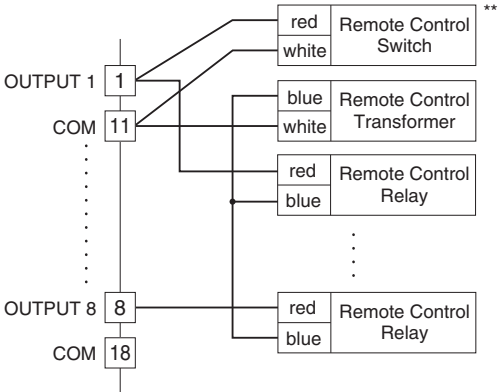


**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



Numbers in italic indicate LED No.s assigned to the front panel LEDs.  
 \* For dual redundant communication.

■ Output Connection Example



\*\* Maximum four remote control switches can be connected in parallel.



Specifications are subject to change without notice.