

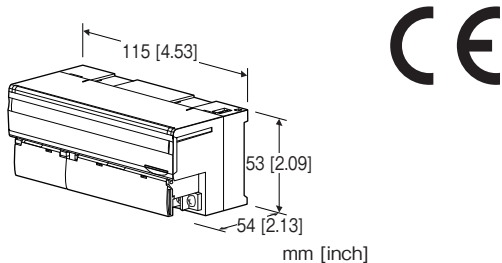
Remote I/O R7 Series

CC-Link I/O MODULE

(CC-Link V.1.10; relay contact output, 8 points)

Functions & Features

- 8 points relay contact output module for CC-Link



MODEL: R7C-DC8C-R[1]

ORDERING INFORMATION

- Code number: R7C-DC8C-R[1]

Specify a code from below for [1].

- (e.g. R7C-DC8C-R/Q)
- Specify the specification for option code /Q (e.g. /C01)

If you need factory setting, use Ordering Information Sheet (No. ESU-7801-G).

I/O TYPE

DC8C: Relay contact output, 8 points

POWER INPUT

DC Power

R: 24 V DC

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

[1] OPTIONS

blank: none

/Q: With options (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

CAUTION

- Extension modules cannot be connected.

PACKAGE INCLUDING...

- Terminating resistor (110 Ω , 0.5 W)

GENERAL SPECIFICATIONS

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

Solderless terminal: Refer to the drawing at the end of the section.

Recommended manufacturer: Japan Solderless Terminal MFG.Co.Ltd, Nichifu Co.,Ltd

Applicable wire size: 0.25 to 1.65 mm² (AWG 22 to 16)

Screw terminal: Nickel-plated steel

Housing material: Flame-resistant resin (gray)

Isolation: Output to power to CC-Link or FG

Output at the loss of communication:

Hold the output (*), Reset the output

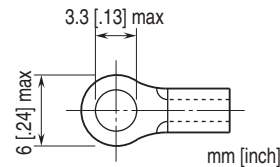
Selectable with the front DIP SW

(*) Factory default setting

Status indicator LED: PWR

Discrete output status indicator LED: LED turns on with output ON

■Recommended solderless terminal



CC-Link COMMUNICATION

CC-Link: Ver.1.10

Connector: M3 screw terminal

Network cable: CC-Link cable designated by Mitsubishi Electric

Station number: 1 - 64 (rotary switch, default:00)

Station Type: Remote I/O device

Data allocation: 1

Baud rate setting: 156 kbps (default), 625 kbps, 2.5 Mbps, 5 Mbps, 10 Mbps (rotary switch)

Status indicator LEDs: RUN, ERR, SD, RD

OUTPUT SPECIFICATIONS

Common: 1 common per 4 points (4 terminals)

Maximum load current: 2.0 A per point

Common current: Max. 8 A (4 terminals total)

Maximum outputs applicable at once: No limit (at 24 V DC)

Output supply voltage/current: 24 V DC $\pm$ 10 %/ $\geq$ 60 mA

Rated load: 250 V AC @ 2 A ($\cos \phi = 1$), 30 V DC @ 2 A (resistive load)

Electrical life 10⁵ cycles (rate 30/min.)

(Use as Measurement Category I or less than 125 V AC to conform with EU Directive)

Maximum switching voltage: 250 V AC, 30 V DC
Maximum switching power: 500 VA (AC), 60 W (DC)
Minimum applicable load: 24 V DC @ 5 mA
Mechanical life: 2×10^7 cycles (300 cycles per min.)
When driving an inductive load, external contact protection
and noise quenching recommended.
ON delay time: ≤ 10 msec.
OFF delay time: ≤ 10 msec.

INSTALLATION

Current consumption

- DC: Approx. 60 mA
- Relay driving current: Approx. 60 mA

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

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

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

Atmosphere: No corrosive gas or heavy dust

Mounting: DIN rail (35 mm rail)

Weight: 200 g (0.44 lb)

PERFORMANCE

Insulation resistance: ≥ 100 M Ω with 500 V DC

Dielectric strength: 1500 V AC @ 1 minute (output to CC-
Link or FG to power)

STANDARDS & APPROVALS

EU conformity:

EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

Low Voltage Directive

EN 61010-1, EN 61010-2-201

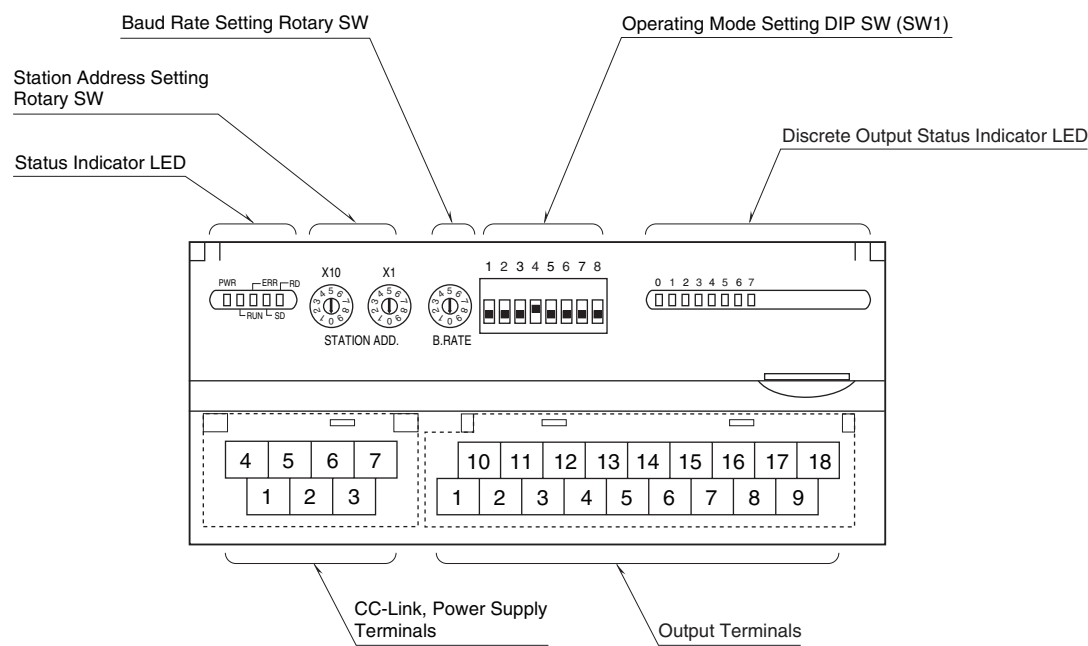
Measurement Category II (output)

Pollution Degree 2

Output to power: Basic insulation (150 V)

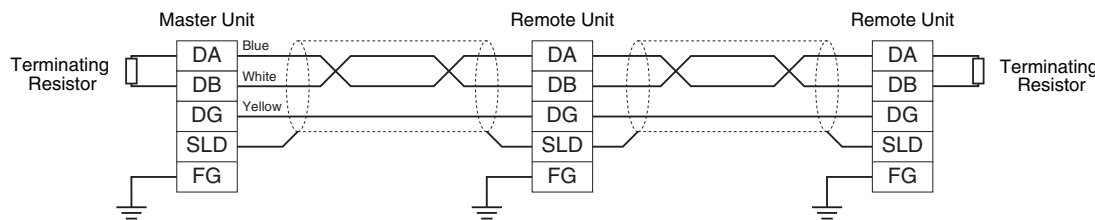
RoHS Directive

EXTERNAL VIEW



COMMUNICATION CABLE CONNECTIONS

MASTER CONNECTION



Note: Be sure to connect the terminating resistor included in the product package to the unit at both ends of communication line.
The terminator must be connected across DA and DB.
The Master Unit can be located at not only both ends but also any node of the of communication line.

TERMINAL ASSIGNMENTS

OUTPUT TERMINAL ASSIGNMENT

10	11	12	13	14	15	16	17	18
+24V	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7
1	2	3	4	5	6	7	8	9
0V	COM0	COM0	COM0	COM0	COM1	COM1	COM1	COM1

NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	0V	0V	10	+24V	24V DC
2	COM0	Common 0	11	Y0	Output 0
3	COM0	Common 0	12	Y1	Output 1
4	COM0	Common 0	13	Y2	Output 2
5	COM0	Common 0	14	Y3	Output 3
6	COM1	Common 1	15	Y4	Output 4
7	COM1	Common 1	16	Y5	Output 5
8	COM1	Common 1	17	Y6	Output 6
9	COM1	Common 1	18	Y7	Output 7

■ POWER SUPPLY, CC-LINK TERMINAL ASSIGNMENT

4	5	6	7
DA	DG	+24 V	0V
1	2	3	
DB	SLD	FG	

NO.	ID	FUNCTION, NOTES
1	DB	White
2	SLD	Shield
3	FG	FG
4	DA	Blue
5	DG	Yellow
6	+24 V	Power input (24 V DC)
7	0 V	Power input (0 V DC)

INDICATOR LED

■ STATUS INDICATOR LED

PWR	RUN	ERR	SD*1	RD	STATUS*2
ON	ON	BL	BL	ON	Communicates normally with occasional CRC errors due to noise interference.
ON	ON	BL	BL	ON	Communicates normally but the Baud Rate and/or Station Address switches failed. ERR LED blinks approximately in 0.5 seconds intervals.
ON	ON	BL	BL	OFF	----
ON	ON	BL	OFF	ON	CRC error detected in the received data. Unable to respond.
ON	ON	BL	OFF	OFF	----
ON	ON	OFF	BL	ON	Normal communication
ON	ON	OFF	BL	OFF	----
ON	ON	OFF	OFF	ON	Unable to receive data addressed to the station.
ON	ON	OFF	OFF	OFF	----
ON	OFF	BL	BL	ON	Polling response is made but CRC error is detected in received refresh data.
ON	OFF	BL	BL	OFF	----
ON	OFF	BL	OFF	ON	CRC error detected in the data addressed to the station.
ON	OFF	BL	OFF	OFF	----
ON	OFF	OFF	BL	ON	Link is not started.
ON	OFF	OFF	BL	OFF	----
ON	OFF	OFF	OFF	ON	No data addressed to the station. Or unable to receive data addressed to the station due to noise interference. (Missing parts of the data sent from the master)
ON	OFF	OFF	OFF	OFF	Unable to receive data due to wire breakdown
ON	OFF	ON	OFF	ON/OFF	Faulty Baud Rate and/or Station Address setting
OFF	OFF	OFF	OFF	OFF	Power input removed or power supply failure.

OFF = OFF, ON = ON, BL = Blinking

*1. SD LED which is blinking may appear to be ON with high baud rate especially when fewer modules are connected.

*2. LED combinations indicated with "----" do not occur in normal operation unless LED failure or the like occurs.

■ DISCRETE OUTPUT STATUS INDICATOR LED

LED red indicators show the signal status.

ON: LED ON

OFF: LED OFF

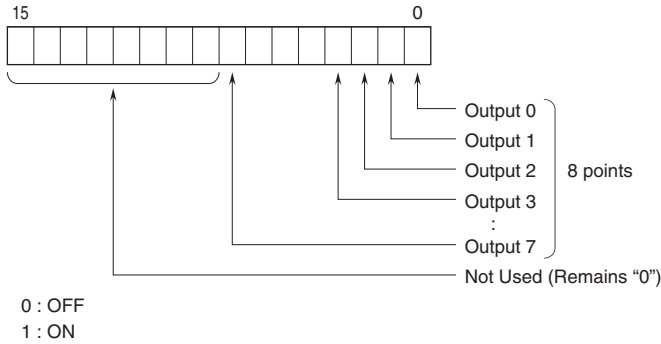
DATA ALLOCATION

■ R7C-DC8C

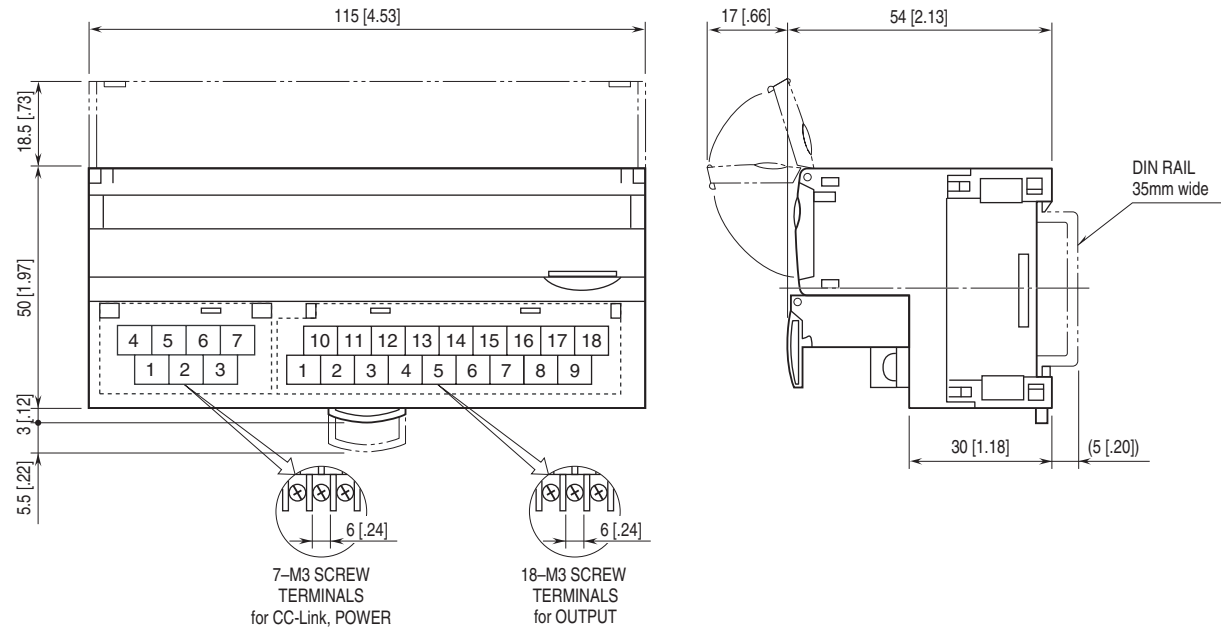
Interval-timed Response (X)		Refresh Data (Y)	
RX(n+0)	Unused	RY(n+0)	R7C-DC8C
RX(n+1)		RY(n+1)	Unused

I/O DATA DESCRIPTIONS

■ DISCRETE OUTPUT



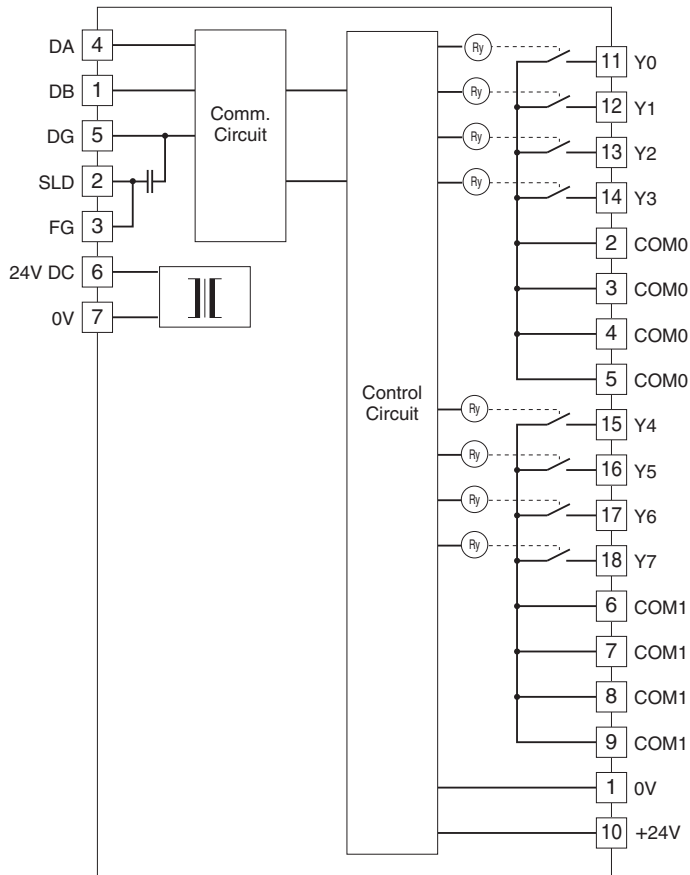
EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

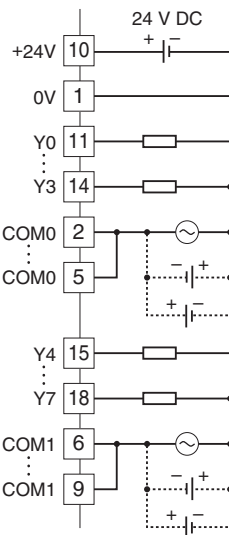
Note: In order to improve EMC performance, bond the FG terminal to ground.

Caution: FG terminal is NOT a protective conductor terminal.

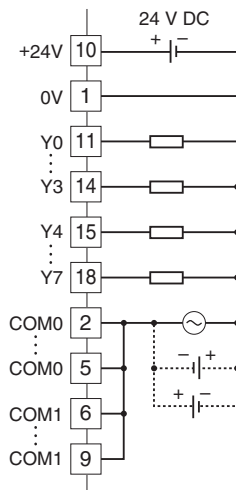


■ Output Connection Example

4 points / common



8 points / common



Specifications are subject to change without notice.