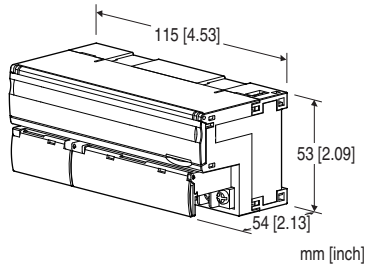
Remote I/O R7 Series

CC-Link I/O MODULE

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

Functions & Features

- 8 points relay contact output module for CC-Link
- Extension module can be connected



MODEL:R7C–DC8E-R[1]

ORDERING INFORMATION

- Code number: R7C-DC8E-R[1]

Specify a code from below for [1].
(e.g. R7C-DC8E-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

DC8E: Relay contact output, 8 points

POWER INPUT

DC Power

R: 24 V DC
(Operational voltage range 24 V ±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

- Discrete input extension modules cannot be connected. (model: R7C-EA8, R7C-EA16)

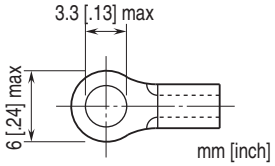
RELATED PRODUCTS

- Discrete output extention module (model: R7C-ECx)

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 mm^2 (AWG 22 to 16)
Screw terminal: Nickel-plated steel
Housing material: Flame-resistant resin (gray)
Isolation: Output to power to CC-Link or FG
Extension: No extension (*), Discrete output 8 or 16 points
Selectable with the front DIP SW
(*) Factory setting
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)
Terminating resistor: Built-in (side DIP SW, default: disable)
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

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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 ±10 %/ ≥ 60 mA
Rated load: 250 V AC @ 2 A (cos ø = 1),
30 V DC @ 2 A (resistive load)
Electrical life 10^5 cycles (rate 30/min.)
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

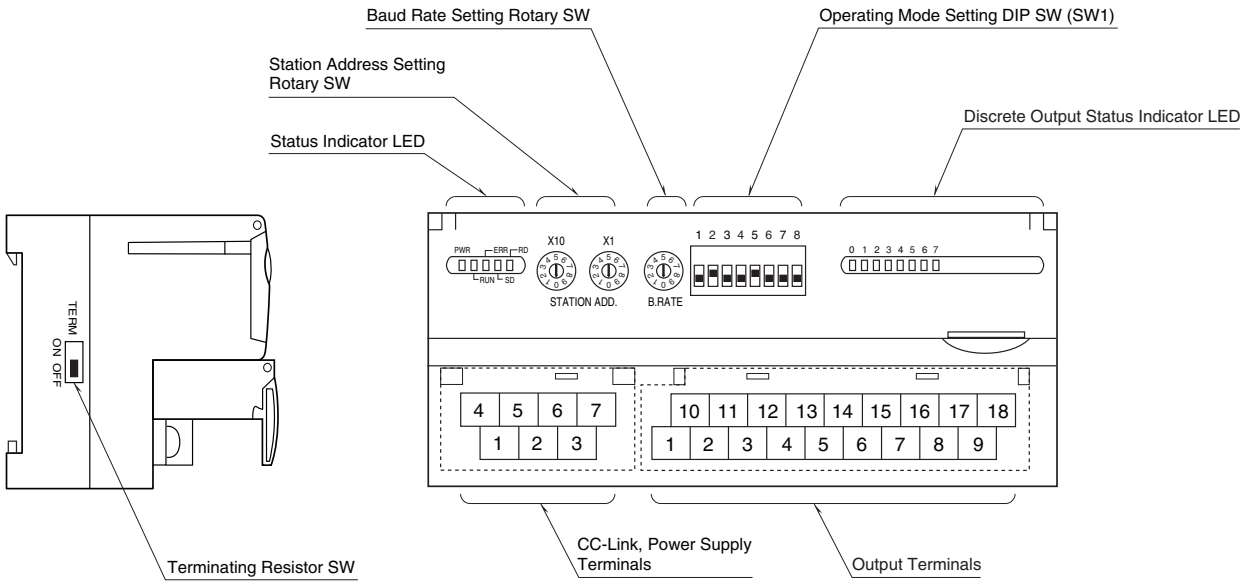
Current consumption
• **DC**: Approx. 60 mA
• **Relay driving current**: Approx. 60 mA
Operating temperature: -10 to +55°C (14 to 131°F)
Storage temperature: -20 to +65°C (-4 to +149°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Atmosphere: No corrosive gas or heavy dust
Mounting: DIN rail (35 mm rail)
Weight: 200 g (0.44 lb)

PERFORMANCE

Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 1500 V AC @ 1 minute (output to CC-Link or FG to power)

EXTERNAL VIEW

■ **SIDE VIEW** ■ **FRONT VIEW**



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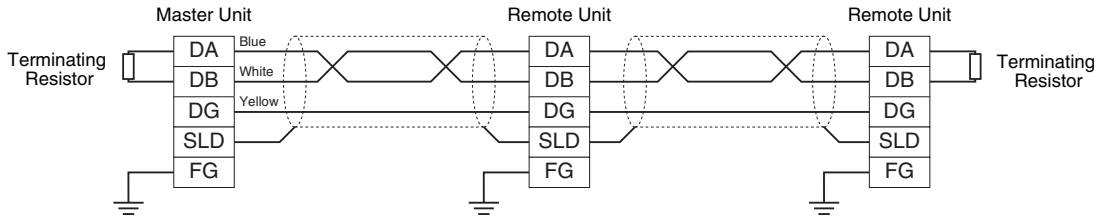
COMMUNICATION CABLE CONNECTIONS

■ MASTER CONNECTION



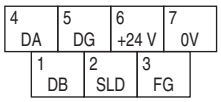
Note: Be sure to connect the terminating resistor across DA and DB at both ends of communication line.
When this unit is located at an end, turn the terminating resistor SW ON.
The Master Unit can be located at not only both ends but also any node of the of communication line.

TERMINAL ASSIGNMENTS

■OUTPUT TERMINAL ASSIGNMENT

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



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)

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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-DC8E

	Interval-timed Response (X)
RX(n+0)	Unused
RX(n+1)	

	Refresh Data (Y)
RY(n+0)	R7C-DC8E
RY(n+1)	Unused

■ R7C-DC18E + R7C-EC16x

	Interval-timed Response (X)
RX(n+0)	Unused
RX(n+1)	

	Refresh Data (Y)
RY(n+0)	R7C-DC8E
RY(n+1)	R7C-EC16x

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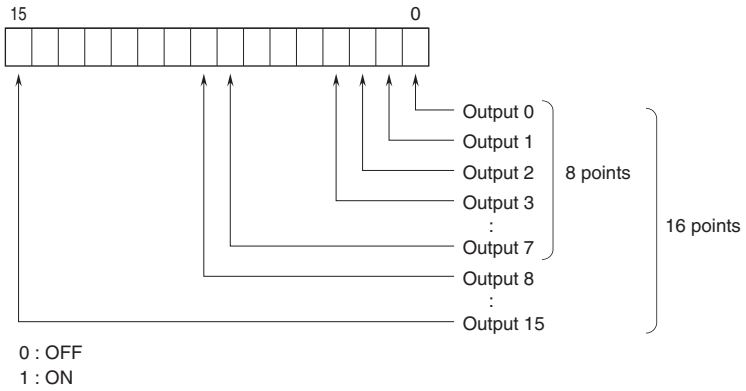
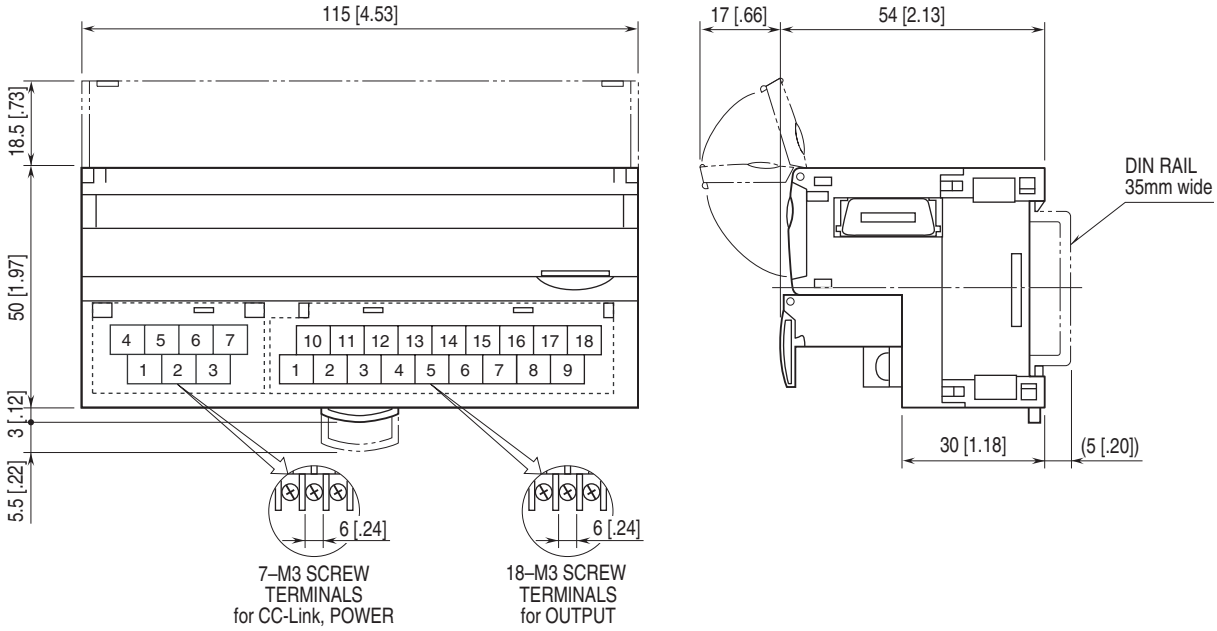
I/O DATA DESCRIPTIONS

■ **DISCRETE OUTPUT**



EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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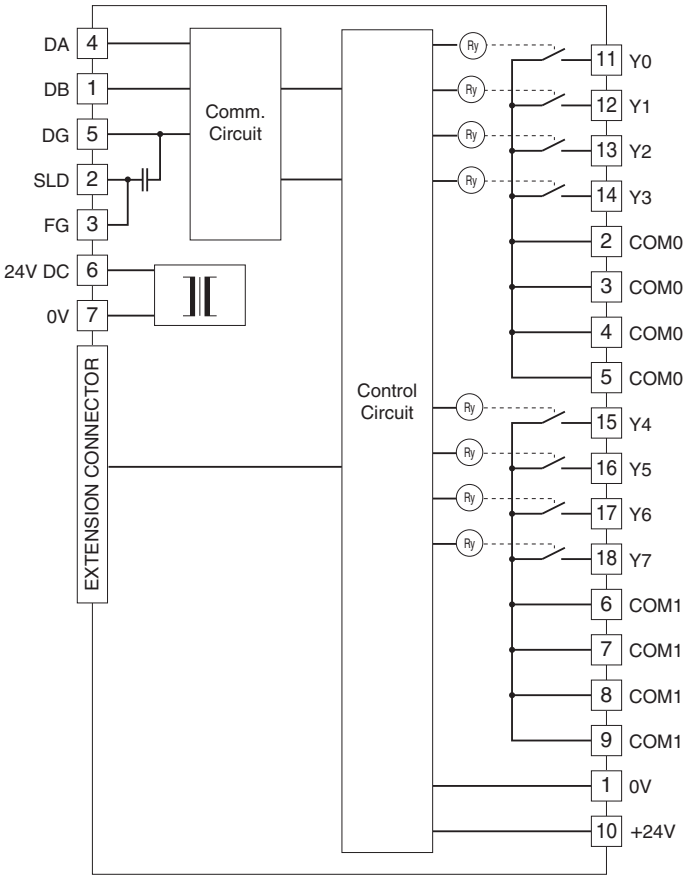
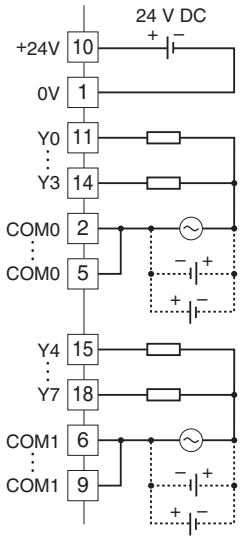
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

Caution: FG terminal is NOT a protective conductor terminal.

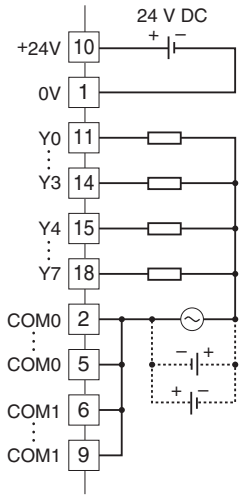


■ **Output Connection Example**

4 points / common



8 points / common



⚠ Specifications are subject to change without notice.

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