INSTRUCTION MANUAL

REMOTE CONTROL RELAY CONTROL MODULE, 4 points
(CC-Link V.1.10)
MODEL R7C-RR4

BEFORE USE ....

Thank you for choosing M-System. Before use, please check contents of the package you received as outlined below.
If you have any problems or questions with the product, please contact M-System's Sales Office or representatives.

■ PACKAGE INCLUDES:

Discrete output module .... (1)

■ MODEL NO.

Confirm Model No. marking on the product to be exactly what you ordered.

■ INSTRUCTION MANUAL

This manual describes necessary points of caution when you use this product, including installation, connection and basic maintenance procedures.

POINTS OF CAUTION

■ GENERAL PRECAUTIONS

• Before you remove the unit or mount it, turn off the power supply and input signal for safety.
• Do NOT set the switches on the module while the power is supplied. The switches are used only for maintenance without the power.

■ ENVIRONMENT

• Indoor use
• When heavy dust or metal particles are present in the air, install the unit inside proper housing with sufficient ventilation.
• Do not install the unit where it is subjected to continuous vibration. Do not subject the unit to physical impact.
• Environmental temperature must be within -10 to +55°C (14 to 131°F) with relative humidity within 30 to 90% RH in order to ensure adequate life span and operation.

■ WIRING

• Do not install cables (power supply, input and output) close to noise sources (relay drive cable, high frequency line, etc.).
• Do not bind these cables together with those in which noises are present. Do not install them in the same duct.
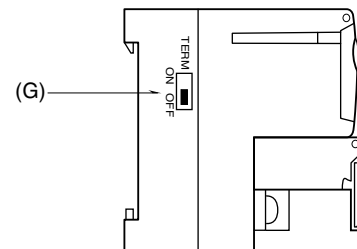
■ AND ....

The unit is designed to function as soon as power is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data sheet.

COMPONENT IDENTIFICATION

■ FRONT VIEW
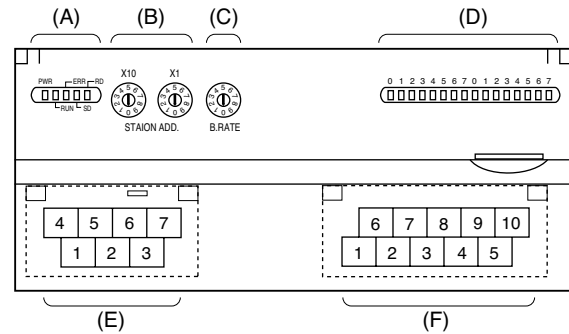
■ SIDE VIEW

(A) Status Indicator LED [*1]
(B) Station Address Setting Rotary SW
(C) Baud Rate Setting Rotary SW
(D) Indicator LED
(E) CC-Link, Power Supply Terminals
(F) Output Terminals
(G) Terminating Resistor SW

*1. Refer to 'Status Indicator LED' section for detailed information.

■ STATUS INDICATOR LED

ID	COLOR	FUNCTION
PWR	Red	Turns on when the internal 5V is supplied normally.
RUN	Red	Turns on when the refresh data is received normally.
ERR	Red	Turns on when the received data is abnormal.
SD	Red	Turns on when the module is transmitting.
RD	Red	Turns on when the module is receiving.

■ STATION ADDRESS

Station Address is selected between 1 and 64 in decimal. The left switch determines the tenths place digit, while the right switch does the ones place digit of the address.

Station Address Setting (x1)

Station Address Setting (x10)
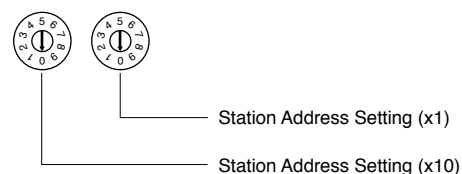
■ BAUD RATE

Baud Rate is selected with the rotary switch.

0 : 156 kbps
1 : 625 kbps
2 : 2.5 Mbps
3 : 5 Mbps
4 : 10 Mbps

Baud Rate Setting

■ TERMINATING RESISTOR

To use the terminating resistor, turn the switch ON, and OFF to invalidate. (Factory setting OFF)
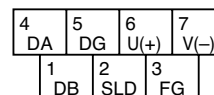
■ INDICATOR LED

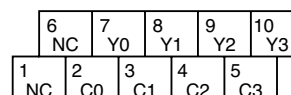Feedback input status and output bit status are indicated with LED.
ON: LED on
OFF: LED off

■ POWER SUPPLY, CC-LINK TERMINAL ASSIGNMENT

4 DA	5 DG	6 U(+)	7 V(−)
1 DB	2 SLD	3 FG	

(1) DB — White
(2) SLD — Shield
(3) FG — FG
(4) DA — Blue
(5) DG — Yellow
(6) U(+) — Power input (24V DC)
(7) V(−) — Power input (0V)

■ OUTPUT TERMINAL ASSIGNMENT

6 NC	7 Y0	8 Y1	9 Y2	10 Y3
1 NC	2 C0	3 C1	4 C2	5 C3

NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	NC	No connection	6	NC	No connection
2	C0	Common 0	7	Y0	Output 0
3	C1	Common 1	8	Y1	Output 1
4	C2	Common 2	9	Y2	Output 2
5	C3	Common 3	10	Y3	Output 3

INDICATOR LED

■ STATUS INDICATOR LED

PWR	RUN	ERR	SD	RD	STATUS
ON	ON	BL	BL	ON	Communicates normally with occasional CRC errors due to noise interface.
ON	ON	BL	BL	ON	Communicates normally but the Baud Rate and/or Station Address switches failed. ERR LED blinks approximately in 0.5 second intervals.
ON	ON	BL	BL	OFF	----
ON	ON	BL	OFF	ON	CRC error found 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	Performs the interval-timed responses but CRC error found in receiving the refresh data.
ON	OFF	BL	BL	OFF	----
ON	OFF	BL	OFF	ON	CRC error found 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 interface. (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
---- = Inconceivable in normal operations (e.g. LED failure)

DATA ALLOCATION

0: OFF   1: ON
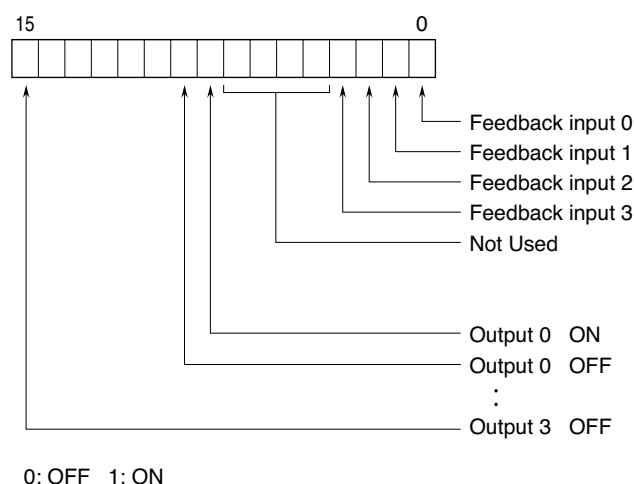
OUTPUT SETTING

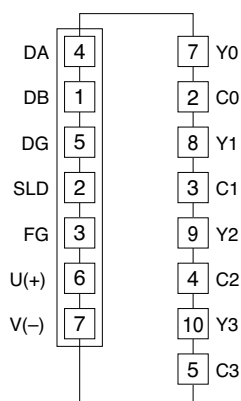Each output is set with 2 bits. Refer to the table below for output setting.

NO.	BIT	SETTING	FUNCTION
Output 0	8, 9	0, 0	No operation
		1, 0	Output 0 ON
		0, 1	Output 0 OFF
		1, 1	Invalid
Output 1	10, 11	0, 0	No operation
		1, 0	Output 1 ON
		0, 1	Output 1 OFF
		1, 1	Invalid
Output 2	12, 13	0, 0	No operation
		1, 0	Output 2 ON
		0, 1	Output 2 OFF
		1, 1	Invalid
Output 3	14, 15	0, 0	No operation
		1, 0	Output 3 ON
		0, 1	Output 3 OFF
		1, 1	Invalid

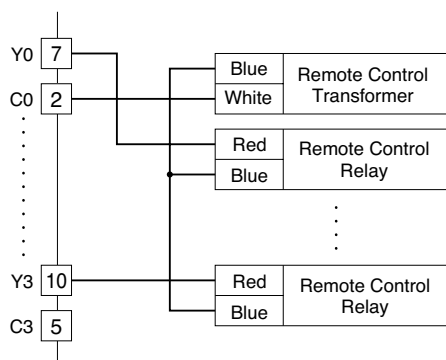Do not set both bits 1. If the 2 bits are simultaneously 1, the module will not operate normally.
For repeating the output of ON pulse, after setting (0, 0), set (1, 0) once again.

CONNECTION DIAGRAM
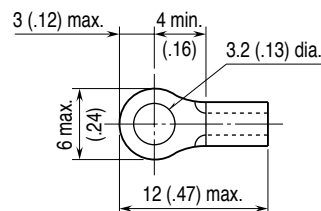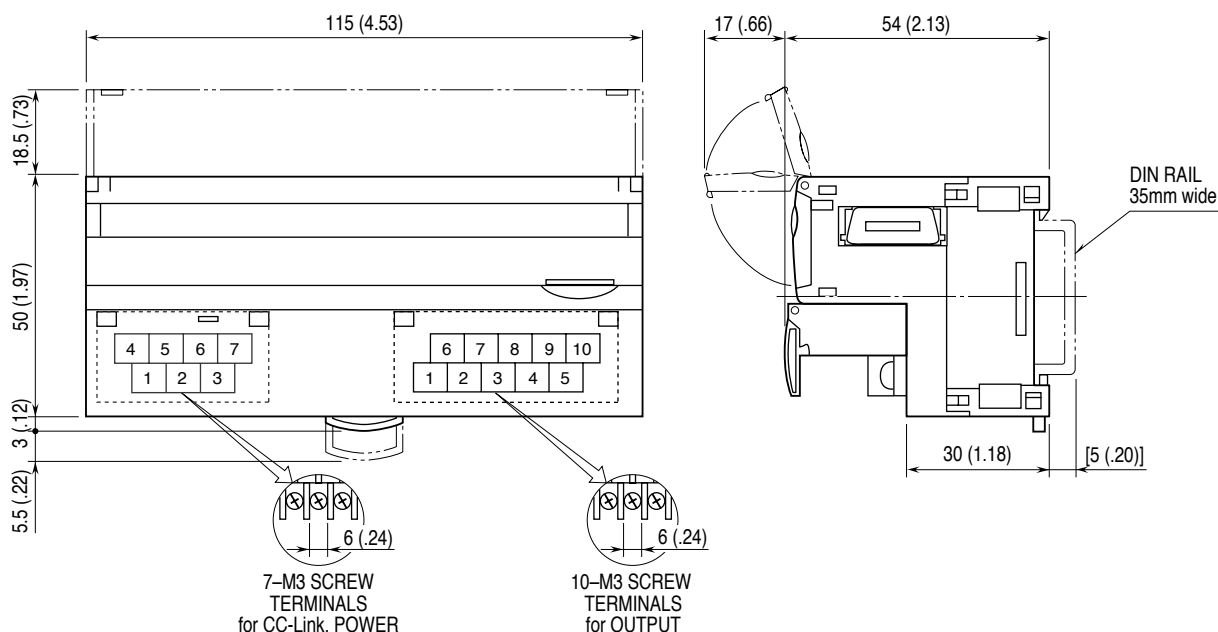
Connect the unit as in the diagram below.

DA	4	7	Y0
DB	1	2	C0
DG	5	8	Y1
SLD	2	3	C1
FG	3	9	Y2
U(+)	6	4	C2
V(−)	7	10	Y3
		5	C3

■ **Output Connection Example**

Y0	7		Blue	Remote Control Transformer
C0	2		White	
			Red	Remote Control Relay
			Blue	
Y3	10		Red	Remote Control Relay
C3	5		Blue	

WIRING INSTRUCTIONS

■ **SOLDERLESS TERMINAL mm (inch)**
Refer to the drawing below for recommended ring tongue terminal size. Spade tongue type is also applicable. Solderless terminals with insulation sleeve do not fit. Applicable wire size: 0.3 – 0.75 mm²

3 (.12) max. 4 min. (.16) 3.2 (.13) dia.
6 max. (.24)
12 (.47) max.

EXTERNAL DIMENSIONS unit: mm (inch)

115 (4.53)
18.5 (.73)
50 (1.97)
3 (.12)
5.5 (.22)

4	5	6	7
1	2	3	

6	7	8	9	10
1	2	3	4	5

6 (.24) 7–M3 SCREW TERMINALS for CC-Link, POWER
6 (.24) 10–M3 SCREW TERMINALS for OUTPUT

17 (.66) 54 (2.13) DIN RAIL 35mm wide
30 (1.18) [5 (.20)]

M·SYSTEM CO.,LTD.