Remote I/O R7 Series

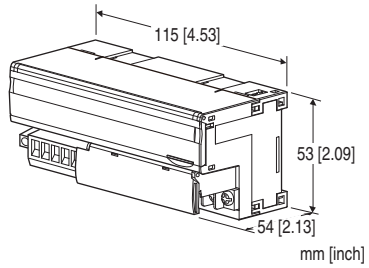
DeviceNet® I/O MODULE

(remote control relay control, 8 points)

Functions & Features

• 8 points remote control relay control module for DeviceNet

• Extension module can be connected



MODEL:R7D–RR8[1]

ORDERING INFORMATION

• Code number: R7D-RR8[1]

Specify a code from below for [1].
(e.g. R7D-RR8/Q)

• Specify the specification for option code /Q
(e.g. /C01/SET)

I/O TYPE

RR8: Remote control relay control, 8 points

[1] OPTIONS

blank: none

/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q (multiple selections)

COATING (For the detail, refer to our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

EX-FACTORY SETTING

/SET: Preset according to the Ordering Information Sheet (No. ESU-7802-T)

RELATED PRODUCTS

• PC Configurator cable (model: MCN-CON or COP-US)

• PC configurator software (model: R7CON)

• EDS file

The EDS files and configurator software are downloadable at our web site.
(Extension modules are registered in the EDS file as a combination of a basic module)

• Discrete input extension module (model: R7D-EAx)

• Discrete output extension module (model: R7D-ECx)

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

DeviceNet: Euro type connector terminal
(applicable wire size: 0.2 to 2.5 mm^2, stripped length 7 mm)

Output: 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 DeviceNet

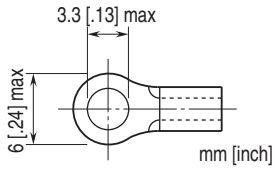
Output data length: Selectable between 8-bit and 16-bit (*) with the front DIP switch
(*) Factory default setting

Extension: No extension (*), Discrete input 8 or 16 points, Discrete output 8 or 16 points
Selectable with the front DIP SW
(*) Factory default setting

I/O status indicator: Feedback input status turns on with the input supplied.
Output status LED turns on with the output ON.

Configurator connection: 2.5 dia. miniature jack

■Recommended solderless terminal



DeviceNet COMMUNICATION

Network cable: Approved for DeviceNet

Baud rate setting: 125 kbps (default), 250 kbps, 500 kbps,

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auto-tracking (rotary switch)
(Refer to the instruction manual.)
Status indicator LEDs: MS, NS
(Refer to the instruction manual for details.)
Node address setting: 1 - 63 (rotary switch, default:00)
(Refer to the instruction manual.)
Communication: Supports poll and cyclic
(Bit-strobe and COS (change of state) are not suported)

OUTPUT SPECIFICATIONS

Common: 1 common per 8 points (8 terminals)
Maximum outputs applicable at once: No limit
Rated load voltage: 24 V AC ±10 % (supplied by the remote control transformer)
Load voltage frequency: 50 / 60 Hz

INSTALLATION

Supply voltage to network: 11 – 25 V DC supplied through the network terminal block
Current Consumption:
Approx. 50 mA @ 24 V DC
Approx. 90 mA @ 11 V DC
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: 180 g (0.40 lb)

PERFORMANCE

Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 1500 V AC @ 1 minute (output to DeviceNet)

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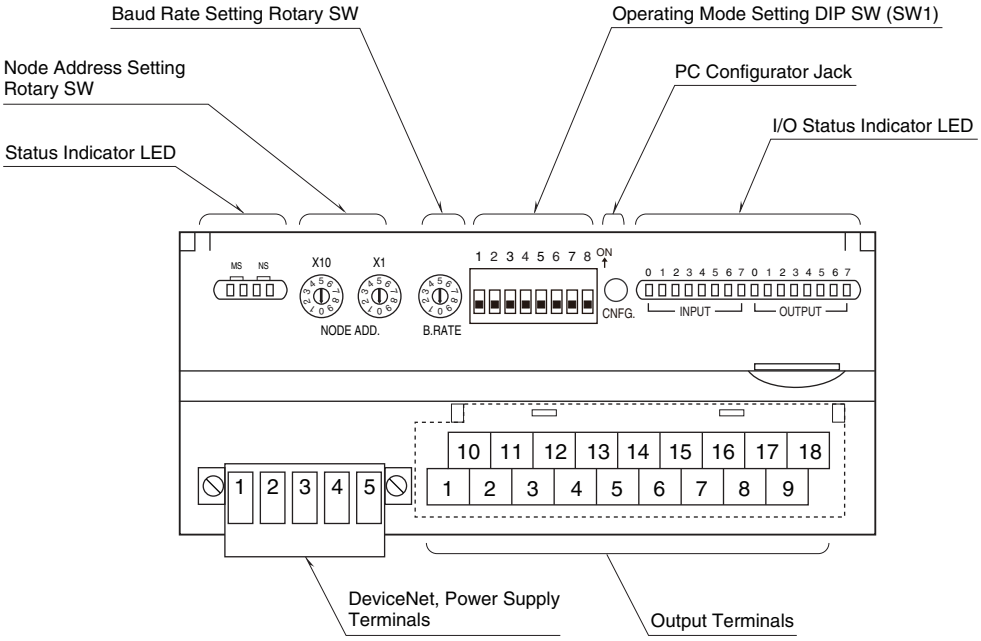
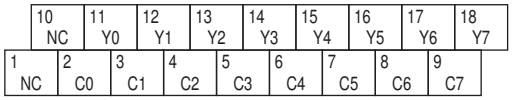
EXTERNAL VIEW



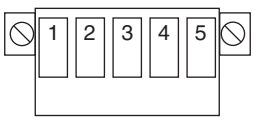
TERMINAL ASSIGNMENTS

■ OUTPUT TERMINAL ASSIGNMENT



NO.	ID	FUNCTION	NO.	ID	FUNCTION
1	NC	No connection	10	NC	No connection
2	C0	Common 0	11	Y0	Output 0
3	C1	Common 1	12	Y1	Output 1
4	C2	Common 2	13	Y2	Output 2
5	C3	Common 3	14	Y3	Output 3
6	C4	Common 4	15	Y4	Output 4
7	C5	Common 5	16	Y5	Output 5
8	C6	Common 6	17	Y6	Output 6
9	C7	Common 7	18	Y7	Output 7

■ DeviceNet TERMINAL ASSIGNMENT



PIN NO.	COLOR	ID	FUNCTION
1	Red	V+	Network power supply +
2	White	CAN_H	Network data High
3	–	Drain	Shield
4	Blue	CAN_L	Network data Low
5	Black	V–	Network power supply –

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DATA ALLOCATION

'Begin' address is determined by the R7D's node address and the master setting.

• Example 1. R7D-RR8, without Status

	Output Data		Input Data
Begin +0	R7D-RR8	Begin +0	R7D-RR8

• Example 2. R7D-RR8, with Status

	Output Data		Input Data
Begin +0	R7D-RR8	Begin +0	R7D-RR8
+1	Status		

• Example 3. R7D-RR8 + R7D-EA16, with Status

	Output Data		Input Data
Begin +0	R7D-RR8	Begin +0	R7D-RR8
+1	R7D-EA16		
+2	Status		

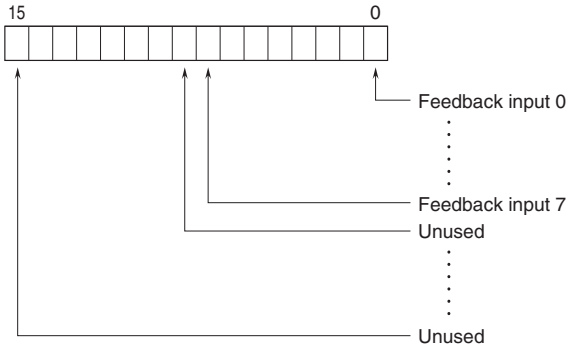
• Example 4. R7D-RR8 + R7D-EC16x, with Status

	Output Data		Input Data
Begin +0	R7D-RR8	Begin +0	R7D-RR8
+1	Status	+1	R7D-EC16x

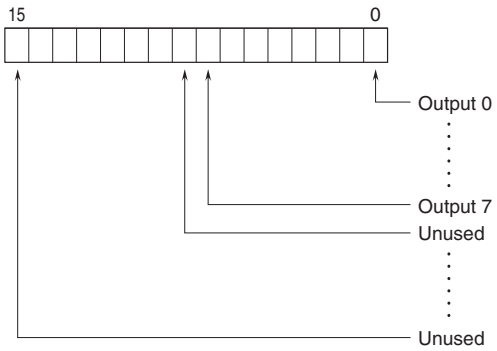
I/O DATA DESCRIPTIONS

■ R7D-RR8

• Output Data



• Input Data (output data length: 8-bit)



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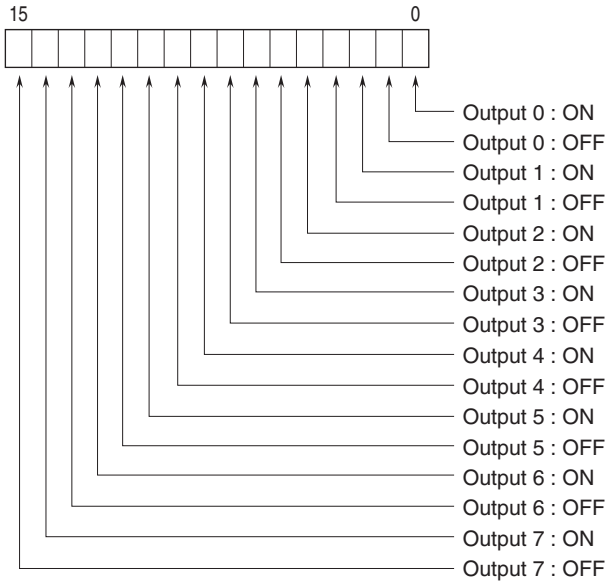
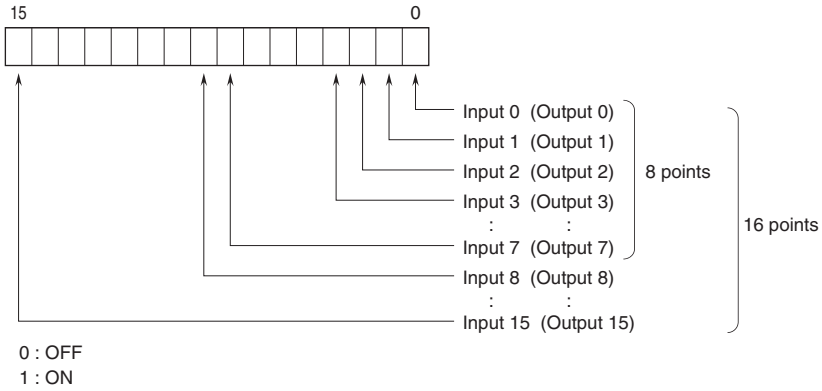
• Input Data (output data length: 16-bit)

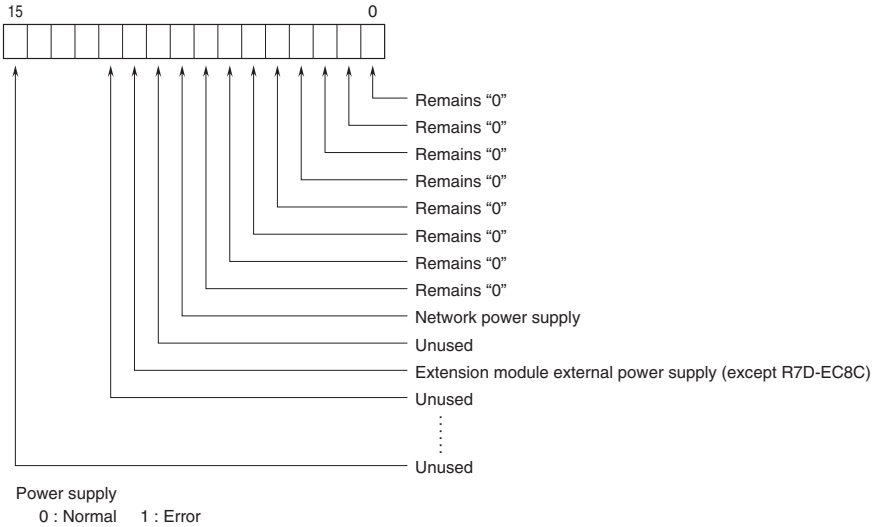


■ DISCRETE I/O



■ STATUS

Bit 0 to 7: Remote control relay control module shows '0' at the same address.
Bit 8 to 10: Shows the power supply status.



TRANSMISSION DATA DESCRIPTIONS

■ BASIC MODULE

Transmitted data (word) depends upon the modules types.

MODEL	OUTPUT DATA*1 (R7D to Master)	INPUT DATA*2 (Master to R7D)
R7D-RR8	1	1

■ EXTENSION MODULE

Transmitted data (word) for the extension module is added.

MODEL	OUTPUT DATA*1 (R7D to Master)	INPUT DATA*2 (Master to R7D)
R7D-EAx	1	0
R7D-ECx	0	1

■ STATUS

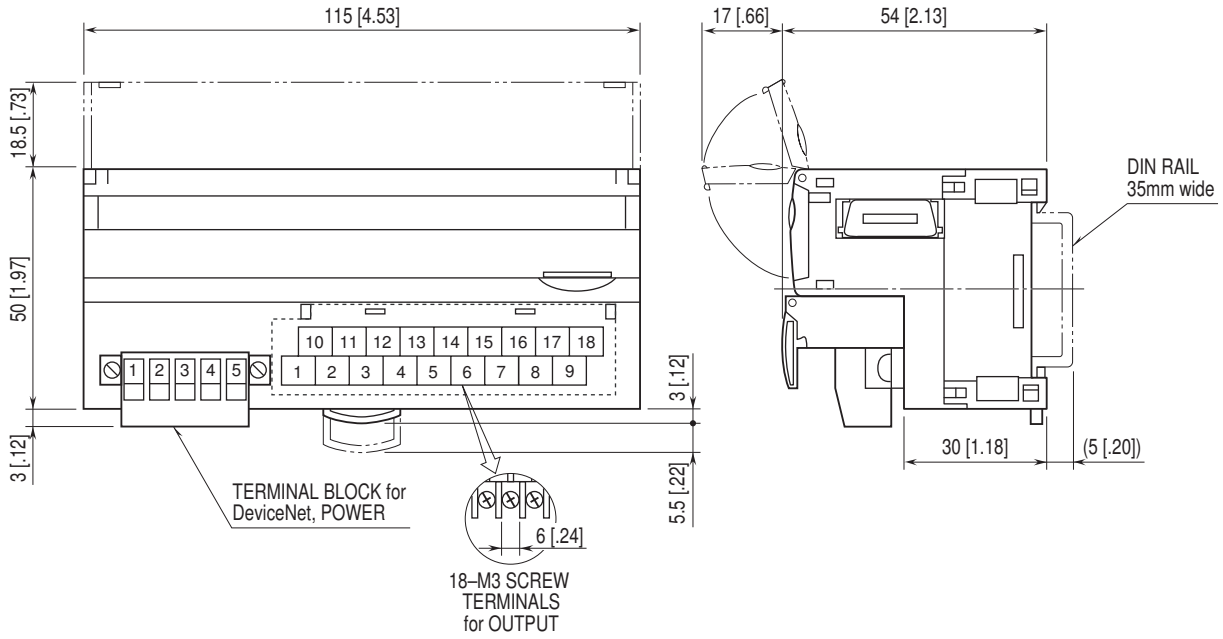
Status signal can be included in the transmission data when the setting is enabled using the PC Configurator software (model: R7CON). For details, refer to “STATUS in I/O DATA DESCRIPTIONS”.

STATUS	OUTPUT DATA*1 (R7D to Master)	INPUT DATA*2 (Master to R7D)
Enabled	1	0
Disabled	0	0

*1. Output Data means those sent to the master.

*2. Input Data means those received from the master.

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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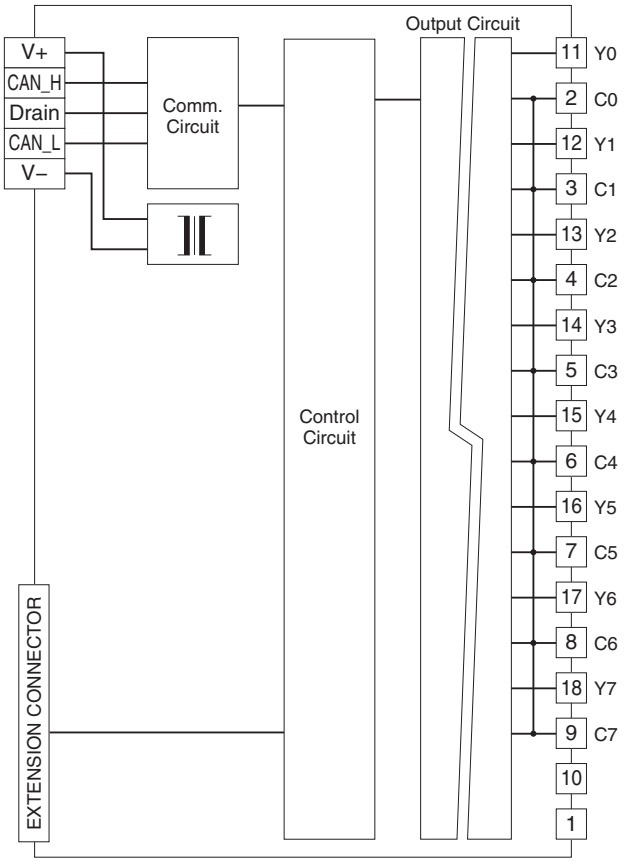
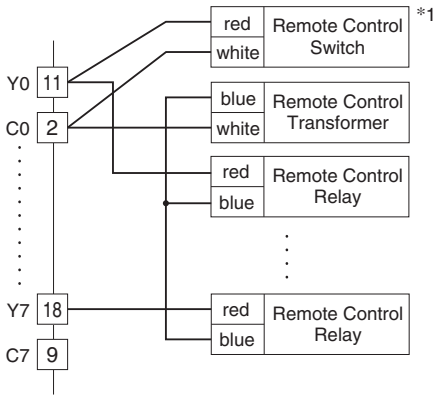
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



■ **Output Connection Example**



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

⚠ Specifications are subject to change without notice.

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