

Remote I/O R7F4H Series

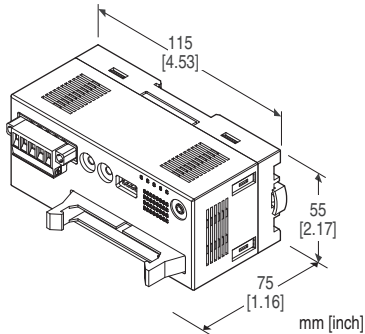
DeviceNet® I/O MODULE

(NPN transistor output, 32 points, MIL connector)

Functions & Features

- Remote I/O module to input/output digital I/O signal to field bus (DeviceNet)
- MIL connector

DeviceNet is registered trademark of ODVA.



MODEL: R7F4HD-DC32A-I[1]

ORDERING INFORMATION

- Code number: R7F4HD-DC32A-I[1]
Specify a code from below for [1].
(e.g. R7F4HD-DC32A-I/Q)
- Specify the specification for option code /Q
(e.g. /C01)

I/O TYPE

DC32A: NPN transistor output, 32 points

TERMINAL BLOCK

I: Euro type connector terminal for communication and power
MIL connector for output and exc. supply

[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

RELATED PRODUCTS

- PC Configurator cable (model: MCN-CON or COP-US)
- PC configurator software (model: R7CFG)
- EDS file

The EDS files and configurator software are downloadable at our web site.

GENERAL SPECIFICATIONS

Connection

Communication/power: Euro type connector terminal

Output, exc. supply: MIL connector

Housing material: Flame-resistant resin (gray)

Isolation: Output to exc. supply to communication/power
Discrete output status indicator LED: Green LED; turns on with output ON

Configurator connection: 2.5 dia. miniature jack

DeviceNet COMMUNICATION

Communication/power supply cable: Approved for DeviceNet

Baud rate setting: 125 kbps, 250 kbps, 500 kbps, auto-tracking (DIP switch, factory default: auto-tracking)
(Refer to the instruction manual.)

Node address setting: 0 - 63 (rotary switch, factory default: 00)

(Refer to the instruction manual.)

Status indicator LEDs: MS, NS

(Refer to the instruction manual for details.)

OUTPUT SPECIFICATIONS

Common: Negative common (NPN) per 32 points

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

Exc. supply voltage: 24 V DC $\pm 10\%$, ripple 5 %p-p max.

Rated output current: 0.3 A per point, 4 A per common

Residual voltage: ≤ 1.2 V

Leakage current: ≤ 0.1 mA

ON delay: ≤ 2 msec.

OFF delay: ≤ 2 msec.

(When driving an inductive load, connect a diode in parallel with the load.)

INSTALLATION

Supply voltage: 11 - 25 V DC (supplied from communication/power supply terminal block)

Current consumption:

Approx. 50 mA @ 24 V DC

Approx. 75 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)

MODEL: R7F4HD-DC32A

Atmosphere: No corrosive gas or heavy dust

Mounting: Surface or DIN rail (35 mm rail)

Weight: 160 g (0.35 lb)

PERFORMANCE

Insulation resistance: $\geq 100 \text{ M}\Omega$ with 500 V DC

Dielectric strength: 1500 V AC @ 1 minute
(output or exc. supply to communication/power supply)

STANDARDS & APPROVALS

EU conformity:

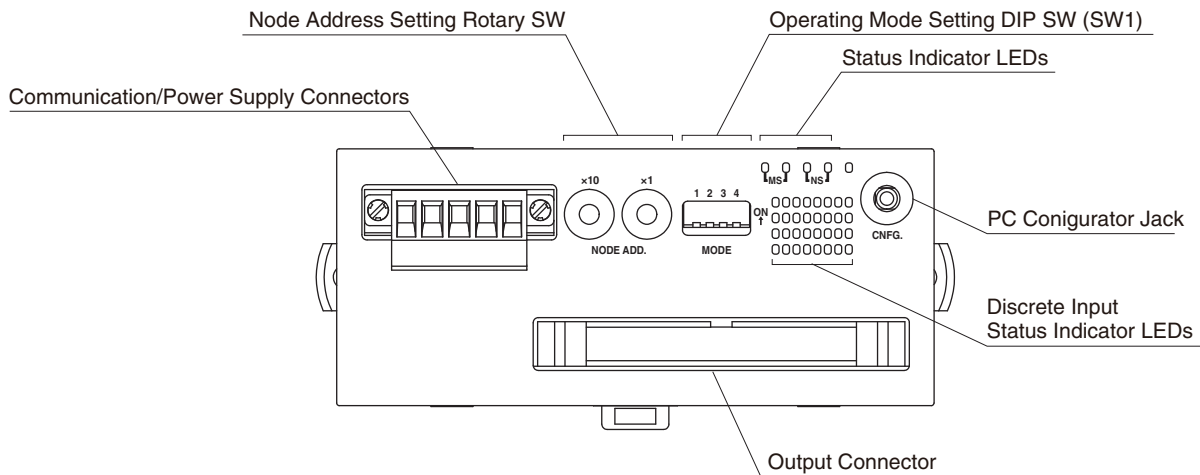
EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

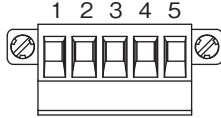
EXTERNAL VIEW



TERMINAL ASSIGNMENTS

■ COMMUNICATION/POWER SUPPLY TERMINAL ASSIGNMENT

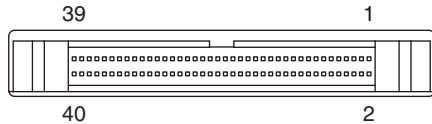
Unit side connector: MSTB2,5/5-GF-5,08AU (Phoenix Contact)
 Cable side connector: MSTB2,5/5-STF-5,08AU (Phoenix Contact)
 Applicable wire size: 0.2 - 2.5mm²
 Stripped length: 7mm



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

■ OUTPUT TERMINAL ASSIGNMENT

Applicable connector: XG4M-4030 (Omron)



PIN No.	ID	FUNCTION	PIN No.	ID	FUNCTION
1	VS +	Exc. supply +	2	VS +	Exc. supply +
3	VS -	Exc. supply -	4	VS -	Exc. supply -
5	Y31	Output 31	6	Y23	Output 23
7	Y30	Output 30	8	Y22	Output 22
9	Y29	Output 29	10	Y21	Output 21
11	Y28	Output 28	12	Y20	Output 20
13	Y27	Output 27	14	Y19	Output 19
15	Y26	Output 26	16	Y18	Output 18
17	Y25	Output 25	18	Y17	Output 17
19	Y24	Output 24	20	Y16	Output 16
21	VS +	Exc. supply +	22	VS +	Exc. supply +
23	VS -	Exc. supply -	24	VS -	Exc. supply -
25	Y15	Output 15	26	Y7	Output 7
27	Y14	Output 14	28	Y6	Output 6
29	Y13	Output 13	30	Y5	Output 5
31	Y12	Output 12	32	Y4	Output 4
33	Y11	Output 11	34	Y3	Output 3
35	Y10	Output 10	36	Y2	Output 2
37	Y9	Output 9	38	Y1	Output 1
39	Y8	Output 8	40	Y0	Output 0

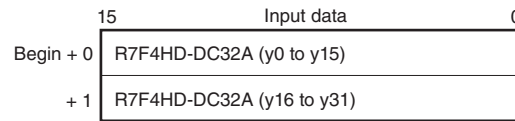
DATA ALLOCATION

'Begin' address is determined by the R7F4HD's node address and the master setting.

■ Without Status

Output data

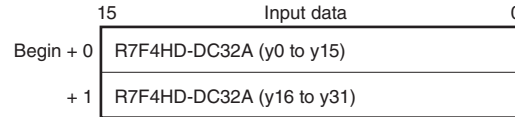
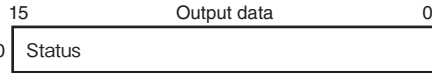
None



■ With Status

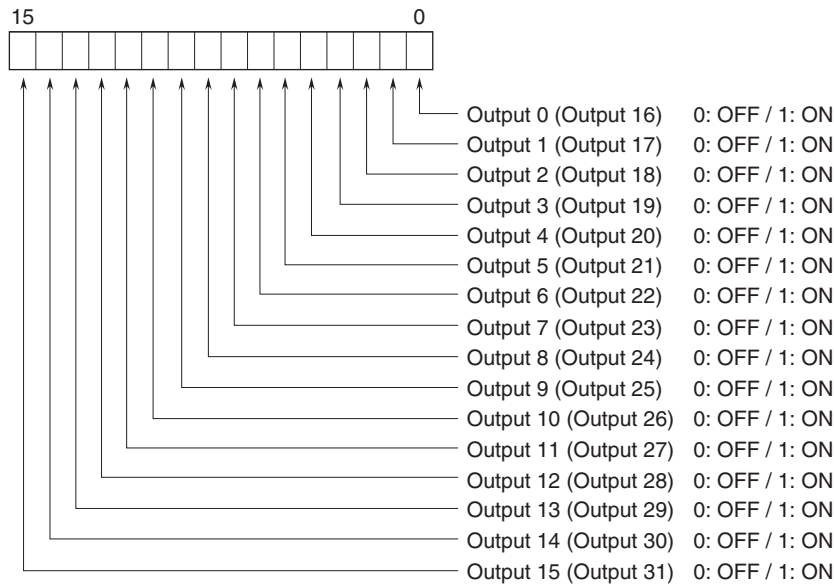
Output data

Status



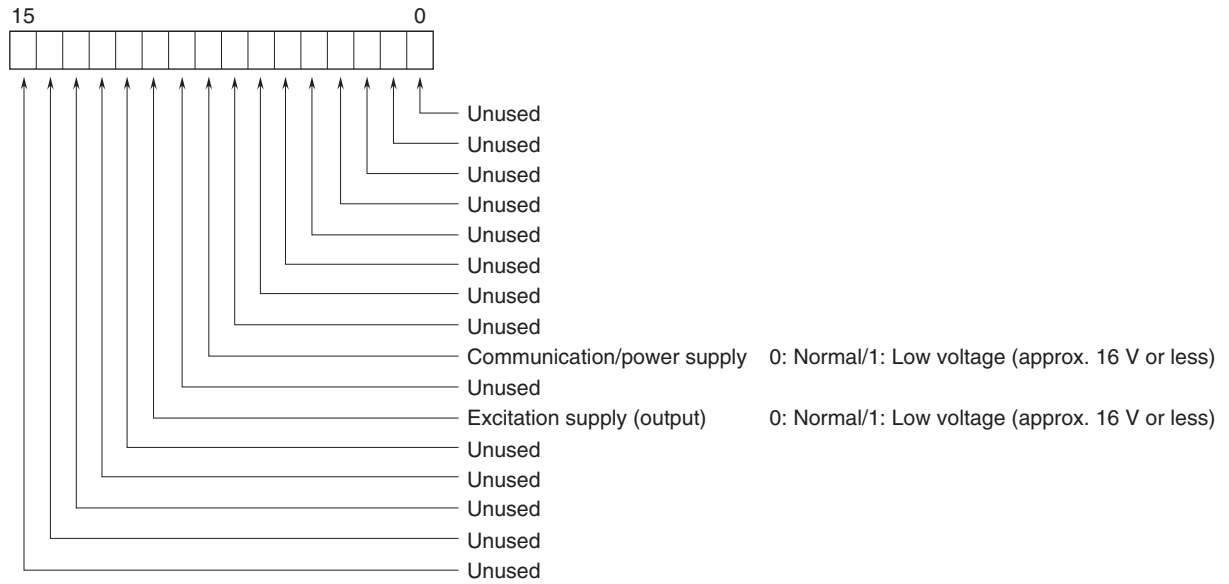
I/O DATA DESCRIPTIONS

■ OUTPUT DATA



■ STATUS

Bit 8 - 10: Shows the power supply status.



TRANSMISSION DATA DESCRIPTIONS

■ I/O DATA

(Unit: word)

MODEL	OUTPUT DATA* ¹ (R7F4HD to master)	INPUT DATA * ² (Master to R7F4HD)
R7F4HD-DC32A	1	0

■ STATUS

Turn SW1-3 to ON to include the status signal in the transmission data.

For details, refer to "STATUS in I/O DATA DESCRIPTIONS:"

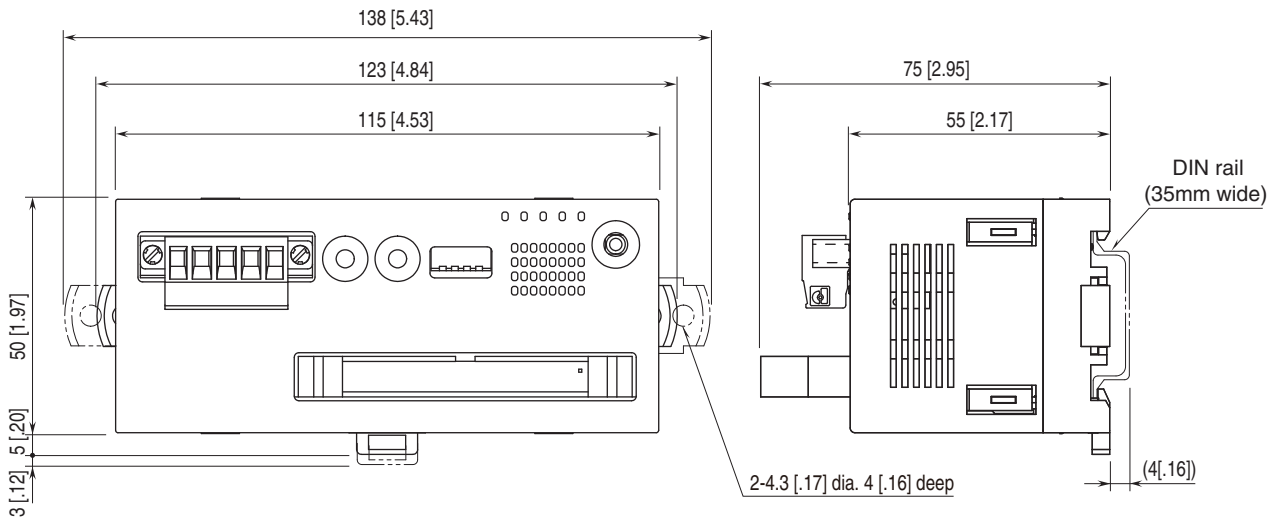
(Unit: word)

STATUS	OUTPUT DATA* ¹ (R7F4HD to master)	INPUT DATA * ² (Master to R7F4HD)
Enabled	1	0
Disabled	0	0

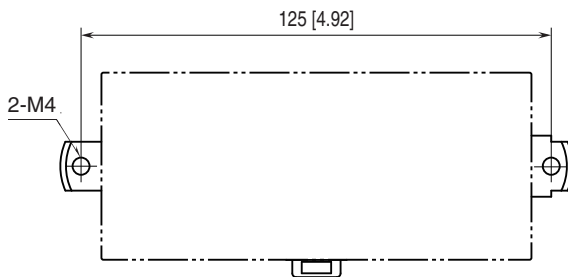
*1. Output Data means those sent to the master.

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

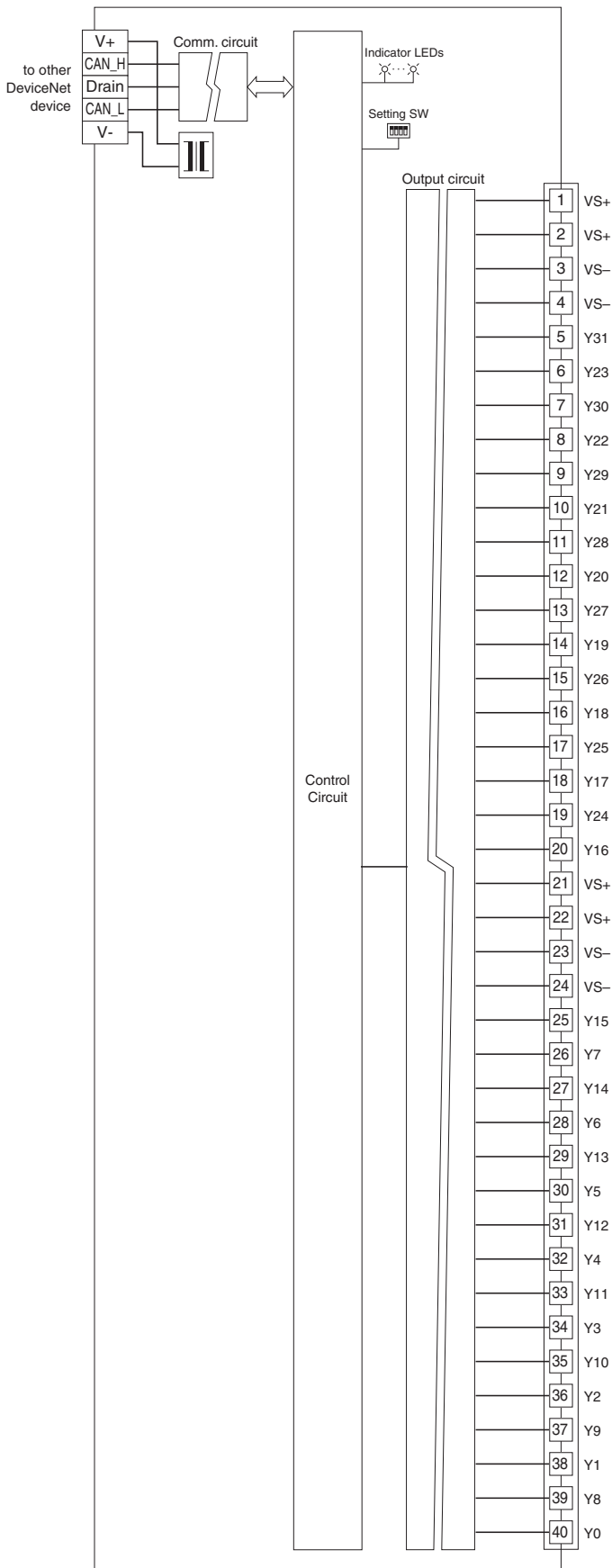
EXTERNAL DIMENSIONS unit: mm [inch]



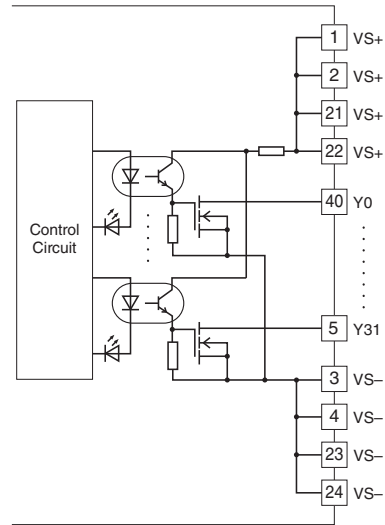
MOUNTING REQUIREMENTS unit: mm [inch]



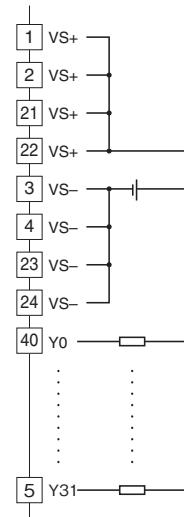
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Output Circuit



Output Connection Example





Specifications are subject to change without notice.