

Remote I/O R7F4H Series

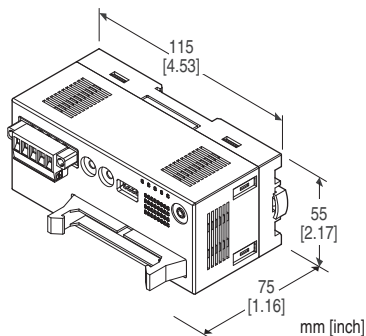
DeviceNet® I/O MODULE

(NPN discreet input, 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-DA32A-I[1]

ORDERING INFORMATION

- Code number: R7F4HD-DA32A-I[1]
Specify a code from below for [1].
(e.g. R7F4HD-DA32A-I/Q)
- Specify the specification for option code /Q
(e.g. /C01)

I/O TYPE

DA32A: NPN discrete input, 32 points

TERMINAL BLOCK

I: Euro type connector terminal for communication and power
MIL connector for input 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

Input, exc. supply: MIL connector

Housing material: Flame-resistant resin (gray)

Isolation: Input or exc. supply to communication/power supply

Discrete input status indicator LED: Green LED turns on with input 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.)

INPUT SPECIFICATIONS

Common: Positive common (NPN) per 32 points

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

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

ON voltage / current: ≥ 17 V DC (input - exc. supply+) / ≥ 2.3 mA

OFF voltage / current: ≤ 5 V DC (input - exc. supply+) / ≤ 0.75 mA

Input current: ≤ 3.5 mA per point at 24 V DC

Input resistance: Approx. 7.2 k Ω

ON delay: ≤ 2 msec.

OFF delay: ≤ 2 msec.

INSTALLATION

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

Current consumption:

Approx. 50 mA @ 24 V DC

Approx. 70 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: 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
(input or exc. supply to communication/power supply)

STANDARDS & APPROVALS

EU conformity:

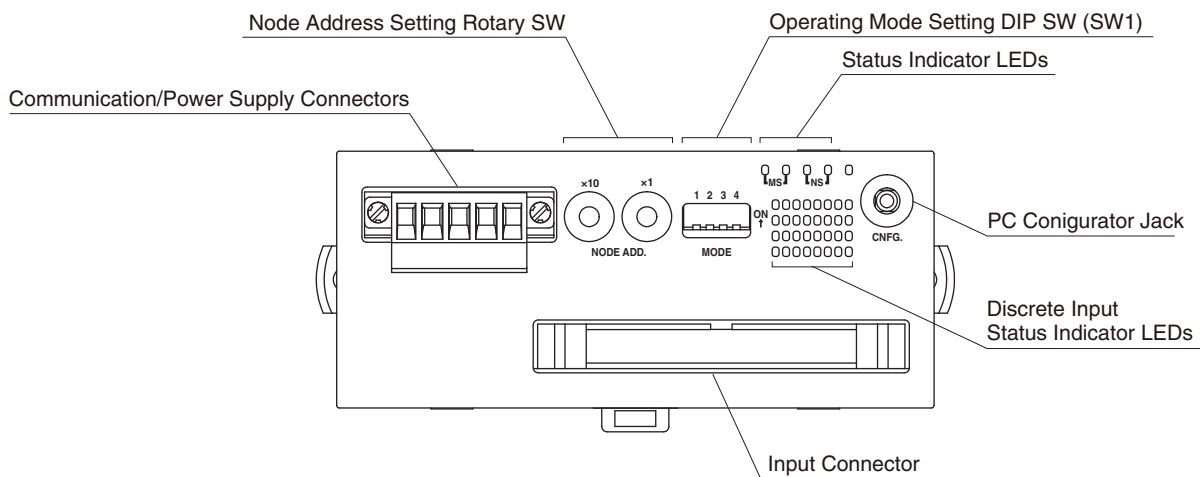
EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

EXTERNAL VIEW



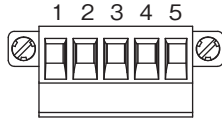
TERMINAL ASSIGNMENTS**■ COMMUNICATION/POWER SUPPLY TERMINAL ASSIGNMENT**

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

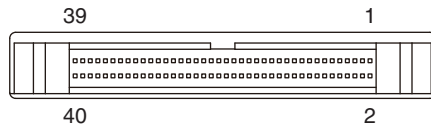
Stripped length: 7mm



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 (-)

■ INPUT TERMINAL ASSIGNMENT

Applicable connector: XG4M-4030 (Omron)

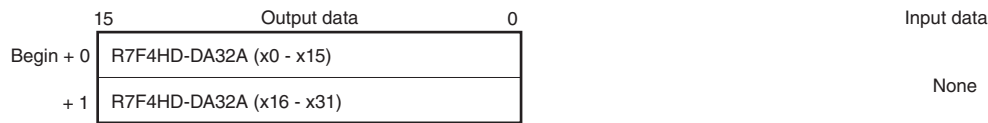


PIN No.	ID	FUNCTION	PIN No.	ID	FUNCTION
1	VS+	Exc. supply+	2	VS+	Exc. supply+
3	VS-	Exc. supply-	4	VS-	Exc. supply-
5	X31	Input 31	6	X23	Input 23
7	X30	Input 30	8	X22	Input 22
9	X29	Input 29	10	X21	Input 21
11	X28	Input 28	12	X20	Input 20
13	X27	Input 27	14	X19	Input 19
15	X26	Input 26	16	X18	Input 18
17	X25	Input 25	18	X17	Input 17
19	X24	Input 24	20	X16	Input 16
21	VS+	Exc. supply+	22	VS+	Exc. supply+
23	VS-	Exc. supply-	24	VS-	Exc. supply-
25	X15	Input 15	26	X7	Input 7
27	X14	Input 14	28	X6	Input 6
29	X13	Input 13	30	X5	Input 5
31	X12	Input 12	32	X4	Input 4
33	X11	Input 11	34	X3	Input 3
35	X10	Input 10	36	X2	Input 2
37	X9	Input 9	38	X1	Input 1
39	X8	Input 8	40	X0	Input 0

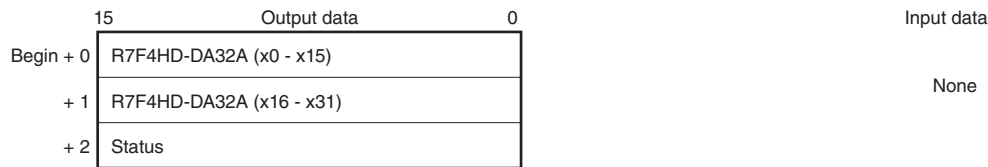
DATA ALLOCATION

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

Without Status

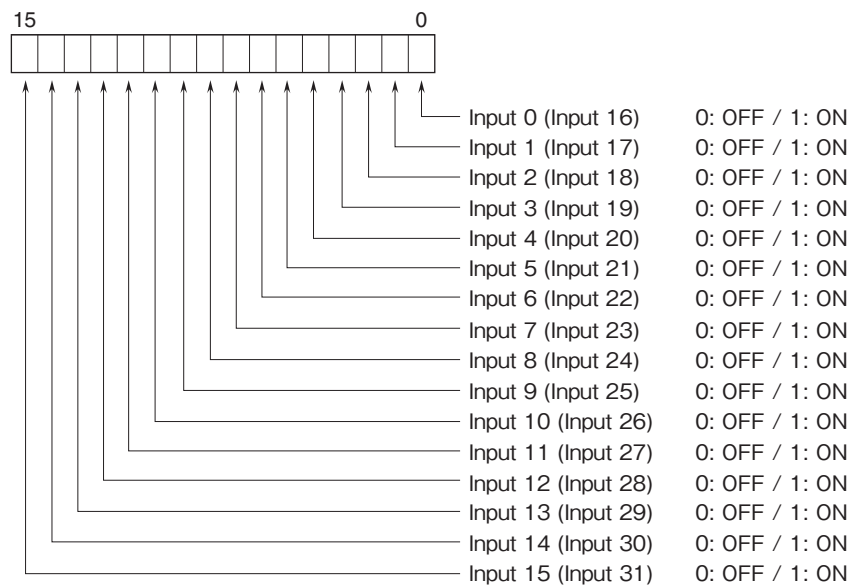


With Status



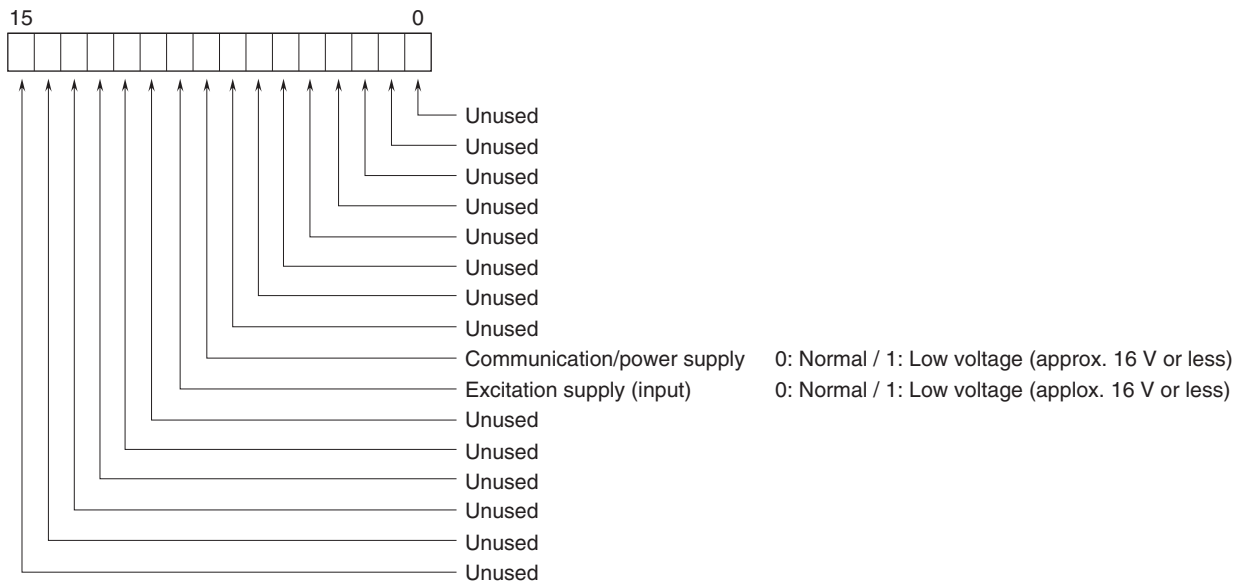
I/O DATA DESCRIPTIONS

INPUT DATA



■ STATUS

Bit 8 - 9: 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-DA32A	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”

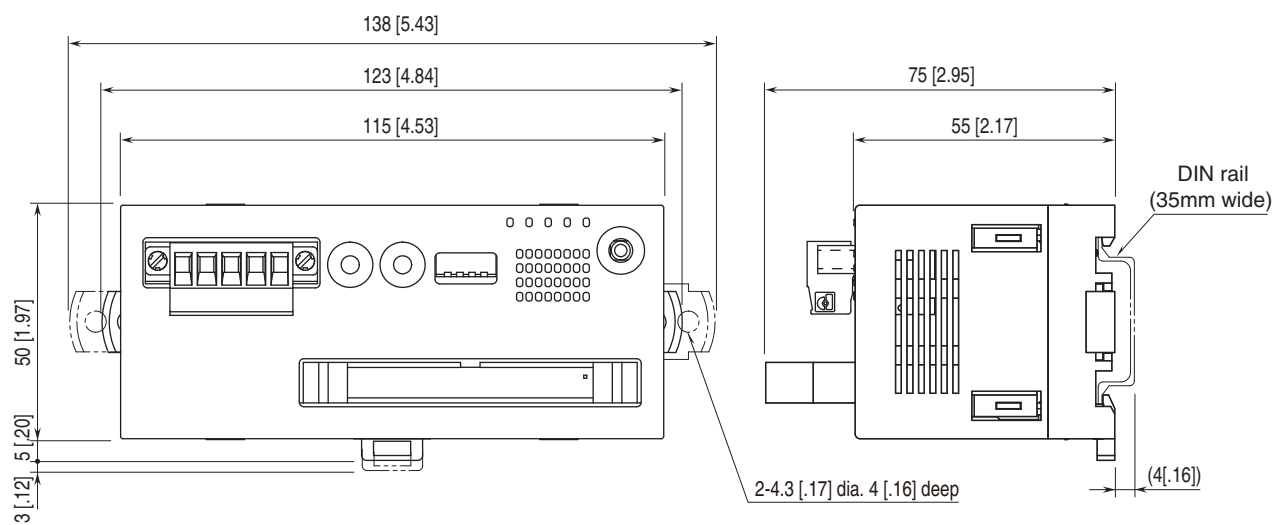
(Unit: word)

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

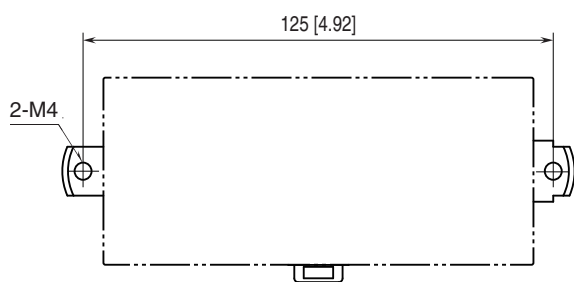
*1. Output Data means those sent to the master.
*2. Input Data means those received from the master.

MODEL: R7F4HD-DA32A

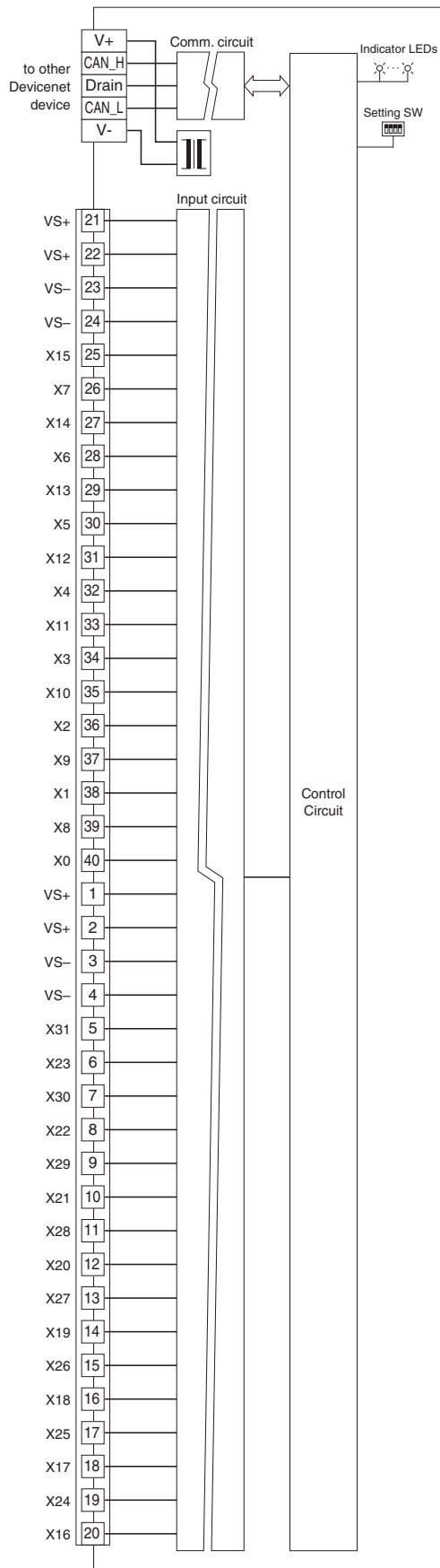
EXTERNAL DIMENSIONS unit: mm [inch]



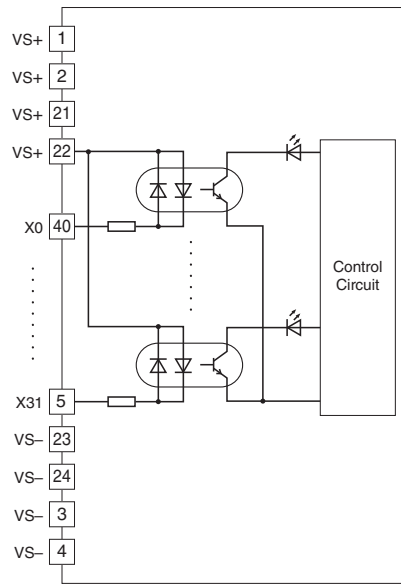
MOUNTING REQUIREMENTS unit: mm [inch]



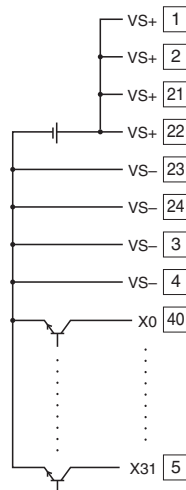
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Input Circuit



Input Connection Example





Specifications are subject to change without notice.