

MODEL: R7F4HD-DAC32C

Remote I/O R7F4H Series

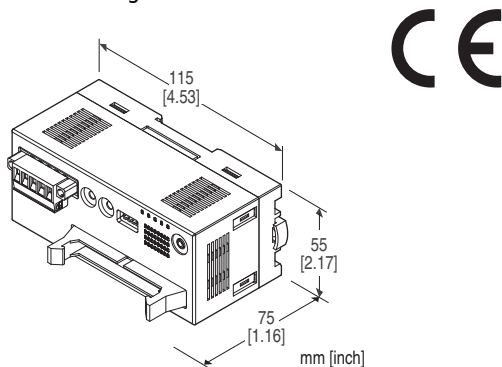
DeviceNet® I/O MODULE

(NPN discrete input & NPN transistor output, 16 points each, 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-DAC32C-I[1]

ORDERING INFORMATION

- Code number: R7F4HD-DAC32C-I[1]
Specify a code from below for [1].
(e.g. R7F4HD-DAC32C-I/Q)
- Specify the specification for option code /Q
(e.g. /C01)

I/O TYPE

DAC32C: NPN discrete input &
NPN transistor output, 16 points each

TERMINAL BLOCK

I: Euro type connector terminal for
communication and power
MIL connector for I/O 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

I/O, exc. supply: MIL connector

Housing material: Flame-resistant resin (gray)

Isolation: Input or exc. supply (input) to output to exc. supply (output) to communication/power supply

Discrete I/O status indicator LED: Green LED turns on with I/O 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 16 points

Maximum inputs applicable at once: No limit (at 12 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.

OUTPUT SPECIFICATIONS

Common: Negative common (NPN) per 16 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, 2 A per common

Residual voltage: ≤ 1.2 V

Leakage current: ≤ 0.1 mA

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. 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)

Atmosphere: No corrosive gas or heavy dust

Mounting: Surface or DIN rail (35 mm rail)

Weight: 160 g (0.35 lb)

PERFORMANCE

Insulation resistance: ≥ 100 M Ω with 500 V DC

Dielectric strength: 1500 V AC @ 1 minute

(input or exc supply (input) to communication/power output or exc. supply (output) to communication/power)

500 V AC @ 1 minute

(input or exc. supply (input) to output or exc. supply (output))

STANDARDS & APPROVALS

EU conformity:

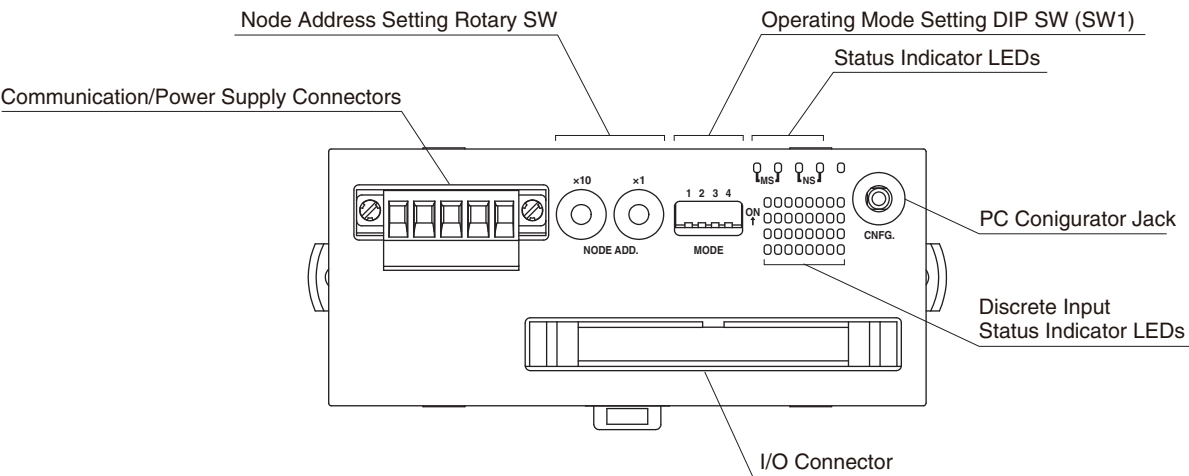
EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

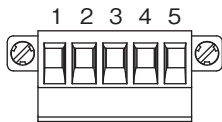
EXTERNAL VIEW



TERMINAL ASSIGNMENTS

■COMMUNICATION/POWER SUPPLY TERMINAL ASSIGNMENT

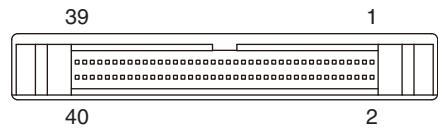
Unit side connector: MSTB2,5/5-GF-5,08AU (Phoenix Contact)
Cable side connector: MSTB2,5/5-STF-5,08AU (Phoenix Contact)
Applicable wire size: 0.2 - 2.5mm²
Stripped length: 7mm



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 (-)

I/O TERMINAL ASSIGNMENT

Applicable connector: XG4M-4030 (Omron)

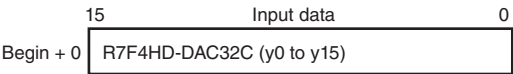
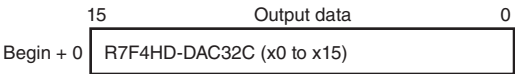


PIN No.	ID	FUNCTION	PIN No.	ID	FUNCTION
1	VS2+	Exc. supply + (output)	2	VS2+	Exc. supply + (output)
3	VS2-	Exc. supply - (output)	4	VS2-	Exc. supply - (output)
5	Y15	Output 15	6	Y7	Output 7
7	Y14	Output 14	8	Y6	Output 6
9	Y13	Output 13	10	Y5	Output 5
11	Y12	Output 12	12	Y4	Output 4
13	Y11	Output 11	14	Y3	Output 3
15	Y10	Output 10	16	Y2	Output 2
17	Y9	Output 9	18	Y1	Output 1
19	Y8	Output 8	20	Y0	Output 0
21	VS1+	Exc. supply + (input)	22	VS1+	Exc. supply + (input)
23	VS1-	Exc. supply - (input)	24	VS1-	Exc. supply - (input)
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

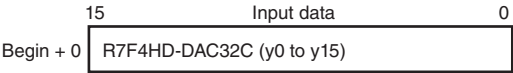
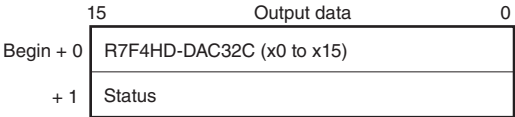
DATA ALLOCATION

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

Without Status



With Status



MODEL: R7F4HD-DAC32C

TRANSMISSION DATA DESCRIPTIONS

I/O DATA

MODEL	(Unit: word)	
	OUTPUT DATA* ¹ (R7F4HD to master)	INPUT DATA * ² (Master to R7F4HD)
R7F4HD-DAC32C	1	1

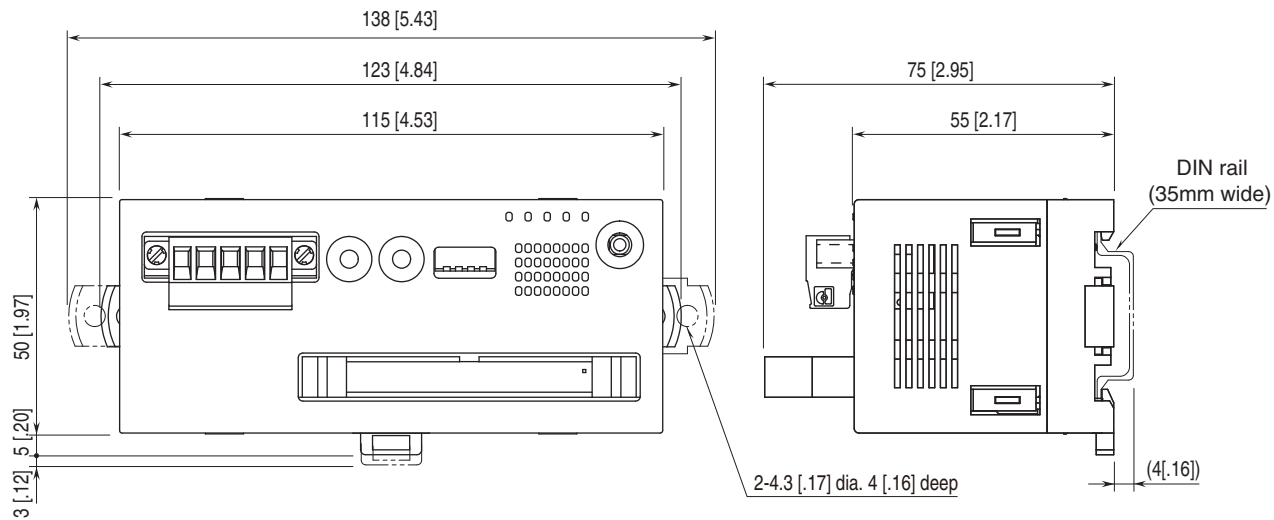
STATUS

Turn SW1-3 to ON to include the status signal in the transmission data.
For details, refer to “STATUS in I/O DATA DESCRIPTIONS”

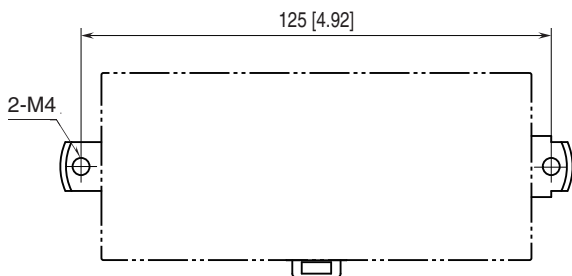
STATUS	(Unit: word)	
	OUTPUT DATA* ¹ (R7F4HD to master)	INPUT DATA * ² (Master to R7F4HD)
Enabled	1	0
Disabled	0	0

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

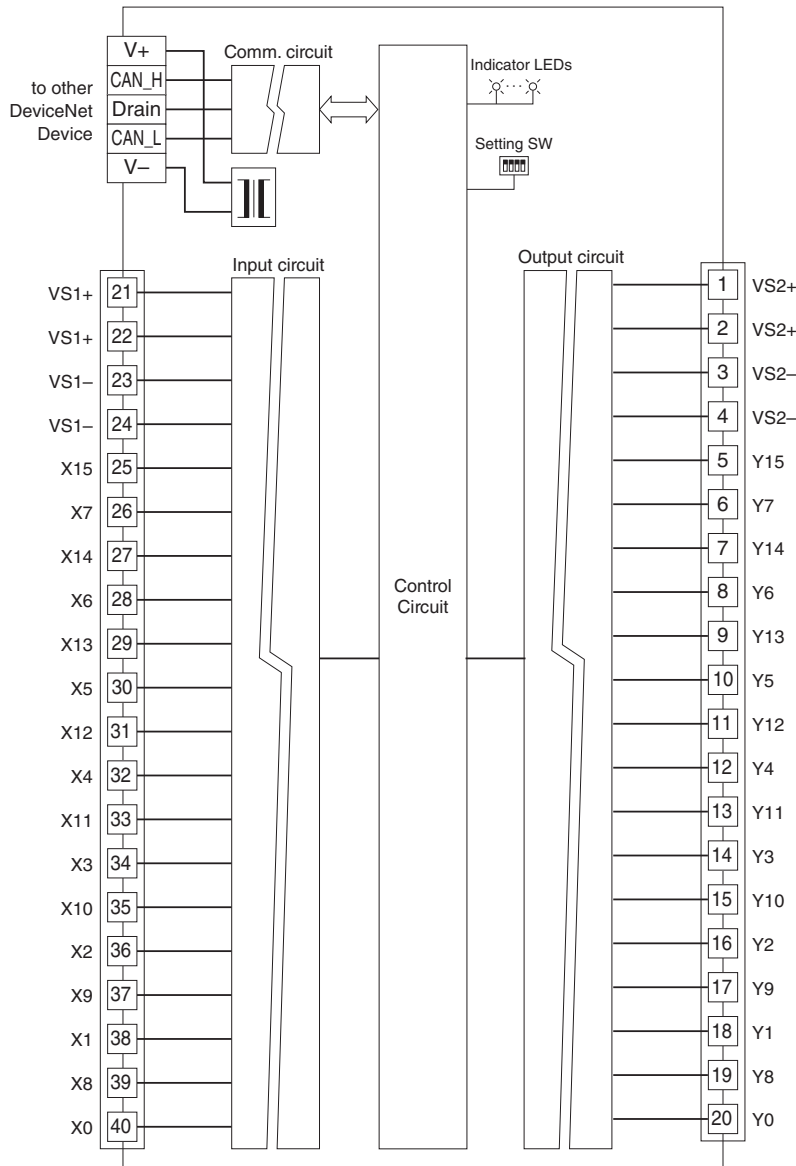
EXTERNAL DIMENSIONS unit: mm [inch]



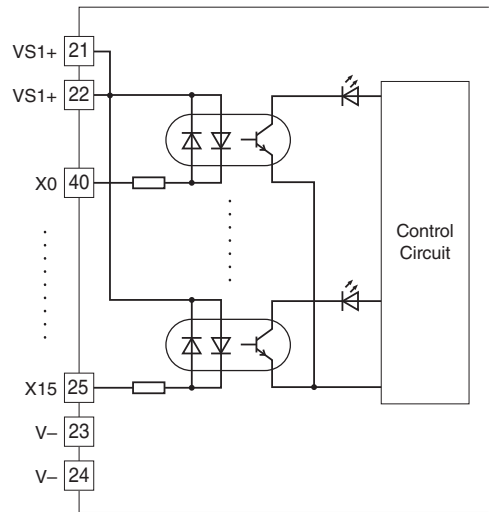
MOUNTING REQUIREMENTS unit: mm [inch]



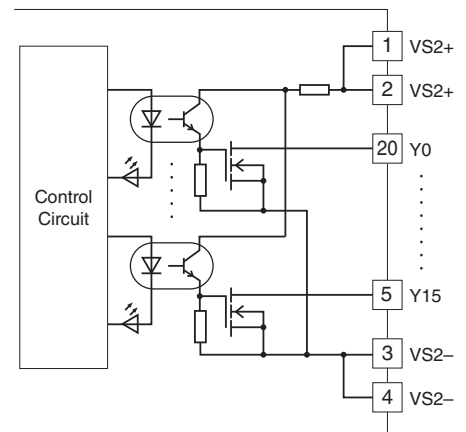
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



■ Input Circuit

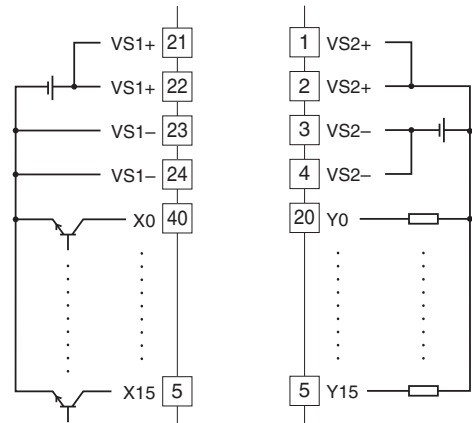


■ Output Circuit



■ Input Connection Example

■ Output Connection Example



Specifications are subject to change without notice.