

## Remote I/O R7F4D Series

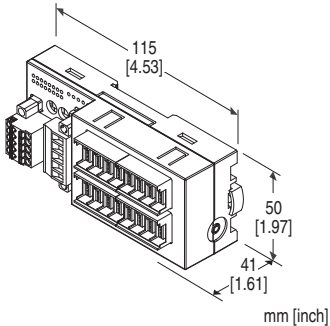
### DeviceNet® I/O MODULE

(NPN discrete input, NPN discrete output, 8 points each, e-CON connector)

#### Functions & Features

- Converts discrete I/O data to the open network fieldbus (DeviceNet)

DeviceNet is registered trademark of ODVA.



## MODEL: R7F4DD-DAC16C-H[1]

### ORDERING INFORMATION

- Code number: R7F4DD-DAC16C-H[1]
- Specify a code from below for [1].  
(e.g. R7F4DD-DAC16C-H/Q)
- Specify the specification for option code /Q  
(e.g. /C01)

### I/O TYPE

**DAC16C:** NPN discrete input & NPN discrete output, 8 points each

### TERMINAL BLOCK

**H:** Euro type connector terminal for communication/power supply  
e-CON connector for I/O

### [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 software (model: R7CFG)
  - EDS file
- The EDS file and configurator software are downloadable at our web site.
- A dedicated cable is required to connect the module to the PC. Please refer to the internet software download site or the users manual for the PC configurator for applicable cable types.

### GENERAL SPECIFICATIONS

#### Connection

**Communication/power supply, exc. supply:**

Euro type connector terminal

**I/O:** e-CON connector

**Housing material:** Flame-resistant resin (gray)

**Isolation:** Input or exc. supply 1 to output or exc. supply 2 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 8 points

**Number of inputs:** 8

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

**Sensor excitation:** 24 V DC  $\pm 10\%$ ; ripple 5 %p-p max.,  $\leq 1$  A (including discrete input load charge); rated current 8 A

**ON voltage / current:**  $\geq 17$  V DC (X0 through X7 to +24V) /  $\geq 2.3$  mA

**OFF voltage / current:**  $\leq 5$  V DC (X0 through X7 to +24V) /  $\leq 0.75$  mA

**Input current:**  $\leq 3.5$  mA per point at 24 V DC

**Input resistance:** Approx. 7.2 k $\Omega$

**ON delay:**  $\leq 0.5$  msec.

**OFF delay:**  $\leq 0.5$  msec.

## OUTPUT SPECIFICATIONS

**Common:** Negative common (NPN) per 8 points

**Number of output:** 8 points

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

**Rated load voltage:** 24 V DC  $\pm 10\%$ ; ripple 5 %p-p max.,  
 $\leq 1$  A (including discrete output load charge); rated current  
8 A

**Rated output current:** 0.1 A per point, 0.8 A per common

**Residual voltage:**  $\leq 1.2$  V

**Leakage current:**  $\leq 0.1$  mA

**ON delay:**  $\leq 0.2$  msec.

**OFF delay:**  $\leq 0.5$  msec.

With shortcircuit protection

With overheat protection

(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. 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:** 130 g (0.29 lb)

## PERFORMANCE

**Insulation resistance:**  $\geq 100$  M $\Omega$  with 500 V DC

**Dielectric strength:** 1500 V AC @ 1 minute

(input or exc. supply 1 or output or exc. supply 2 to  
communication/power supply)

500 V AC @ 1 minute

(input or exc. supply 1 to output or exc. supply 2)

## STANDARDS & APPROVALS

**EU conformity:**

EMC Directive

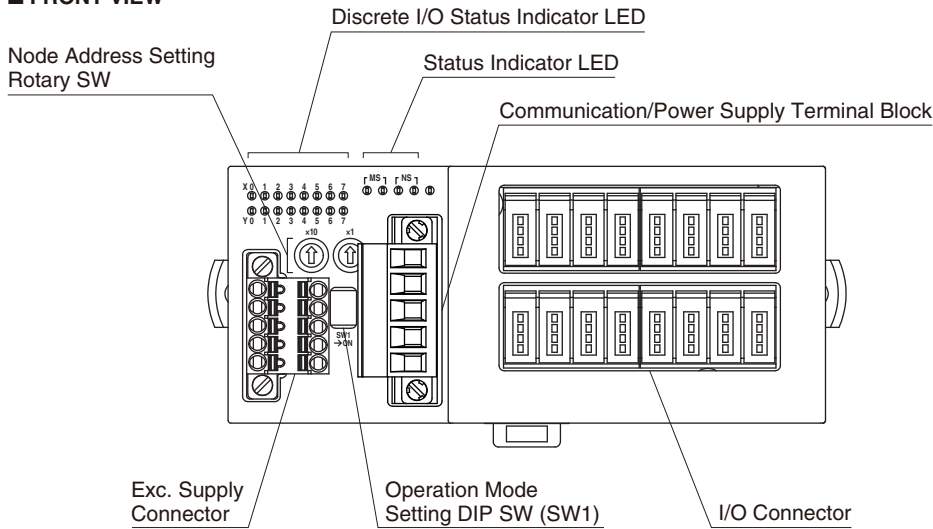
EMI EN 61000-6-4

EMS EN 61000-6-2

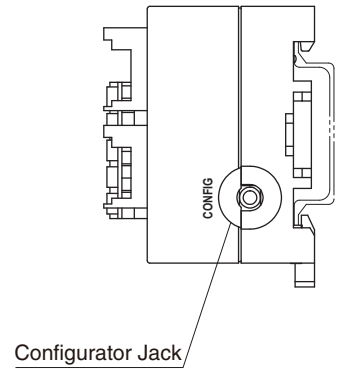
RoHS Directive

## EXTERNAL VIEW

### FRONT VIEW



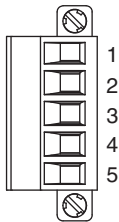
### SIDE VIEW



## 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 - 2.5mm<sup>2</sup>  
 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 (-)

## ■EXC. SUPPLY TERMINAL ASSIGNMENT

Unit side connector: MCV1,5/5-GF-3,5 (Phoenix contact)

Cable side connector: TFMC1,5/5-STF-3,5 (Phoenix contact)

Applicable wire size: 0.2 - 1.5mm<sup>2</sup>

Stripped length: 10mm

Recommended solderless terminal:

AI0,25-10YE 0.25mm<sup>2</sup> (Phoenix contact)

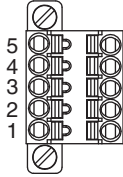
AI0,34-10TQ 0.34mm<sup>2</sup> (Phoenix contact)

AI0,5-10WH 0.5mm<sup>2</sup> (Phoenix contact)

AI0,75-10GY 0.75mm<sup>2</sup> (Phoenix contact)

AI1-10 1.0mm<sup>2</sup> (Phoenix contact)

AI1,5-10 1.5mm<sup>2</sup> (Phoenix contact)



PIN NO.	ID	FUNCTION
1	SNSR.EXC1 +	Exc. supply 1 + (input)
2	SNSR.EXC1 -	Exc. supply 1 - (input)
3	NC	Unused
4	SNSR.EXC2 +	Exc. supply 2 + (output)
5	SNSR.EXC2 -	Exc. supply 2 - (output)

# MODEL: R7F4DD-DAC16C-H

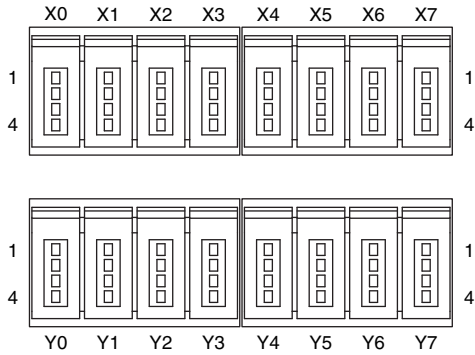
## I/O TERMINAL ASSIGNMENT

Unit side connector: 37216-62M3-004PL (3M company)

Cable side connector: 37104-( )-000FL (3M company)

(The cable connector is not included in the package.)

Specify wire size instead of ( ); refer to the specifications of the product.)

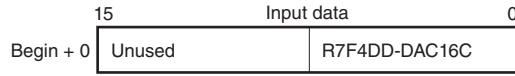
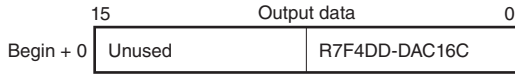


PIN NO.	ID	FUNCTION	PIN NO.	ID	FUNCTION
X0	1	+24V 24V DC	Y0	1	+24V 24V DC
	2	NC Unused		2	NC Unused
	3	GND 0V		3	NC Unused
	4	X0 Input 0		4	Y0 Output 0
X1	1	+24V 24V DC	Y1	1	+24V 24V DC
	2	NC Unused		2	NC Unused
	3	GND 0V		3	NC Unused
	4	X1 Input 1		4	Y1 Output 1
X2	1	+24V 24V DC	Y2	1	+24V 24V DC
	2	NC Unused		2	NC Unused
	3	GND 0V		3	NC Unused
	4	X2 Input 2		4	Y2 Output 2
X3	1	+24V 24V DC	Y3	1	+24V 24V DC
	2	NC Unused		2	NC Unused
	3	GND 0V		3	NC Unused
	4	X3 Input 3		4	Y3 Output 3
X4	1	+24V 24V DC	Y4	1	+24V 24V DC
	2	NC Unused		2	NC Unused
	3	GND 0V		3	NC Unused
	4	X4 Input 4		4	Y4 Output 4
X5	1	+24V 24V DC	Y5	1	+24V 24V DC
	2	NC Unused		2	NC Unused
	3	GND 0V		3	NC Unused
	4	X5 Input 5		4	Y5 Output 5
X6	1	+24V 24V DC	Y6	1	+24V 24V DC
	2	NC Unused		2	NC Unused
	3	GND 0V		3	NC Unused
	4	X6 Input 6		4	Y6 Output 6
X7	1	+24V 24V DC	Y7	1	+24V 24V DC
	2	NC Unused		2	NC Unused
	3	GND 0V		3	NC Unused
	4	X7 Input 7		4	Y7 Output 7

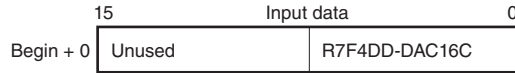
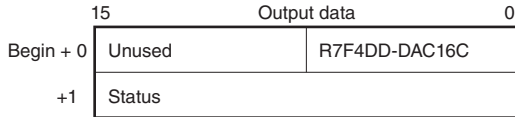
## DATA ALLOCATION

'Begin' address is determined by the R7F4DD's node address and the master setting.

### ■ Without status

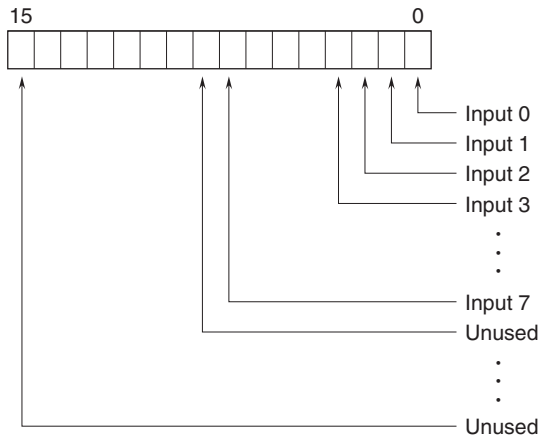


### ■ With status

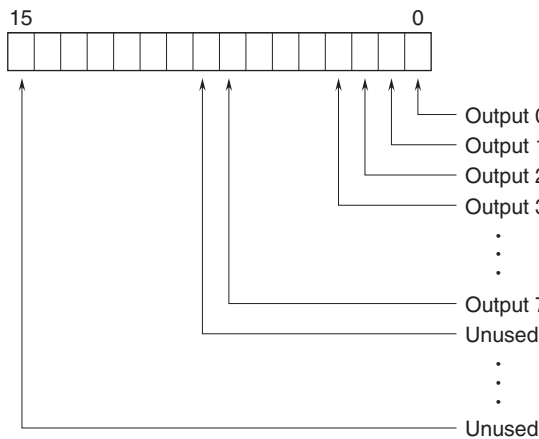


## I/O DATA DESCRIPTIONS

### ■ DISCRETE I/O

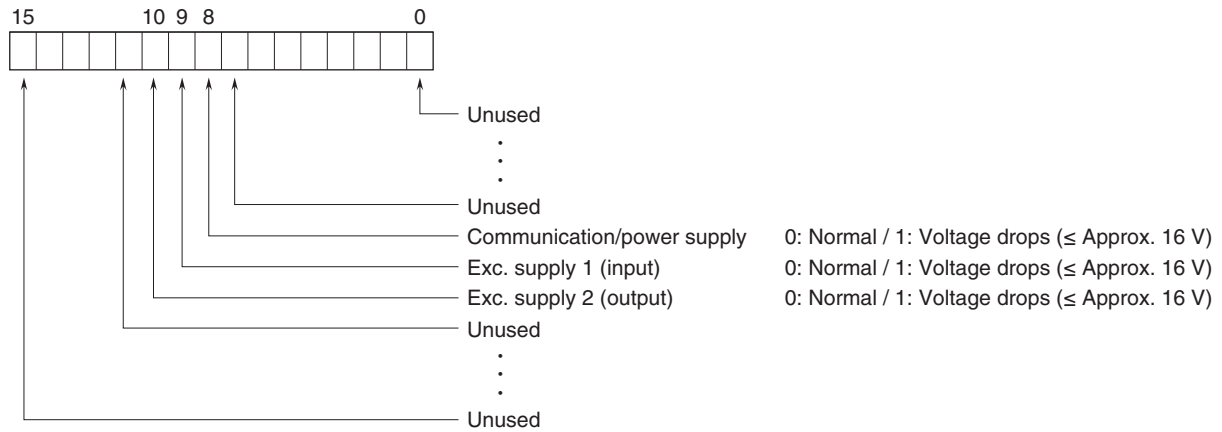


0: OFF / 1: ON  
 0: OFF / 1: ON  
 0: OFF / 1: ON  
 0: OFF / 1: ON  
 :  
 :  
 0: OFF/1: ON



0: OFF / 1: ON  
 0: OFF / 1: ON  
 0: OFF / 1: ON  
 0: OFF / 1: ON  
 :  
 :  
 0: OFF / 1: ON

## ■ STATUS



## TRANSMISSION DATA DESCRIPTIONS

### ■ I/O DATA

(Unit: word)

MODEL	OUTPUT DATA* <sup>1</sup> (R7F4DD to master)	INPUT DATA* <sup>2</sup> (master to R7F4DD)
R7F4DD-DAC16C	1	1

### ■ STATUS

Status signal can be included in the transmission data when the SW1-3 is ON.  
For details, refer to "STATUS in I/O DATA DESCRIPTIONS"

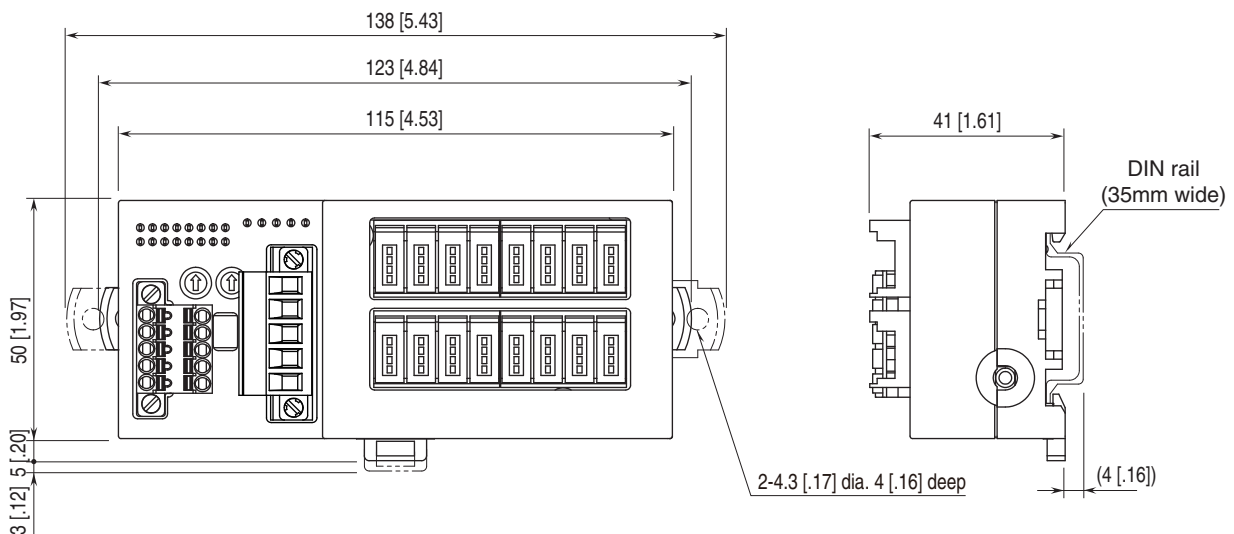
(Unit: word)

STATUS	OUTPUT DATA* <sup>1</sup> (R7F4DD to master)	INPUT DATA* <sup>2</sup> (master to R7F4DD)
With	1	0
Without	0	0

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

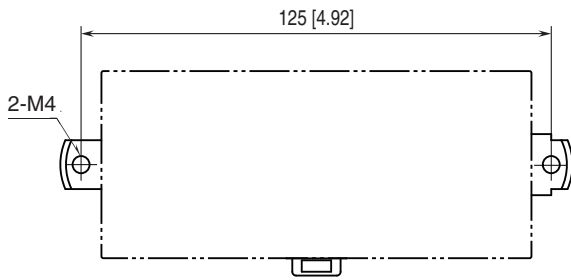
\*2. Input Data means those received from the master.

## EXTERNAL DIMENSIONS unit: mm [inch]

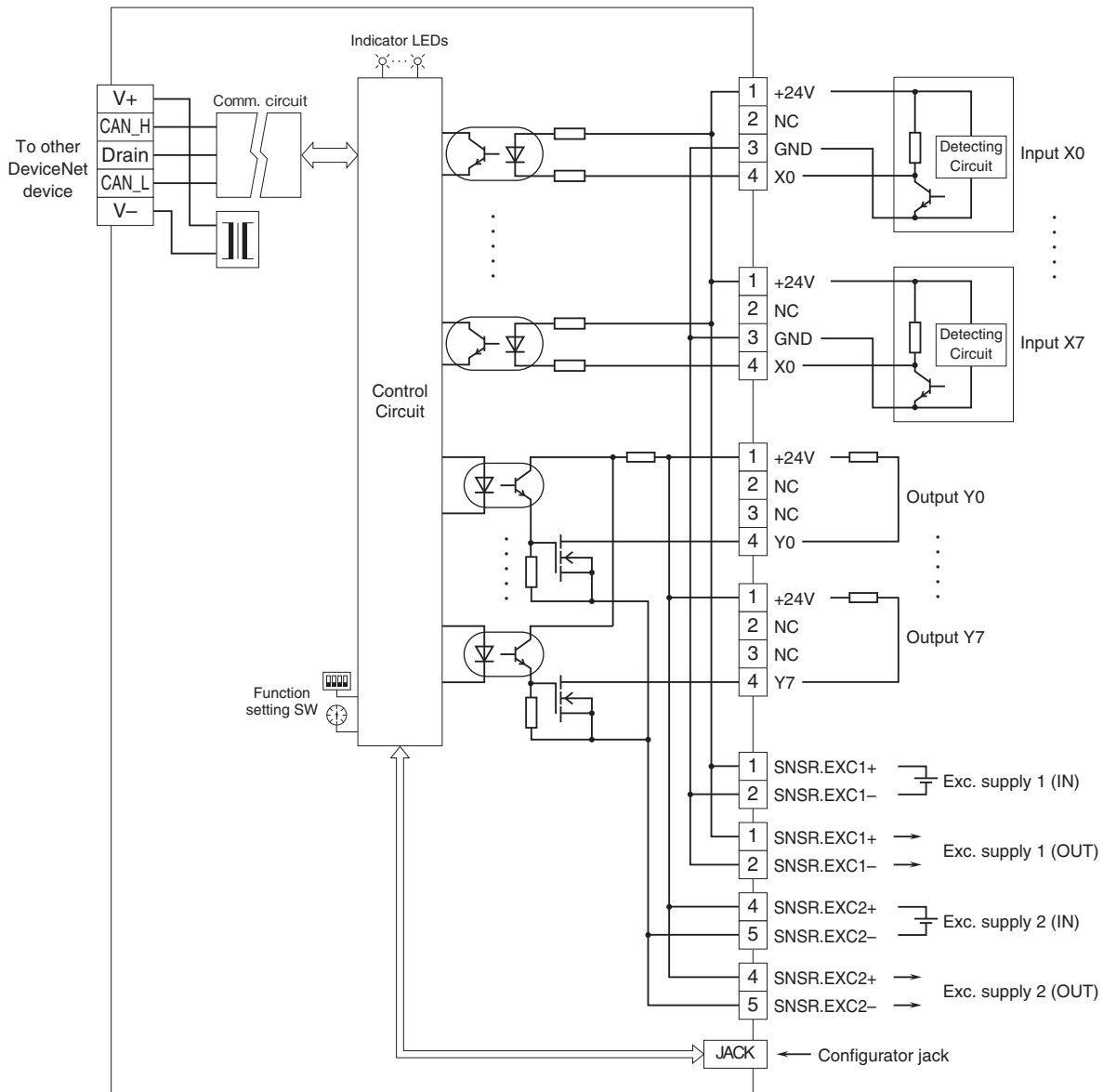


# MODEL: R7F4DD-DAC16C-H

## MOUNTING REQUIREMENTS unit: mm [inch]



## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM







Specifications are subject to change without notice.