

## Remote I/O R7F4D Series

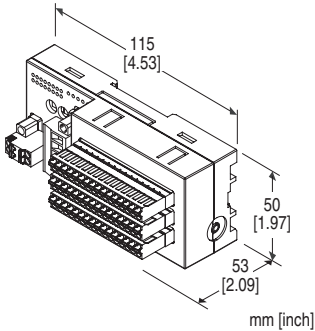
### DeviceNet® I/O MODULE

(NPN discrete output, 16 points, tension clamp terminal block)

#### Functions & Features

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

DeviceNet is registered trademark of ODVA.



## MODEL: R7F4DD-DC16A-C[1]

### ORDERING INFORMATION

- Code number: R7F4DD-DC16A-C[1]
- Specify a code from below for [1].  
(e.g. R7F4DD-DC16A-C/Q)
- Specify the specification for option code /Q  
(e.g. /C01)

### I/O TYPE

**DC16A:** NPN discrete output, 16 point

### TERMINAL BLOCK

**C:** Euro type connector terminal for communication and power supply  
Tension clamp terminal block for output

### [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:

Euro type connector terminal

##### Output:

Tension clamp terminal block

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

**Isolation:** Output or exc. supply to communication/power supply

**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 16 points

**Number of output:** 16 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, 1.6 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:** 150 g (0.33 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

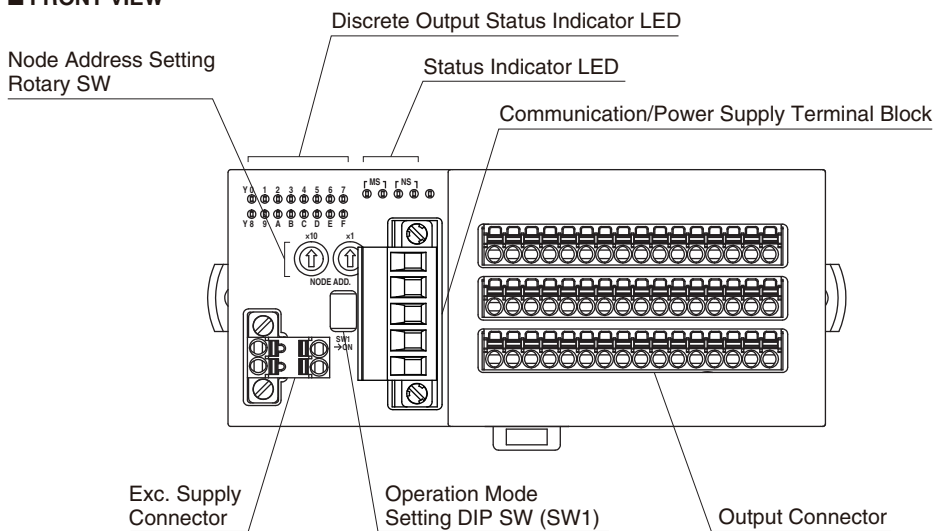
EMI EN 61000-6-4

EMS EN 61000-6-2

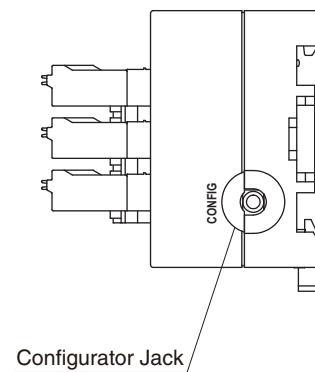
RoHS Directive

## EXTERNAL VIEW

### FRONT VIEW



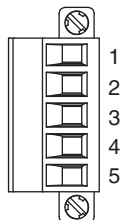
### SIDE VIEW



## TERMINAL ASSIGNMENTS

### ■COMMUNICATION/POWER SUPPLY TERMINAL ASSIGNMENT

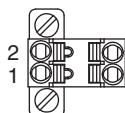
Unit side connector: MSTB2,5/5-GF-5,08AU (Phoenix contact)  
 Cable side connector: MSTB2,5/5-STF-5,08AU (Phoenix contact)  
 Applicable wire size: 0.2 - 2.5mm<sup>2</sup>  
 Stripped length: 7mm



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: MCV1,5/2-GF-3,5 (Phoenix contact)  
 Cable side connector: TFMC1,5/2-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.EXC+	Exc. supply +
2	SNSR.EXC-	Exc. supply -

## ■ OUTPUT TERMINAL ASSIGNMENT

Unit side connector: MCV1,5/16-G-3,5 (Phoenix contact)

Cable side connector: FMC1,5/16-ST-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)

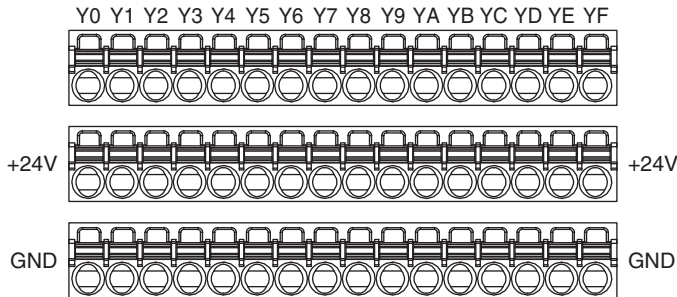
AI0,34-10TQ 0.34mm<sup>2</sup> (Phoenix contact)

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)

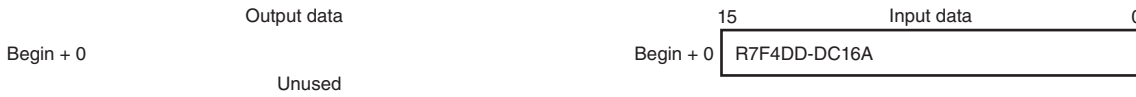


PIN NO.	ID	FUNCTION	PIN NO.	ID	FUNCTION
Y0	1	Y0	Y8	1	Y8
	2	+24V		2	+24V
	3	GND		3	GND
Y1	1	Y1	Y9	1	Y9
	2	+24V		2	+24V
	3	GND		3	GND
Y2	1	Y2	YA	1	YA
	2	+24V		2	+24V
	3	GND		3	GND
Y3	1	Y3	YB	1	YB
	2	+24V		2	+24V
	3	GND		3	GND
Y4	1	Y4	YC	1	YC
	2	+24V		2	+24V
	3	GND		3	GND
Y5	1	Y5	YD	1	YD
	2	+24V		2	+24V
	3	GND		3	GND
Y6	1	Y6	YE	1	YE
	2	+24V		2	+24V
	3	GND		3	GND
Y7	1	Y7	YF	1	YF
	2	+24V		2	+24V
	3	GND		3	GND

## DATA ALLOCATION

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

### ■ Without status

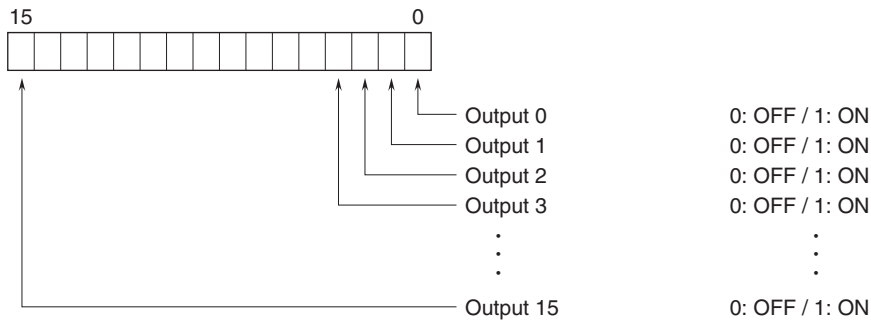


### ■ With status

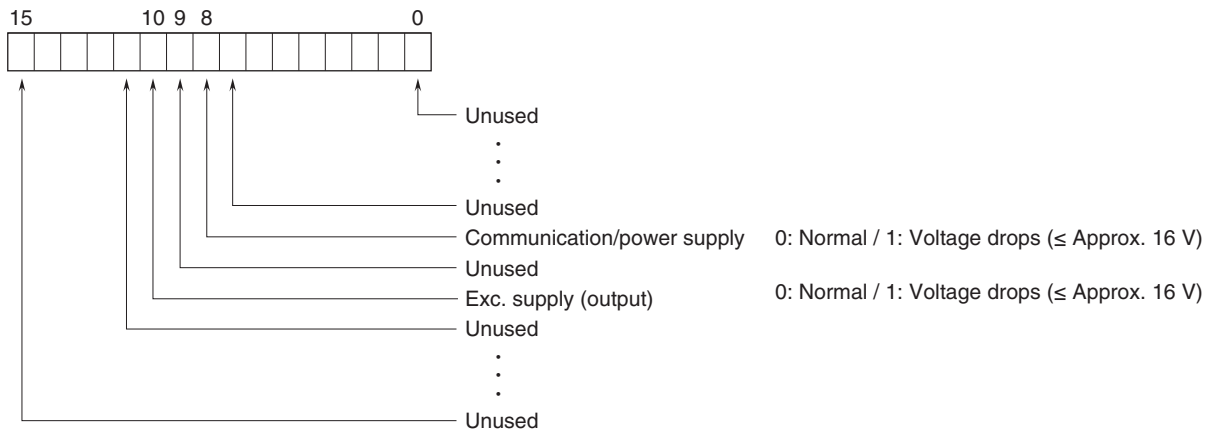


## I/O DATA DESCRIPTIONS

### ■ DISCRETE OUTPUT



### ■ 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-DC16A	0	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:"

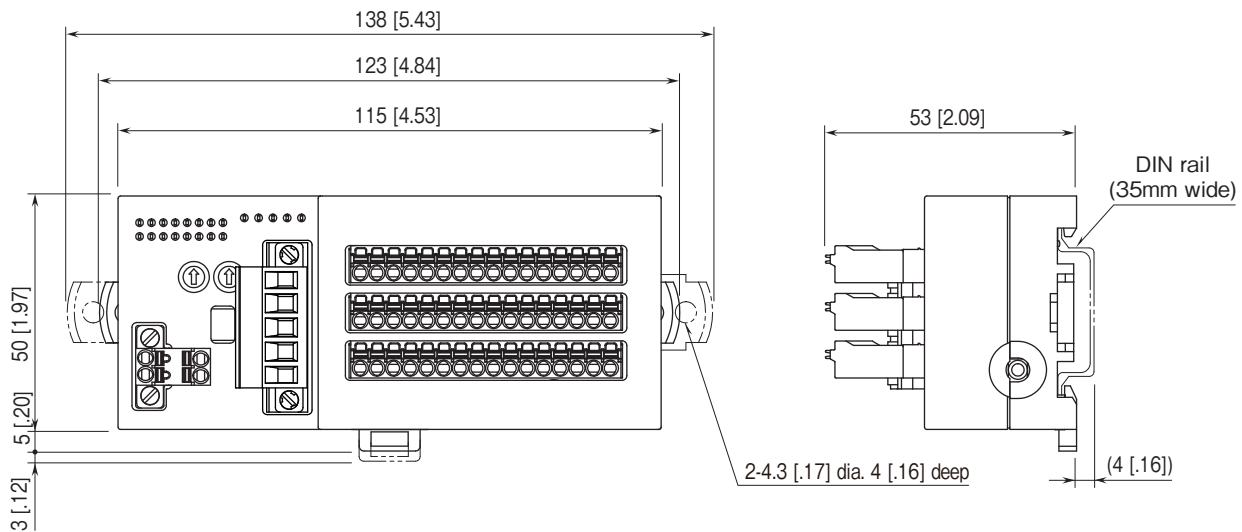
(Unit: word)

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

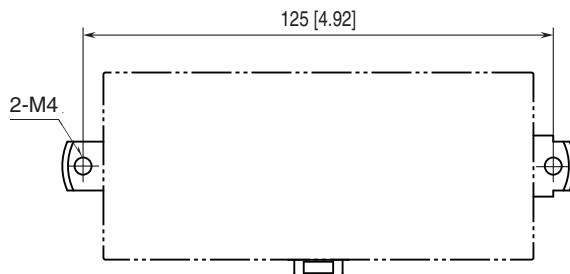
\*1. Output Data means those sent to the master.

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

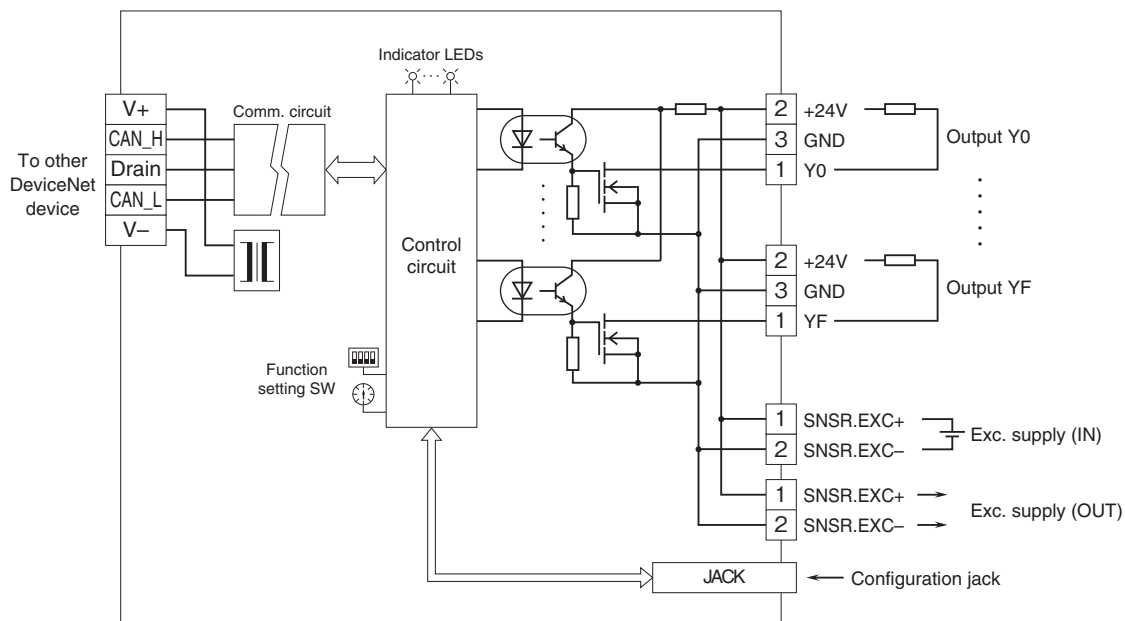
## EXTERNAL DIMENSIONS unit: mm [inch]



## MOUNTING REQUIREMENTS unit: mm [inch]



## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.