

## Remote I/O R7F4D Series

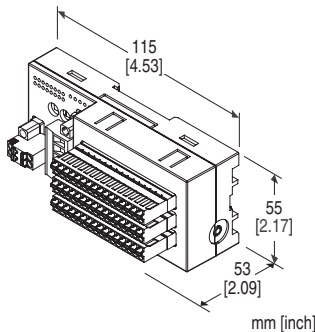
### DeviceNet® I/O MODULE

(NPN discrete input, 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-DA16A-C[1]

### ORDERING INFORMATION

- Code number: R7F4DD-DA16A-C[1]  
Specify a code from below for [1].  
(e.g. R7F4DD-DA16A-C/Q)
- Specify the specification for option code /Q  
(e.g. /C01)

### I/O TYPE

**DA16A:** NPN discrete input, 16 points

### TERMINAL BLOCK

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

Euro type connector terminal

**Exc. supply:** Tension clamp terminal block

**Input:** Tension clamp terminal block

**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 16 points

**Number of input:** 16 points

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

**Sensor excitation:** 24 V DC  $\pm 10\%$ ; ripple 5 %p-p max.,  $\leq 2$  A (including discrete input load charge); rated current 8 A

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

**OFF voltage / current:**  $\leq 5$  V DC (X0 through XF 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.

## INSTALLATION

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

**Current consumption:**

≤ 50 mA @ 24 V DC

≤ 60 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:** ≥ 100 MΩ 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

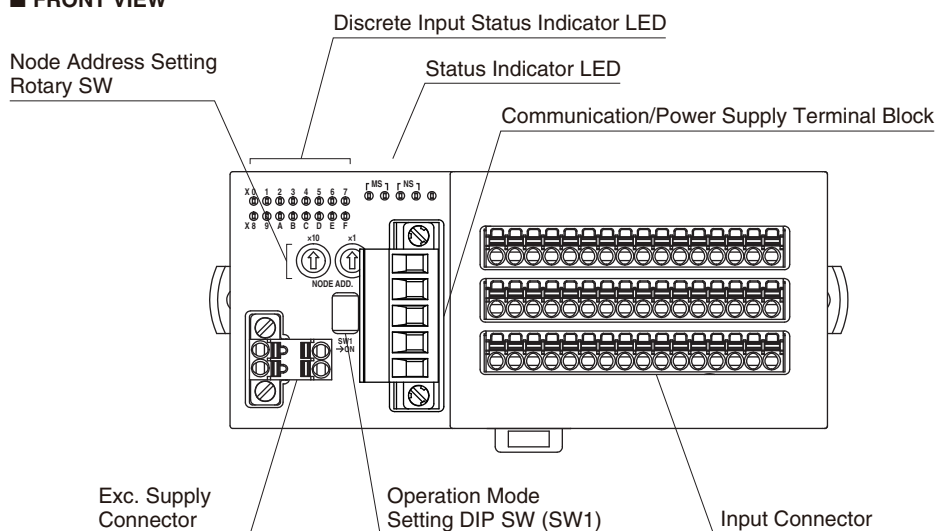
EMI EN 61000-6-4

EMS EN 61000-6-2

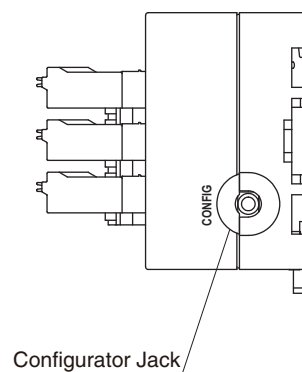
RoHS Directive

## EXTERNAL VIEW

### ■ FRONT VIEW



### ■ SIDE VIEW



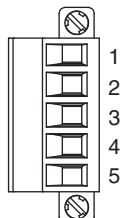
**TERMINAL ASSIGNMENTS****■COMMUNICATION/POWER SUPPLY TERMINAL ASSIGNMENT**

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**

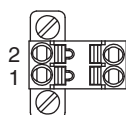
Unit side connector: MCV1,5/2-GF-3,5 (Phoenix contact)

Cable side connector: TFMC1,5/2-STF-3,5 (Phoenix contact)

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

Stripped length: 10mm

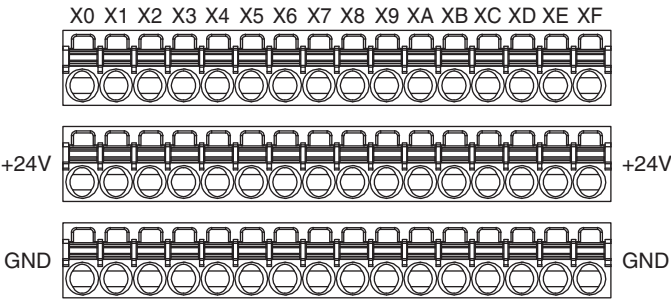
Recommended solderless terminal:

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 - |

■ INPUT 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)

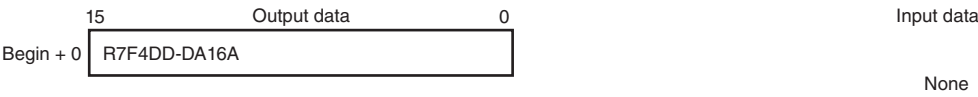


| PIN NO. | ID | FUNCTION | PIN NO. | ID | FUNCTION |      |          |
|---------|----|----------|---------|----|----------|------|----------|
| X0      | 1  | X0       | Input 0 | X8 | 1        | X8   | Input 8  |
|         | 2  | +24V     | 24V DC  |    | 2        | +24V | 24V DC   |
|         | 3  | GND      | 0V      |    | 3        | GND  | 0V       |
| X1      | 1  | X1       | Input 1 | X9 | 1        | X9   | Input 9  |
|         | 2  | +24V     | 24V DC  |    | 2        | +24V | 24V DC   |
|         | 3  | GND      | 0V      |    | 3        | GND  | 0V       |
| X2      | 1  | X2       | Input 2 | XA | 1        | XA   | Input 10 |
|         | 2  | +24V     | 24V DC  |    | 2        | +24V | 24V DC   |
|         | 3  | GND      | 0V      |    | 3        | GND  | 0V       |
| X3      | 1  | X3       | Input 3 | XB | 1        | XB   | Input 11 |
|         | 2  | +24V     | 24V DC  |    | 2        | +24V | 24V DC   |
|         | 3  | GND      | 0V      |    | 3        | GND  | 0V       |
| X4      | 1  | X4       | Input 4 | XC | 1        | XC   | Input 12 |
|         | 2  | +24V     | 24V DC  |    | 2        | +24V | 24V DC   |
|         | 3  | GND      | 0V      |    | 3        | GND  | 0V       |
| X5      | 1  | X5       | Input 5 | XD | 1        | XD   | Input 13 |
|         | 2  | +24V     | 24V DC  |    | 2        | +24V | 24V DC   |
|         | 3  | GND      | 0V      |    | 3        | GND  | 0V       |
| X6      | 1  | X6       | Input 6 | XE | 1        | XE   | Input 14 |
|         | 2  | +24V     | 24V DC  |    | 2        | +24V | 24V DC   |
|         | 3  | GND      | 0V      |    | 3        | GND  | 0V       |
| X7      | 1  | X7       | Input 7 | XF | 1        | XF   | Input 15 |
|         | 2  | +24V     | 24V DC  |    | 2        | +24V | 24V DC   |
|         | 3  | GND      | 0V      |    | 3        | GND  | 0V       |

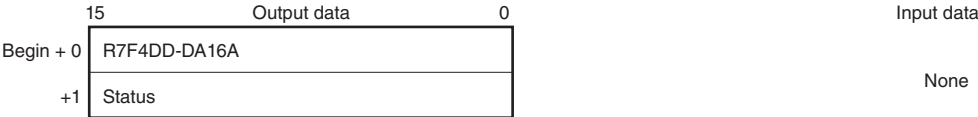
DATA ALLOCATION

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

Without status

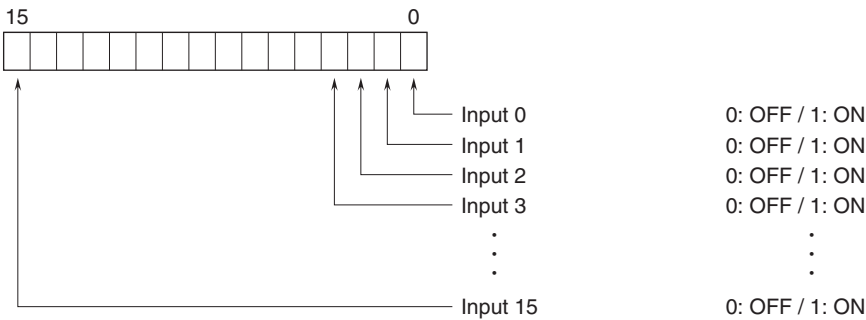


With status

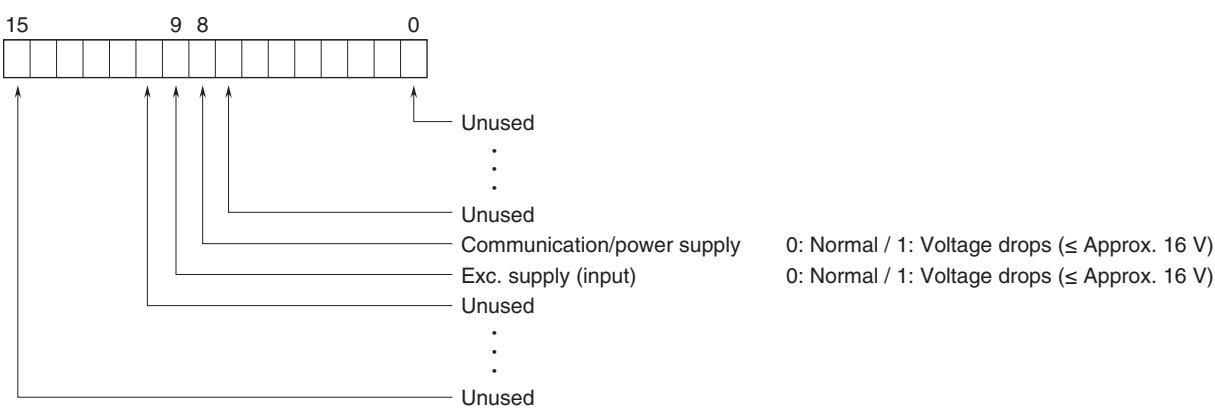


I/O DATA DESCRIPTIONS

DISCRETE INPUT



STATUS



# MODEL: R7F4DD-DA16A-C

## TRANSMISSION DATA DESCRIPTIONS

### I/O DATA

(Unit: word)

| MODEL        | OUTPUT DATA* <sup>1</sup><br>(R7F4DD to master) | INPUT DATA* <sup>2</sup><br>(master to R7F4DD) |
|--------------|-------------------------------------------------|------------------------------------------------|
| R7F4DD-DA16A | 1                                               | 0                                              |

### 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”

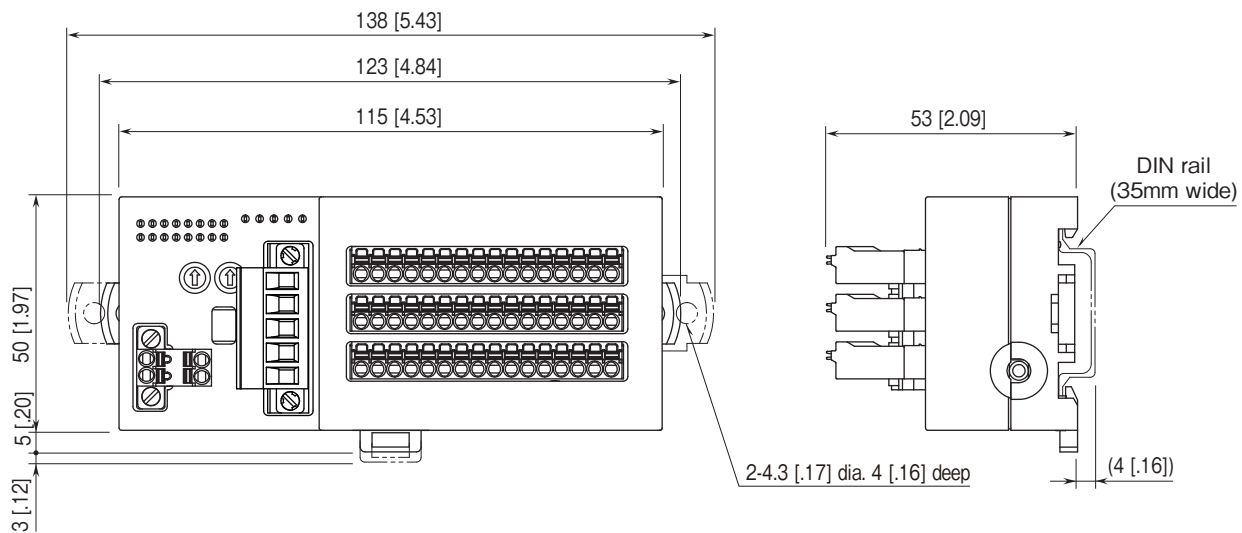
(Unit: word)

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

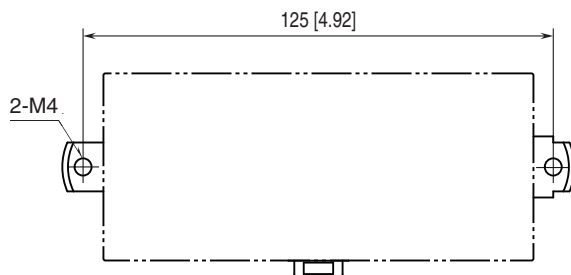
\*1. Output Data means those sent to the master.

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

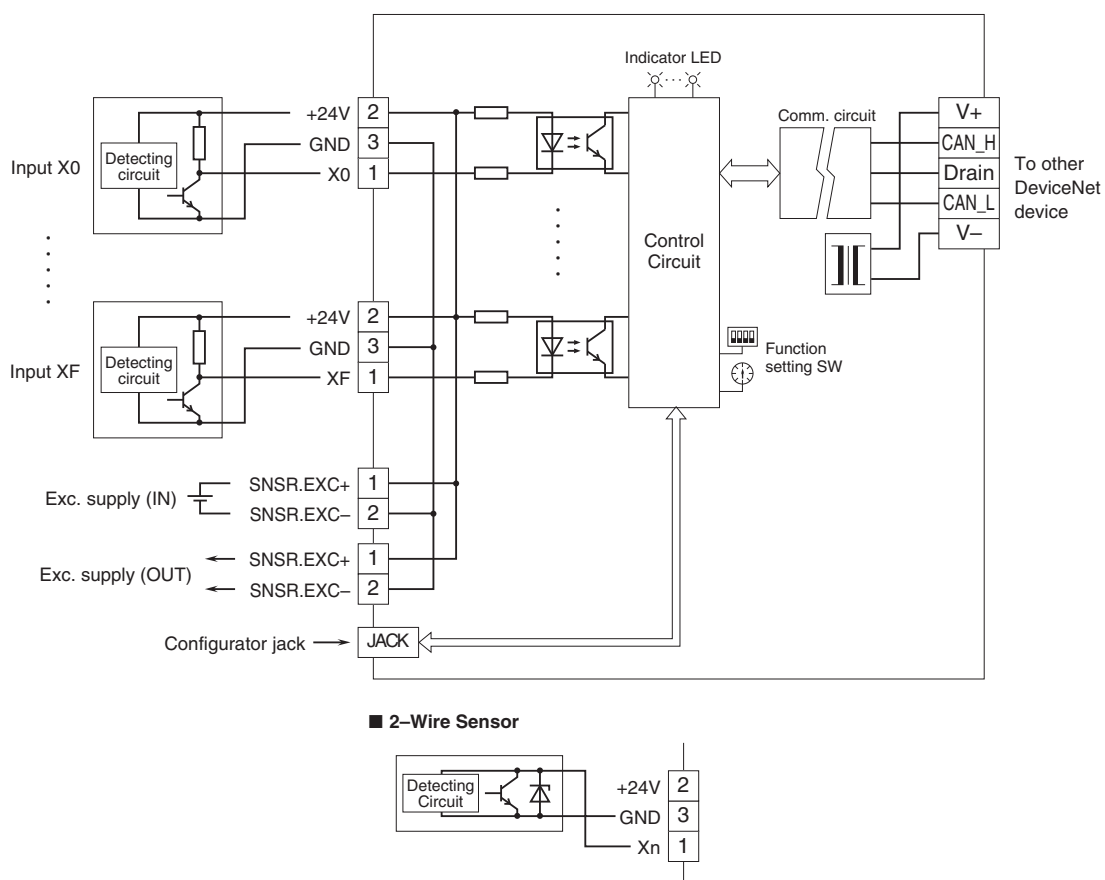
## EXTERNAL DIMENSIONS unit: mm [inch]



## MOUNTING REQUIREMENTS unit: mm [inch]



## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.