

Remote I/O R7F4D Series

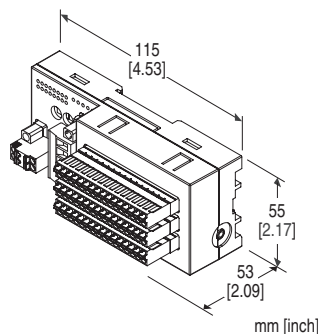
DeviceNet® I/O MODULE

(PNP 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-DA16B-C[1]

ORDERING INFORMATION

- Code number: R7F4DD-DA16B-C[1]
Specify a code from below for [1].
(e.g. R7F4DD-DA16B-C/Q)
- Specify the specification for option code /Q
(e.g. /C01)

I/O TYPE

DA16B: PNP 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: Negative common (PNP) 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., ≤ 2 A (including discrete input load charge); rated current 8 A

ON voltage / current: ≥ 17 V DC (X0 through XF to GND) / ≥ 2.3 mA

OFF voltage / current: ≤ 5 V DC (X0 through XF to GND) / ≤ 0.75 mA

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

Input resistance: Approx. 7.2 k Ω

ON delay: ≤ 0.5 msec.

OFF delay: ≤ 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

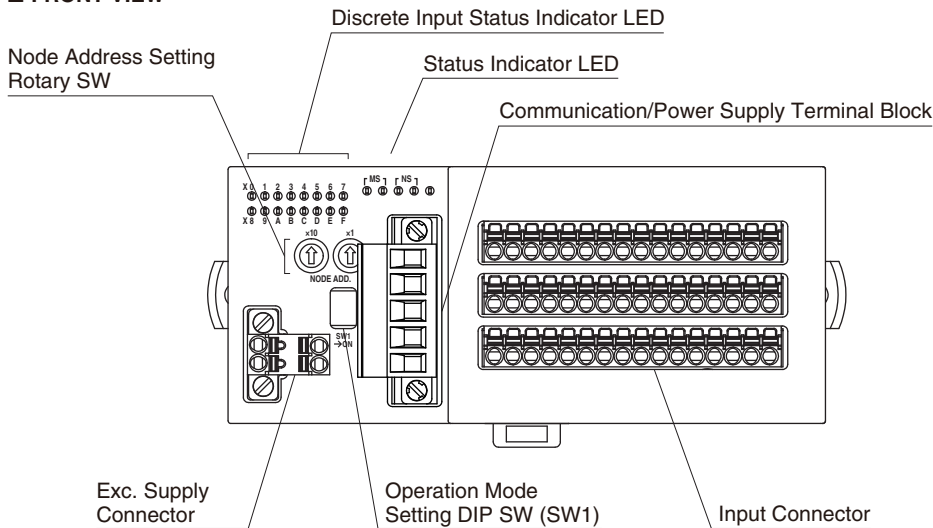
EMI EN 61000-6-4

EMS EN 61000-6-2

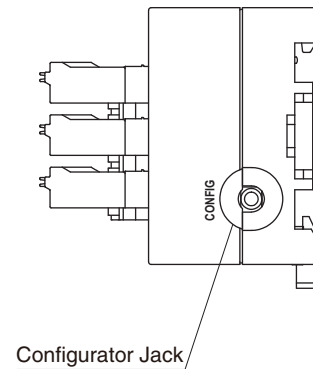
RoHS Directive

EXTERNAL VIEW

■ FRONT VIEW



■ SIDE VIEW



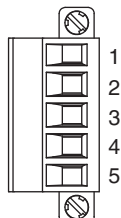
TERMINAL ASSIGNMENTS**■COMMUNICATION/POWER SUPPLY TERMINAL ASSIGNMENT**

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 - 2.5mm²

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 (-)

■EXC. SUPPLY TERMINAL ASSIGNMENT

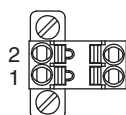
Unit side connector: MCV1,5/2-GF-3,5 (Phoenix contact)

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

Applicable wire size: 0.2 - 1.5mm²

Stripped length: 10mm

Recommended solderless terminal:

AI0,25-10YE 0.25mm² (Phoenix contact)AI0,34-10TQ 0.34mm² (Phoenix contact)AI0,5-10WH 0.5mm² (Phoenix contact)AI0,75-10GY 0.75mm² (Phoenix contact)AI1-10 1.0mm² (Phoenix contact)AI1,5-10 1.5mm² (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 - 1.5mm²

Stripped length: 10mm

Recommended Solderless Terminal:

AI0,25-10YE 0.25mm² (Phoenix contact)

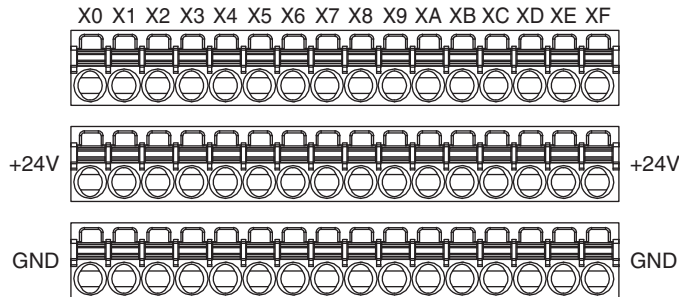
AI0,34-10TQ 0.34mm² (Phoenix contact)

AI0,5-10WH 0.5mm² (Phoenix contact)

AI0,75-10GY 0.75mm² (Phoenix contact)

AI1-10 1.0mm² (Phoenix contact)

AI1,5-10 1.5mm² (Phoenix contact)

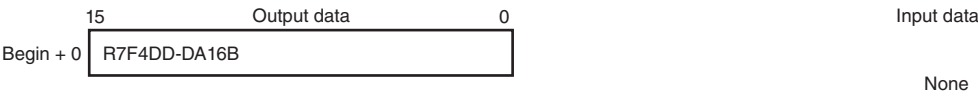


PIN NO.		ID	FUNCTION	PIN NO.		ID	FUNCTION
X0	1	X0	Input 0	X8	1	X8	Input 8
	2	+24V	24V DC		2	+24V	24V DC
	3	GND	0V		3	GND	0V
X1	1	X1	Input 1	X9	1	X9	Input 9
	2	+24V	24V DC		2	+24V	24V DC
	3	GND	0V		3	GND	0V
X2	1	X2	Input 2	XA	1	XA	Input 10
	2	+24V	24V DC		2	+24V	24V DC
	3	GND	0V		3	GND	0V
X3	1	X3	Input 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

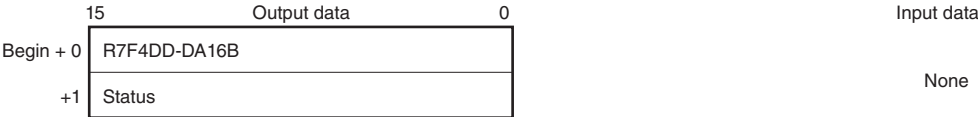
DATA ALLOCATION

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

Without status

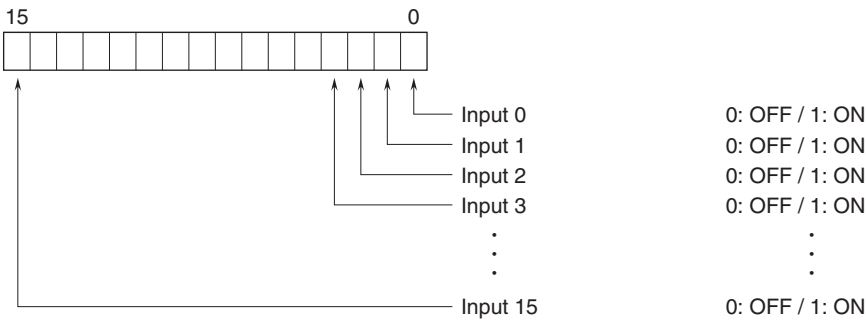


With status

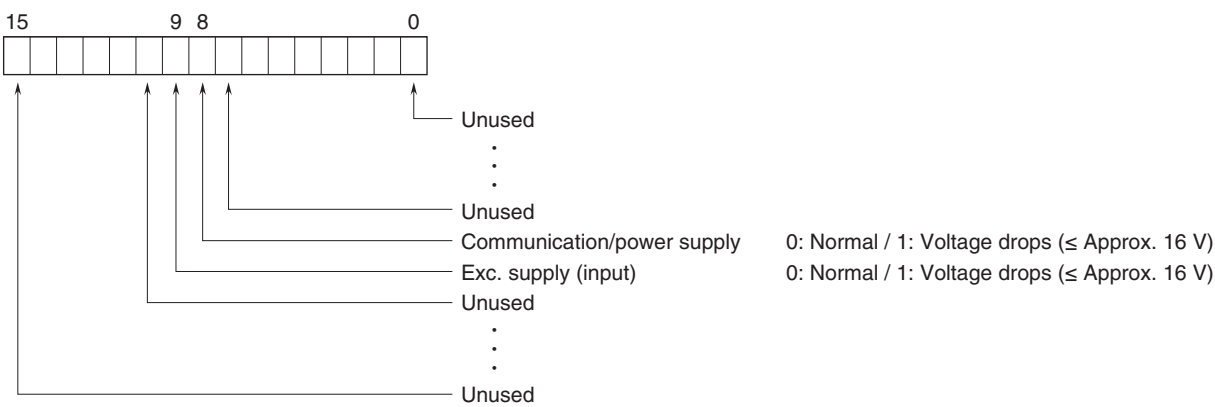


I/O DATA DESCRIPTIONS

DISCRETE INPUT



STATUS



TRANSMISSION DATA DESCRIPTIONS

I/O DATA

(Unit: word)

MODEL	OUTPUT DATA ^{*1} (R7F4DD to master)	INPUT DATA ^{*2} (master to R7F4DD)
R7F4DD-DA16B	1	0

STATUS

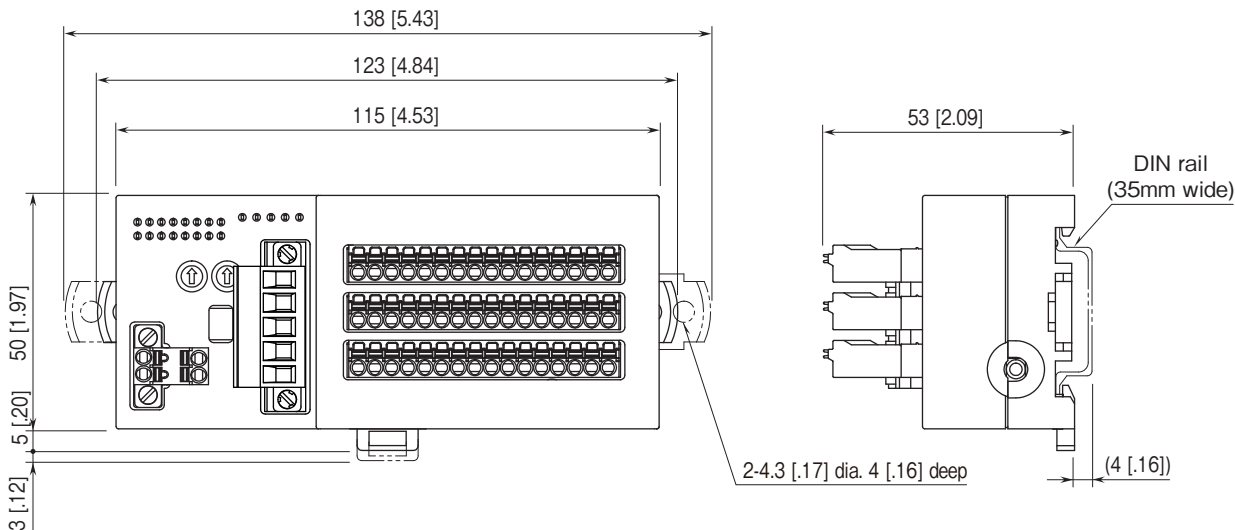
Status signal can be included in the transmission data when the SW1-3 is ON.
For details, refer to “STATUS in I/O DATA DESCRIPTIONS”

(Unit: word)

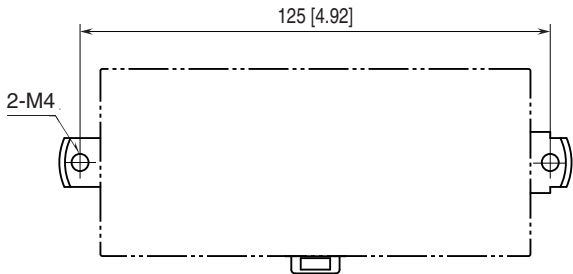
STATUS	OUTPUT DATA ^{*1} (R7F4DD to master)	INPUT DATA ^{*2} (master to R7F4DD)
With	1	0
Without	0	0

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

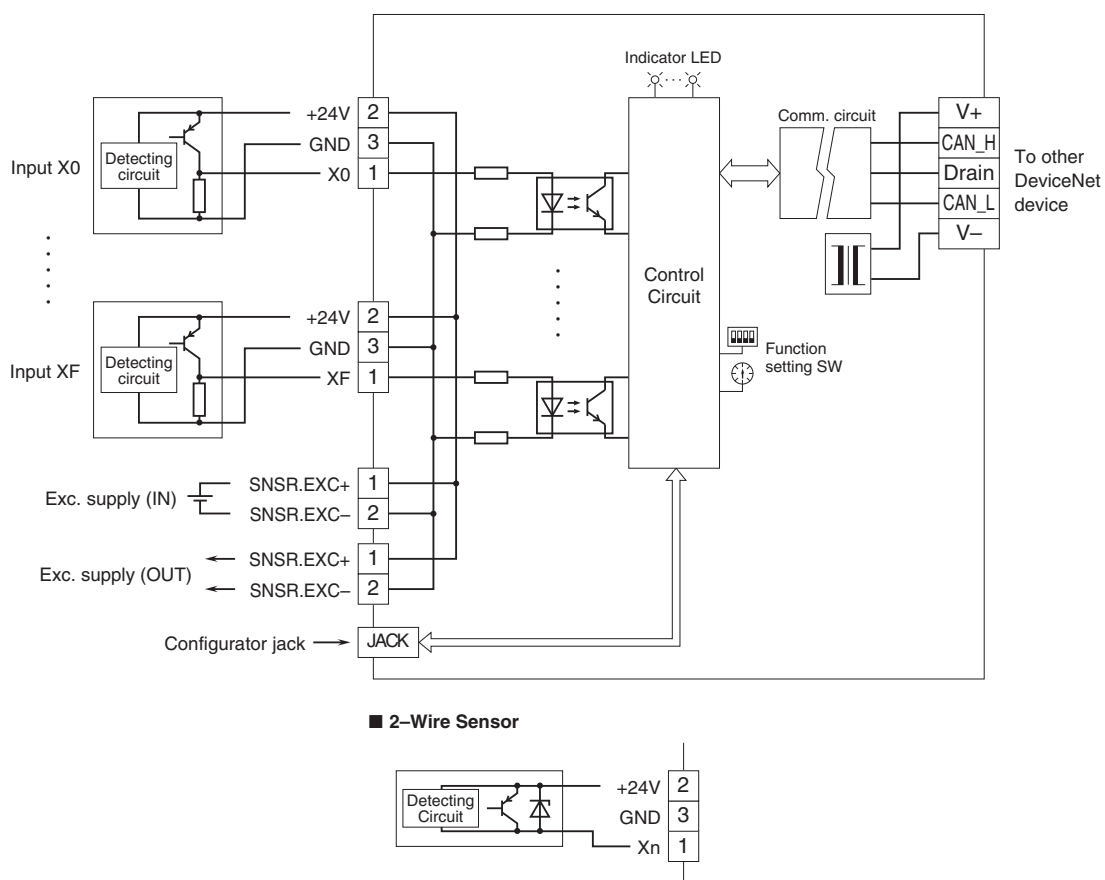
EXTERNAL DIMENSIONS unit: mm [inch]



MOUNTING REQUIREMENTS unit: mm [inch]



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.