Remote I/O R7F4D Series

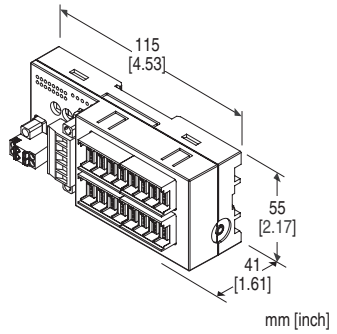
DeviceNet® I/O MODULE

(NPN discrete output, 16 points, e-CON connector)

Functions & Features

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

DeviceNet is registered trademark of ODVA.



MODEL: R7F4DD-DC16A-H[1]

ORDERING INFORMATION

• Code number: R7F4DD-DC16A-H[1]

Specify a code from below for [1].
(e.g. R7F4DD-DC16A-H/Q)

• Specify the specification for option code /Q
(e.g. /C01)

I/O TYPE

DC16A: NPN discrete output, 16 point

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 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
Output: e-CON connector
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 ±10 %, ripple 5 %p-p max., ≤ 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: ≤ 1.2 V
Leakage current: ≤ 0.1 mA
ON delay: ≤ 0.2 msec.
OFF delay: ≤ 0.5 msec.
With shortcircuit protection
With overheat protection
(When driving an inductive load, connect a diode in parallel with the load.)

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INSTALLATION

Supply voltage: 11 – 25 V DC (supplied from communication/power supply terminal block)
Current consumption:
≤ 50 mA @ 24 V DC
≤ 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: 120 g (0.26 lb)

PERFORMANCE

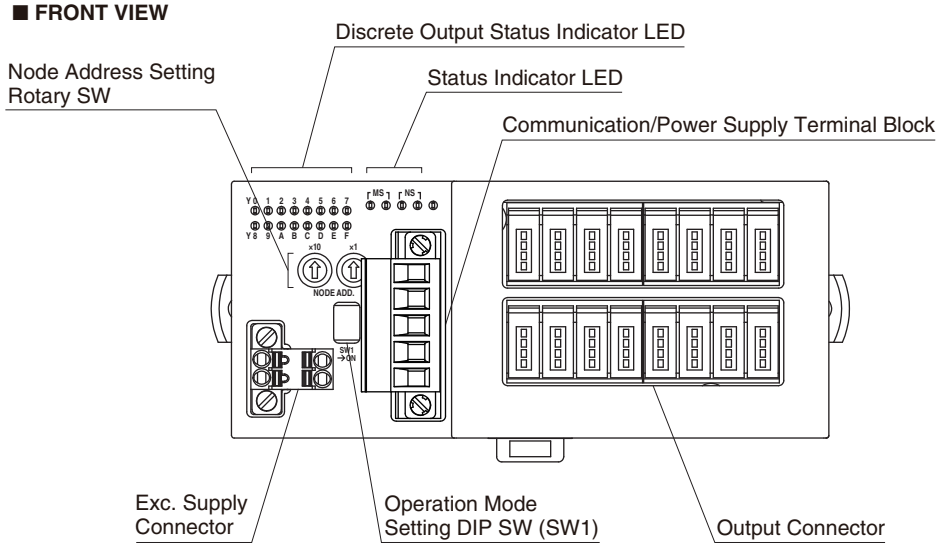
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 1500 V AC @ 1 minute
(output or exc. supply to communication/power supply)

STANDARDS & APPROVALS

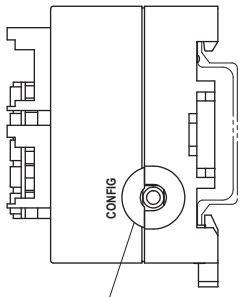
EU conformity:
EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2
RoHS Directive

EXTERNAL VIEW

■ **FRONT VIEW**



■ **SIDE VIEW**



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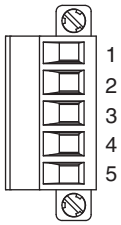
TERMINAL ASSIGNMENTS

■COMMUNICATION/POWER SUPPLY TERMINAL ASSIGNMENT

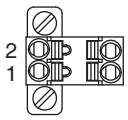
Unit side connector: MSTB2,5/5-GF-5,08AU (Phoenix contact)
Cable side connector: MSTB2,5/5-STF-5,08AU (Phoenix contact)
Applicable wire size: 0.2 - 2.5mm^2
Stripped length: 7mm



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^2
Stripped length: 10mm
Recommended solderless terminal:
AI0,25-10YE 0.25mm^2 (Phoenix contact)
AI0,34-10TQ 0.34mm^2 (Phoenix contact)
AI0,5-10WH 0.5mm^2 (Phoenix contact)
AI0,75-10GY 0.75mm^2 (Phoenix contact)
AI1-10 1.0mm^2 (Phoenix contact)
AI1,5-10 1.5mm^2 (Phoenix contact)



PIN NO.	ID	FUNCTION
1	SNSR.EXC+	Exc. supply +
2	SNSR.EXC–	Exc. supply –

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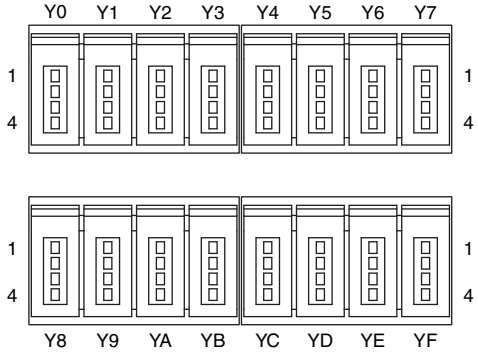
■ OUTPUT TERMINAL ASSIGNMENT

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
Y0	1	+24V	24V DC	Y8	1	+24V	24V DC
	2	NC	Unused		2	NC	Unused
	3	NC	Unused		3	NC	Unused
	4	Y0	Output 0		4	Y8	Output 8
Y1	1	+24V	24V DC	Y9	1	+24V	24V DC
	2	NC	Unused		2	NC	Unused
	3	NC	Unused		3	NC	Unused
	4	Y1	Output 1		4	Y9	Output 9
Y2	1	+24V	24V DC	YA	1	+24V	24V DC
	2	NC	Unused		2	NC	Unused
	3	NC	Unused		3	NC	Unused
	4	Y2	Output 2		4	YA	Output 10
Y3	1	+24V	24V DC	YB	1	+24V	24V DC
	2	NC	Unused		2	NC	Unused
	3	NC	Unused		3	NC	Unused
	4	Y3	Output 3		4	YB	Output 11
Y4	1	+24V	24V DC	YC	1	+24V	24V DC
	2	NC	Unused		2	NC	Unused
	3	NC	Unused		3	NC	Unused
	4	Y4	Output 4		4	YC	Output 12
Y5	1	+24V	24V DC	YD	1	+24V	24V DC
	2	NC	Unused		2	NC	Unused
	3	NC	Unused		3	NC	Unused
	4	Y5	Output 5		4	YD	Output 13
Y6	1	+24V	24V DC	YE	1	+24V	24V DC
	2	NC	Unused		2	NC	Unused
	3	NC	Unused		3	NC	Unused
	4	Y6	Output 6		4	YE	Output 14
Y7	1	+24V	24V DC	YF	1	+24V	24V DC
	2	NC	Unused		2	NC	Unused
	3	NC	Unused		3	NC	Unused
	4	Y7	Output 7		4	YF	Output 15

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DATA ALLOCATION

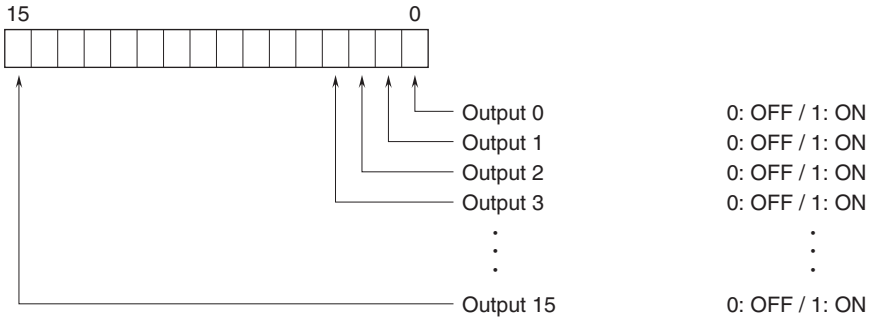
'Begin' address is determined by the R7F4DD's node address and the master setting.

■ **Without status**

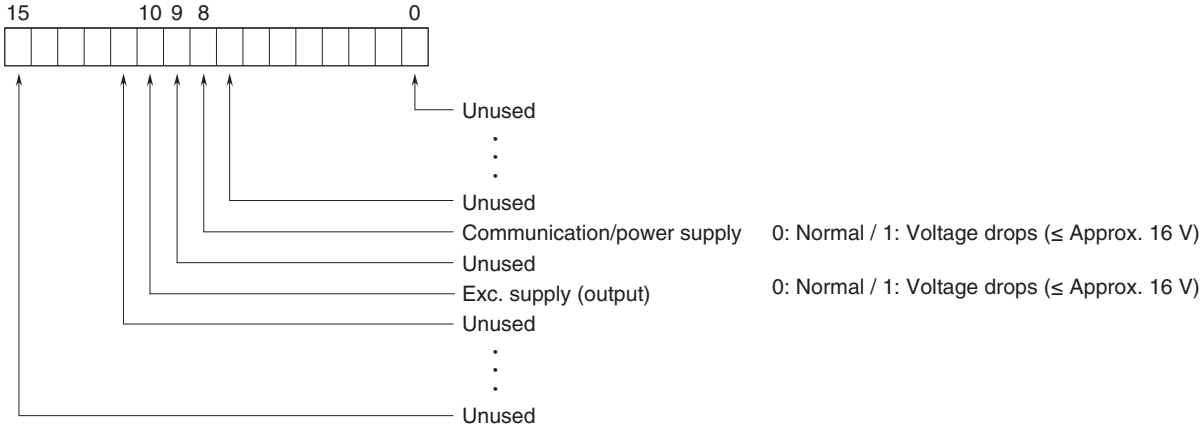
■ **With status**

I/O DATA DESCRIPTIONS

■ **DISCRETE OUTPUT**



■ **STATUS**



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TRANSMISSION DATA DESCRIPTIONS

■ **I/O DATA**

(Unit: word)

MODEL	OUTPUT DATA*1 (R7F4DD to master)	INPUT DATA*2 (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”.

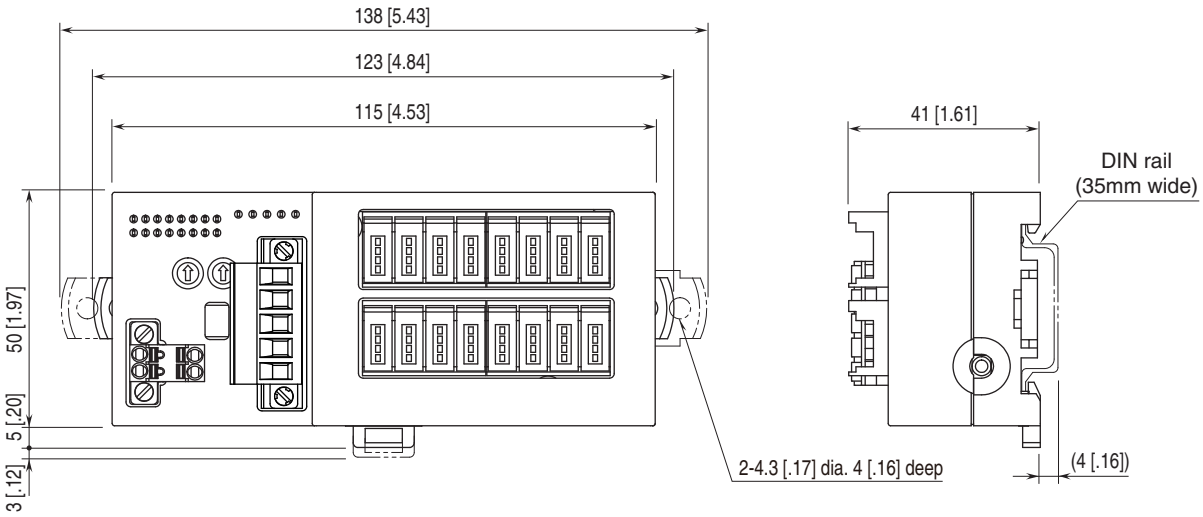
(Unit: word)

STATUS	OUTPUT DATA*1 (R7F4DD to master)	INPUT DATA*2 (master to R7F4DD)
With	1	0
WIthout	0	0

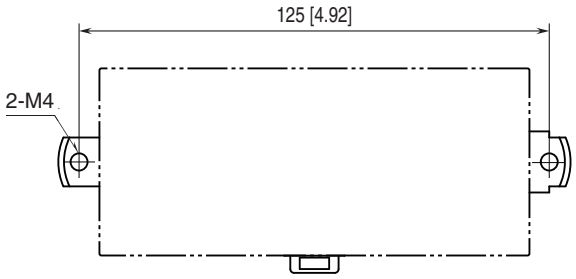
*1. Output Data means those sent to the master.

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

EXTERNAL DIMENSIONS unit: mm [inch]



MOUNTING REQUIREMENTS unit: mm [inch]



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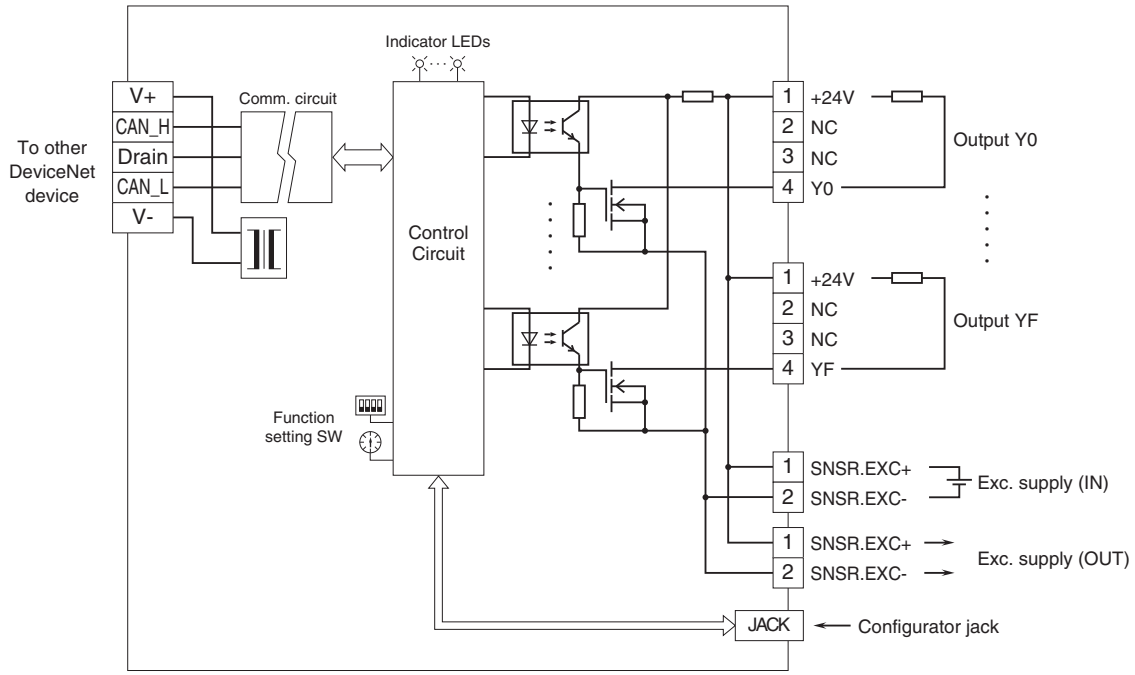
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



⚠ Specifications are subject to change without notice.

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