

## Remote I/O R7F4D Series

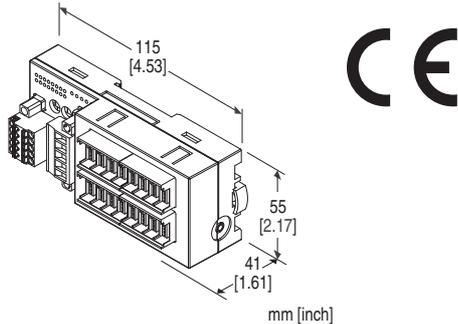
### DeviceNet® I/O MODULE

(PNP discrete input, PNP 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-DAC16D-H[1]

### ORDERING INFORMATION

- Code number: R7F4DD-DAC16D-H[1]
- Specify a code from below for [1].  
(e.g. R7F4DD-DAC16D-H/Q)
- Specify the specification for option code /Q  
(e.g. /C01)

### I/O TYPE

**DAC16D:** PNP discrete input & PNP 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 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

**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:** Negative common (PNP) per 8 points

**Number of input:** 8 points

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

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

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

**OFF voltage / current:**  $\leq 5$  V DC (X0 through X7 to GND) /  $\leq 0.75$  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:** Positive common (PNP) 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:**

$\leq 50$  mA @ 24 V DC

$\leq 70$  mA @ 11 V DC

**Operating temperature:**  $-10$  to  $+55^{\circ}\text{C}$  ( $14$  to  $131^{\circ}\text{F}$ )

**Storage temperature:**  $-20$  to  $+65^{\circ}\text{C}$  ( $-4$  to  $+149^{\circ}\text{F}$ )

**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

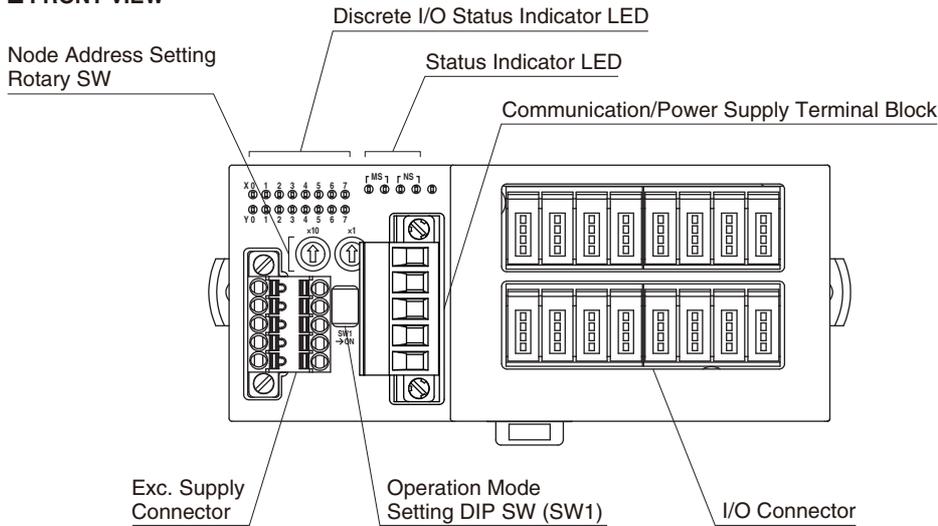
EMI EN 61000-6-4

EMS EN 61000-6-2

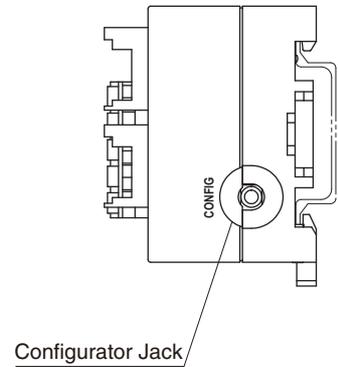
RoHS Directive

## EXTERNAL VIEW

### FRONT VIEW



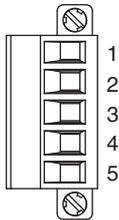
### SIDE VIEW



## 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)

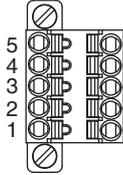
AI0,34-10TQ 0.34mm<sup>2</sup> (Phoenix contact)

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)

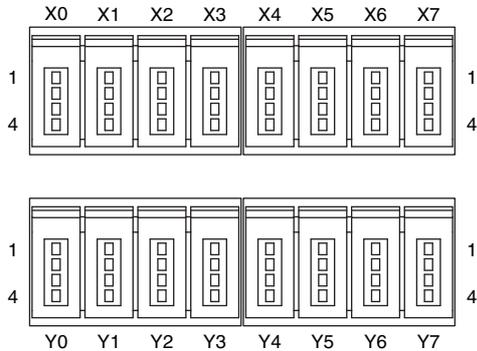
## I/O TERMINAL ASSIGNMENT

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.)

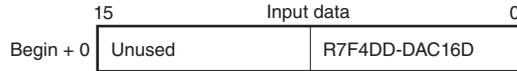
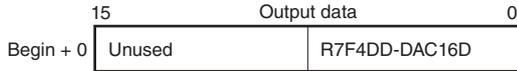


PIN NO.	ID	FUNCTION	PIN NO.	ID	FUNCTION
X0	1	+24V 24V DC	Y0	1	NC Unused
	2	NC Unused		2	NC Unused
	3	GND 0V		3	GND 0V
	4	X0 Input 0		4	Y0 Output 0
X1	1	+24V 24V DC	Y1	1	NC Unused
	2	NC Unused		2	NC Unused
	3	GND 0V		3	GND 0V
	4	X1 Input 1		4	Y1 Output 1
X2	1	+24V 24V DC	Y2	1	NC Unused
	2	NC Unused		2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

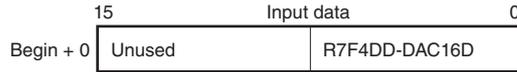
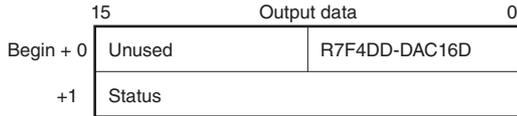
## DATA ALLOCATION

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

### ■ Without status

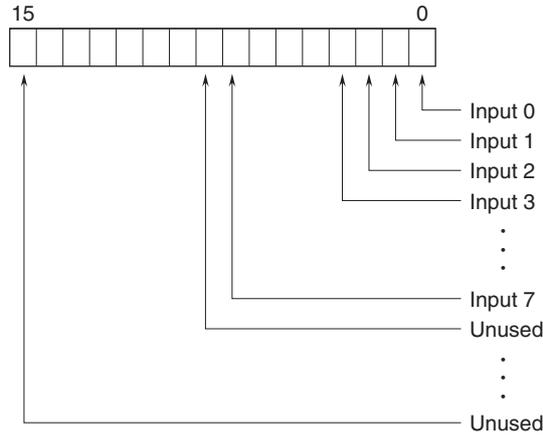


### ■ With status

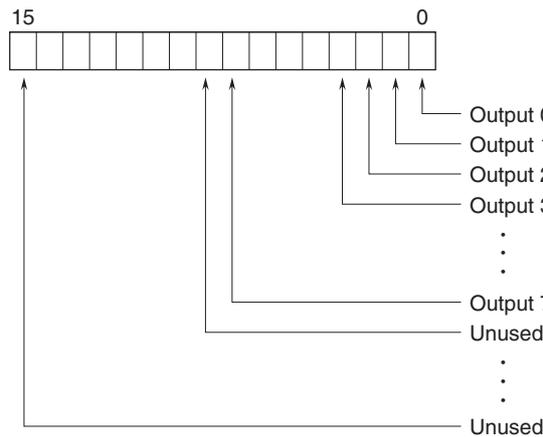


## I/O DATA DESCRIPTIONS

### ■ DISCRETE I/O



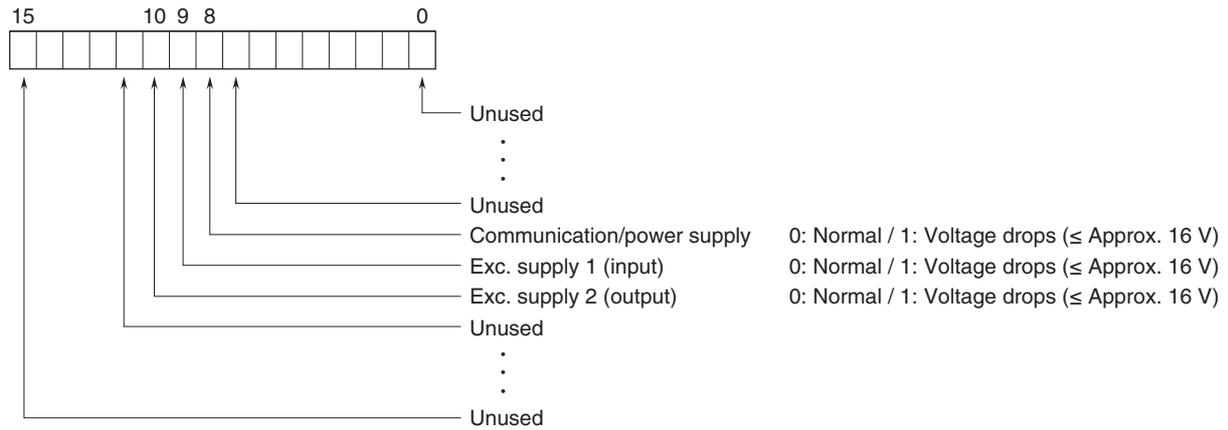
0: OFF / 1: ON  
 0: OFF / 1: ON  
 0: OFF / 1: ON  
 0: OFF / 1: ON  
 ⋮  
 ⋮  
 0: OFF/1: ON



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

# MODEL: R7F4DD-DAC16D-H

## ■ 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-DAC16D	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"

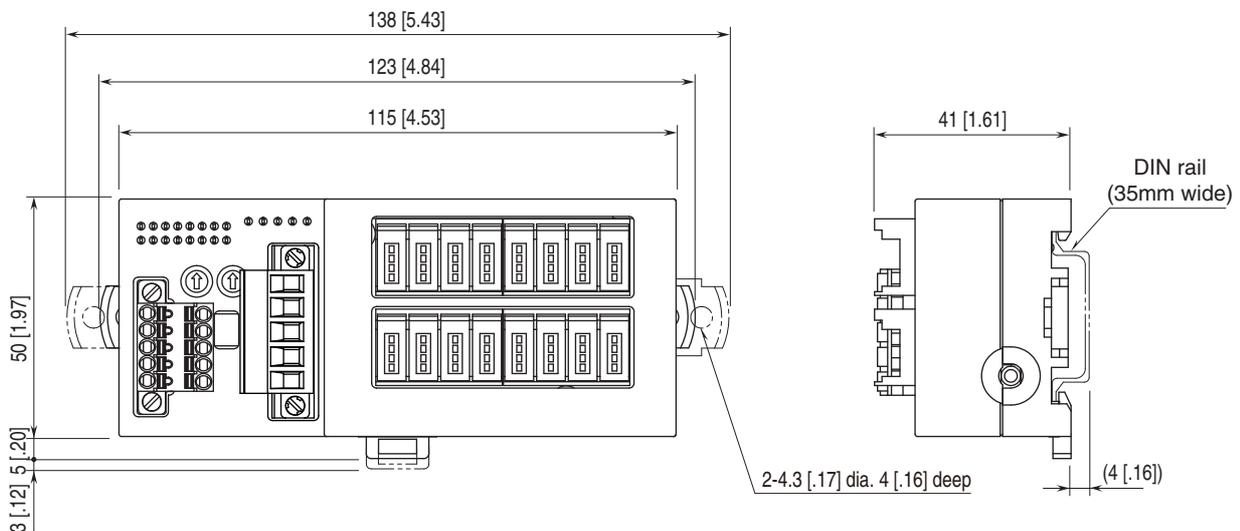
(Unit: word)

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.

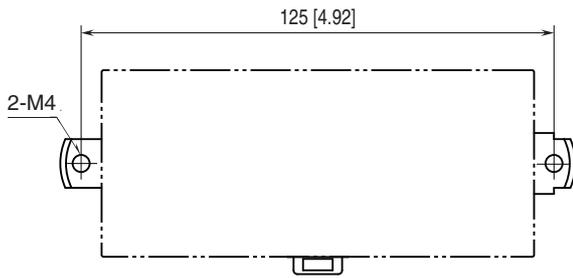
\*2. Input Data means those received from the master.

## EXTERNAL DIMENSIONS unit: mm [inch]

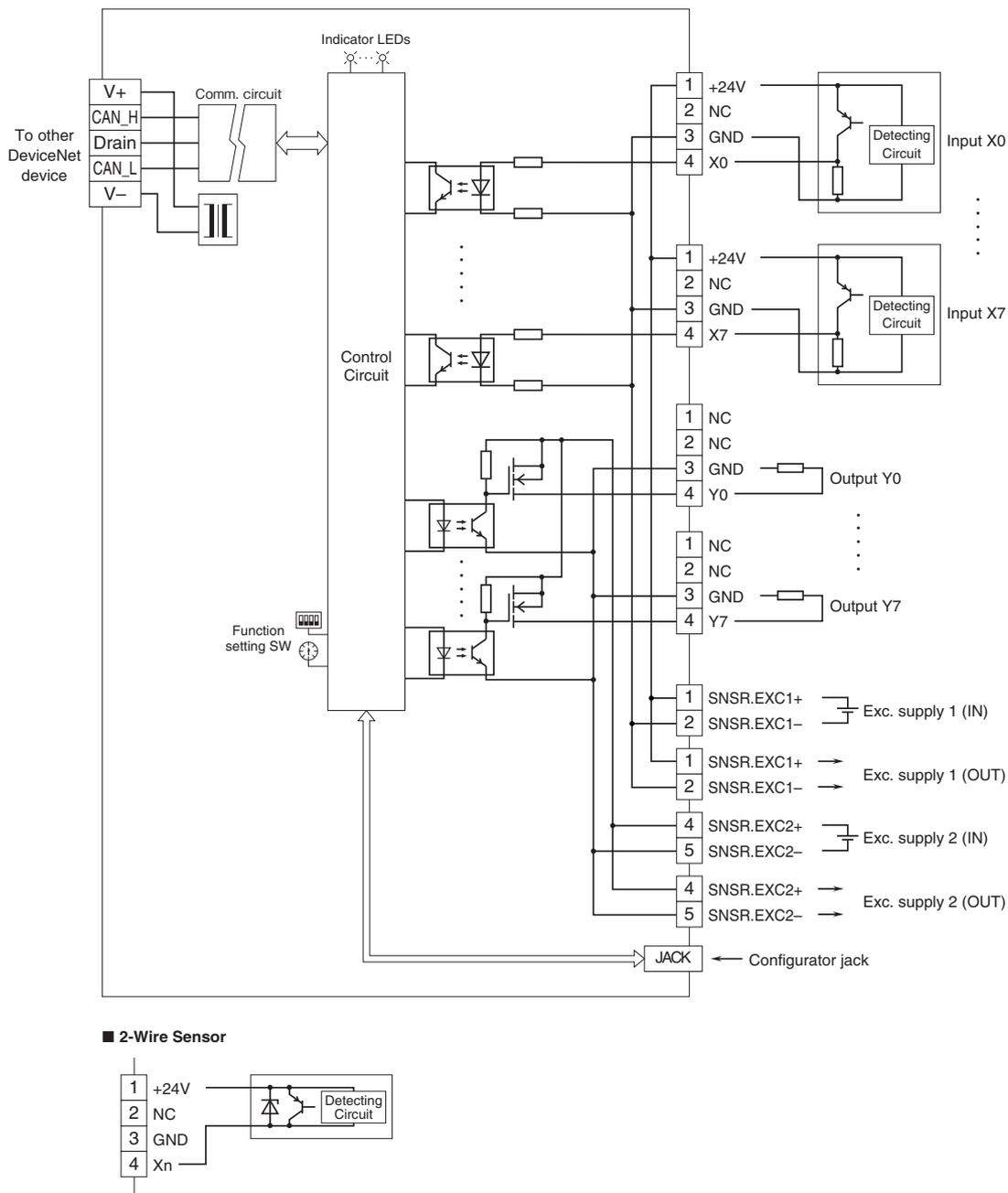


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## MOUNTING REQUIREMENTS unit: mm [inch]



## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM





Specifications are subject to change without notice.