

# Environment-resistive Terminals with Transistors (High-function Type) DRT2-□D08C(-1)/□D16C(-1)

## Environment-resistive (IP67) I/O Terminals with Troubleshooting Functions such as Sensor Power Supply Short-circuit Detection



- Equipped with the standard Smart Slave functions that provide powerful preventative maintenance and troubleshooting capabilities.
- High degree of environmental resistance with dust-proof and drip-proof construction.
- Power supply wiring is not required for input devices.
- Connect heavy-load devices (up to 1.5 A).
- Power supply wiring is not required for input devices such as sensors. (Power supply wiring is required for output devices.)
- Detects ground faults or disconnects and notifies the Master.

### Smart Slave Functions

Contact operation counter	Unit conduction time monitor	Total ON time monitor	Unit comments
Connected device comments	Network power supply voltage monitor	I/O power supply monitor function (output only)	Communications error log function (output only)
Input filter (input only)	Power-ON inrush current protection (input only)	Sensor power supply short-circuit detection (input only)	
Disconnected sensor detection (input only)	External load short-circuit detection (output only)	Communications speed auto-detection	No need to wire Unit power supply
No need to wire input device power supply (input only)	Last maintenance date		

### Ordering Information

Specifications		I/O connections	Rated internal circuit power supply voltage	Rated I/O power supply voltage	Model
Input	NPN (+ common)	8 points	Sensor I/O connector	Supplied from the communications connector	DRT2-ID08C
	PNP (- common)				DRT2-ID08C-1
Output	NPN (- common)			24 VDC	DRT2-OD08C
	PNP (+ common)				DRT2-OD08C-1
Input	NPN (+ common)	16 points		Supplied from the communications connector	DRT2-HD16C
	PNP (- common)				DRT2-HD16C-1

### General Specifications

Item	Model	DRT2-ID08C(-1)	DRT2-HD16C(-1)	DRT2-OD08C(-1)
Communications power supply voltage		11 to 25 VDC (Supplied from the communications connector)		
I/O power supply voltage		20.4 to 26.4 VDC (24 VDC -15%/+10%)		
Noise immunity		Conforms to IEC 61000-4-4 2 kV (power line)		
Communications power supply current consumption		115mA max. (24 VDC) 90mA max. (11 VDC)	200mA max. (24 VDC) 130mA max. (11 VDC)	35mA max. (24 VDC) 60mA max. (11 VDC)
Vibration resistance		10 to 60 Hz, 0.7-mm double amplitude, 60 to 150 Hz, 50 m/s <sup>2</sup> for 80 min each in the X, Y, and Z directions		
Shock resistance		150 m/s <sup>2</sup> , 6 directions, 3 times each		
Dielectric strength		500 VAC between isolated circuits		
Insulation resistance		20 MΩ min. (between isolated circuits)		
Ambient operating temperature		-10°C to 55°C		
Ambient operating humidity		25% to 85% (with no condensation)		
Ambient operating atmosphere		No corrosive gases		
Ambient storage temperature		-20°C to 65°C		
Degree of protection		IP67		
Mounting method		M5 screw mounting (front and back)		
Mounting strength		100 N		
Connector strength		30 N		
Screw tightening torque		Round connectors (communications, supply voltage, and I/O): 0.39 to 0.49 N·m M5 (Unit mounting from front): 1.47 to 1.96 N·m		
Weight		340 g max.		390 g max.
I/O power supply connector		--		7/8-16UN
Communications connector		M12		

## Input Specifications

### ●8-point Inputs Terminals with Transistors

Item	Model	DRT2-ID08C	DRT2-ID08C-1
Internal I/O common		NPN	PNP
I/O points		8 inputs	
ON voltage		9 VDC min. (between input and V terminal)	9 VDC min. (between input and G terminal)
OFF voltage		5 VDC max. (between input and V terminal)	5 VDC max. (between input and G terminal)
OFF current		1.0 mA max.	
Input current		3.0 mA min./point (at 11 VDC) 11.0 mA max./point (at 24 VDC)	
Power supply voltage for sensor		Communications power supply voltage +0 V max. Communications power supply voltage -1.5 V min.	
ON delay time		1.5 ms max.	
OFF delay time		1.5 ms max.	
Number of circuits per common		8 per common	

### ●16-point Inputs Terminals with Transistors

Item	Model	DRT2-HD16C	DRT2-HD16C-1
Internal I/O common		NPN	PNP
I/O points		16 inputs	
ON voltage		9 VDC min. (between input and V terminal)	9 VDC min. (between input and G terminal)
OFF voltage		5 VDC max. (between input and V terminal)	5 VDC max. (between input and G terminal)
OFF current		1.0 mA max.	
Input current		3.0 mA min./point (at 17 VDC) 11.0 mA max./point (at 24 VDC)	
Power supply voltage for sensor		Communications power supply voltage +0 V max. Communications power supply voltage -1.5 V min.	
ON delay time		1.5 ms max.	
OFF delay time		1.5 ms max.	
Number of circuits per common		16 per common	

## Output Specifications

### ●8-point Outputs Terminals with Transistors

Item	Model	DRT2-OD08C	DRT2-OD08C-1
Internal I/O common		NPN	PNP
I/O points		8 inputs	
Rated output current		1.5 A per point, 8.0 A per common	
Residual voltage		1.2 V max. (1.5 A DC between each output terminal and G)	1.2 V max. (1.5 A DC between each output terminal and V)
Leakage current		0.1 mA max.	
I/O power supply voltage		20.4 to 26.4 VDC (24 VDC -15%/+10%)	
ON delay time		0.5 ms max.	
OFF delay time		1.5 ms max.	
Number of circuits per common		8 per common	

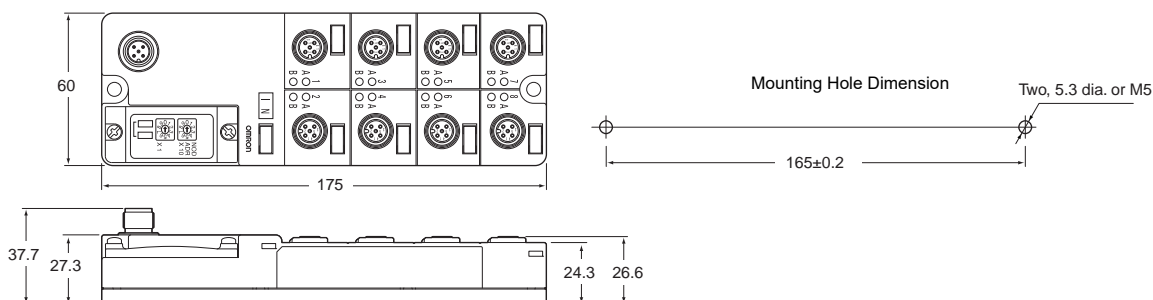
Note: Refer to Peripheral Devices on page 169 for information on applicable connectors.

## Dimensions

(Unit: mm)

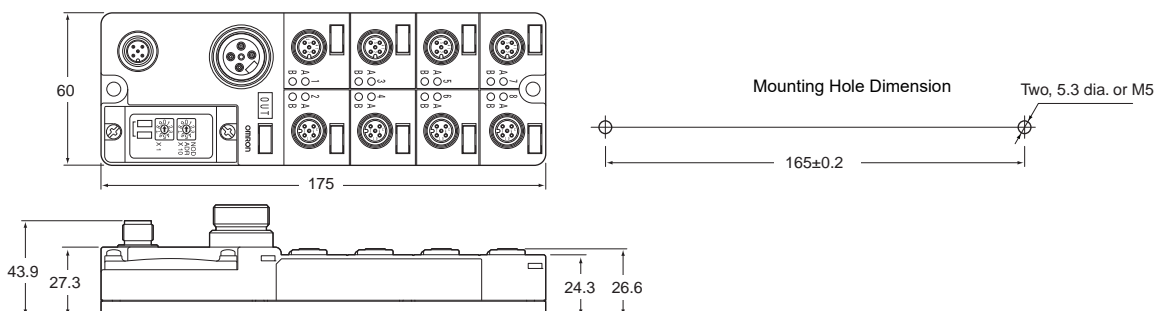
### ●Environment-resistive Terminals (8 or 16 Inputs)

DRT2-ID08C  
DRT2-ID08C-1  
DRT2-HD16C  
DRT2-HD16C-1



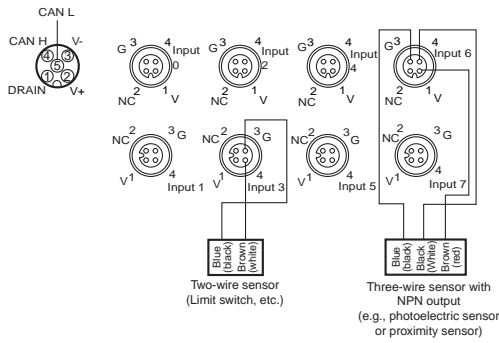
### ●Environment-resistive Terminals (8 Outputs)

DRT2-OD08C  
DRT2-OD08C-1

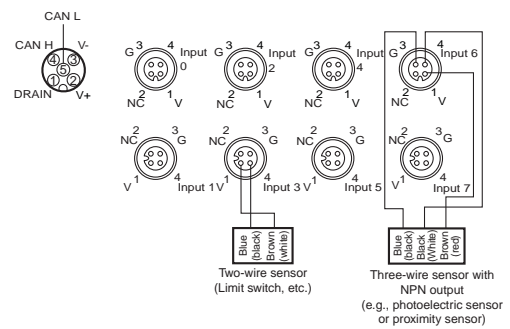


# Wiring Diagrams

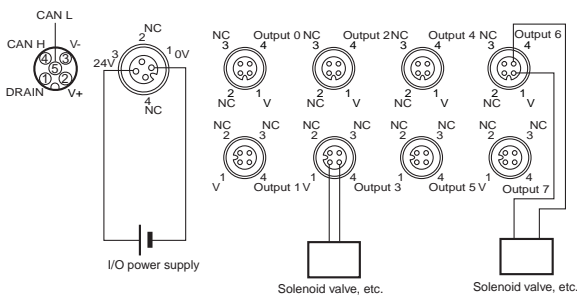
## DRT2-ID08C (NPN)



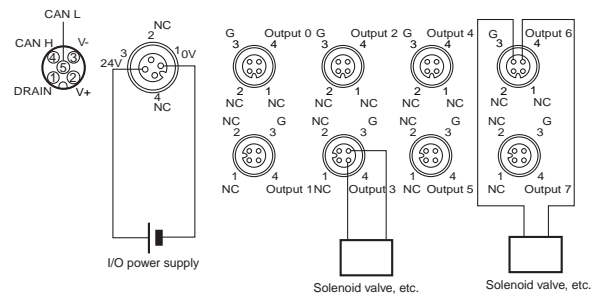
## DRT2-ID08C-1 (PNP)



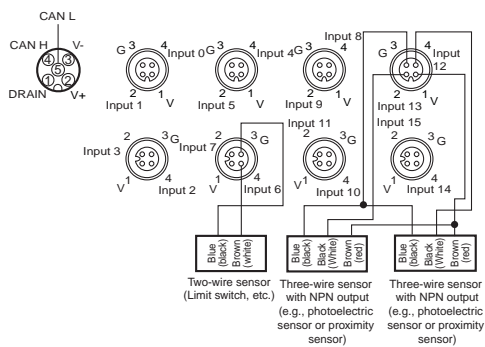
## DRT2-OD08C (NPN)



## DRT2-OD08C-1 (PNP)



## DRT2-HD16C (NPN)



## DRT2-HD16C-1 (PNP)

