

e-CON Connector Terminals

DRT2-□D16S(-1)

**Includes Sensor Connector That
Conforms to Industry Standards
And Can Be Used to Connect
Sensors with Pre-wired Cables
without Using Special Tools.**



- Equipped with the standard Smart Slave functions that provide powerful preventative maintenance and troubleshooting capabilities.
- Digital I/O Terminal compatible with industry-standard sensor connectors
- Connect sensors easily without special tools. Reduce time required for wiring.
- Load short-circuit detection.

Smart Slave Functions

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

Ordering Information

Specifications			I/O connections	Rated internal circuit power supply voltage	Rated I/O power supply voltage	Model
Inputs	NPN (+ common)	16 inputs	Sensor connector	Supplied from the communications connector	Supplied from the communications connector	DRT2-ID16S
	PNP (- common)					DRT2-ID16S-1
I/O	NPN (input: + common, output: - common)	8 inputs/ 8 outputs			Supplied from external source for outputs	DRT2-MD16S
	PNP (input: - common, output: + common)					DRT2-MD16S-1

General Specifications

Item	Model	DRT2-ID16S(-1)	DRT2-MD16S(-1)
Communications power supply voltage		11 to 25 VDC	
Communications power supply current consumption		45 mA max. (24 VDC), 80 mA max. (11 VDC)	
Unit power supply voltage		Not required (Supplied from the communications connector.)	
I/O power supply voltage		20.4 to 26.4 VDC (24 VDC -15%/+10%)	
Current consumption		Communications power supply: 230 mA max.	Communications power supply: 135 mA max.
Dielectric strength		500 VAC between isolated circuits	
Noise immunity		Conforms to IEC61000-4-4, 2 kV (power line)	
Vibration resistance		10 to 60 Hz, 0.7-mm double amplitude, 60 to 150 Hz, 50 m/s ² for 80 min each in the X, Y, and Z directions	
Shock resistance		150m/s ² , 6 directions, 3 times each	
Mounting method		DIN 35 mm-track mounting or M4 screw mounting	
Screw tightening torque		M2 (communications connector screws): 0.26 to 0.3 N·m M4 (unit mounting): 0.6 to 0.98 N·m	
Ambient operating temperature		-10°C to 55°C	

Item	Model	DRT2-ID16S(-1)	DRT2-MD16S(-1)
Ambient operating humidity		25 to 85% (with no condensation)	
Ambient storage temperature		-25°C to 65°C	
Weight		90 g max.	95 g max.

Output Specifications**● Terminals with 8 Inputs and 8 Outputs**

Item	Model	DRT2-MD16S	DRT2-MD16S-1
Internal I/O common		NPN	PNP
I/O points		8 outputs	
Rated output current		0.3 A/point, 2.4 A/common	0.3 A/point, 1.6 A/common
Residual voltage		1.2 VDC max. (0.3 A DC between output and G terminal)	1.2 VDC max. (0.3 A DC between output and V terminal)
Leakage current		0.1 mA max.	
ON delay time		1.5 ms max.	
OFF delay time		1.5 ms max.	
Number of circuits per common		8 per common	
Load short-circuit detection current		2.4 A min./common	1.6 A min./common

Input Specifications

● Terminals with 16 Inputs

Item	Model	DRT2-ID16S	DRT2-ID16S-1
Internal I/O common		NPN	PNP
I/O points		16 inputs	
ON voltage		9 VDC min. (between each input terminal and V)	9 VDC min. (between each input terminal and G)
OFF voltage		5 VDC max. (between each input terminal and V)	5 VDC max. (between each input terminal and G)
OFF current		1 mA max.	
Input current		11 mA max./point (at 24 VDC) 3.0 mA min./point (at 11 VDC)	
ON delay time		1.5 ms max.	
OFF delay time		1.5 ms max.	
Number of circuits per common		16 per common	
Sensor short-circuit detection current		The total current for all of the following input points is monitored to detect sensor short-circuits. IN0/IN1, IN2/IN3, IN4/IN5, IN6/IN7, IN8/IN9, IN10/IN11, IN12/IN13, IN14/IN15	

● Terminal with 8 Inputs/8 Outputs

Item	Model	DRT2-MD16S	DRT2-MD16S-1
Internal I/O common		NPN	PNP
I/O points		8 inputs	
ON voltage		9 VDC min. (between each input terminal and V)	9 VDC min. (between each input terminal and G)
OFF voltage		5 VDC max. (between each input terminal and V)	5 VDC max. (between each input terminal and G)
OFF current		1 mA max.	
Input current		11 mA max./point (at 24 VDC) 3.0 mA min./point (at 11 VDC)	
ON delay time		1.5 ms max.	
OFF delay time		1.5 ms max.	
Number of circuits per common		8 per common	
Sensor short-circuit detection current		The total current for all of the following input points is monitored to detect sensor short-circuits. IN0/IN1, IN2/IN3, IN4/IN5, IN6/IN7	

Applicable Connectors (sold separately)

● OMRON Connectors

Model	Specifications	Compatible wire size
XN2A-1470	Spring-clamp style	Stranded wire 28 to 20 AWG (0.08 to 0.5 mm ²) wire, 1.5 mm max. outer diameter including insulation

● Tyco Electronics Connectors

Model	Color of housing	Compatible wire size
3-1473562-4	Orange	0.6 to 0.9 mm max. outer diameter including insulation
1-1473562-4	Red	0.9 to 1.0 mm max. outer diameter including insulation
1473562-4	Yellow	1.0 to 1.15 mm max. outer diameter including insulation
2-1473562-4	Blue	1.15 to 1.35 mm max. outer diameter including insulation
4-1473562-4	Green	1.35 to 1.60 mm max. outer diameter including insulation

Wire size: 0.08 to 0.5 mm²

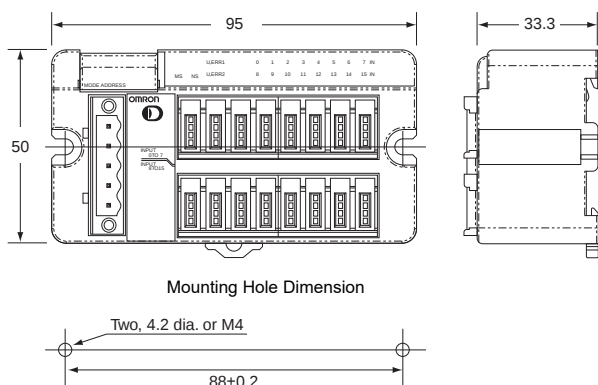
● Sumitomo 3M Connectors

Model	Specifications/color of housing	Compatible wire size
37104-3101-000FL	Red	26 to 24 AWG (0.14 to 0.2 mm ²) wire, 0.8 to 1.0 mm max. outer diameter including insulation
37104-3122-000FL	Yellow	26 to 24 AWG (0.14 to 0.2 mm ²) wire, 1.0 to 1.2 mm max. outer diameter including insulation
37104-3163-000FL	Orange	26 to 24 AWG (0.14 to 0.2 mm ²) wire, 1.2 to 1.6 mm max. outer diameter including insulation
37104-2124-000FL	Green	22 to 20 AWG (0.3 to 0.5 mm ²) wire, 1.0 to 1.2 mm max. outer diameter including insulation
37104-2165-000FL	Blue	22 to 20 AWG (0.3 to 0.5 mm ²) wire, 1.2 to 1.6 mm max. outer diameter including insulation
37104-2206-000FL	Gray	22 to 20 AWG (0.3 to 0.5 mm ²) wire, 1.6 to 2.0 mm max. outer diameter including insulation

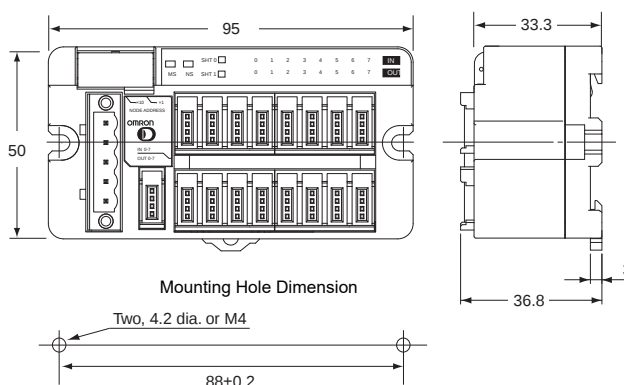
Dimensions

(Unit: mm)

DRT2-ID16S(-1)

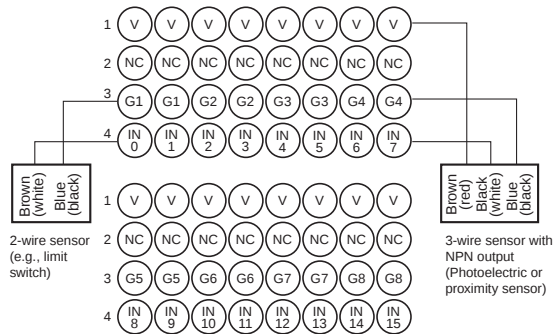


DRT2-MD16S(-1)

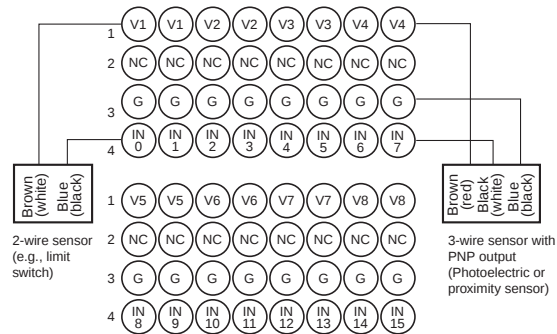


Wiring Diagrams

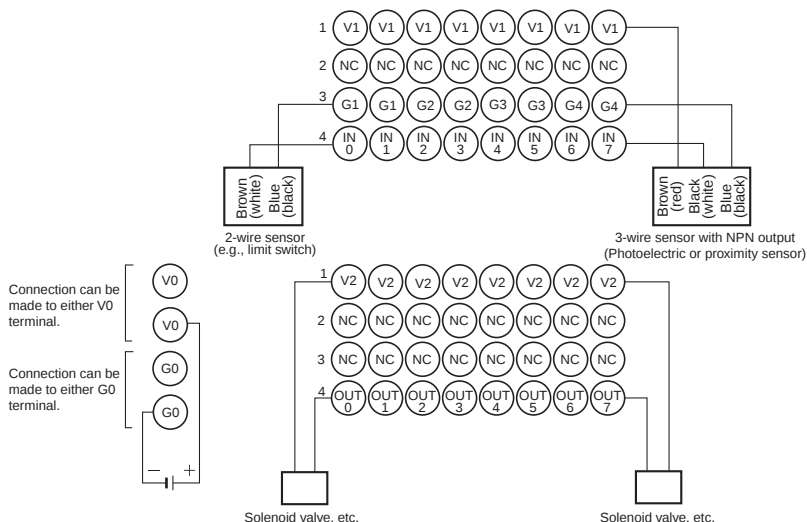
DRT2-ID16S (NPN)



DRT2-ID16S-1 (PNP)



DRT2-MD16S (NPN)



DRT2-MD16S-1 (PNP)

