MIL Connector Terminals with Transistors

DRT2-□D32ML(-1)/□D16ML(-1)

Very Compact 16-/32-point Remote Terminals

- Used in combination with Interface Conversion Boards (e.g., D-Sub) to connect to a wide range of interfaces.
- 35 x 60 x 80 mm (W x D x H)

Smart Slave Functions

Operation time monitor	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	Communications error log function
Input filter (input or I/O only)	Power-ON inrush current protection (input or I/O only)	
Communications speed auto-detection	No need to wire Unit 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)	32 points	MIL connector	Supplied from the communications connector	24 VDC	**DRT2-ID32ML**
	PNP (- common)					**DRT2-ID32ML-1**
Outputs	NPN (- common)					**DRT2-OD32ML**
	PNP (+ common)					**DRT2-OD32ML-1**
I/O	NPN (input: + common, output: - common)	16 inputs/ 16 outputs				**DRT2-MD32ML**
	PNP (input: - common, output: + common)					**DRT2-MD32ML-1**
Inputs	NPN (+ common)	16 points	MIL connector			**DRT2-ID16ML**
	PNP (- common)					**DRT2-ID16ML-1**
Outputs	NPN (- common)					**DRT2-OD16ML**
	PNP (+ common)					**DRT2-OD16ML-1**
Inputs	NPN (+ common)		MIL connector (Connector with 10-cm cable)			**DRT2-ID16MLX**
	PNP (- common)					**DRT2-ID16MLX-1**
Outputs	NPN (- common)					**DRT2-OD16MLX**
	PNP (+ common)					**DRT2-OD16MLX-1**
Mounting Bracket						**SRT2-ATT02**

General Specifications

Communications power supply voltage	11 to 25 VDC (Supplied from the communications connector.)
Communications power supply current consumption	DRT2-ID32ML(-1): 100 mA DRT2-OD32ML(-1): 120 mA DRT2-MD32ML(-1): 110 mA DRT2-ID16ML(-1): 80 mA DRT2-OD16ML(-1): 80 mA DRT2-ID16MLX(-1): 80 mA DRT2-OD16MLX(-1): 80 mA
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
Shock resistance	150m/s^2
Dielectric strength	500 VAC (between isolated circuits)
Insulation resistance	20 MΩ min.
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	-25°C to 65°C
Mounting method	DIN 35 mm-track mounting
Weight	120 g max. ✻

✻ The Connector Cable provided with the DRT2-ID16MLX(-1) and DRT2-OD16MLX(-1) is 10 g max.

Input Specifications

● 32-point Inputs Terminals with Connectors

Item / Model	DRT2-ID32ML	DRT2-ID32ML-1
Internal I/O common	NPN	PNP
I/O points	32 inputs	
ON voltage	17 VDC min. (between each input terminal and V)	17 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	1.0 mA max.	
Input current	24 VDC: 6.0 mA max./point 17 VDC: 3.0 mA max./point	
ON delay time	1.5 ms max.	
OFF delay time	1.5 ms max.	
Number of circuits per common	32 per common	

● 16-point Inputs/16-point Outputs Terminals with Connectors
● 16-point Inputs Terminals with Connectors

Model / Item	DRT2-MD32ML DRT2-ID16ML DRT2-ID16MLX	DRT2-MD32ML-1 DRT2-ID16ML-1 DRT2-ID16MLX-1
Internal I/O common	NPN	PNP
I/O points	16 inputs	
ON voltage	17 VDC min. (between each input terminal and V)	17 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	1.0 mA max.	
Input current	24 VDC: 6.0 mA max./point 17 VDC: 3.0 mA max./point	
ON delay time	1.5 ms max.	
OFF delay time	1.5 ms max.	
Number of simultaneously inputs	16	
Number of circuits per common	16 per common	

Output Specifications

● 32-point Outputs Terminals with Connectors

Item / Model	DRT2-OD32ML	DRT2-OD32ML-1
Internal I/O common	NPN	PNP
I/O points	32 outputs	
Rated output current	0.3 A/point, 4 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	0.5 ms max.	
OFF delay time	1.5 ms max.	
Number of circuits per common	32 per common	

✻ The maximum total load current is 4 A.
The maximum current for the V and G terminals is 1 A per terminal.

● 16-point Inputs/16-point Outputs Terminals with Connectors
● 16-point Outputs Terminals with Connectors

Model / Item	DRT2-MD32ML DRT2-OD16ML DRT2-OD16MLX	DRT2-MD32ML-1 DRT2-OD16ML-1 DRT2-OD16MLX-1
Internal I/O common	NPN	PNP
I/O points	16 outputs	
Rated output current	0.3 A/point, 4 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	0.5 ms max.	
OFF delay time	1.5 ms max.	
Number of circuits per common	16 per common	

✻ The maximum total load current is 2 A.
The maximum current for the V and G terminals is 1 A per terminal.

Applicable Connectors

● 32-point Models

Product		Model	Remarks
Flat Cable, crimp terminals		XG4M-4030-T	
Stranded-wire cable, crimp terminals	Socket	XG5M-4032-N	For AWG24 wire
		XG5M-4035-N	For AWG26 to AWG28 wire
	Partial Cover	XG5S-2001	
	Hood Cover ✻	XG5S-4022	

✻ DeviceNet connectors for multi-drop wiring cannot be used with the Hood Cover.

● 16-point Models

Product		Model	Remarks
Flat Cable, crimp terminals		XG4M-2030-T	
Stranded-wire cable, crimp terminals	Socket	XG5M-2032-N	For AWG24 wire
		XG5M-2035-N	For AWG26 to AWG28 wire
	Partial Cover	XG5S-1001	
	Hood Cover ✻	XG5S-2012	

Applicable Cables

● Cables for Connector Terminal Conversion Units (16 Points)

Cables with Connectors (1-to-1 Connection)

Model	Applicable cable	Connectable model	Remarks
DRT2-ID16ML DRT2-ID16ML-1 DRT2-OD16ML DRT2-OD16ML-1	G79-O□C	XW2D-20G6 XW2B-20G5 XW2B-20G4 XW2C-20G6-IO16	Connector Terminal Conversion Unit

● Cables for I/O Relay Terminals (16 Points)

Cables with Connectors (1-to-1 Connection)

Model	Applicable cable	Connectable model	Remarks
DRT2-ID16ML	G79-I□C	G7TC-ID16 G7TC-IA16	For I/O Relay Terminal inputs
DRT2-ID16ML-1	--	--	(No applicable model)
DRT2-OD16ML	G79-O□C	G7TC-OC16/OC08 G70D-SOC16/VSOC16 G70D-FOM16/VFOM16 G70A-ZOC16-3 G70D-SOC08 G70R-SOC08	For I/O Relay Terminal outputs
DRT2-OD16ML-1	G79-I□C	G7TC-OC16-1	For I/O Relay Terminal outputs
	G79-O□C	G70D-SOC16-1 G70D-FOM16-1 G70A-Z0C16-4	For I/O Relay Terminal outputs

● Cables for Connector Terminal Conversion Units (32 Points)

Cables with Connectors (1-to-2 Connection)

Model	Applicable cable	Connectable model	Remarks
DRT2-ID32ML DRT2-ID32ML-1 DRT2-OD32ML DRT2-OD32ML-1 DRT2-MD32ML DRT2-MD32ML-1	XW2Z-□□□N	XW2D-20G6 (two units) XW2B-20G5 (two units) XW2B-20G4 (two units) XW2C-20G6-IO16 (two units)	Connector Terminal Conversion Unit (20 pins)

Cables with Connectors (1-to-1 Connection)

Model	Applicable cable	Connectable model	Remarks
DRT2-ID32ML DRT2-ID32ML-1 DRT2-OD32ML DRT2-OD32ML-1 DRT2-MD32ML DRT2-MD32ML-1	XW2Z-□□□K	XW2D-40G6 XW2B-40G5 XW2B-40G4	Connector Terminal Conversion Unit (40 pins)

● Cables for I/O Relay Terminals (32 Points)

Cables with Connectors (1-to-2 Connection)

Model	Applicable cable	Connectable model	Remarks
DRT2-ID32ML	G79-I□-□-D1	G7TC-ID16 G7TC-IA16	For I/O Relay Terminal inputs
DRT2-ID32ML-1	--	--	(No applicable model)
DRT2-OD32ML	G79-O□-□-D1	G7TC-OC16/OC08 G70D-SOC16/VSOC16 G70D-FOM16/VFOM16 G70A-ZOC16-3 G70D-SOC08 G70R-SOC08	For I/O Relay Terminal outputs
DRT2-OD32ML-1	G79-I□-□-D1	G7TC-OC16-1	For I/O Relay Terminal outputs
	G79-O□-□-D1	G70D-SOC16-1 G70D-FOM16-1 G70A-ZOC16-4	
DRT2-MD32ML	G79-M□-□-D1	[For input] G7TC-ID16 G7TC-IA16 [For output] G7TC-OC16/OC08 G70D-SOC16/VSOC16 G70D-FOM16/VFOM16 G70A-ZOC16-3 G70D-SOC08 G70R-SOC08	For I/O Relay Terminal inputs For I/O Relay Terminal outputs
DRT2-MD32ML-1	G79-M□-□-D1	[For input] -- [For output] G70D-SOC16-1 G70D-FOM16-1 G70A-ZOC16-4	For I/O Relay Terminal inputs For I/O Relay Terminal outputs

● Stranded-wire Cables with Crimp Terminals

Model	Applicable cable	Remarks
DRT2-ID16ML (-1) DRT2-OD16ML (-1)	G79-Y□C	20-pin connector
DRT2-ID16ML (-1) DRT2-OD16ML (-1) DRT2-MD16ML (-1)	G79-Y□C-D1	40-pin connector

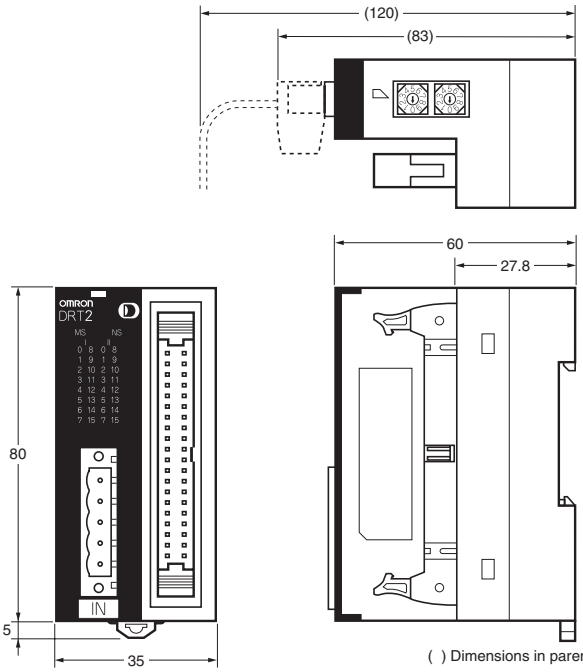
● Stranded-wire Cables

Model	Applicable cable	Remarks
DRT2-ID16ML (-1) DRT2-OD16ML (-1)	G79-A□C	20-pin connector
DRT2-ID16ML (-1) DRT2-OD16ML (-1) DRT2-MD16ML (-1)	G79-A□C-D1	40-pin connector

Dimensions

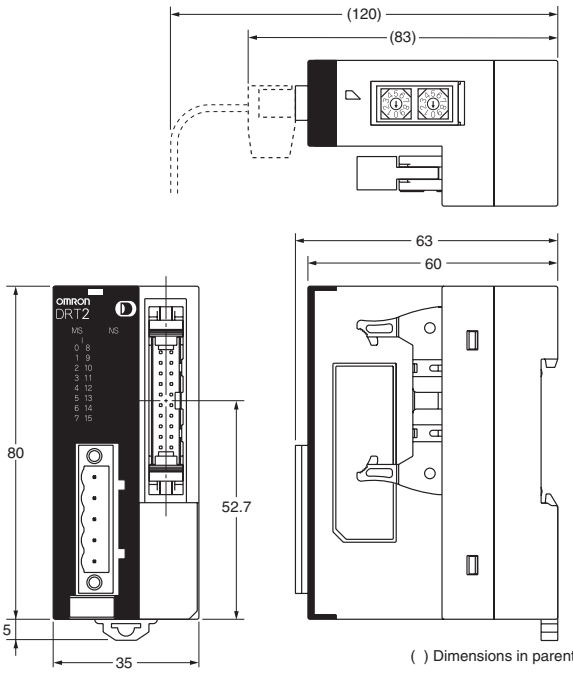
(Unit: mm)

DRT2-ID32ML(-1)
DRT2-OD32ML(-1)
DRT2-MD32ML(-1)



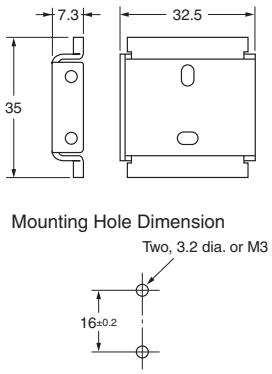
( ) Dimensions in parentheses are reference values.

DRT2-ID16ML(-1)
DRT2-OD16ML(-1)
DRT2-ID16MLX(-1)
DRT2-OD16MLX(-1)

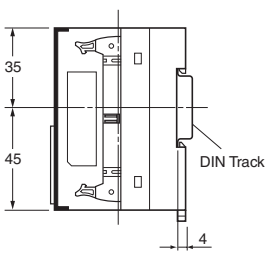


( ) Dimensions in parentheses are reference values.

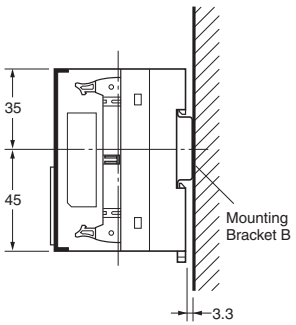
● Mounting Bracket B (Accessory)
SRT2-ATT02



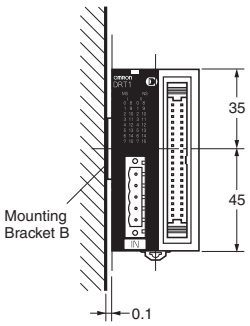
(DIN Track mounting)



(Vertical mounting on wall)

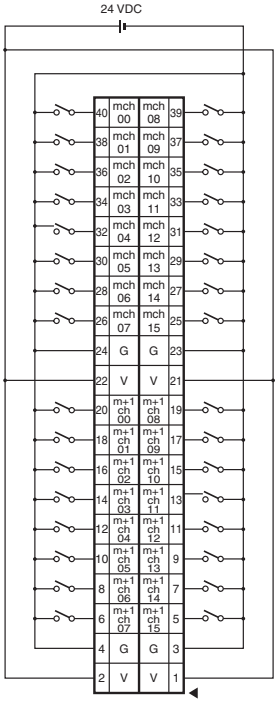


(Horizontal mounting on wall)

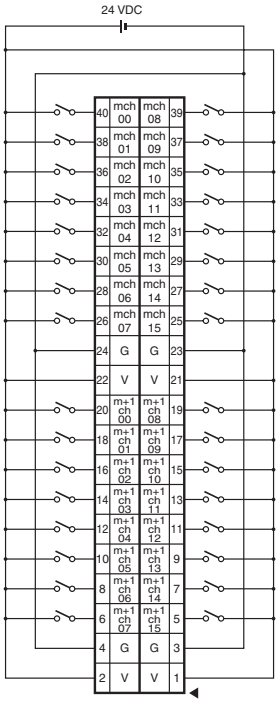


Wiring Diagrams

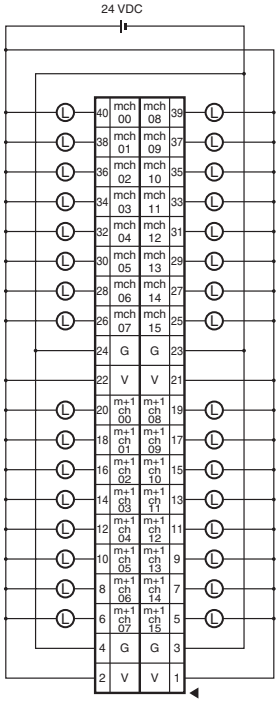
DRT2-ID32ML



DRT2-ID32ML-1



DRT2-OD32ML



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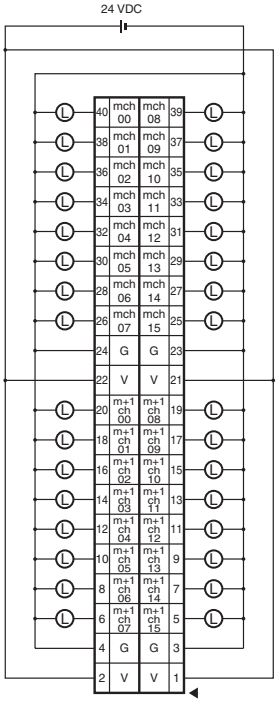
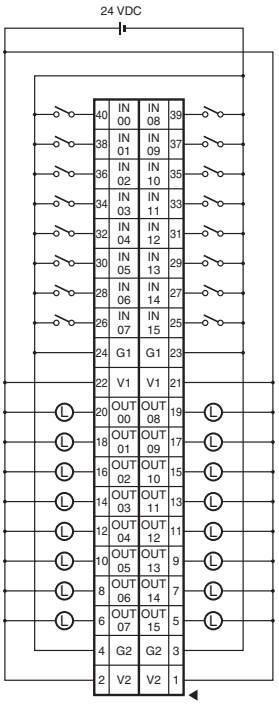
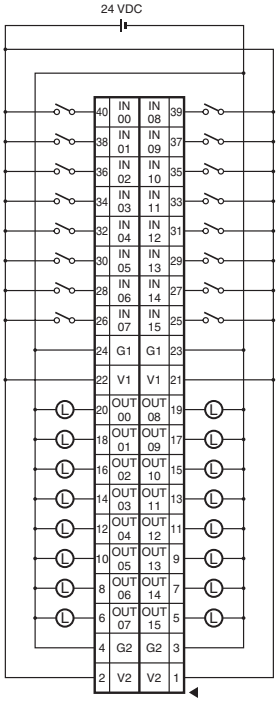


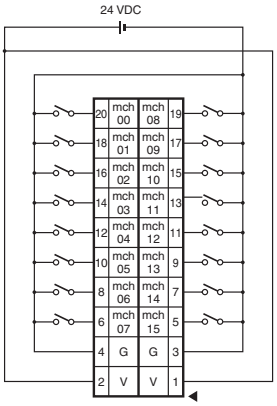
DRT2-MD32ML



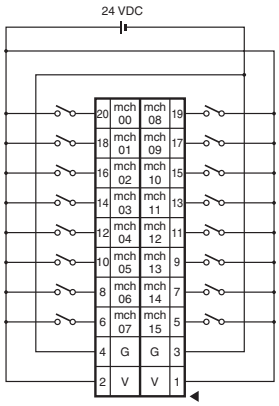
DRT2-MD32ML-1



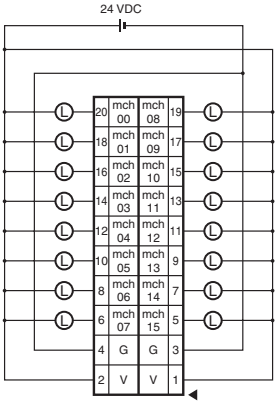
DRT2-ID16ML(X) (NPN)



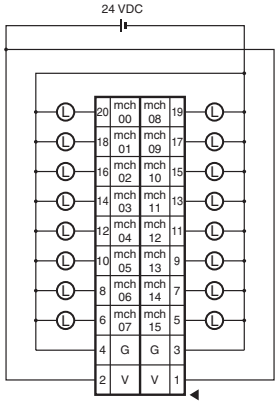
DRT2-ID16ML(X)-1 (PNP)



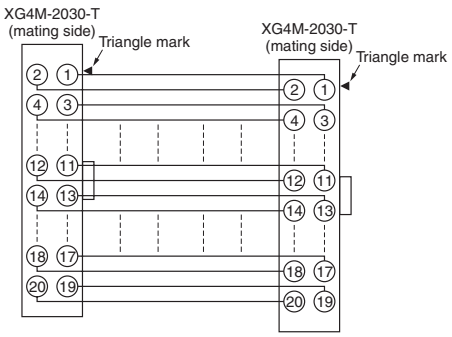
DRT2-OD16ML(X) (NPN)



DRT2-OD16ML(X)-1 (PNP)



Wiring Diagram of Connector Cable Provided with the DRT2-ID16MLX(-1) and DRT2-OD16MLX(-1)



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2012.5

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