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OMRON

Remote Adapter

DRT1-ID16X (-1)/ OD16X (-1)

Compact Remote Adapter with Sixteen I/O Points

- As compact as 85 (W) x 40 (H) x 50 (D) mm.
- Relay and power MOS FET Relay outputs are available in combination with the G70D or other I/O Terminals.
- Direct connection to SMC valves with DRT1 –OD16X.
- Two independent power supplies can be used because the I/O terminals are insulated from the internal circuits.
- DIN track mounting and screw mounting are available.
- Approved by UL and CSA.



Ordering Information

I/O classification	Internal I/O circuit common	I/O points	Terminal	Rated voltage	I/O rated voltage	Model
Input	NPN (+ common)	16	MIL socket flat cable connector	24 VDC	24 VDC	DRT1-ID16X
	PNP (– common)					DRT1-ID16X-1
Output	NPN (– common)					DRT1-OD16X
	PNP (+ common)					DRT1-OD16X-1

Specifications

■ Ratings

Input

Item		DRT1-ID16X (-1)
Input current		10 mA max./point (see note)
ON delay time		9 ms max.
OFF delay time		14.5 ms max.
ON voltage	**NPN**	15 VDC min. between each input connector pin and V
	PNP	15 VDC min. between each input connector pin and G
OFF voltage	**NPN**	5 VDC max. between each input connector pin and V
	PNP	5 VDC max. between each input connector pin and G
OFF current		0.8 mA max.
Insulation method		Photocoupler
Input indicators		LED (yellow)

Note: The number of inputs must be 8 on average for each five-minute period.

Output

Item	DRT1-OD16X (-1)
Rated output current	30 mA/point
Residual voltage	1.2 V max.
Leakage current	0.1 mA max.
Insulation method	Photocoupler
Output indicators	LED (yellow)

■ Characteristics

Physical layer power supply voltage	11 to 25 VDC (supplied from the communications connector)
Internal power supply voltage	24 VDC $^{+10\%}/_{-15\%}$
I/O power supply voltage	24 VDC $^{+10\%}/_{-15\%}$
Current consumption (see note)	Communications: 30 mA max. at 24 VDC Internal circuit: 60 mA max. at 24 VDC for DRT-ID16X-1, DRT1-OD16X-1 70 mA max. at 24 VDC for DRT1-ID16X 90 mA max. at 24 VDC for DRT1-OD16X
Dielectric strength	500 VAC for 1 min (1-mA sensing current between insulated circuits)
Noise immunity	Power supply normal: ±600 V for 10 minutes with a pulse width of 100 ns to 1 μs Power supply common: ±1,500 V for 10 minutes with a pulse width of 100 ns to 1 μs
Vibration resistance	10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Malfunction: 200 m/s^2 (approx. 20G) Destruction: 300 m/s^2 (approx. 30G)
Mounting strength	No damage when 50 N (approx. 5 kgf) pull load was applied for 10 s in all directions (10 N min. (approx. 1 kgf) in the DIN Track direction)
Terminal strength	No damage when 50 N (approx. 5 kgf) pull load was applied for 10 s
Screw tightening torque	0.6 to 1.18 N • m (6 to 12 kgf • cm)
Ambient temperature	Operating: 0°C to 55°C (with no icing or condensation) Storage: –20°C to 65°C (with no icing or condensation)
Ambient humidity	Operating: 35% to 85%
Weight	95 g max.

Note: The above current consumption is a value with all the points turned ON excluding the current consumption of the external sensor connected to the input Remote Module and the current consumption of the load connected to the output Remote Module.

■ Connecting DRT1-ID16X (-1)/OD16X (-1) to I/O Terminals

I/O terminals		Remote Adapter
Input terminal	G7TC-ID16-5, G7TC-IA16-5	DRT1-ID16X
Output terminal	G70D-SOC16, G70D-FOM16, G7TC-OC16, G7TC-OC08, G70A-ZOC16-3	DRT1-OD16X

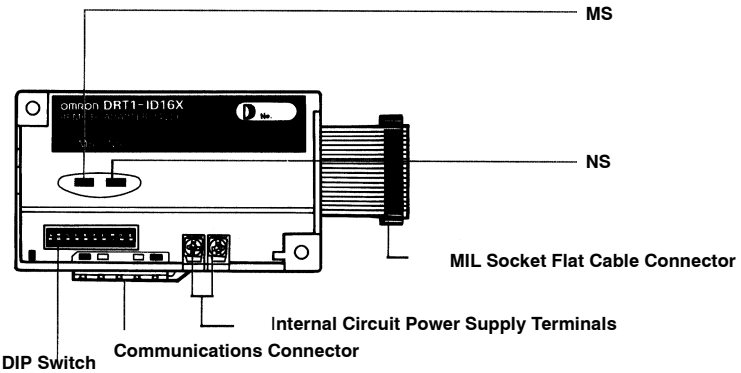
Note: A combination other than the above is not available. Do not connect the DRT1-OD16X to Input Terminals or PNP-type Terminals. Doing so may result in damage to the DRT1-OD16X due to polarity difference.

MIL Socket Flat Cable Connector (Order Separately)

XG4A92031	DIP straight terminal connector plug
XG4A-2034	DIP L terminal connector plug

Nomenclature

DRT1-□D16X

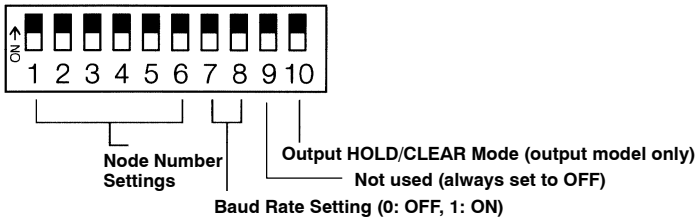


Used for node number setting, baud rate settings, and holding or clearing outputs for communications error.

Note: 1. Always turn OFF the Module and the communications power supply before changing DIP switch settings.
2. Pin 9 is not used. Always set pin 9 to OFF.

Indicators

Indicator	Color	Display	Meaning
MS	Green	Lit	The Module is normal.
		Flashes	No node number has been set.
	Red	Lit	The Module has a fatal error.
		Flashes	The Module has a nonfatal error.
	---	Not lit	No power is supplied to the Module.
NS	Green	Lit	The communications path is complete.
		Flashes	The communications path is incomplete.
	Red	Lit	A fatal communications error has occurred.
		Flashes	A nonfatal communications error has occurred.
	---	Not lit	The communications power supply is OFF.



Baud Rate Settings

	Pin 8	Pin 7
125,000 bps	OFF	OFF
250,000 bps	OFF	ON
500,000 bps	ON	OFF

Note: 1. Setting both pins 7 and 8 to ON is not allowed.
2. Pins 7 and 8 are factory-set to OFF.

Output HOLD/CLEAR Mode

Mode	Pin 10
HOLD	ON
CLEAR	OFF

Note: 1. Pin 9 is NC.
2. Pin 10 of the DRT1-ID16X is not used.
3. Pin 10 is factory-set to OFF.

Node Number Settings

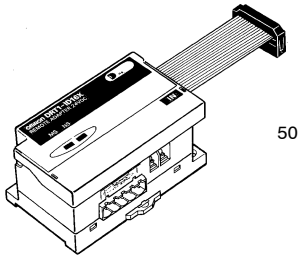
Node number	Pin 6	Pin 5	Pin 4	Pin 3	Pin 2	Pin 1	Node number	Pin 6	Pin 5	Pin 4	Pin 3	Pin 2	Pin 1
	32	16	8	4	2	1		32	16	8	4	2	1
0	OFF	OFF	OFF	OFF	OFF	OFF	32	ON	OFF	OFF	OFF	OFF	OFF
1	OFF	OFF	OFF	OFF	OFF	ON	33	ON	OFF	OFF	OFF	OFF	ON
2	OFF	OFF	OFF	OFF	ON	OFF	34	ON	OFF	OFF	OFF	ON	OFF
3	OFF	OFF	OFF	OFF	ON	ON	35	ON	OFF	OFF	OFF	ON	ON
4	OFF	OFF	OFF	ON	OFF	OFF	36	ON	OFF	OFF	ON	OFF	OFF
5	OFF	OFF	OFF	ON	OFF	ON	37	ON	OFF	OFF	ON	OFF	ON
6	OFF	OFF	OFF	ON	ON	OFF	38	ON	OFF	OFF	ON	ON	OFF
7	OFF	OFF	OFF	ON	ON	ON	39	ON	OFF	OFF	ON	ON	ON
8	OFF	OFF	ON	OFF	OFF	OFF	40	ON	OFF	ON	OFF	OFF	OFF
9	OFF	OFF	ON	OFF	OFF	ON	41	ON	OFF	ON	OFF	OFF	ON
10	OFF	OFF	ON	OFF	ON	OFF	42	ON	OFF	ON	OFF	ON	OFF
11	OFF	OFF	ON	OFF	ON	ON	43	ON	OFF	ON	OFF	ON	ON
12	OFF	OFF	ON	ON	OFF	OFF	44	ON	OFF	ON	ON	OFF	OFF
13	OFF	OFF	ON	ON	OFF	ON	45	ON	OFF	ON	ON	OFF	ON
14	OFF	OFF	ON	ON	ON	OFF	46	ON	OFF	ON	ON	ON	OFF
15	OFF	OFF	ON	ON	ON	ON	47	ON	OFF	ON	ON	ON	ON
16	OFF	ON	OFF	OFF	OFF	OFF	48	ON	ON	OFF	OFF	OFF	OFF
17	OFF	ON	OFF	OFF	OFF	ON	49	ON	ON	OFF	OFF	OFF	ON
18	OFF	ON	OFF	OFF	ON	OFF	50	ON	ON	OFF	OFF	ON	OFF
19	OFF	ON	OFF	OFF	ON	ON	51	ON	ON	OFF	OFF	ON	ON
20	OFF	ON	OFF	ON	OFF	OFF	52	ON	ON	OFF	ON	OFF	OFF
21	OFF	ON	OFF	ON	OFF	ON	53	ON	ON	OFF	ON	OFF	ON
22	OFF	ON	OFF	ON	ON	OFF	54	ON	ON	OFF	ON	ON	OFF
23	OFF	ON	OFF	ON	ON	ON	55	ON	ON	OFF	ON	ON	ON
24	OFF	ON	ON	OFF	OFF	OFF	56	ON	ON	ON	OFF	OFF	OFF
25	OFF	ON	ON	OFF	OFF	ON	57	ON	ON	ON	OFF	OFF	ON
26	OFF	ON	ON	OFF	ON	OFF	58	ON	ON	ON	OFF	ON	OFF
27	OFF	ON	ON	OFF	ON	ON	59	ON	ON	ON	OFF	ON	ON
28	OFF	ON	ON	ON	OFF	OFF	60	ON	ON	ON	ON	OFF	OFF
29	OFF	ON	ON	ON	OFF	ON	61	ON	ON	ON	ON	OFF	ON
30	OFF	ON	ON	ON	ON	OFF	62	ON	ON	ON	ON	ON	OFF
31	OFF	ON	ON	ON	ON	ON	63	ON	ON	ON	ON	ON	ON

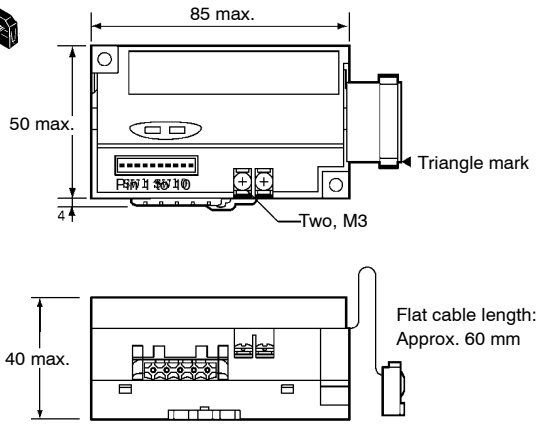
Note: The node number is factory-set to 0.

Dimensions

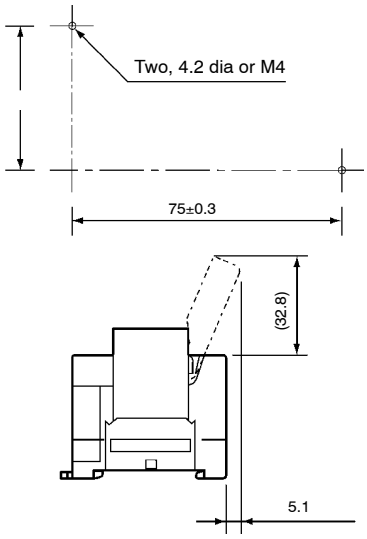
Note: All units are in millimeters unless otherwise indicated.

DRT1-ID16X (-1)
DRT1-OD16X (-1)





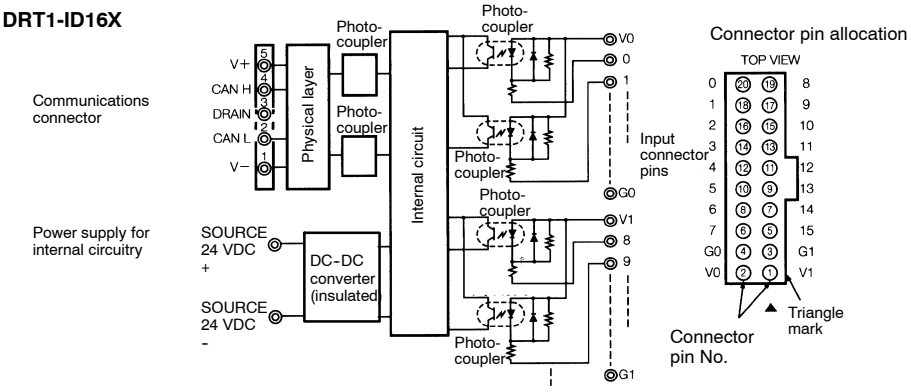
Mounting Holes



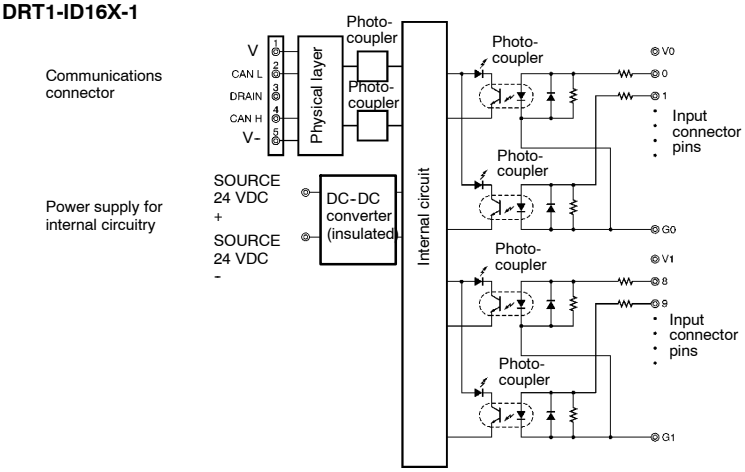
Installation

■ Internal Circuit Configuration

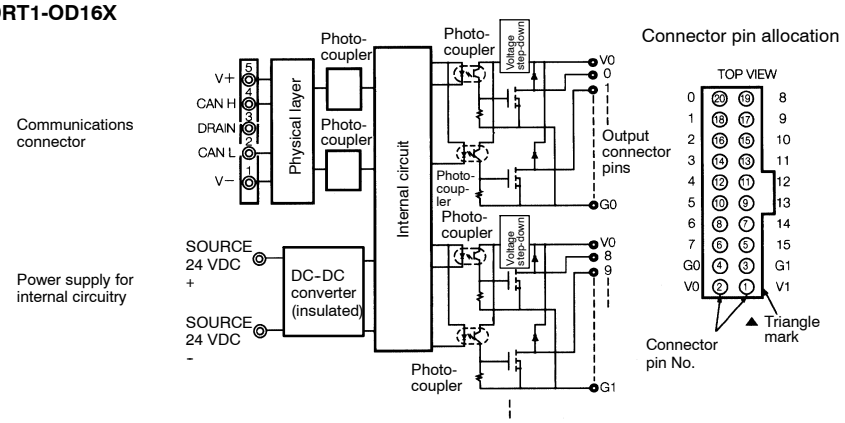
DRT1-ID16X



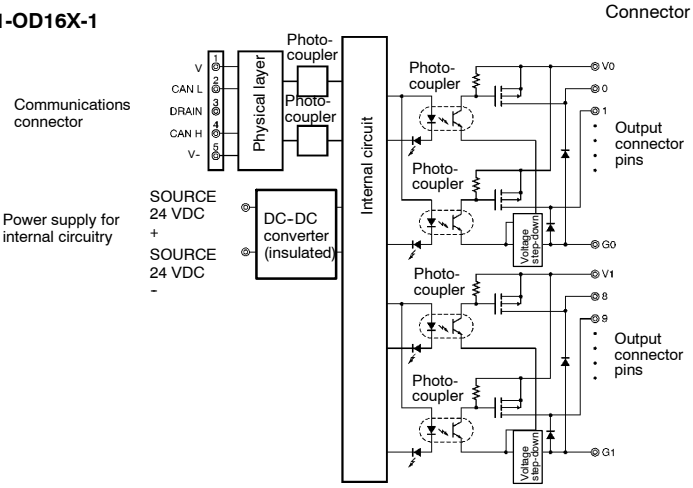
DRT1-ID16X-1



DRT1-OD16X



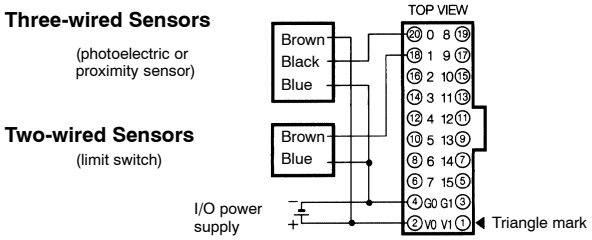
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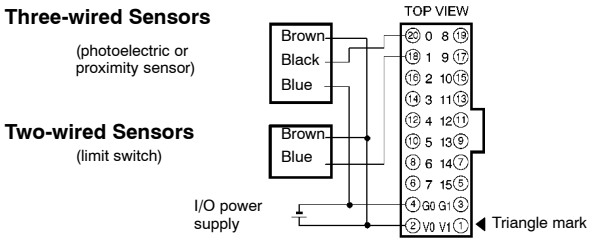
■ Wiring

• Input

DRT1-ID16X

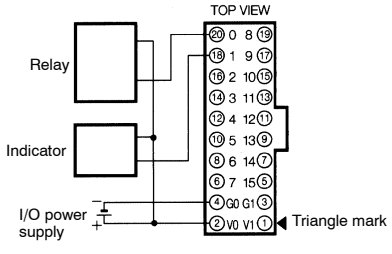


DRT1-ID16X-1

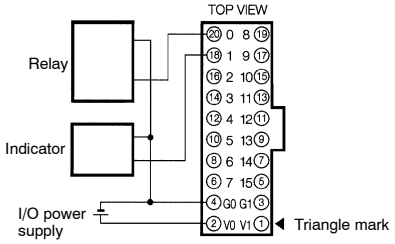


• Output

DRT1-OD16X



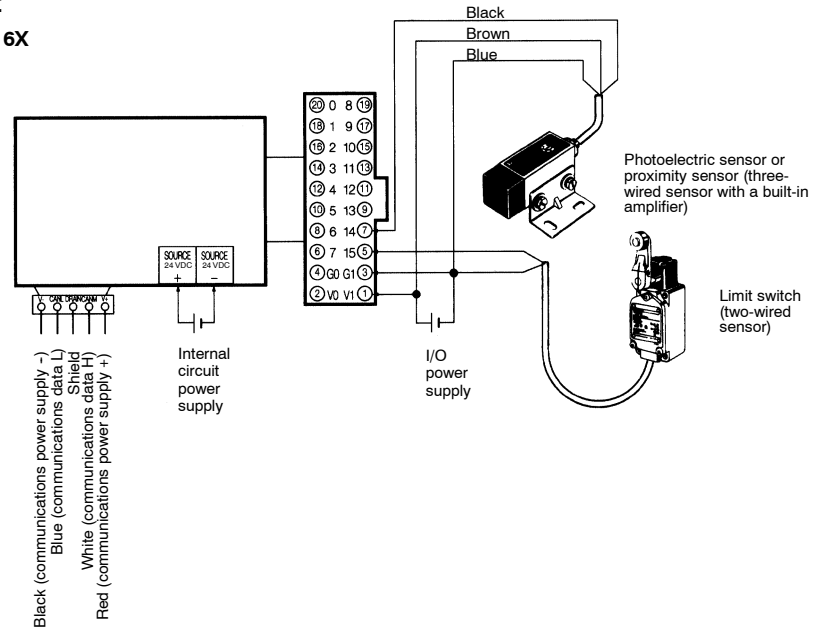
DRT1-OD16X-1



■ Terminal Arrangement and I/O Device Connection Example

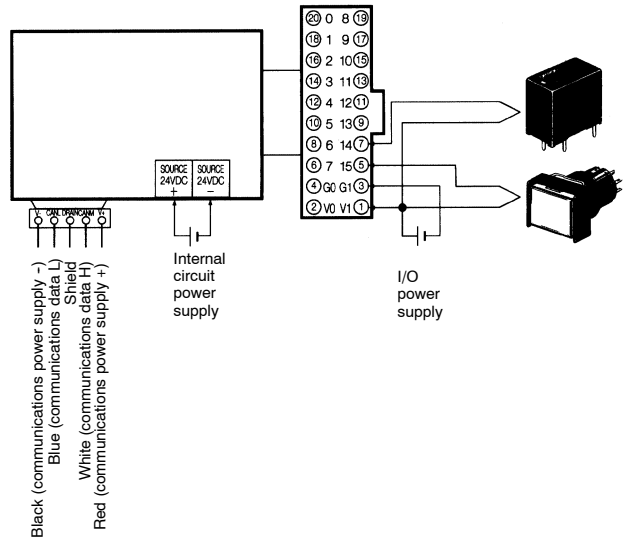
• **Input**

DRT1-ID16X



• **Output**

DRT1-OD16X



Precautions

Refer to the *DeviceNet Operation Manual (W267)* before using the Module. Refer to page 79 for details.

NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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