

High Density Module

DRT1

Ultra-compact 32-point Remote Terminals

- Compact size: 35 x 60 x 80 mm (W x D x H).
- Isolated structure allows separate power supplies to be used for internal circuits and I/O.
- Power is supplied from the communications power supply for the internal circuits.
- Meets UL and CSA safety standards.



Ordering Information

■ Standard Modules

Note: See Cabling & Wiring Device Selection Guide on page 2 for more information.

I/O type	Internal I/O common	Number of I/O points	I/O connectors	Model
Digital input	NPN (+common)	32 points	MIL type connector	DRT1-ID32ML
	PNP (-common)			DRT1-ID32ML-1
Digital I/O	NPN (+common)			DRT1-MD32ML
	PNP (-common)			DRT1-MD32ML-1
Digital output	NPN (+common)			DRT1-OD32ML
	PNP (-common)			DRT1-OD32MLT-1
Mounting bracket B				SRT2-ATT02

■ Compatible Connectors

Product		Comments	Model
Flat cable, crimp terminals		---	XG4M-4030-T
Loose wires, crimp terminals	Partial cover	---	XG5S-2001
Pre-made cable for relay blocks	---	Use with G7TC or G70A or G70D relay blocks (In or Out)	G79-□□□-□□-D1 (See Note 1)
Pre-made cables for wiring blocks	---	Use with XW2B-□□G4 or XW2B-□□G5	XW2Z-□□□-K (See Note 2)

Note: 1. Complete G79 number with 50 - 25 or 75 - 50.

2. Complete XW2Z number with 100 (1 meter), 150 (1.5 meter), 200 (2 meters), or 300 (3 meters).

■ Cabling and Wiring Device Selection Guide

Note: Complete G79 number with 50 - 25 or 75 - 50. Complete XW2Z number with 100 (1 meter), 150 (1.5 meter), 200 (2 meters), or 300 (3 meters).

#In	#Out	Polarity	Cables	Wiring device	High density module
32	---	NPN	G79I□-□-D1	G7TC-IA16/ID16	DRT1-ID32ML
			XW2Z-□□□K	XW2B40G4/G5	
32	---	PNP	XW2Z-□□□K	XW2B40G4/G5	DRT1-ID32ML-1
---	32	NPN	G79-O□-□-D1	G7TC-OC16	DRT1-OD32ML
				G70D-SOC16	
				G70D-VSOC16	
				G70A-ZOC16	
				XW2Z-□□□K	
---	32	PNP	G79-O□-□D1	G70A-ZOC16-4	DRT1-OD32ML-1
			XW2Z-□□□K	XW2B40G4/G5	
			G79-□-□D1	---	
16	---	NPN	G79-M□-□-D1	G7TC-IA16/ID16	DRT1-MD32ML
			XW2Z-□□□K	XW2B40G4/G5	
---	16	NPN	G79-M□-□-D1	G7TC-OC16	DRT1-MD32ML
				G70D-SOC16	
				G70D-VSOC16	
				G70A-ZOC16-3	
				XW2Z-□□□K	
16	---	PNP	XW2Z-□□□K	XW2B40G4/G5	DRT1-MD32ML-1
			G79-M□-□-D1	G70A-ZOC16-4	
---	16	PNP	XW2Z-□□□K	XW2B40G4/G5	

Specifications

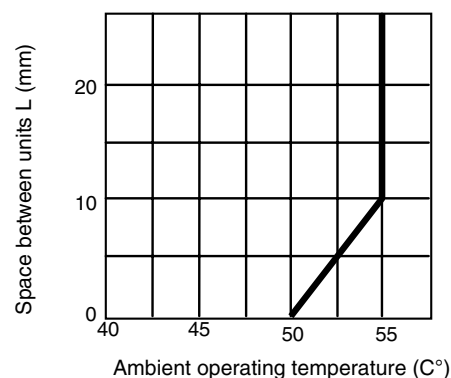
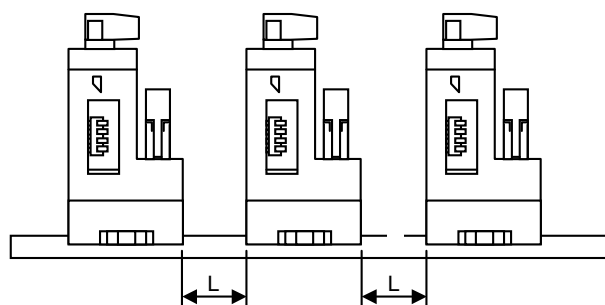
General Specifications

Item	ID32ML/ID32ML-1	MD32ML/MD32ML-1	OD32ML/OD32ML-1
Communication power supply voltage	11 to 25 VDC		
I/O power supply voltage	20.4 to 26.4 VDC		
Current consumption of Communications power supply	50 mA max.	70 mA max.	90 mA max.
Dielectric strength	500 VAC for minute (1 mA current detected between isolated circuits)		
Vibration resistance	10 to 150 Hz, 0.7 mm double amplitude or 50 m/s ²		
Ambient temperature	Operating: -10°C to 55°C Storage: -25°C to 65°C		
Ambient humidity	Operating: 25 to 85% (with no icing or condensation)		
Weight	100g		90g

Input Specifications

Item	ID32ML	MD32ML	ID32ML-1	MD32ML-1
ON voltage	17 VDC min. (between each input pin and V)		17 VDC min. (between each input pin and G)	
OFF voltage	5 VDC max. (between each input pin and V)		5 VDC max. (between each input pin and G)	
OFF current	1.0 mA max.			
Input current	6.0 mA TYP at 24 VDC 3.0 mA min. at 17 VDC			
Input impedance	4.4 kΩ			
ON delay time	1.5 ms max.			
OFF delay time	1.5 ms max.			
Max. number of simultaneous inputs (See Note)	32 inputs	16 inputs	32 inputs	16 inputs
Number of circuits	32 inputs/common 1 circuit	16 inputs/common 1 circuit	32 inputs/common 1 circuit	16 inputs/common 1 circuit

Note: Refer to the ambient operating temperature graph to determine proper spacing between units. Spacing is limited by ambient temperature and the number of points that can be ON simultaneously. For example, when the maximum number of simultaneous input points is 32, at 55°C ambient temperature, the spacing between units must be at least 10 mm.



Output Specifications

Item	OD32ML	MD32ML	OD32ML-1	MD32ML-1
Outputs current	0.3A/point 4A/common (See Note 1,3)	0.3A/point 2A/common (See Note 2,3)	0.3A/point 4A/common (See Note 1,3)	0.3A/point 2A/common (See Note 2,3)
Residual voltage	1.2V max (DC 0.3A).		1.2V (DC 0.3A)	
Leakage current	0.1 mA max at DC24V			
ON delay time	0.5 ms. max.			
OFF delay time	1.5 ms. max.			
Number of circuit	32 points/common 1 circuit	16 points/common 1 circuit	32 points/common 1 circuit	16 points/common 1 circuit

Note: 1. The total load current is 4A.

2. The total load current is 2A.

3. Each V or G pin is 1A.

Operation

Indicator

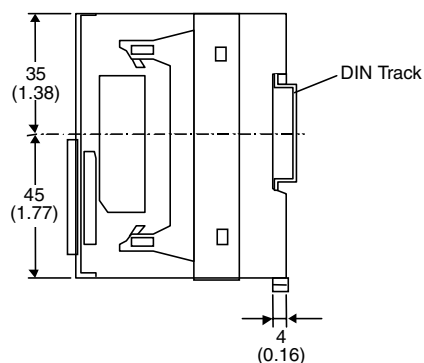
Indicator	Color	Status	Meaning
MS	Green	Lit	The unit is normal
		Flashing	No node has been set
	Red	Lit	The unit has a fatal error
		Flashing	The unit has a non-fatal error
	---	Not lit	No power is supplied to the unit
NS	Green	Lit	Communications connection established
		Flashing	Communications connection is not established
	Red	Lit	Fatal communications error occurred
		Flashing	Non-fatal communications error occurred
	---	Not lit	The communications power supply is OFF
0 to 15	Yellow	Lit	Corresponding I/O signal is ON
		Not Lit	Corresponding I/O signal is OFF

Mounting Method

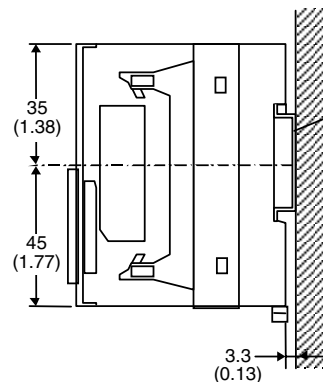
Unit: mm (inch)

The product can be mounted on a 35 mm DIN rail or the attachment (SRT2-ATT02) by using the DIN rail attachment hook of the product. Do not install the product in places to be touched by accident to avoid malfunction caused by static electricity.

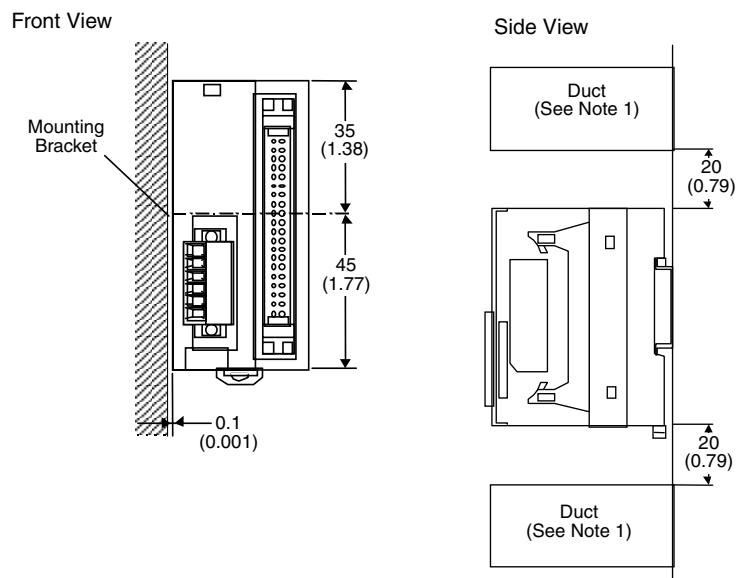
When mounting the product on DIN rail



When mounting the product on the attachment vertically



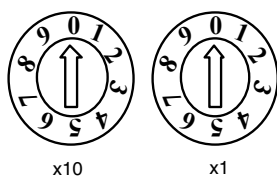
Mounting Clearance for Panel Installation



- Note:**
1. Keep the distance between duct 20 mm minimum.
 2. The attachment (SRT2-ATT02) is not provided with units.
 3. When the product is mounted at panel horizontally, the multi-drop DeviceNet connector (XW4B-05C4-T-D) cannot be used.
 4. When the hood cover (XG5S-4022) is mounted at I/O connector, the multi-drop DeviceNet connector (XW4B-05C4-T-D) cannot be used.

Setting Switch

Rotary Switch

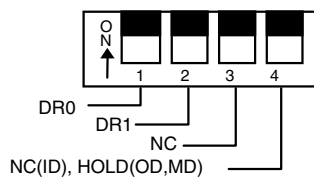


Node Number Setting

x10 switch	Sets the 10's digit of the node number.
x1 switch	Sets the 1's digit of the node number.

- Note:**
1. Set another node number between 0 to 63. Node numbers higher than 63 are not allowed.
 2. The node number is factory-set to 00.

DIP Switch



Note: NC is reserved for the system.

Baud Rate Setting

Switch No.		Baud Rate
DR0	DR1	
OFF	OFF	125 k bps (default setting)
ON	OFF	250 k bps
OFF	ON	500 k bps
ON	ON	---

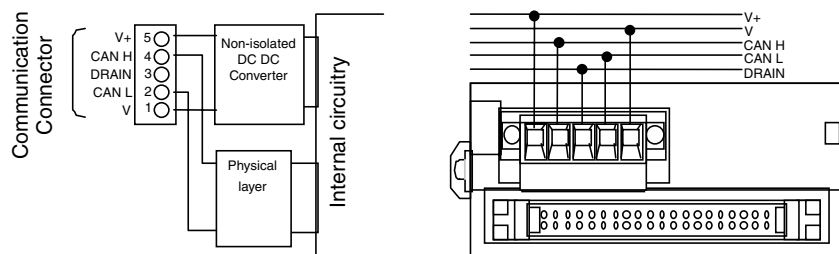
HOLD/CLEAR Setting

Switch No.	Hold/Clear Outputs for Communications Error
HOLD	
OFF	Clear output (default setting)
ON	Hold output

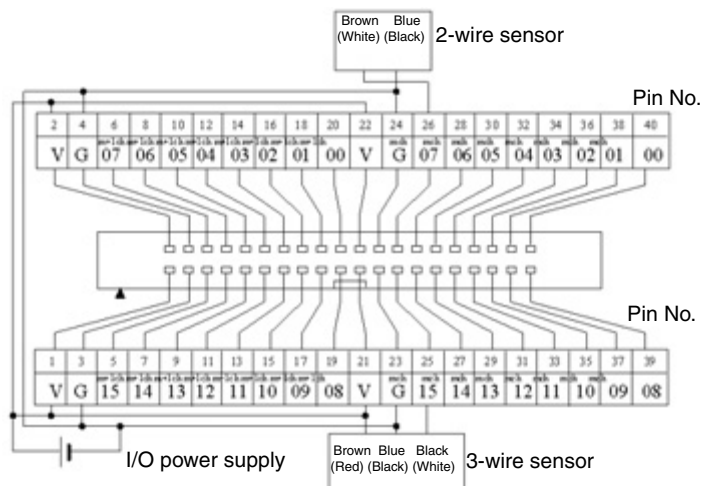
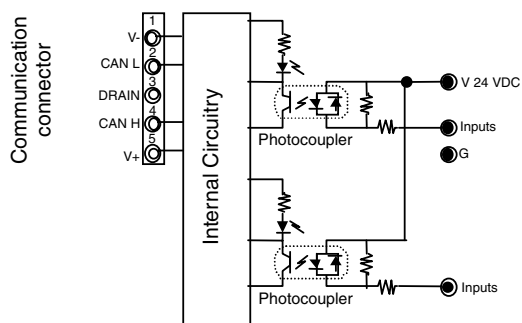
Note: This setting is applicable to the DRT1-OD32ML.

Internal Circuit and Wiring

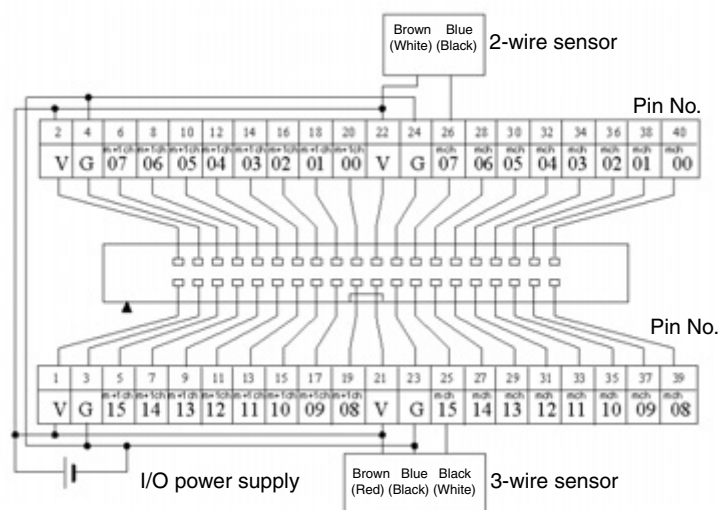
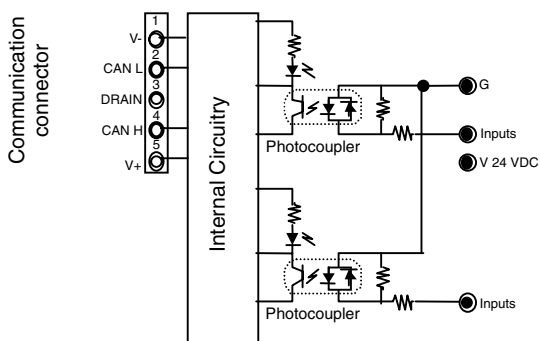
Communication Circuit



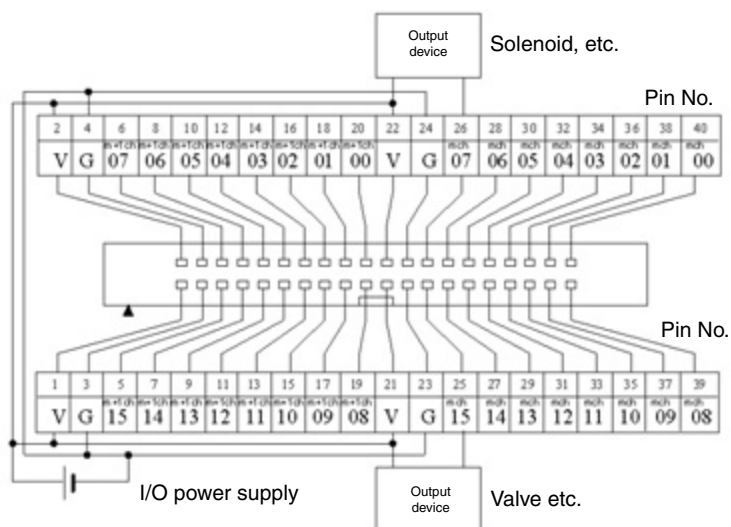
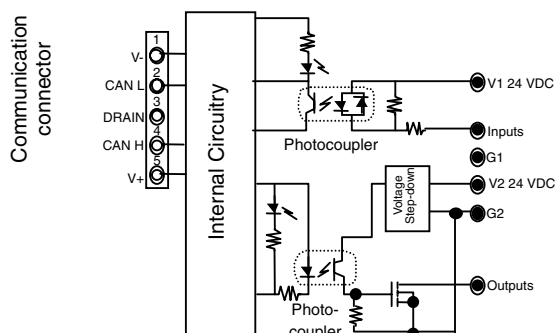
DRT1-ID32ML



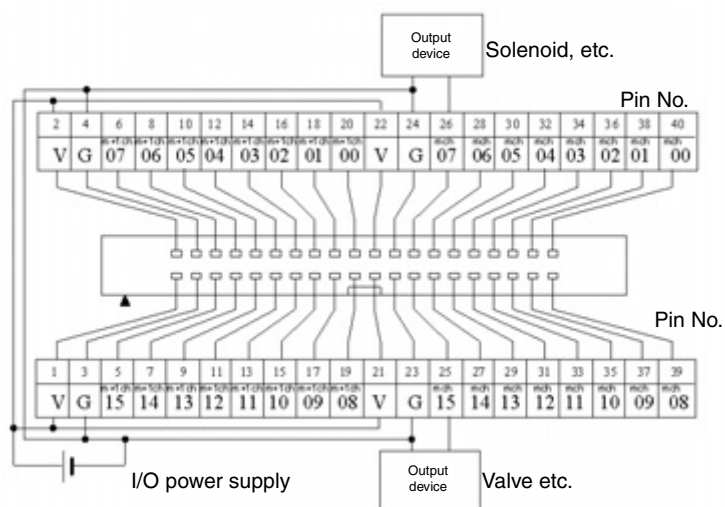
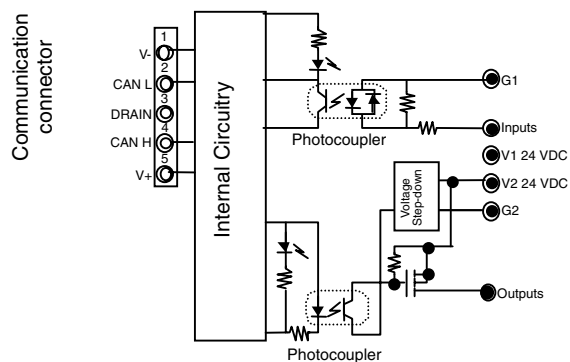
DRT1-ID32ML-1



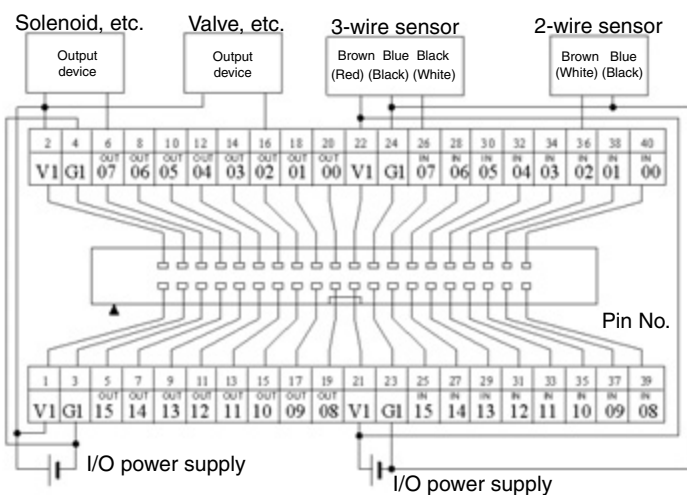
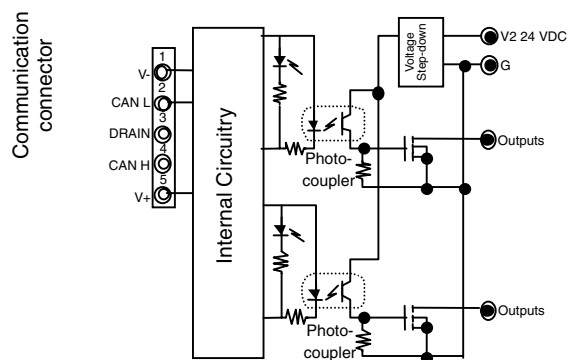
DRT1-OD32ML



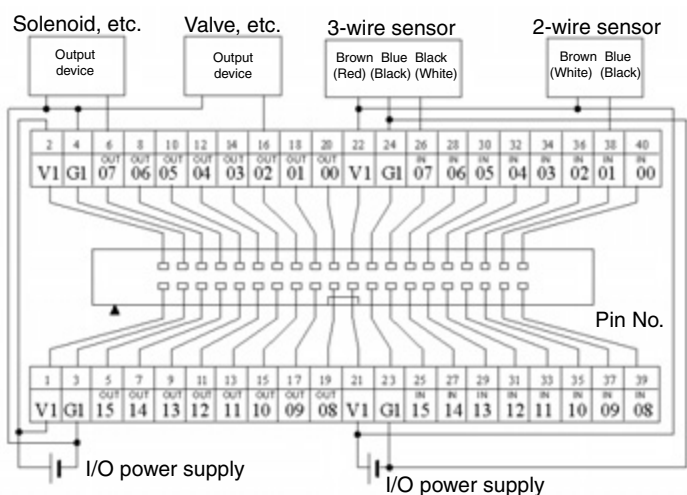
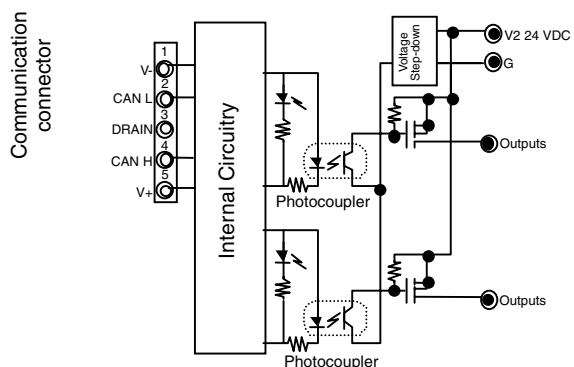
DRT1-OD32ML-1



DRT1-MD32ML

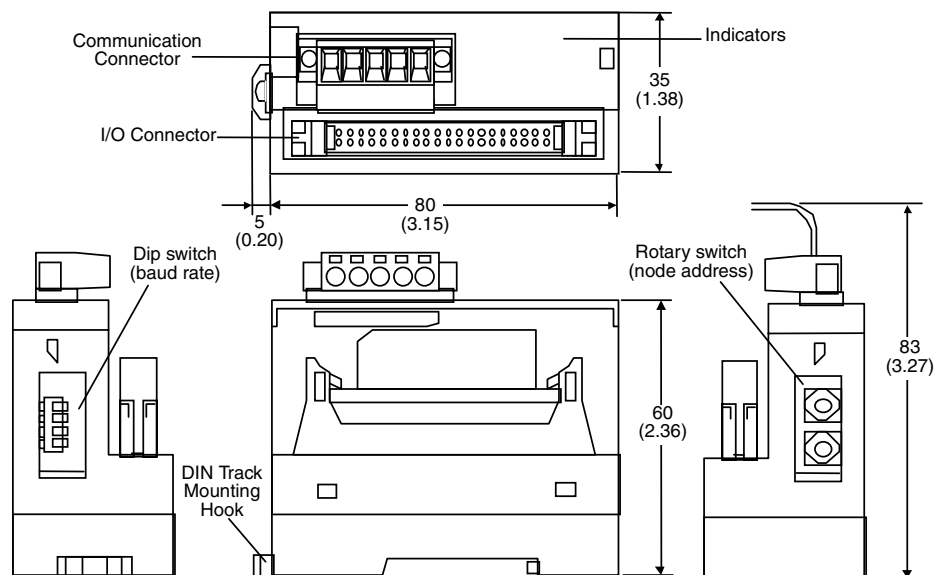


DRT1-MD32ML-1



Dimensions

Unit: mm (inch)



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters into inches, divide by 25.4

OMRON

OMRON ELECTRONICS LLC

One East Commerce Drive
Schaumburg, IL 60173

847-843-7900

For US technical support or other inquiries:

800-556-6766

OMRON CANADA, INC.

885 Milner Avenue
Toronto, Ontario M1B 5V8

416-286-6465

OMRON ON-LINE

Global - <http://www.omron.com>

USA - <http://www.omron.com/oei>

Canada - <http://www.omron.com/oci>