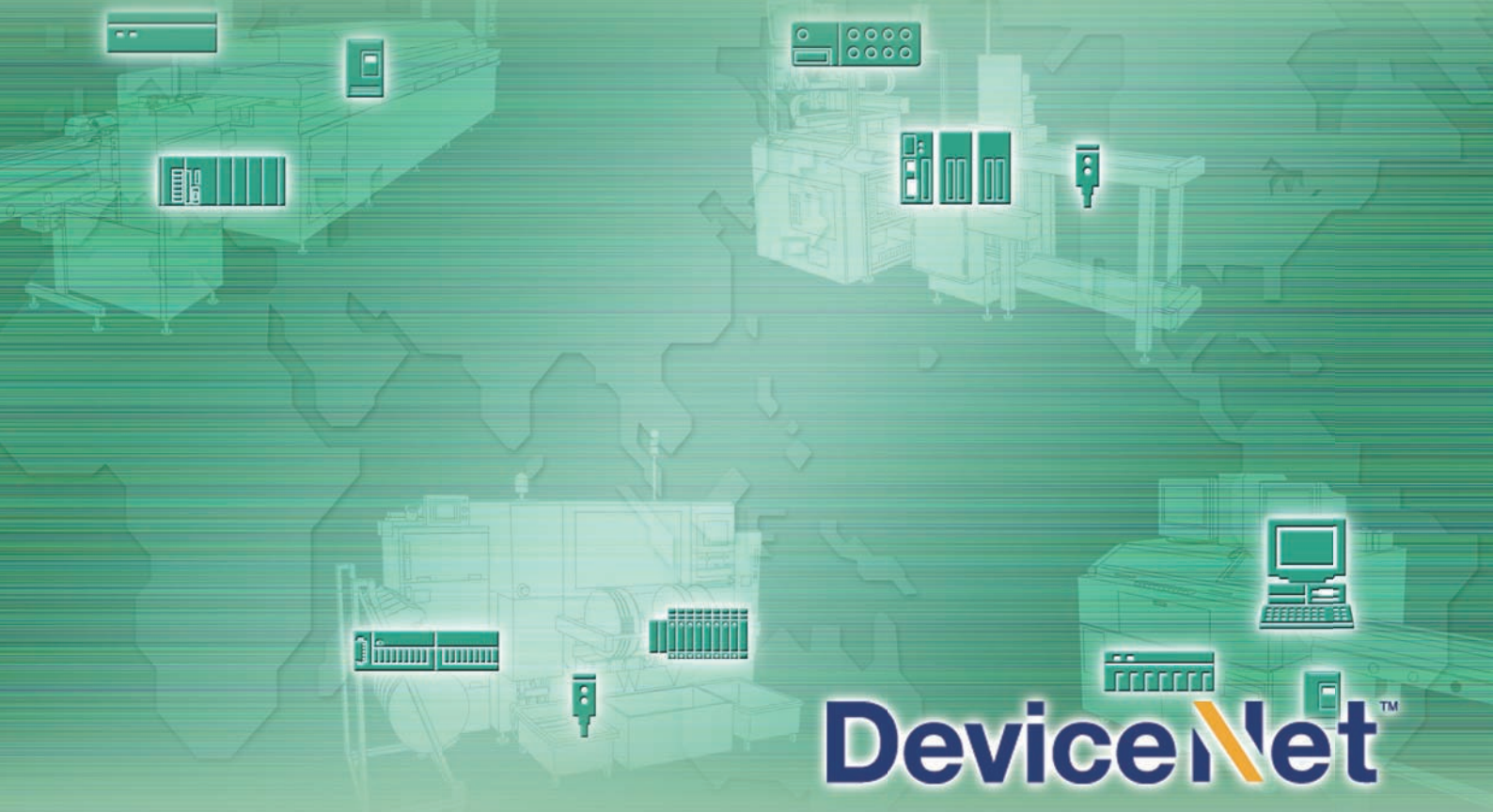
OMRON

Multi-vendor Network

DeviceNet



DeviceNet™

realizing

DeviceNet™ Product Lineup

Slaves

GRT1 Smart Slaves

■ DeviceNet Communications Unit

P. 68

GRT1-DRT

■ SmartSlice I/O Units

P. 70

GRT1-ID4(-1)
GRT1-OD4(-1)
GRT1-ID8(-1)
GRT1-OD8(-1)
GRT1-ROS2
GRT1-AD2
GRT1-DA2C
GRT1-DA2V
GRT1-TS2P
GRT1-TS2PK
GRT1-CT1

MULTIPLE I/O TERMINAL Series

■ Communications Unit

P. 73

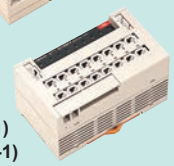
DRT1-COM

■ Digital I/O Units

P. 74

GT1-ID16(-1)
GT1-OD16(-1)

GT1-ID32ML(-1)
GT1-OD32ML(-1)



GT1-ID16MX(-1)
GT1-OD16MX(-1)

GT1-ID16ML(-1)
GT1-ID16DS(-1)
GT1-OD16ML(-1)
GT1-OD16DS(-1)

■ Relay Output Units

P. 81

GT1-ROP08
GT1-FOP08

GT1-ROS16

■ Analog I/O Units

P. 83

GT1-AD08MX
(connector)

GT1-DA04MX
(connector)

GT1-AD04
(terminal
block)

GT1-DA04
(terminal
block)

■ Temperature Input Units

P. 85

GT1-TS04T

GT1-TS04P

PLC Intelligent Slaves

■ Programmable Slaves

P. 88

CPM2C-S100C-DRT *1
CPM2C-S110C-DRT *1

*1. Product no longer available to order.

Communications Unit

DRT1-COM

Connects to a Total Maximum of Eight Digital I/O, Analog I/O, and Relay Output Units Compatible with MULTIPLE I/O TERMINAL.

- Allows flexible combinations of I/O points.
- Covering a total cable length of 3 m.
- DIN track mounting.

Ordering Information

Power supply voltage	Model
24 VDC	**DRT1-COM**

General Specifications

Communications power supply voltage	11 to 25 VDC (supplied from the communications connector)
Internal power supply voltage	20.4 to 26.4 VDC (24 VDC +10%/-15%)
I/O power supply voltage	
Current consumption	Communications: 30 mA max. Internal circuit: 0.6 A at 24 VDC (with max. I/O load)
Dielectric strength	500 VAC
Noise immunity	Conforms to IEC61000-4-4, 2 kV (Power line)
Vibration resistance	10 to 150 Hz, 1.0-mm double amplitude or 70 m/s^2
Shock resistance	200 m/s^2
Mounting strength	No damage when 100 N pull load was applied in all directions (10 N min. in the DIN track direction)
Terminal strength	No damage when 100 N pull load was applied
Screw tightening torque	0.3 to 0.5 N·m Phoenix connector: 0.25 to 0.3 N·m
Ambient operating temperature	-10°C to 55°C (with no icing or condensation)
Ambient operating humidity	25% to 85%
Ambient storage temperature	-25°C to 65°C (with no icing or condensation)
Accessories	End connector (one)

Specifications

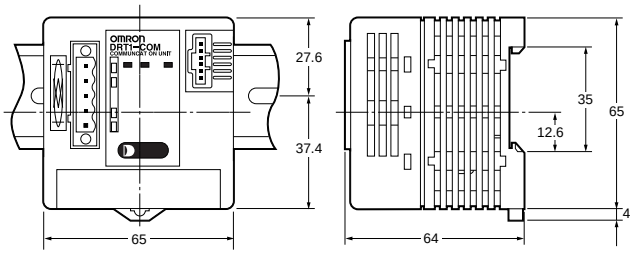
Connectable Units		8
Unit I/O points		1,024 max. (including inputs and outputs)
Communications distance	**Total extension**	3 m max.
	Between Units	1 m max. (40 mm max. with the standard cable provided with the Unit) ✻
Dielectric strength		500 VAC for 1 min.
Mounting method		DIN 35 mm-track mounting
Unit output power supply		0.4 A max. (see **Note**.)

✻ One cable is provided with each I/O Unit.
Note: The total current consumption for I/O Unit interfaces must not exceed 0.4 A.

Dimensions

(Unit: mm)

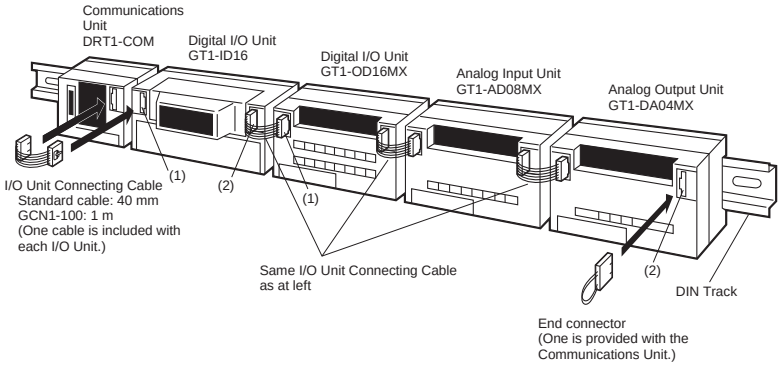
DRT1-COM



Note: The Unit is shown with the end connector mounted in the above diagram.

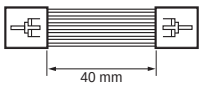
Mounting and Connecting Units

●Mounting to DIN Track and Connecting I/O Unit Connecting Cable

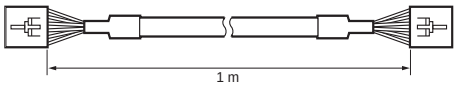


Note: The connecting cable for the I/O Unit is shown below.

Accessory Cable



GCN1-100 (Sold Separately)

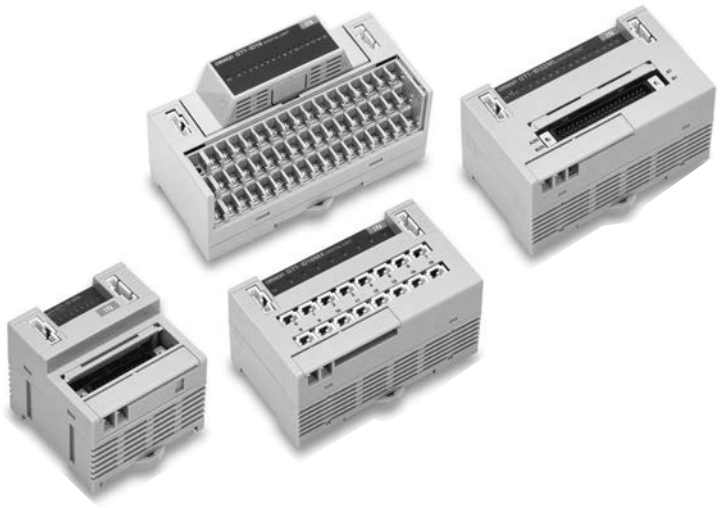


Digital I/O Units

GT1-□D16(-1)/□D16MX(-1)/□D16ML(-1)/□D32ML(-1)/□D16DS(-1)

Digital I/O Units Compatible with MULTIPLE I/O TERMINAL

- Terminal block, connector, and high-density connector models are available.
- The circuit block of the terminal block model can be mounted or dismounted for ease of maintenance without disconnecting the wires.
- DIN track mounting.



Ordering Information

Unit	I/O classification	Internal I/O common	I/O points	I/O connections	Power supply voltage	I/O specification	Model
Terminal block model	Digital input	NPN (+ common)	16	M3 terminal board	24 VDC	DC/transistor	**GT1-ID16**
		PNP (- common)					**GT1-ID16-1**
	Digital output	NPN (- common)				0.5 A, DC/transistor	**GT1-OD16**
		PNP (+ common)					**GT1-OD16-1**
Connector model	Digital input	NPN (+ common)		Molex connector		DC/transistor	**GT1-ID16MX**
		PNP (- common)					**GT1-ID16MX-1**
	Digital output	NPN (- common)				0.5 A, DC/transistor	**GT1-OD16MX**
		PNP (+ common)					**GT1-OD16MX-1**
	Digital input	NPN (+ common)		Fujitsu connector		DC/transistor	**GT1-ID16ML**
		PNP (- common)					**GT1-ID16ML-1**
	Digital output	NPN (- common)				0.5 A, DC/transistor	**GT1-OD16ML**
		PNP (+ common)					**GT1-OD16ML-1**
	Digital input	NPN (+ common)		D-sub 25-pin connector		DC/transistor	**GT1-ID16DS**
		PNP (- common)					**GT1-ID16DS-1**
	Digital output	NPN (- common)				0.5 A, DC/transistor	**GT1-OD16DS**
		PNP (+ common)					**GT1-OD16DS-1**
High-density connector model	Digital input	NPN (+ common)	32	Fujitsu connector		DC/transistor	**GT1-ID32ML**
		PNP (- common)					**GT1-ID32ML-1**
	Digital output	NPN (- common)				0.5 A, DC/transistor	**GT1-OD32ML**
		PNP (+ common)					**GT1-OD32ML-1**

General Specifications

I/O power supply voltage	20.4 to 26.4 VDC (24 VDC -15%/+10%)		
Current consumption ✻	Model	I/O Interface	Internal circuit
	GT1-ID16(-1)	35 mA max.	--
	GT1-OD16(-1)	35 mA max.	9 mA max.
	GT1-ID16MX(-1)	35 mA max.	--
	GT1-OD16MX(-1)	35 mA max.	9 mA max.
	GT1-ID16ML(-1)	35 mA max.	--
	GT1-OD16ML(-1)	35 mA max.	9 mA max.
	GT1-ID16DS(-1)	35 mA max.	--
	GT1-OD16DS(-1)	35 mA max.	9 mA max.
	GT1-ID32ML(-1)	55 mA max.	--
	GT1-OD32ML(-1)	65 mA max.	11 mA max.
Dielectric strength	500 VAC		
Noise immunity	Conforms to IEC61000-4-4 2 kV (power line)		
Vibration resistance	10 to 150 Hz, 1.0-mm double amplitude or 70 m/s^2		
Shock resistance	200 m/s^2		
Mounting method	DIN 35 mm-track mounting		
Mounting strength	No damage when 100 N pull load was applied in all directions (10 N min. in the DIN track direction)		
Terminal strength	No damage when 100 N pull load was applied		
Screw tightening torque	0.3 to 0.5 N・m		
Ambient operating temperature	-10°C to 55°C (with no icing or condensation)		
Ambient operating humidity	25% to 85% (with no icing or condensation)		
Ambient storage temperature	-25°C to 65°C		
Accessories	I/O Unit Connecting Cable (40 mm)		

✻ The above current consumption is a value with all 16 and 32 points turned ON excluding the current consumption of the external sensor connected to the Input Unit and the current consumption of the load connected to the Output Unit.

Applicable Connectors

Note: Refer to page 144 for Peripheral Devices.

Input Specifications

Item / Model	GT1-ID□□
ON delay	1.5 ms max.
OFF delay	1.5 ms max.
ON voltage	15 V min. (between each input terminal and V or G)
OFF voltage	5 V max. (between each input terminal and V or G)
OFF current	1 mA max.
Insulation method	Photocoupler
Input indicators	LED (yellow)

Output Specifications

Item / Model	GT1-OD□□
Rated output current	0.5 A/point ✻
ON delay	0.5 ms max.
OFF delay	1.0 ms max.
Residual voltage	1.2 V max.
Leakage current	0.1 mA max.
Insulation method	Photocoupler
Output indicators	LED (yellow)

✻ Ensure that the total external load current does not exceed the values given in the following table.

Model	Total external load current
GT1-OD16/16MX/32ML(-1)	4 A
GT1-OD16ML/16DS(-1)	2.5 A

Cables for I/O Connector

Cables for Connector Terminal Conversion Units (16 Points)

I/O classification	Model	Applicable cable	Connectable model	Connector Products (Connector-Terminal Block Conversion Units) Connecting method
Digital input (16 points)	GT1-ID16ML(-1)	XW2Z-□□□A	XW2K-20G-T	Push-In Plus
			XW2D-20G6	Phillips screw M3
			XW2R-E20GD-T	Slotted screw M3
Digital output (16 points)	GT1-OD16ML(-1)		XW2K-20G-T	Push-In Plus
			XW2D-20G6	Phillips screw M3
			XW2R-E20GD-T	Slotted screw M3

Cables for Connector Terminal Conversion Units (32 Points)

I/O classification	Model	Applicable cable	Connectable model	Connector Products (Connector-Terminal Block Conversion Units) Connecting method
Digital input (32 points)	GT1-ID32ML(-1)	XW2Z-□□□B	XW2K-40G-T	Push-In Plus
			XW2D-40G6	Phillips screw M3
			XW2R-E40GD-T	Slotted screw M3
Digital output (32 points)	GT1-OD32ML(-1)		XW2K-40G-T	Push-In Plus
			XW2D-40G6	Phillips screw M3
			XW2R-E40GD-T	Slotted screw M3

Cables for I/O Blocks (16 Points)

I/O classification	Model	Applicable cable	Connectable model	Remarks
Digital input (16 points) NPN	GT1-ID16ML	XW2Z-R□C	G7TC-ID16 G7TC-IA16	For I/O Block input
Digital input (16 points) PNP	GT1-ID16ML-1		G7TC-ID16-1 G7TC-IA16-1	For I/O Block output
Digital output (16 points) NPN	GT1-OD16ML		G7TC-OC16 G7TC-OC08 G70D-SOC16 G70D-FOM16 G70D-VSOC16 G70D-VFOM16 G70A-ZOC16-3	For I/O Block output
			M7E Series ✻1	Digital Display Unit
Digital output (16 points) PNP	GT1-OD16ML-1		G7TC-OC16-1 G70D-SOC16-1 G70A-ZOC16-4	For I/O Block output
			M7E-01MB□-□□ ✻1	Digital Display Unit

Cables for I/O Blocks (32 Points)

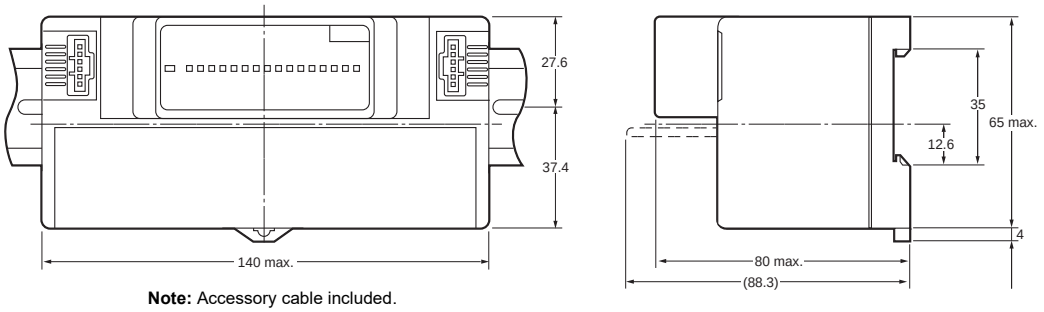
I/O classification	Model	Applicable cable	Connectable model	Remarks
Digital input (32 points) NPN	GT1-ID32ML	XW2Z-RI□C-□	G7TC-ID16 G7TC-IA16	For I/O Block input
Digital input (32 points) PNP	GT1-ID32ML-1		G7TC-ID16-1 G7TC-IA16-1	For I/O Block input
Digital output (32 points) NPN	GT1-OD32ML	XW2Z-RO□C-□	G7TC-OC16 G7TC-OC08 G70D-SOC16 G70D-FOM16 G70D-VSOC16 G70D-VFOM16 G70A-ZOC16-3	For I/O Block output
Digital output (32 points) PNP	GT1-OD32ML-1		G7TC-OC16-1 G70D-SOC16-1 G70D-FOM16-1 ✻1 G70A-ZOC16-4	For I/O Block output

Note 1: For details of applicable cables and connectors, refer to Peripheral Devices.
✻1. Product no longer available to order.

Dimensions

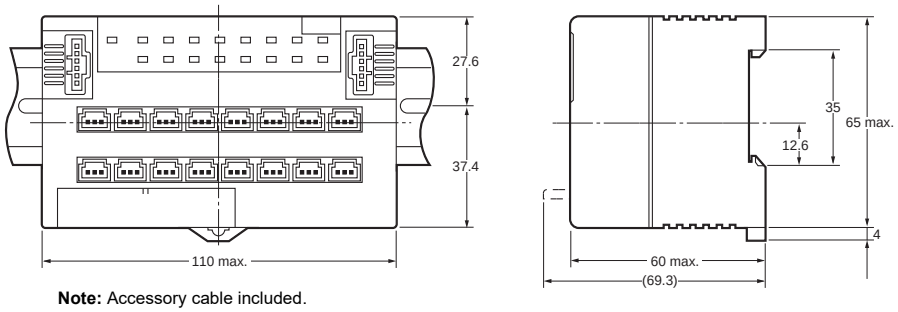
(Unit: mm)

●Terminal Block Model
GT1-ID16
GT1-ID16-1
GT1-OD16
GT1-OD16-1



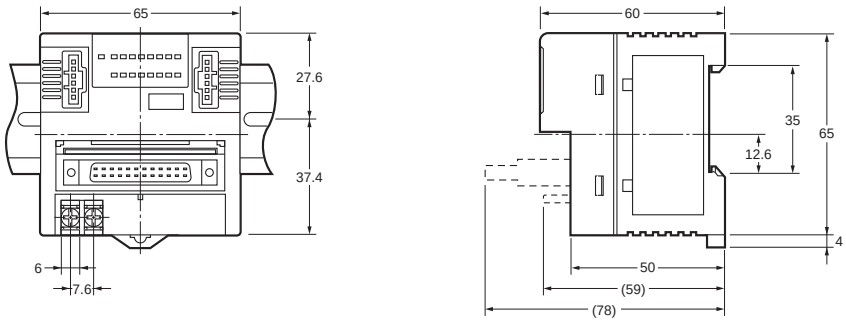
Note: Accessory cable included.

●Connector Model
GT1-ID16MX
GT1-ID16MX-1
GT1-OD16MX
GT1-OD16MX-1



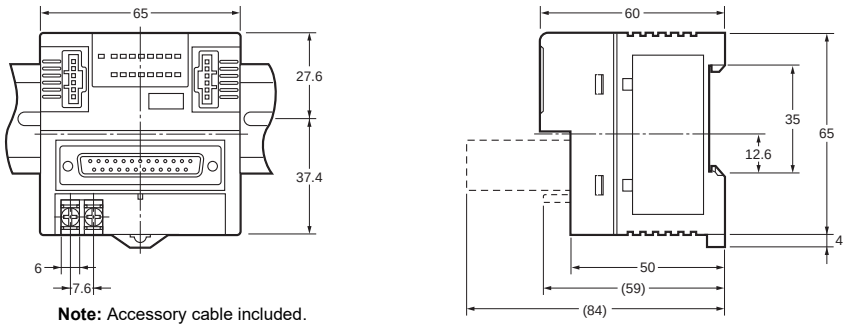
Note: Accessory cable included.

●Connector Model
GT1-ID16ML
GT1-ID16ML-1
GT1-OD16ML
GT1-OD16ML-1



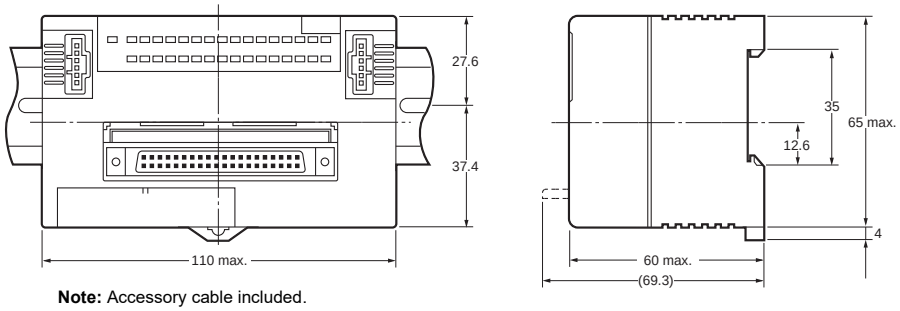
Note: Accessory cable included.

●Connector Model
GT1-ID16DS
GT1-ID16DS-1
GT1-OD16DS
GT1-OD16DS-1



Note: Accessory cable included.

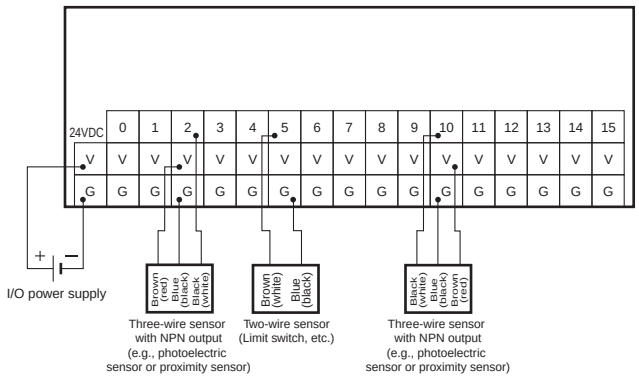
●High-density Connector Model
GT1-ID32ML
GT1-ID32ML-1
GT1-OD32ML
GT1-OD32ML-1



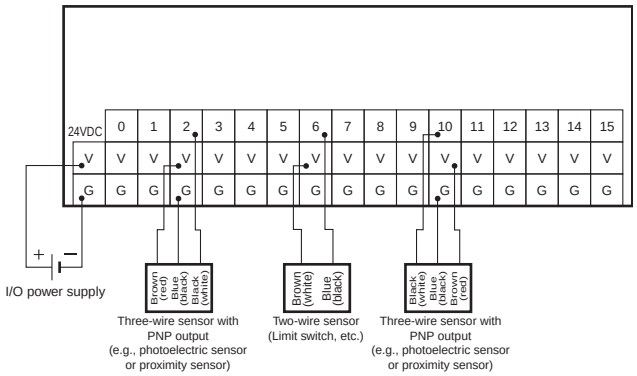
Note: Accessory cable included.

Wiring Diagrams

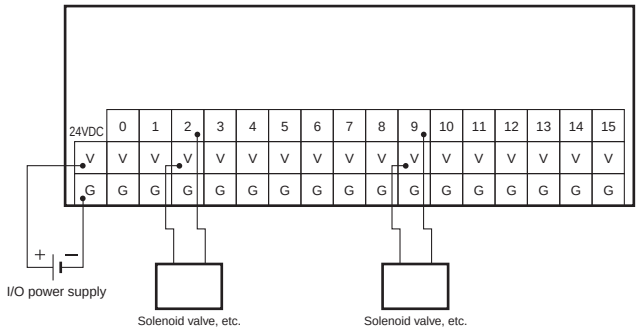
GT1-ID16



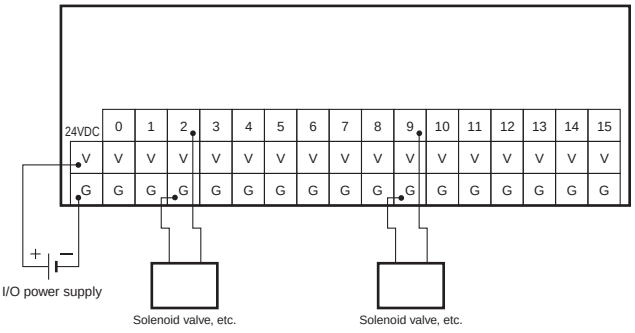
GT1-ID16-1



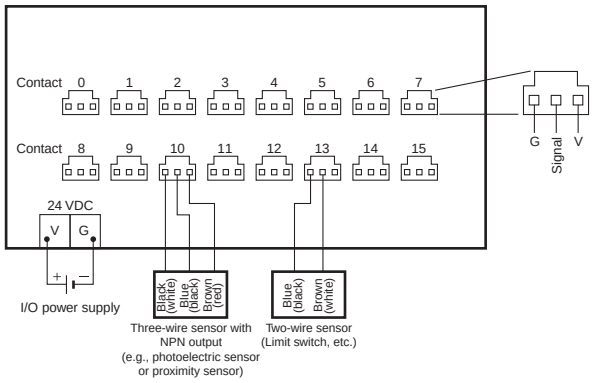
GT1-OD16



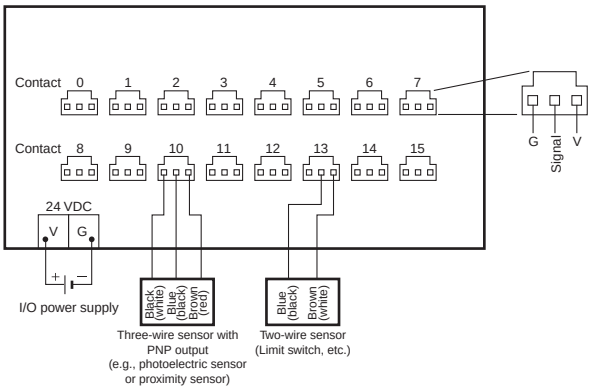
GT1-OD16-1



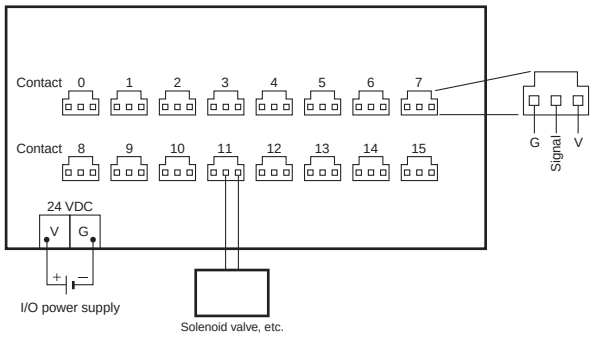
GT1-ID16MX



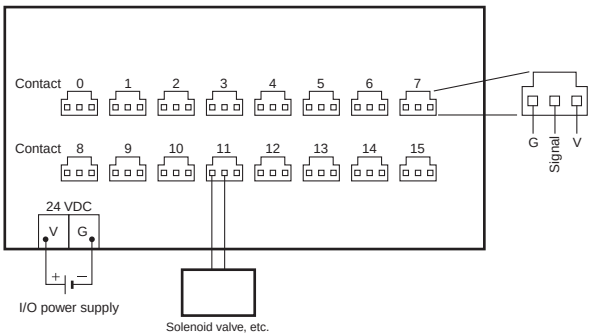
GT1-ID16MX-1



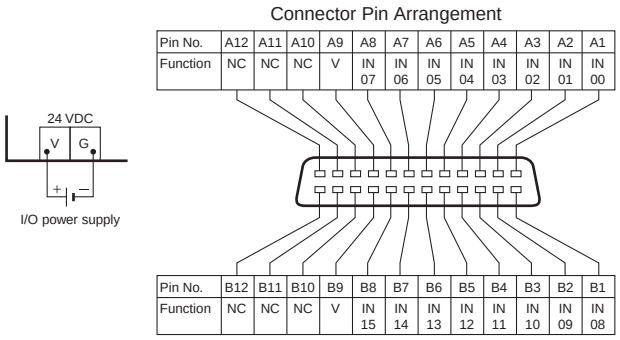
GT1-OD16MX



GT1-OD16MX-1



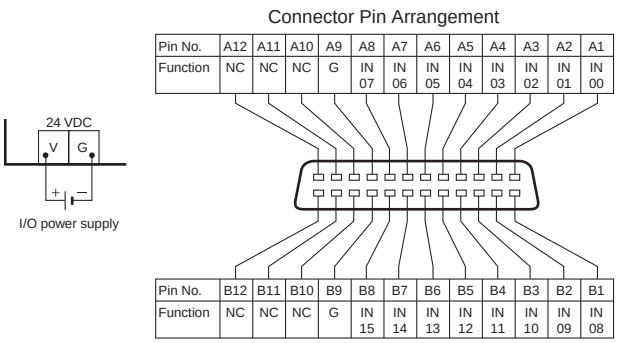
GT1-ID16ML



Pin No.	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1
Function	NC	NC	NC	V	IN 07	IN 06	IN 05	IN 04	IN 03	IN 02	IN 01	IN 00

Pin No.	B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1
Function	NC	NC	NC	V	IN 15	IN 14	IN 13	IN 12	IN 11	IN 10	IN 09	IN 08

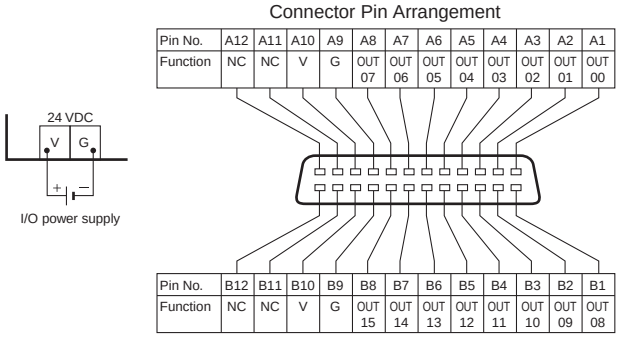
GT1-ID16ML-1



Pin No.	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1
Function	NC	NC	NC	G	IN 07	IN 06	IN 05	IN 04	IN 03	IN 02	IN 01	IN 00

Pin No.	B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1
Function	NC	NC	NC	G	IN 15	IN 14	IN 13	IN 12	IN 11	IN 10	IN 09	IN 08

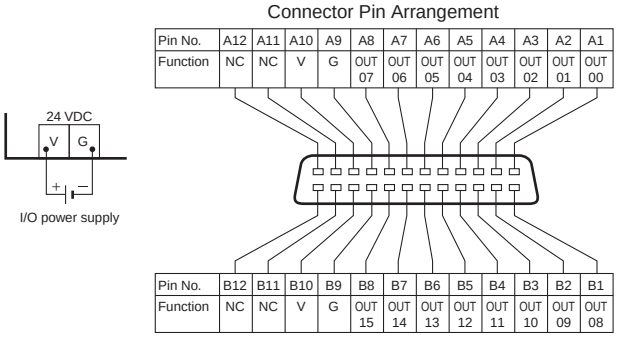
GT1-OD16ML



Pin No.	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1
Function	NC	NC	V	G	OUT 07	OUT 06	OUT 05	OUT 04	OUT 03	OUT 02	OUT 01	OUT 00

Pin No.	B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1
Function	NC	NC	V	G	OUT 15	OUT 14	OUT 13	OUT 12	OUT 11	OUT 10	OUT 09	OUT 08

GT1-OD16ML-1



Pin No.	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1
Function	NC	NC	V	G	OUT 07	OUT 06	OUT 05	OUT 04	OUT 03	OUT 02	OUT 01	OUT 00

Pin No.	B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1
Function	NC	NC	V	G	OUT 15	OUT 14	OUT 13	OUT 12	OUT 11	OUT 10	OUT 09	OUT 08