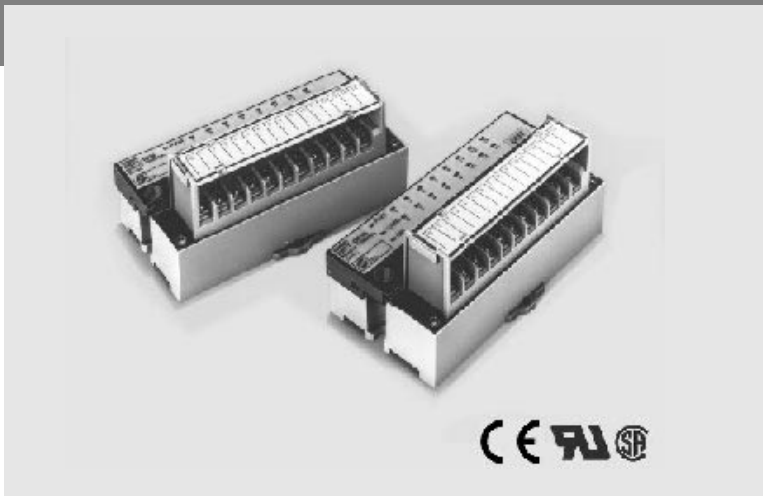
SRT2-ID/-OD(-1)

Digital I/O Terminals

- The standard in/output models
- Very compact at 80 x 48 x 50 (W x H x D) mm for 4- and 8-point terminals and 105 x 48 x 50 (W xH x D) mm for 16-point terminals.
- Two independent power supplies can be used because the I/O terminals are insulated from the internal circuits.
- DIN rail mounting and screw mounting are both supported.



Ordering Information

I/O classification	Internal I/O circuit common	I/O points	Rated voltage	I/O rated voltage	Model
Input	NPN (+ common)	4	24 V DC	24 V DC	SRT2-ID04
	PNP (– common)				SRT2-ID04-1
Output	NPN (– common)				SRT2-OD04
	PNP (+ common)				SRT2-OD04-1
Input	NPN (+ common)	8			SRT2-ID08
	PNP (– common)				SRT2-ID08-1
Output	NPN (– common)				SRT2-OD08
	PNP (+ common)				SRT2-OD08-1
Input	NPN (+ common)	16			SRT2-ID16
	PNP (– common)				SRT2-ID16-1
Output	NPN (– common)				SRT2-OD16
	PNP (+ common)				SRT2-OD16-1

Note: For more details about connections supported by the Master Unit, refer to page 368.

Specifications

Ratings

Inputs

Input current	6 mA max./point
ON delay time	1.5 ms max.
OFF delay time	1.5 ms max.
ON voltage	15 V DC min. between each input terminal and V
OFF voltage	5 V DC max. between each input terminal and V
OFF current	1 mA max.
Insulation method	Photocoupler
Input indicators	LED (yellow)

Outputs

Rated output current	0.3 A/point
Residual voltage	0.6 V max.
Leakage current	0.1 mA max.
Insulation method	Photocoupler
Output indicators	LED (yellow)

Characteristics

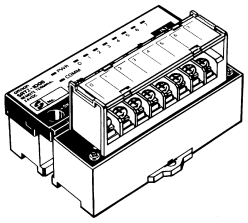
Communications power supply voltage	14 to 26.4 V DC
I/O power supply voltage	24 V DC $^{+10\%}/_{-15\%}$
I/O power supply current	1 A max.
Current consumption (see note)	50 mA max. at 24 V DC
Connection method	Multi-drop method and T-branch method
Connecting Units	4-point and 8-point Terminals:16 Input Terminals and 16 Output Terminals per Master 16-point Terminals: 8 Input Terminals and 8 Output Terminals per Master
Dielectric strength	500 V AC for 1 min (1-mA sensing current between insulated circuits)
Noise immunity	Conforms to IEC61000-4-4, 2 kV (power lines)
Vibration resistance	10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Malfunction:200 m/s^2 Destruction:300 m/s^2
Mounting strength	No damage when 50 N pull load was applied for 10 s in all directions
Terminal strength	No damage when 50 N pull load was applied for 10 s
Screw tightening torque	0.6 to 1.18 Nm
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	4-point and 8-point Terminals:80 g max. 16-point Terminals:110 g max.
Approved standards (4/8 points)	UL 508, CSA C22.2 No. 14

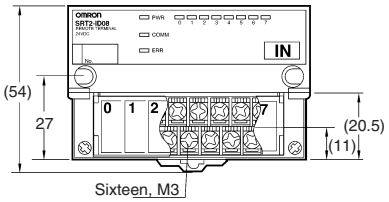
Note: The above current consumption is the value with all 4 and 8 and 16 points turned ON excluding the current consumption of the external sensor connected to the input Remote Terminal and the current consumption of the load connected to the output Remote Terminal.

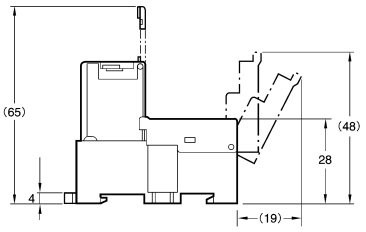
Dimensions

Note: All units are in millimeters unless otherwise indicated.

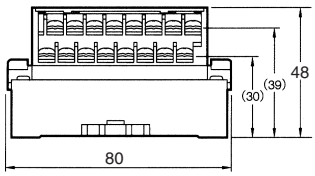
SRT2-ID04 (-1)
SRT2-OD04 (-1)
SRT2-ID08 (-1)
SRT2-OD08 (-1)

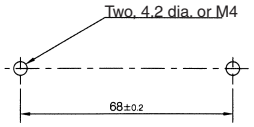




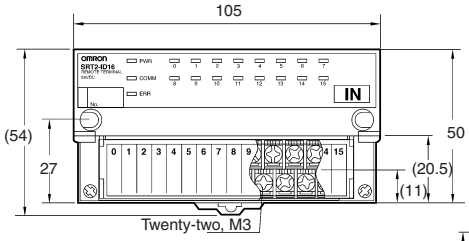


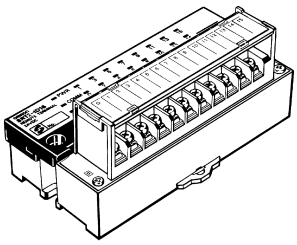
Mounting Holes

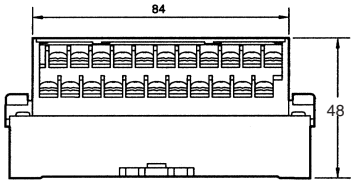


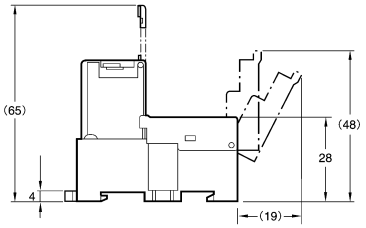


SRT2-ID16 (-1)
SRT2-OD16 (-1)

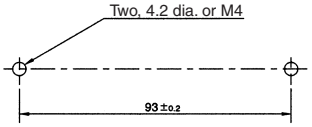








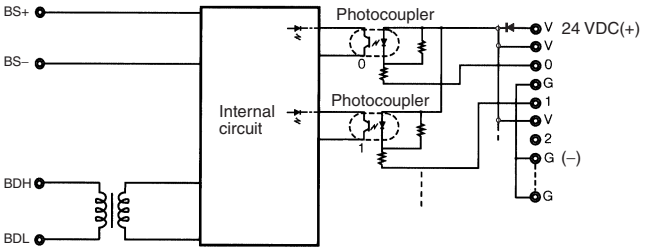
Mounting Holes



Installation

Internal Circuit Configuration

SRT2-ID04



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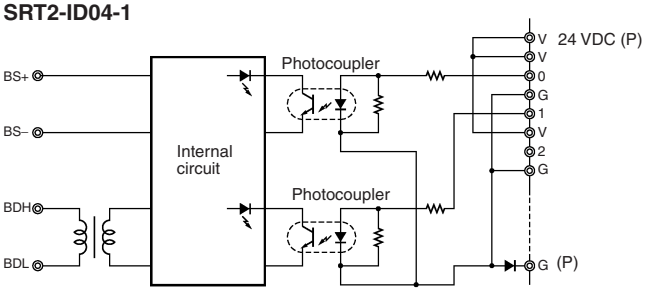
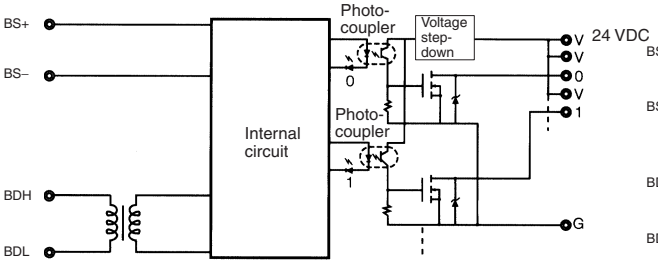
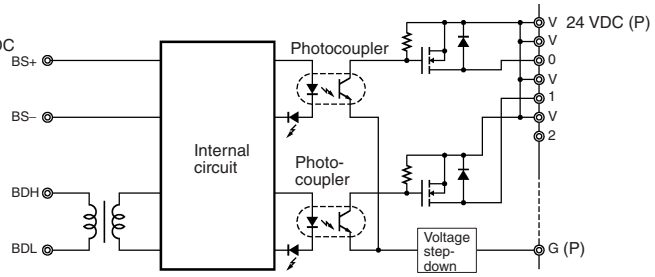


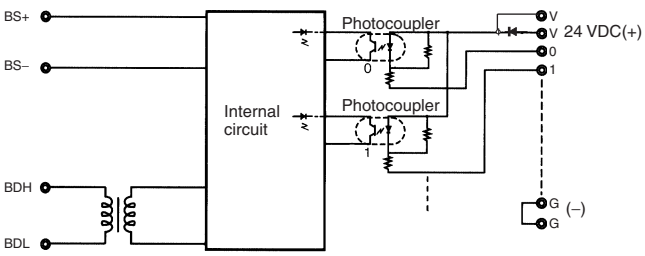
SRT2-OD04



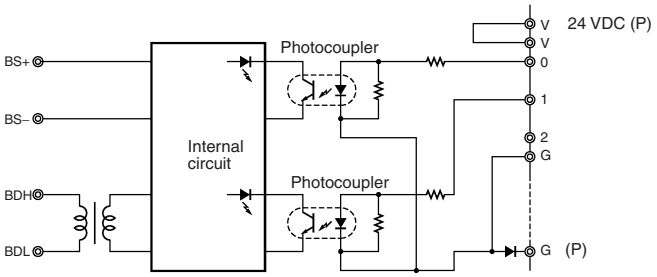
SRT2-OD04-1



SRT2-ID08



SRT2-ID08-1



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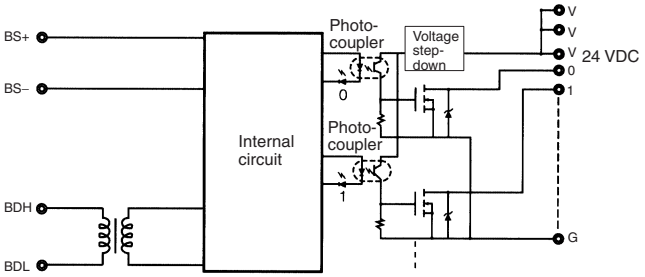
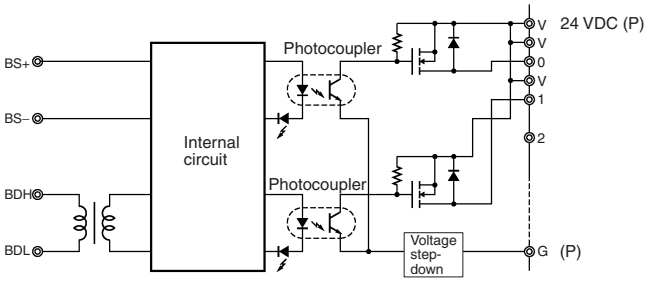
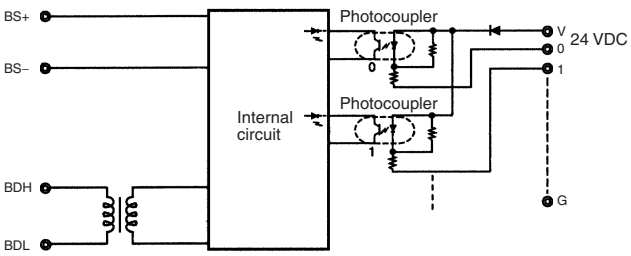


SRT2-OD08-1



SRT2-ID16



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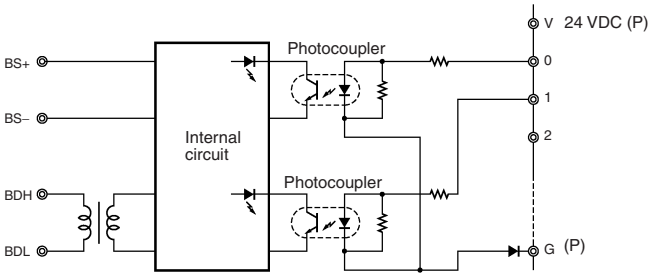

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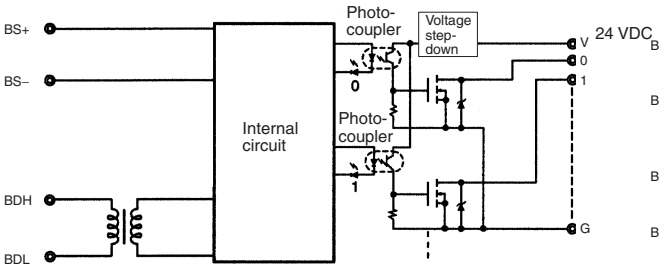
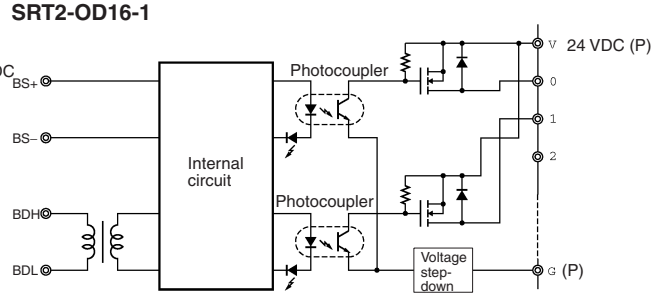


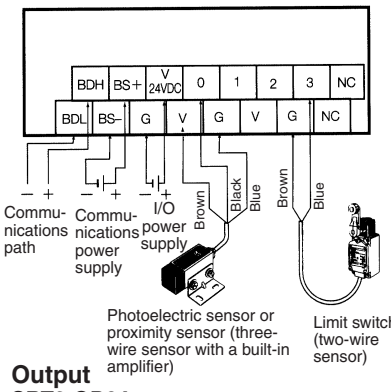
SRT2-OD16-1



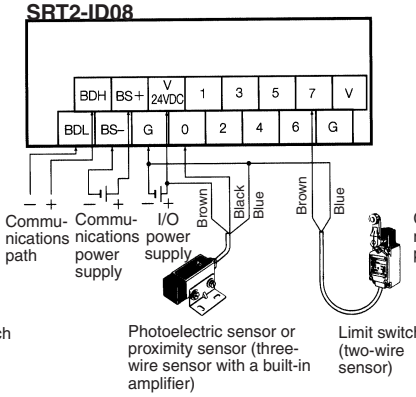
Terminal Arrangement and I/O Device Connection Example (NPN Models)

Input

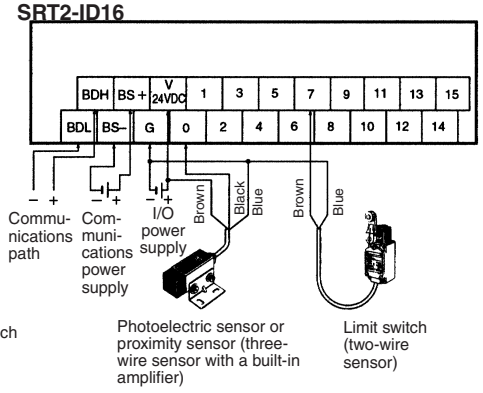
SRT2-ID04



SRT2-ID08

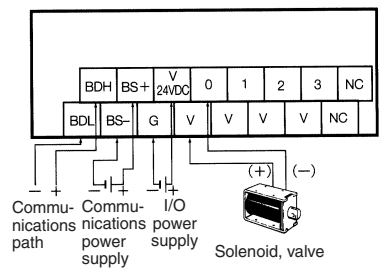


SRT2-ID16

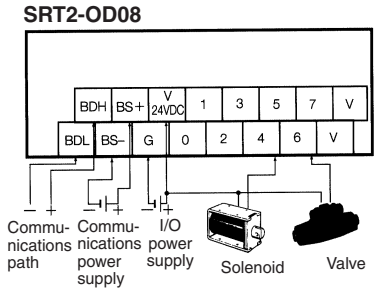


Output

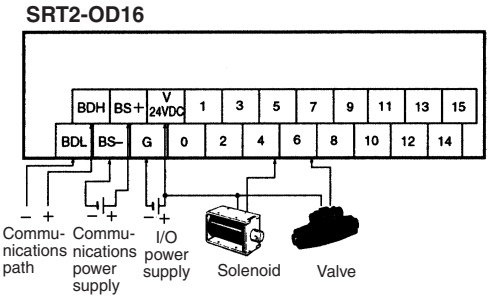
SRT2-OD04



SRT2-OD08



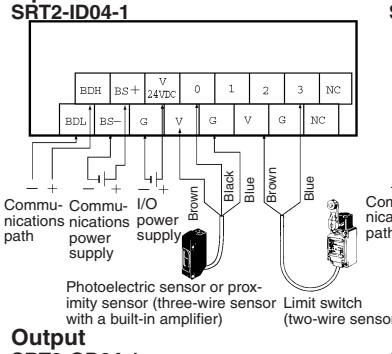
SRT2-OD16



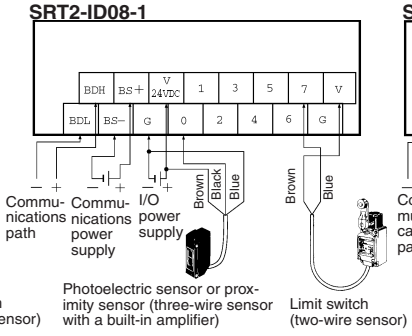
Terminal Arrangement and I/O Device Connection Example (PNP Models)

Input

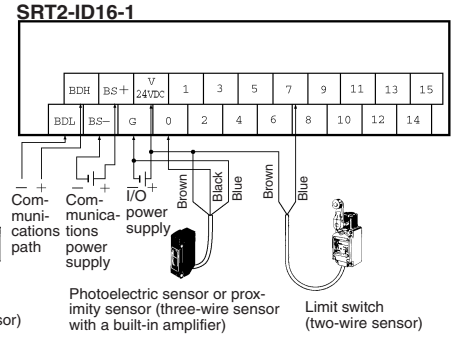
SRT2-ID04-1



SRT2-ID08-1

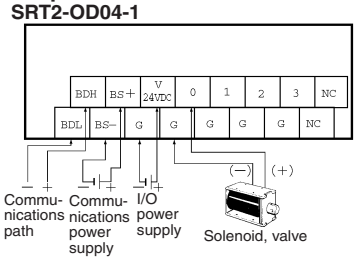


SRT2-ID16-1

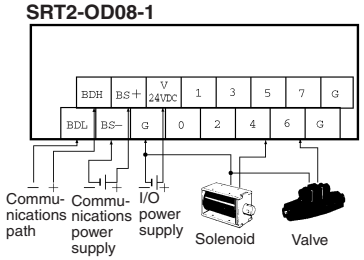


Output

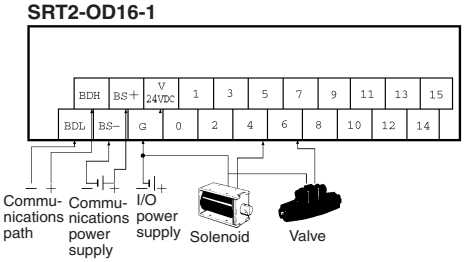
SRT2-OD04-1



SRT2-OD08-1

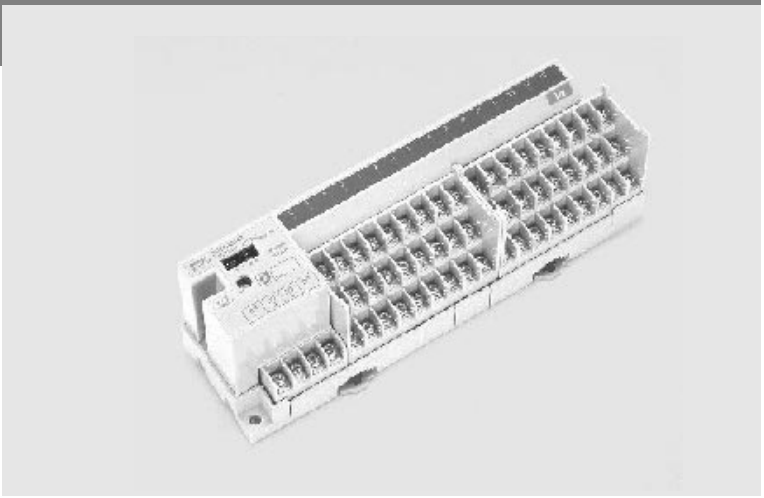


SRT2-OD16-1



SRT2-□D16T(-1)

3-tier Connection Terminals



- Models with a 3 layer connection terminal (16 Points)
- Reduces designing and wiring effort.
- Incorporates a removable circuit block
- Very compact
- DIN rail mounting and screw mounting are both supported.

Ordering Information

I/O classification	Internal I/O circuit common	I/O points	I/O connection method	Model
Digital input	NPN (+ common)	16	M3 terminal block	SRT2-ID16T
	PNP (– common)			SRT2-ID16T-1
Digital I/O	NPN (– common)			SRT2-MD16T
	PNP (+ common)			SRT2-MD16T-1
Digital output	NPN (– common)			SRT2-OD16T
	PNP (+ common)			SRT2-OD16T-1

Specifications

Ratings

Inputs

Input current	6 mA max./point at 24 V and 3 mA min./point at 17 V
ON delay time	1.5 ms max.
OFF delay time	1.5 ms max.
ON voltage	NPN: 15 V DC min. between V terminals and each input terminal PNP: 15 V DC min. between G terminals and each input terminal
OFF voltage	NPN: 5 V DC max. between V terminals and each input terminal PNP: 5 V DC max. between G terminals and each input terminal
OFF current	1 mA max.
Insulation method	Photocoupler

Outputs

Rated output current	0.5 A max./point
Residual voltage	1.2 V max.
ON delay time	0.5 ms max.
OFF delay time	1.0 ms max.
Leakage current	0.1 mA max.
Insulation method	Photocoupler

Characteristics

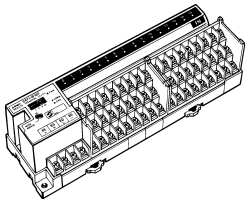
Communications power supply voltage	14 to 26.4 V DC
I/O power supply voltage	24 V DC $^{+10\%}/_{-15\%}$
I/O power supply current	4 A max./common
Current consumption (see note)	50 mA max. at 24 V DC
Connection method	Multi-drop method and T-branch method
Dielectric strength	500 V AC between insulated circuits
Noise immunity	Conforms to IEC61000-4-4, 2 kV (power lines)
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 with 100 N pull load applied in all directions.
Terminal strength	No damage with 100 N pull load applied
Screw tightening torque	0.3 to 0.5 Nm
Ambient temperature	Operating:–10°C to 55°C Storage:–25°C to 65°C
Ambient humidity	Operating:25% to 85% (with no condensation)
Weight	300 g max.

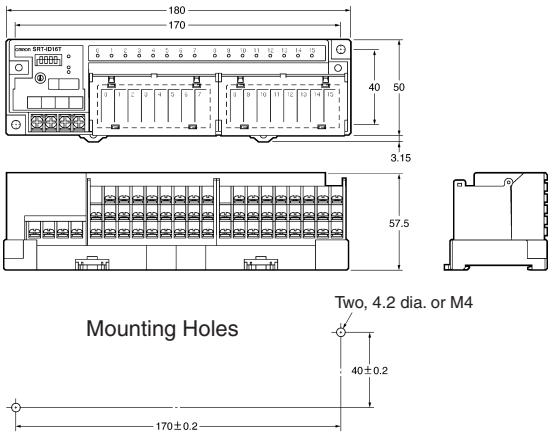
Note: The above current consumption is the value with all points turned ON excluding the current consumption of the external sensor connected to the input Remote Terminal and the current consumption of the load connected to the output Remote Terminal.

Dimensions

Note: All units are in millimeters unless otherwise indicated.

SRT2-ID16T (-1)
SRT2-MD16T (-1)
SRT2-OD16T (-1)

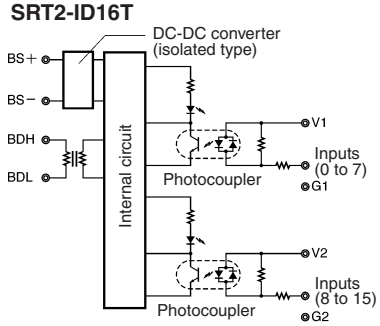




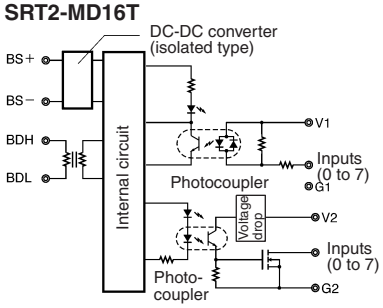
Installation

Internal Circuit Configuration

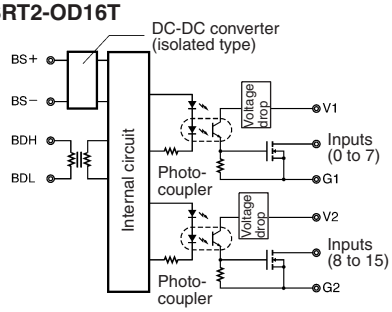
SRT2-ID16T



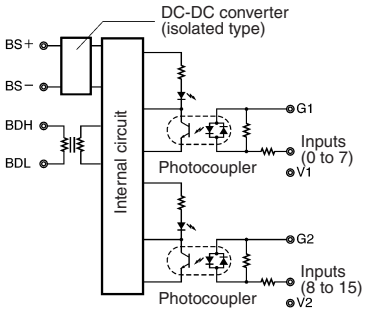
SRT2-MD16T



SRT2-OD16T



SRT2-ID16T-1



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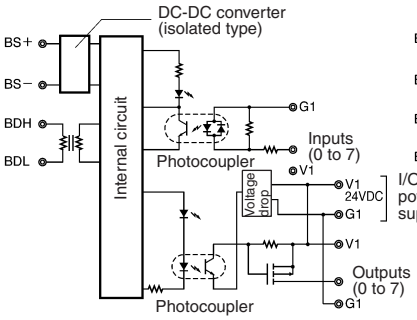
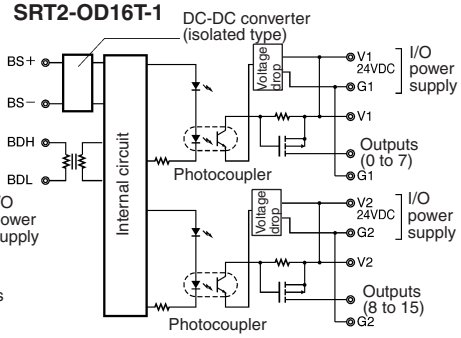


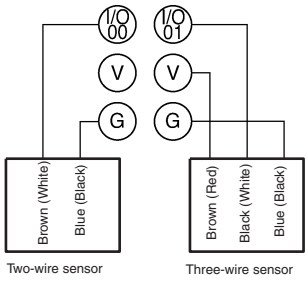
SRT2-OD16T-1



External Connections

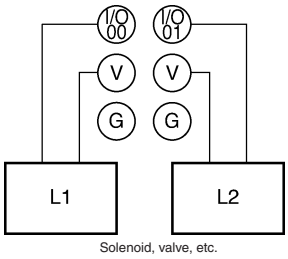
Input (NPN Models)

SRT2-ID16T
SRT2-MD16T



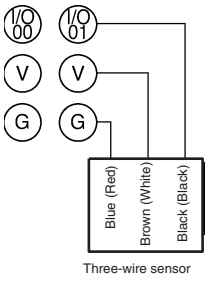
Output (NPN Models)

SRT2-OD16T
SRT2-MD16T



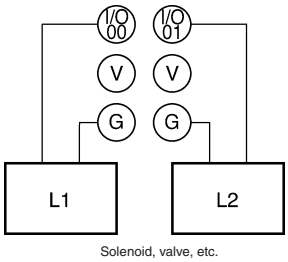
Input (PNP Models)

SRT2-ID16T-1
SRT2-MD16T-1



Output (PNP Models)

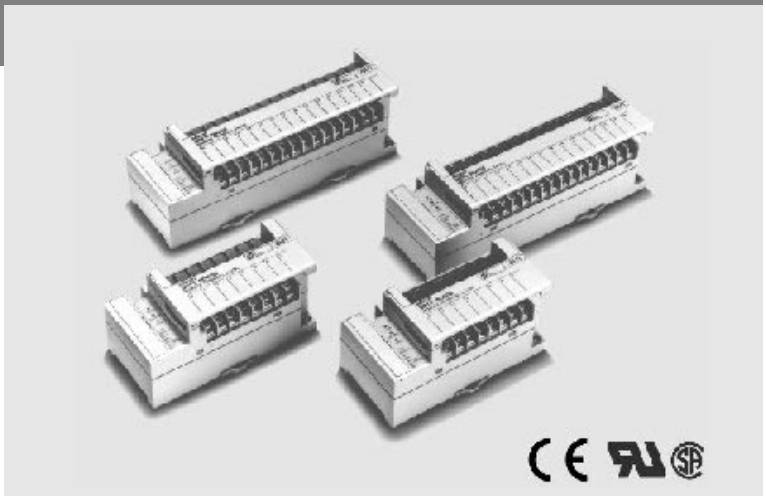
SRT2-OD16T-1
SRT2-MD16T-1



SRT2-R

Relay output terminals

- Power MOS FET Relay and Relay models.
- Very compact
- 8-point models: 101 x 51 x 51 mm (W x H x D);
- 16-point models: 156 x 51 x 51 mm (W x H x D)
- DIN rail mounting and screw mounting are both supported.



Ordering Information

Classification	I/O points	Rated voltage	Relay coil rating	Model	Applicable relay
Relay output	8 points	24 V DC	24 V DC	SRT2-ROC08	G6D-1A
	16 points			SRT2-ROC16	
Power MOS FET relay output	8 points			SRT2-ROF08	G3DZ-2R6PL
	16 points			SRT2-ROF16	

Specifications

Ratings

Relay Output

Item	SRT2-ROC08, SRT2-ROC16
Applicable relay	G6D-1A (one for each output point)
Rated load	3 A at 250 V AC, 3 A at 30 V DC (resistive load)
Rated carry current	3 A (see note 1)
Max. contact voltage	250 V AC, 30 V DC
Max. contact current	3 A
Max. switching capacity	730 VA (AC), 90 W (DC)
Min. permissible load (see note 2)	10 mA at 5 V DC
Life expectancy	Electrical:100,000 operations min. (rated load, at 1,800 operations/h) Mechanical:20,000,000 operations min. (at 18,000 operations/h)

Note: 1. The maximum permissible current of COM0 to COM7 is 3 A.

2. This value fulfills the P reference value of opening/closing at a rate of 120 times per min (ambient operating environment and determination criteria according to JIS C5442).

Power MOS FET Relay Output

Item	SRT2-ROF08, SRT2-ROF16
Applicable relay	G3DZ-2R6PL (one for each output point)
Load voltage	3 to 264 V AC, 3 to 125 V DC
Load current	100 μA to 0.3 A
Inrush current	6 A (10 ms)

Characteristics

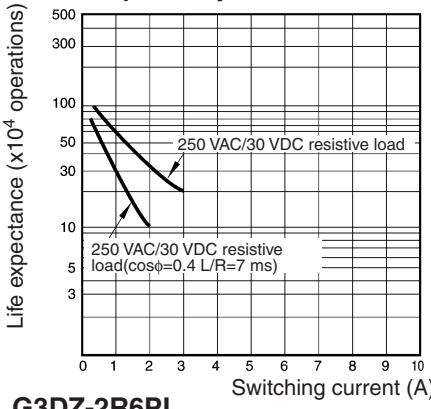
Power supply voltage	24 V DC $^{+10\%}/_{-15\%}$
Current consumption (see note)	350 mA max. at 24 V DC
Connection method	Multi-drop method and T-branch method
Connecting Units	8-point Units:16 per Master 16-point Units:8 per Master
Dielectric strength	2,000 V AC for 1 min (1-mA sensing current) between all output terminals and power supply, between communication terminals, and between contacts of different polarities 500 V AC for 1 min (1-mA sensing current) between all output terminals and power supply, between communication terminals, and between all power supply terminals and communications terminals
Noise immunity	Conforms to IEC61000-4-4, 2 kV (power lines)
Vibration resistance	10 to 55 Hz, 0.75-mm double amplitude
Shock resistance	Malfunction:100 m/s^2 Destruction:300 m/s^2
Mounting strength	No damage when 50 N pull load was applied for 10 s in all directions
Terminal strength	No damage when 50 N pull load was applied for 10 s
Screw tightening torque	0.6 to 1.18 Nm
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	8-point models: 145 g max., 16-point models: 240 g max.
Approved standards	UL 508, CSA C22.2 No. 14

Note: The above current consumption is a value with all the points turned ON including the current consumption of the G6D coil for the Remote Output Terminal, and the G3DZ's input current.

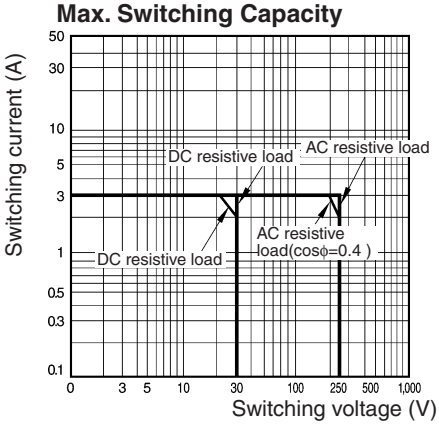
Reference Data

G6D-1A (24 VDC)

Life Expectancy



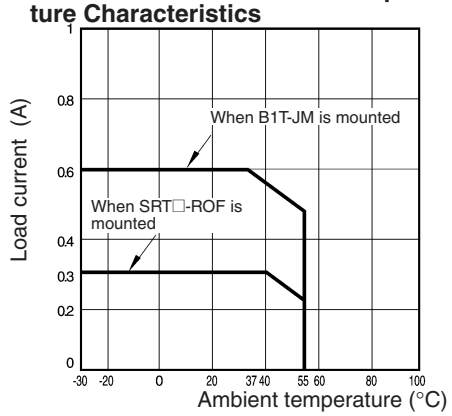
Max. Switching Capacity



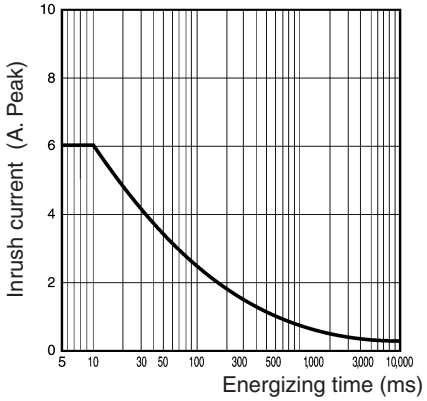
Note: These graphs show the characteristics for when the SRT2-ROC□□ or B1T-JR model is mounted.

G3DZ-2R6PL

Load Current vs. Ambient Temperature Characteristics



Inrush Current Resistivity



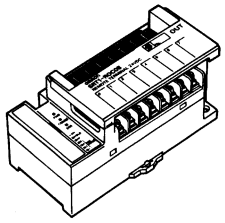
Non-repetitive: (Keep the inrush current to half the rated value if it occurs repetitively.)

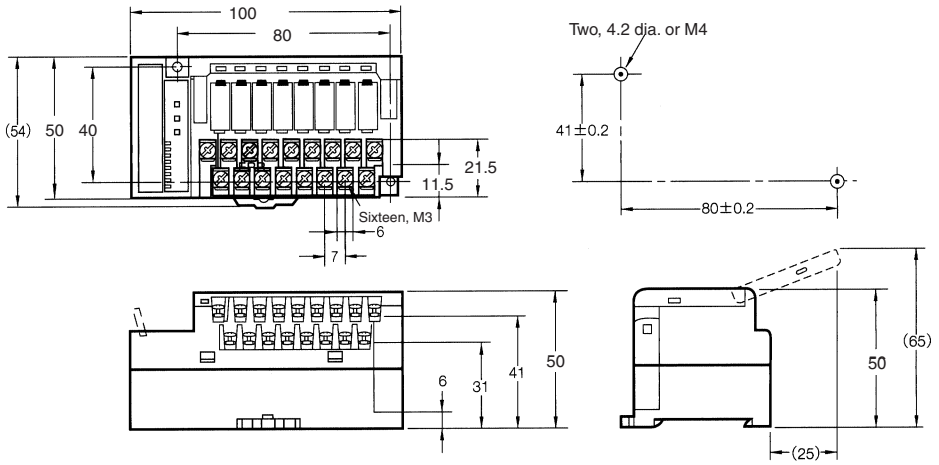
Note: The above graph shows the characteristics for when the SRT2-ROF□□ or B1T-JM model is mounted.

Dimensions

Note: All units are in millimeters unless otherwise indicated.

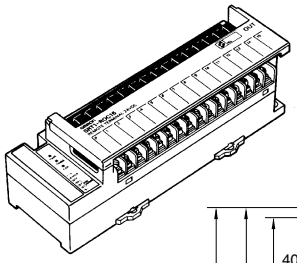
SRT2-ROC08
SRT2-ROF08

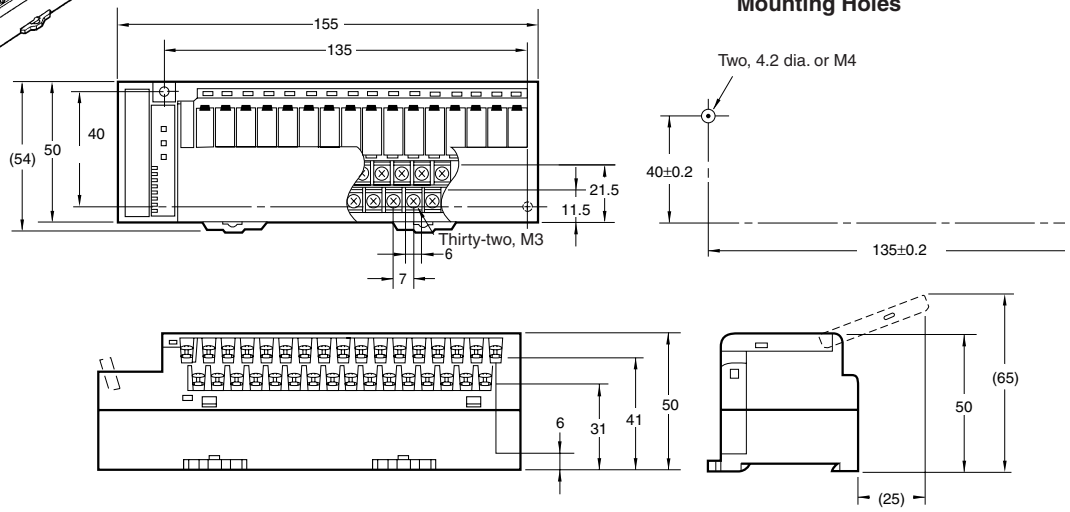




Mounting Holes

SRT2-ROC16
SRT2-ROF16



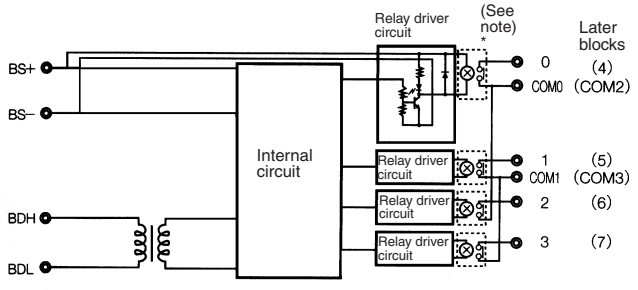


Mounting Holes

Installation

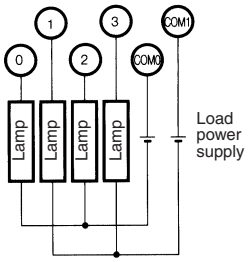
Internal Circuit Configuration

SRT2-ROC08
SRT2-ROC16



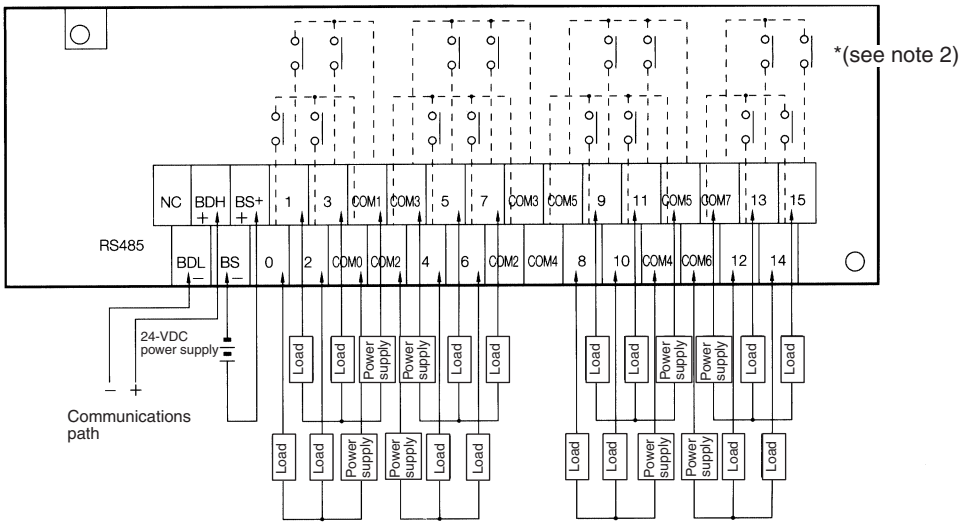
Note: The G3DZ-2R6PL Power MOS FET Relay is inserted into this portion of the SRT2-ROF08 and SRT2-ROF16.

External Connections



Terminal Arrangement and I/O Device Connection Example

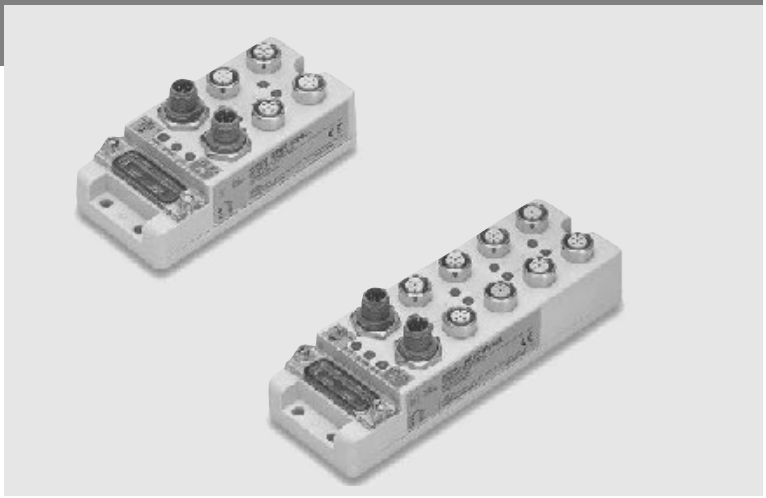
Output
SRT2-ROC16
SRT2-ROF16



Note: 1. Dotted lines indicate internal connections.
SRT2-ROC08 and SRT2-ROF08 have the 0 to 7 and COM0 to COM3 terminals only.
2. The above is a connection example of the SRT2-ROC16 with G6D Relays mounted.
G3DZ Power MOS FET Relays are mounted to the SRT2-ROF08 and SRT2-ROF16.

SRT2-□D0□CL(-1)

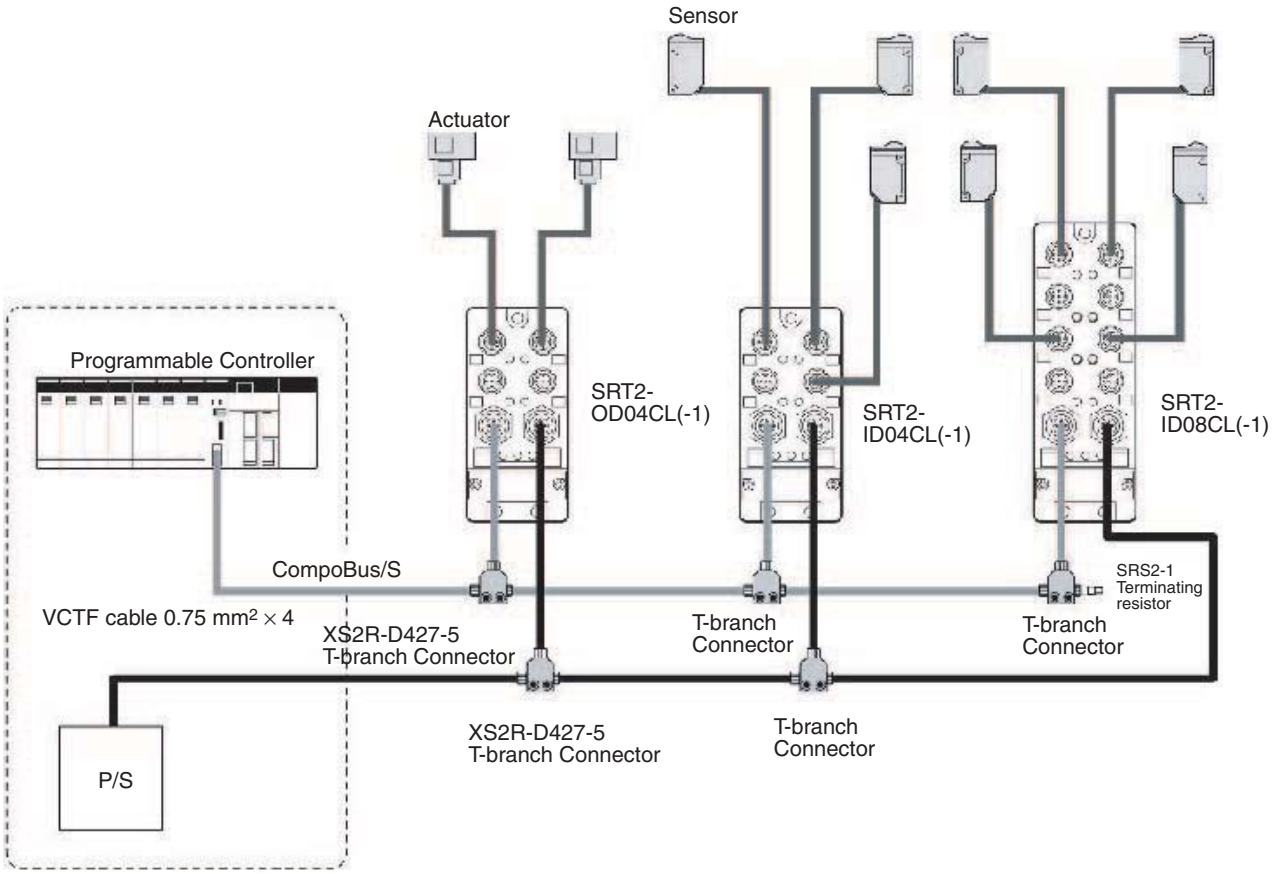
Waterproof Terminals



IP67 rated I/O terminals.
Compact and waterproof.

- Reduced Labor
  The use of standard connectors reduces the installation time
- Reduced Wiring
  The I/O terminal can be mounted closer to sensors and other devices.
- Easier Maintenance
  Significant reductions not only in setup time but also maintenance time.
- Reduced Space, Improved Operability
  Compact design (160 x 54 mm (W x H)) (8-point models)
  Settings and connections can be performed using the switch and connectors on the front side of the Terminal.

System Configuration



Ordering Information

Input/Output	Internal I/O circuit common	I/O points	I/O connections method	Rated voltage for I/O power supply	Model
Inputs	NPN (+ common)	4 points	Sensor I/O connector	24 V DC	SRT2-ID04CL
		8 points			SRT2-ID08CL
	PNP (– common)	4 points			SRT2-ID04CL-1
		8 points			SRT2-ID08CL-1
Outputs	NPN (– common)	4 points			SRT2-OD04CL
		8 points			SRT2-OD08CL
	PNP (+ common)	4 points			SRT2-OD04CL-1
		8 points			SRT2-OD08CL-1

Specifications

General Specifications

Item	SRT2-ID04CL SRT2-ID04CL-1 SRT2-OD04CL SRT2-OD04CL-1	SRT2-ID08CL SRT2-ID08CL-1 SRT2-OD08CL SRT2-OD08CL-1
Communications power supply voltage	14 to 26.4 V DC (supplied via communications connectors)	
I/O power supply voltage	20.4 to 26.4 V DC (24 V DC $_{-15\%}^{+10\%}$)	
Communications current consumption	15 mA max.	20 mA max.
Ambient temperature	Operating:–10°C to 55°C (with no icing) Storage:–25°C to 65°C	
Ambient humidity	Operating:25% to 85% (with no condensation) Storage:25% to 85% (with no condensation)	
Connector tightening torque	0.39 to 0.49 Nm	
Enclosure rating	IEC IP67	
Mounting method	Mounted using M5 screws	
Weight	Approx. 180 g	Approx. 240 g

Communications Media/Distances

Communications medium		4-conductor cable (VCTF, 0.75 mm^2 x 4)
Communications distance	High-speed Communications Mode	4-conductor VCTF cable: Main line length:30 m max. Branch line length:3 m max. Total branch line length:30 m max. (When 4-conductor VCTF cable is used to connect fewer than 16 Slaves, the main line can be up to 100 m long and the total branch line length can be up to 50 m.)
	Long-distance Communications Mode	4-conductor VCTF cable: Variable branch wiring (total cable length 200 m max.) (There are no limits on the branching format or main, branch, or total line lengths. The terminator must be connected to the point in the system farthest from the master.)

Note: Use in combination with two-conductor VCTF cables and special flat cables is not possible.

Input Specifications

Item	SRT2-ID04CL SRT2-ID04CL-1	SRT2-ID08CL SRT2-ID08CL-1
Input current	For input voltage of 24 V DC: 6 mA max. per point For input voltage of 17 V DC: 3 mA min. per point	
Input impedance	4.4 kΩ	
ON delay time	1.5 ms max.	
OFF delay time	1.5 ms max.	
ON voltage	15 V DC min.	
OFF voltage	5 V DC max.	
OFF current	1 mA max.	
Number of circuits	4 points with 1 common	8 points with 1 common

Output Specifications

Item	SRT2-OD04CL SRT2-OD04CL-1	SRT2-OD08CL SRT2-OD08CL-1
Rated output current	0.5 A per point (2 A per common)	0.5 A per point (2.4 A per common)
Residual voltage	1.2 V max.	
Leakage current	0.1 mA max.	
ON delay time	0.5 ms max.	
OFF delay time	1.5 ms max.	
Number of circuits	4 points with 1 common	8 points with 1 common

Applicable Connectors

Power Supply Connectors

Model	Specification
XS2C-D4□□	Assembling-type connector (crimp, soldering, or screw) socket
XS2W-D42□-□□□-□	Cable with connector on each end
XS2F-D42□-□80-□	Cable with connector at one end (socket end)
XS2R-D427-5	T-branch connector

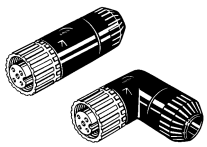
I/O Connectors

Model	Specification
XS2G-D4□□	Assembling type connector (crimp, soldering, or screw) Socket
XS2H-D421-□□□-□	Cable with connector at one end (plug end)
XS2W-D42□-□□□-□	Cable with connector on each end
XS2Z-12	Waterproof cover
XS2Z-15	Dust cover

Communications Connector

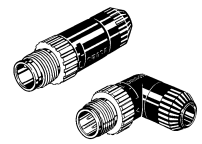
Model	Specification
XS2R-D427-5	T-branch connector
SRS2-1	Connector with terminating resistor (plug)
XS2G-D4S7	Assembling-type connector (for 4-conductor VCTF cable) plug (See note.)
XS2C-D4S7	Assembling-type connector (for 4-conductor VCTF socket) socket (See note.)

Assembling-type Connector Socket
Power Supply and Communications

Model	Applicable cable external dia.	Cable pull-out direction	No. of poles	Connection method		
				Crimp	Solder	Screw
	6 dia. (5 to 6 dia.)	Straight	4	XS2C-D4C1	XS2C-D421	XS2C-D4S1
		L-shaped		XS2C-D4C2	XS2C-D422	XS2C-D4S2
	5 dia. (4 to 5 dia.)	Straight		XS2C-D4C3	XS2C-D423	XS2C-D4S3
		L-shaped		XS2C-D4C4	XS2C-D424	XS2C-D4S4
	3 dia. (3 to 4 dia.)	Straight		XS2C-D4C5	XS2C-D425	XS2C-D4S5
		L-shaped		XS2C-D4C6	XS2C-D426	XS2C-D4S6
	7 dia. (7 to 8 dia.)	Straight		---	---	XS2C-D4S7 (see note)

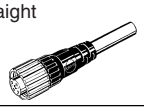
Note: Only the XS2C-D4S7 with a diameter of 7 mm can be used for communications.

Assembling-type Connector Plug — Power Supply and Communications

Appearance	Applicable cable external dia.	Cable pull-out direction	No. of poles	Connection method		
				Crimp	Solder	Screw
	6 dia. (5 to 6 dia.)	Straight	4	XS2G-D4C1	XS2G-D421	XS2G-D4S1
		L-shaped		---	XS2G-D422	XS2G-D4S2
	5 dia. (4 to 5 dia.)	Straight		XS2G-D4C3	XS2G-D423	XS2G-D4S3
		L-shaped		---	XS2G-D424	XS2G-D4S4
	3 dia. (3 to 4 dia.)	Straight		XS2G-D4C5	XS2G-D425	XS2G-D4S5
		L-shaped		---	XS2G-D426	XS2G-D4S6
	7 dia.	Straight		---	---	XS2G-D4S7 (see note)

Note: Only the XS2G-D4S7 with a diameter of 7 mm can be used for communications.

Connectors with Cables (Single-end Socket Each) — Power Supply

Appearance	Cable pull-out direction	No. of cable conductor	Cable length (m)	Standard cable	Robot cable (vibration resistive)
	Straight 	4	1	XS2F-D421-C80-A	XS2F-D421-C80-R
			2	XS2F-D421-D80-A	XS2F-D421-D80-R
			5	XS2F-D421-G80-A	XS2F-D421-G80-R
			10	XS2F-D421-J80-A	XS2F-D421-J80-R
	L-shaped 	4	1	XS2F-D422-C80-A	XS2F-D422-C80-R
			2	XS2F-D422-D80-A	XS2F-D422-D80-R
			5	XS2F-D422-G80-A	XS2F-D422-G80-R
			10	XS2F-D422-J80-A	XS2F-D422-J80-R

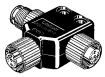
Connectors with Cables (Sockets and Plugs) — Power Supply and I/O

Appearance	Cable pull-out direction	No. of cable conductor	Cable length (m)	Standard cable	Robot cable (vibration resistive)
	Straight/Straight	4	1	XS2W-D421-C81-A	XS2W-D421-C81-R
			2	XS2W-D421-D81-A	XS2W-D421-D81-R
			5	XS2W-D421-G81-A	XS2W-D421-G81-R
	L-shaped/L-shaped		2	XS2W-D422-D81-A	---
			5	XS2W-D422-G81-A	
	Straight/L-shaped		2	XS2W-D423-D81-A	
			5	XS2W-D423-G81-A	
	L-shaped/Straight		2	XS2W-D424-D81-A	
			5	XS2W-D424-G81-A	

Connectors with Cables (Single-end Connector Each) I/O

Appearance	Cable pull-out direction	No. of cable conductor	Cable length (m)	Standard cable
	Straight	3	0.3	XS2H-D421-AC0-A
		4		XS2H-D421-A80-A
		3	1	XS2H-D421-CC0-A
		4		XS2H-D421-C80-A

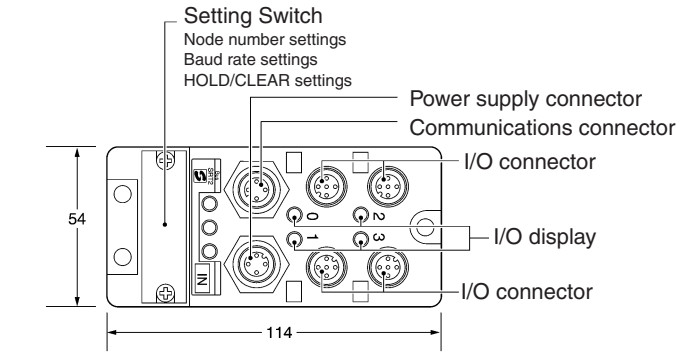
Connector Covers

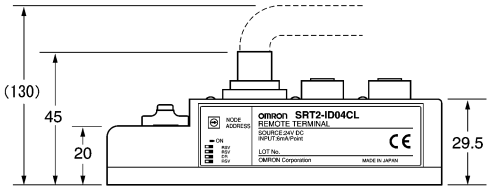
Appearance	Product	Model	Application
	T-branch Connector	XS2R-D427-5	Branching communications lines and power lines
	Connector Terminator (plug)	SRS2-1	Waterproof terminator
	Waterproof cover	XS2Z-12	Covers for unused I/O connectors
	Dust cover	XS2Z-15	

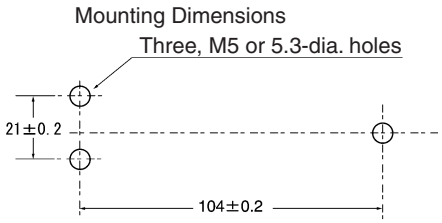
Dimensions

Note: All units are in millimeters unless otherwise indicated.

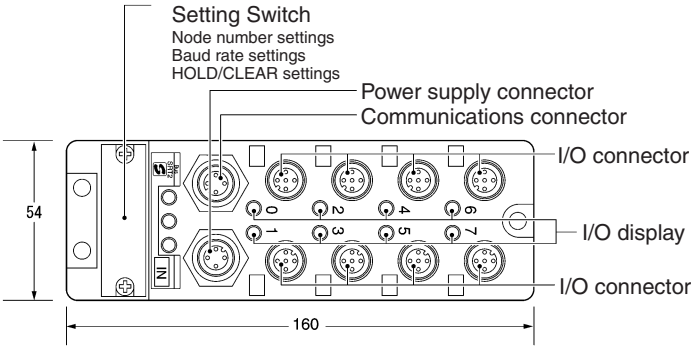
Models with 4 points
SRT2-ID04CL/SRT2-ID04CL-1
SRT2-OD04CL/SRT2-OD04CL-1

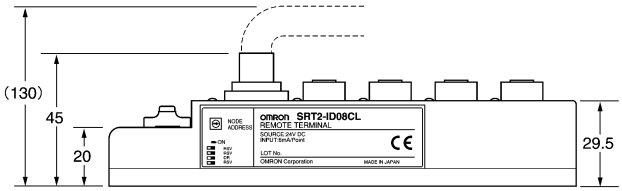


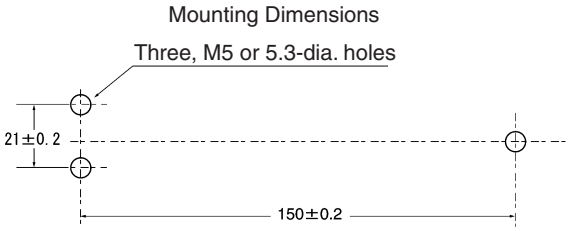




Models with 8 points
SRT2-ID08CL/SRT2-ID08CL-1
SRT2-OD08CL/SRT2-OD08CL-1



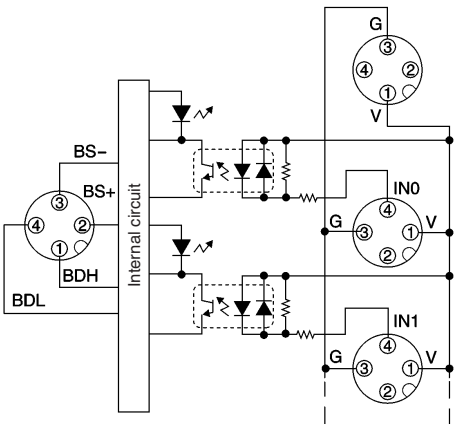




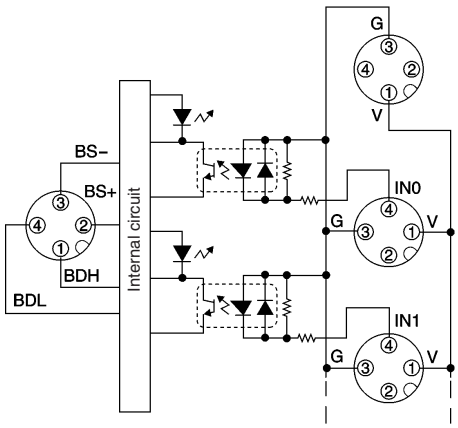
Installation

Internal Circuit Diagrams

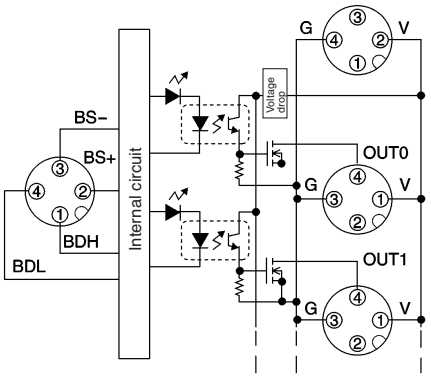
SRT2-ID0□CL (NPN)



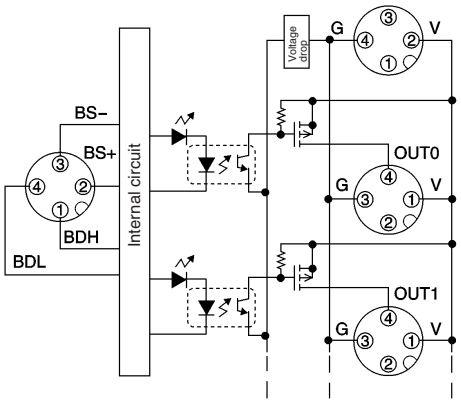
SRT2-ID0□CL-1 (PNP)



SRT2-OD0□CL (NPN)

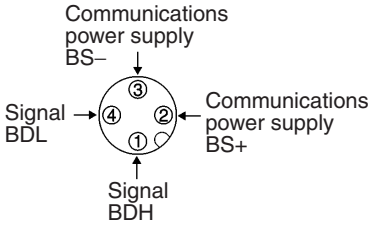


SRT2-OD0□CL-1 (PNP)

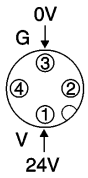


Connections Diagrams for Connectors

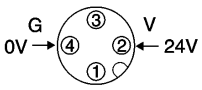
Communications Connector



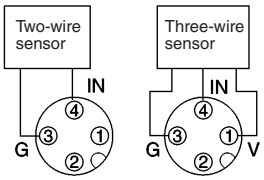
ID0□(-1) Power Supply Connector



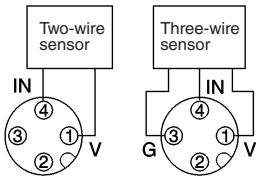
OD0□(-1) Power Supply Connector



ID0□ Input Connector (NPN)

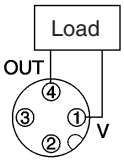


ID0□-1 Input Connector (PNP)



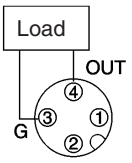
OD0□ Output Connector (NPN)

Solenoid and Voltage



OD0□ Output Connector (PNP)

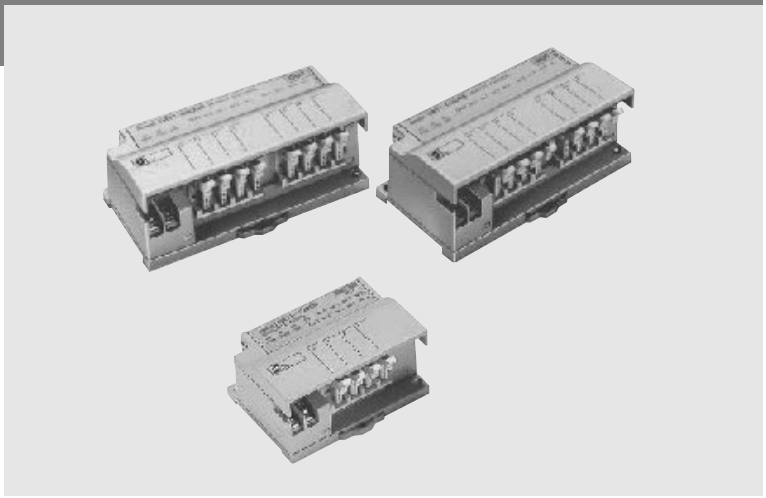
Solenoid and Voltage



SRT2-□D08S

Sensor Terminals

- Sensor connector models
- For sensors with easy-to-wire connectors
- Connects to 2-wire sensors.
- Very compact
- DIN rail mounting and screw mounting are both supported.



Ordering Information

Classification	Internal I/O circuit common	I/O points	Model
For input	NPN (– common)	8 input points	SRT2-ID08S
For I/O	NPN (– common)	4 input/4 output points	SRT2-ND08S
For output	NPN (– common)	8 output points	SRT2-OD08S

Specifications

Ratings

Input

Item	SRT2-ID08S/-ND08S
Input current	10 mA max./point
ON delay time	1 ms max.
OFF delay time	1.5 ms max.
ON voltage	12 V DC min. between each input terminal and V_{CC}, the external sensor power supply
OFF voltage	4 V DC max. between each input terminal and V_{CC}, the external sensor power supply
OFF current	1 mA max.
Insulation method	Photocoupler
Input indicator	LED (yellow)

Output

Item	SRT2-ND08S	SRT2-OD08S
Rated output current	20 mA/point	300 mA/point
Residual voltage	1 V max.	0.6 V max.
ON delay time	1 ms max.	---
OFF delay time	1.5 ms max.	---
Leakage current	0.1 mA max.	
Insulation method	Photocoupler	
Output indicator	LED (yellow)	

Characteristics

Communications power supply voltage (see note 1)	14 to 26.4 V DC
Current consumption (see note 2)	50 mA max. at 24 V DC
Connection method	Multi-drop method and T-branch method
Dielectric strength	500 V AC for 1 min (1-mA sensing current between insulated circuits)
Noise immunity	Conforms to IEC61000-4-4 2kV (power lines)
Vibration resistance	10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Malfunction:200 m/s^2 Destruction:300 m/s^2
Mounting method	M4 screw mounting or 35-mm DIN rail mounting
Mounting strength	No damage when 50 N pull load was applied for 10 s in all directions (except the DIN rail directions and a pulling force of 10 N)
Terminal strength	No damage when 50 N pull load was applied for 10 s in all directions Tighten each screw to a torque of 0.6 to 1.18 N • m
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	SRT2-ID08S/OD08S: 100 g max., SRT2-ND08S: 80 g max.

Note: 1. The communications power supply voltage must be 20.4 to 26.4 V DC if the Unit is connected to 2-wire proximity sensors.

2. The above current consumption is a value with all the points turned OFF excluding the current consumption of the sensor connected to the Sensor Terminal.

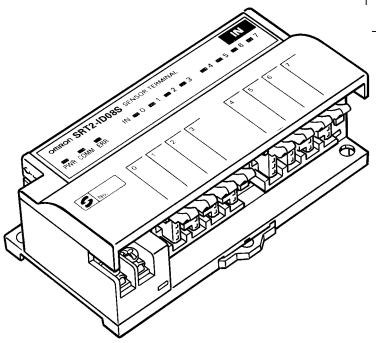
External Sensor Power Supply

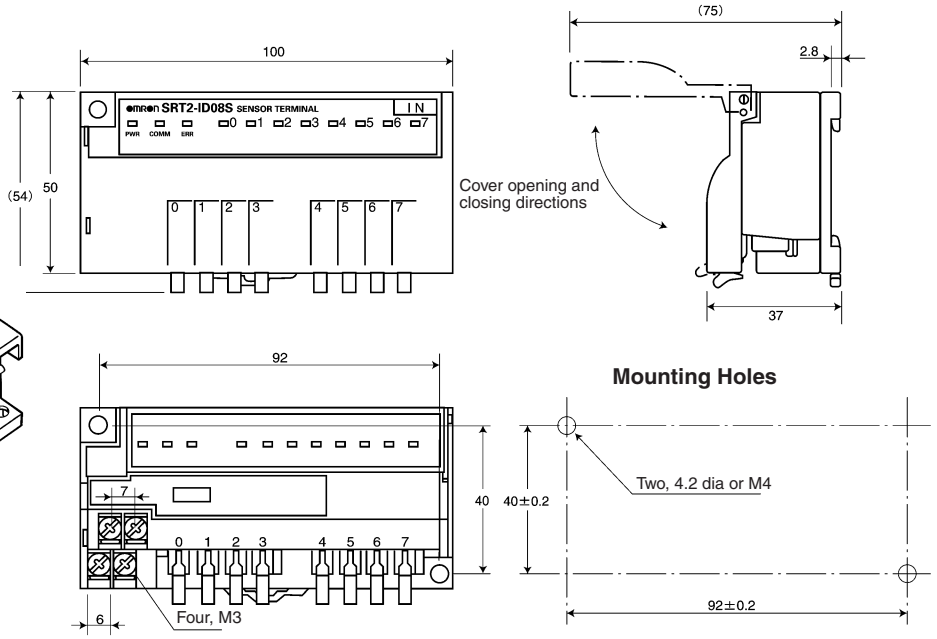
Power supply voltage	13.5 to 26.4 V DC
Current consumption	500 mA max. in total

Dimensions

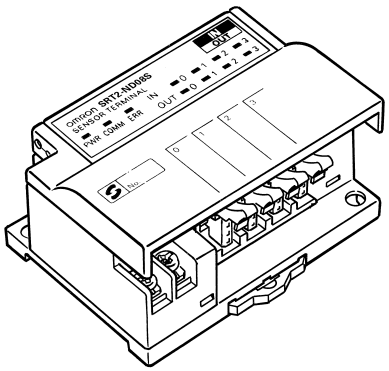
Note: All units are in millimeters unless otherwise indicated.

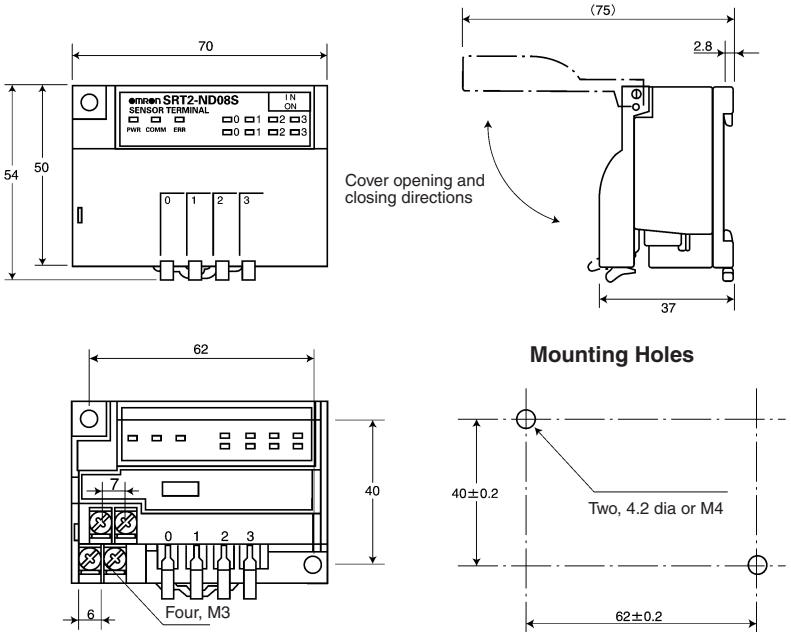
SRT2-ID08S



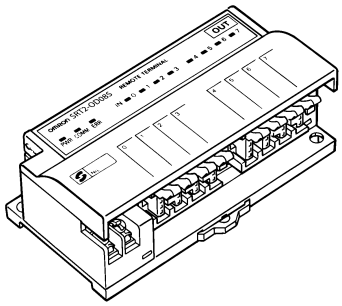


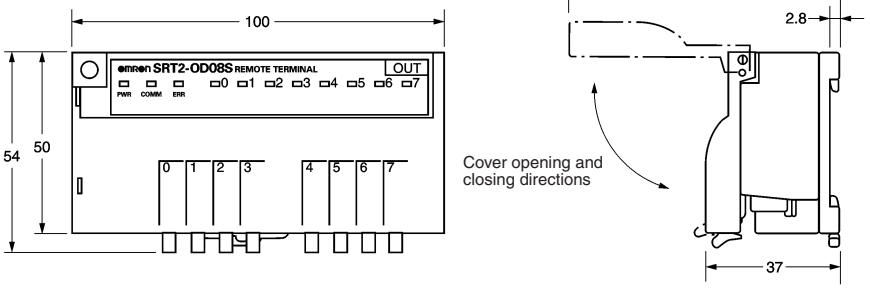
SRT2-ND08S

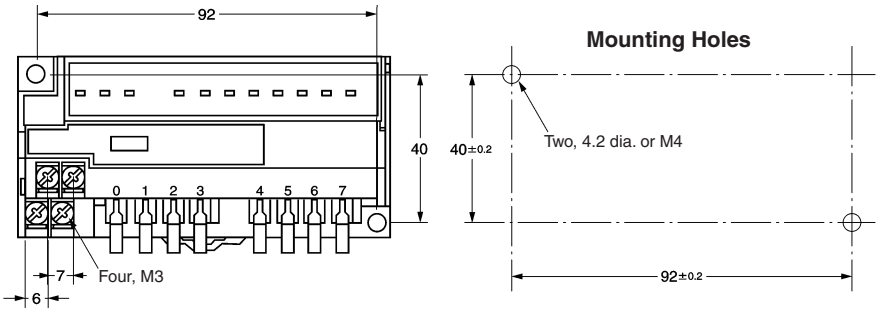




SRT2-OD08S







Cable Connector for SRT2-□D08S

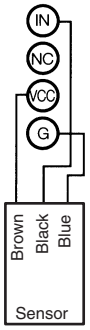
Applicable conductor size (mm^2)	Model
0.3 to 0.5	XS8A-0441
0.14 to 0.2	XS8A-0442
0.3 to 0.5	XS8B-0443

Installation

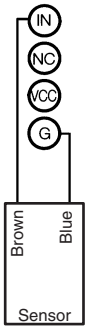
External Connections

SRT2-ID08S

Three-wire Sensor

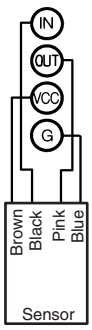


Two-wire Sensor

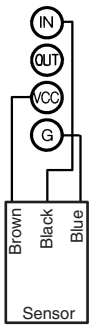


SRT2-ND08S

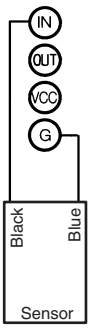
Sensor with Teaching Function
Sensor with External Diagnostic function
Sensor with Bank-switching Function



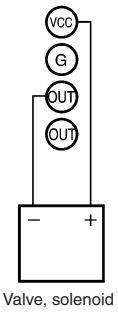
Three-wire Sensor



Two-wire Sensor

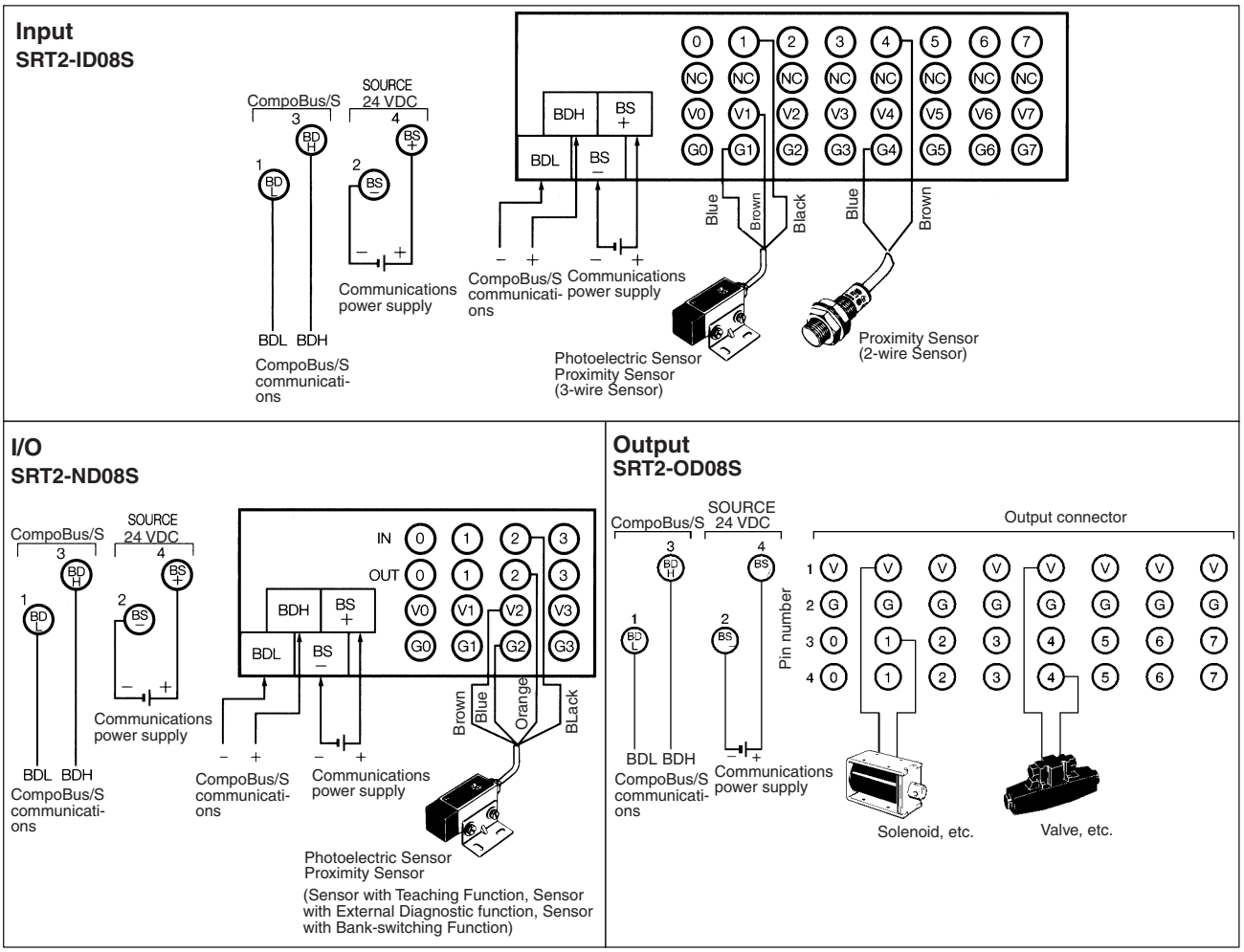


SRT2-OD08S



Valve, solenoid

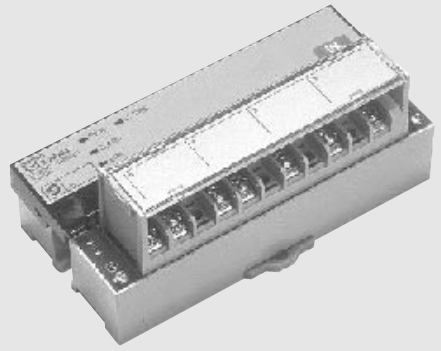
Terminal Arrangement and I/O Device Connection Example



SRT2-AD04

Analog Input Terminal

- Compact Analog Input Model
- Allows flexible input point settings up to a maximum of four points.
- Resolution: 1/6,000
- Conversion time is 1 ms only
- Wide input ranges available.
- 105 x 48 x 50 (W x H x D)



Ordering Information

Classification	I/O points	Model
Analog Input Terminal	1 to 4 (selectable with DIP switch)	SRT2-AD04

Note: For details about connecting the SRT2-AD04 to the master unit. Refer to page 368.

Specifications

Ratings

Input

Item		Voltage input	Current input
Max. signal input		±15 V	±30 mA
Input impedance		1 MΩ max.	Approx. 250 Ω
Resolution		1/6,000 (FS)	
Total accuracy	**25°C**	±0.3% FS	±0.4% FS
	–10 to 55°C	±0.6% FS	±0.8% FS
Conversion time		4 ms/4 points, 3 ms/3 points, 2 ms/2 points, and 1 ms/1 point	
Dielectric strength		500 V AC for 1 min between communications power supply, analog input, and communications terminals (see note)	

Note: There is no insulation between analog inputs.

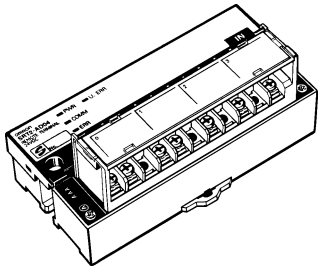
Characteristics

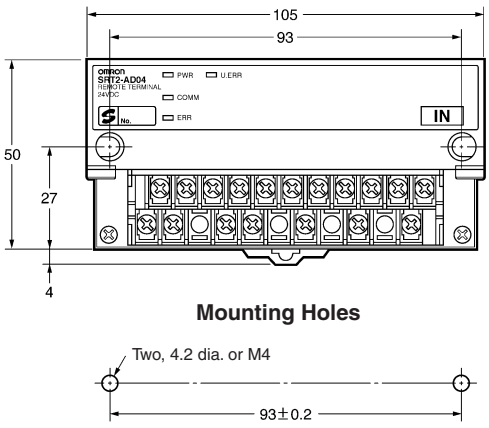
Communications power supply voltage	14 to 26.4 V DC (possible to provide through Special Flat Cable)
Current consumption	100 mA max.
Connection method	Multi-drop method and T-branch method
Dielectric strength	500 V AC (between insulated circuits)
Noise immunity	Conforms to IEC61000-4-4, 2 kV (power lines)
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 with 100 N pull load applied in all directions.
Terminal strength	No damage with 100 N pull load applied
Screw tightening torque	0.3 to 0.5 Nm
Ambient temperature	Operating:–10°C to 55°C Storage:–25°C to 65°C
Ambient humidity	Operating:25% to 85% (with no condensation)
Weight	Approx. 120 g

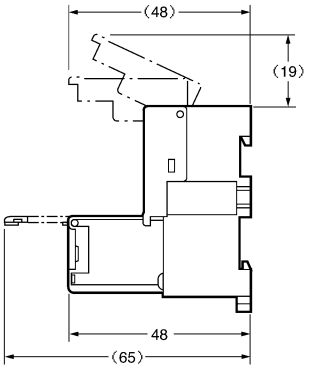
Dimensions

Note: All units are in millimeters unless otherwise indicated.

SRT2-AD04





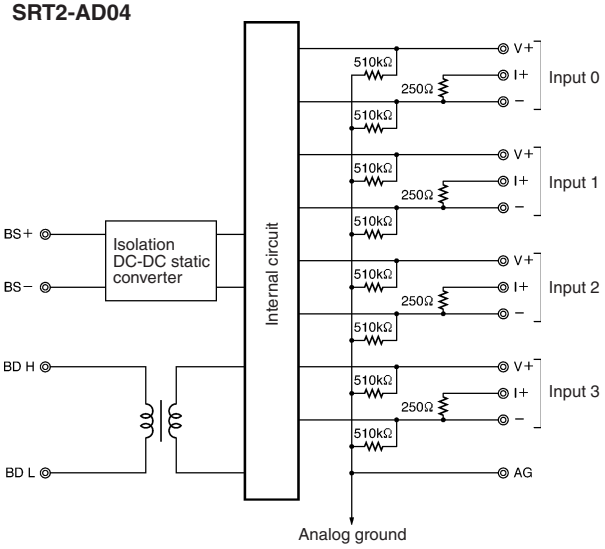


Mounting Holes

Installation

Internal Circuit Configuration

SRT2-AD04



Terminal Arrangement

SRT2-AD04

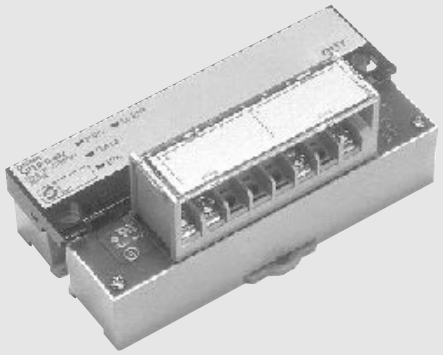
BD H	BS +	AG	V0 +	I0 +	V1 +	I1 +	V2 +	I2 +	V3 +	I3 +
BD L	BS −	NC	AG	0−	NC	1−	NC	2−	NC	3−

Note: When the input is current input, short-circuit the “V+” terminals and the “I+” terminals. When short-circuiting, use the short-circuiting tool provided as an accessory.

SRT2-DA02

Analog Output Terminal

- Compact Analog Output Model
- Two output points or 1 output point is selectable.
- Resolution: 1/6,000
- 105 x 48 x 50 (W x H x D)



Ordering Information

Classification	I/O points	Model
Analog Output Terminal	1 or 2 (selectable with DIP switch)	SRT2-DA02

Note: For details about connecting the SRT2-DA02 to the master unit, refer to page 368.

Specifications

Ratings

Output

Item		Voltage output	Current output
External output permissible load resistance		5 kΩ min.	600 Ω max.
Output impedance		0.5 Ω max.	---
Resolution		1/6,000 (FS)	
Total accuracy	**25°C**	±0.4% FS	
	–10 to 55°C	±0.8% FS	
Conversion time		2 ms/2 points and 2 ms/1 point	
Dielectric strength		500 V AC for 1 min between communications power supply, analog output, and communications terminals (see note)	

Note: There is no insulation between analog outputs.

Characteristics

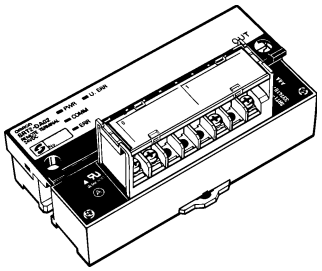
Communications power supply voltage	14 to 26.4 V DC (power supply possible from Special Flat Cable)
Current consumption (see note)	170 mA max.
Connection method	Multi-drop method and T-branch method
Dielectric strength	500 V AC (between insulated circuits)
Noise immunity	Conforms to IEC61000-4-4, 2 kV (power lines)
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
Terminal strength	No damage when 100 N pull load was applied
Screw tightening torque	0.3 to 0.5 N • m
Ambient temperature	Operating:–10°C to 55°C Storage:–25°C to 65°C
Ambient humidity	Operating:25% to 85% (with no condensation)
Weight	Approx. 100 g

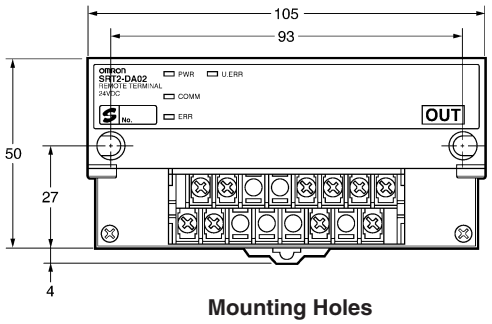
Note: The above current consumption is the value with all points turned ON excluding the current consumption of the external load.

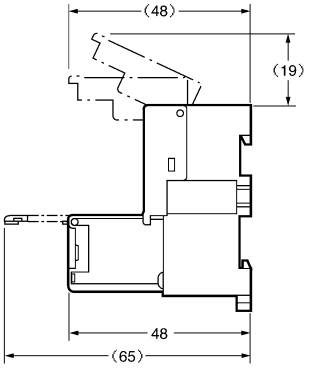
Dimensions

Note: All units are in millimeters unless otherwise indicated.

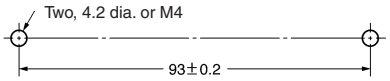
SRT2-DA02







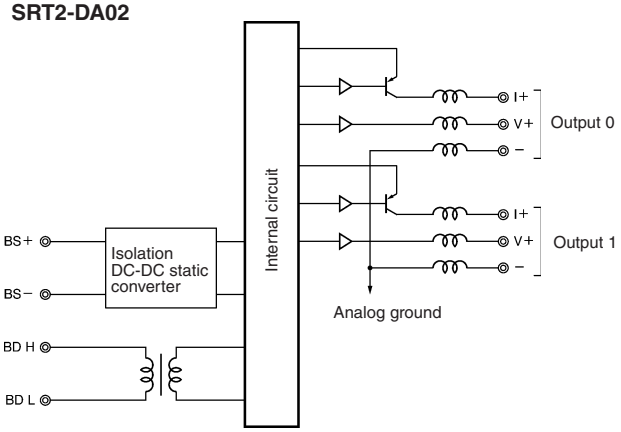
Mounting Holes



Installation

Internal Circuit Configuration

SRT2-DA02



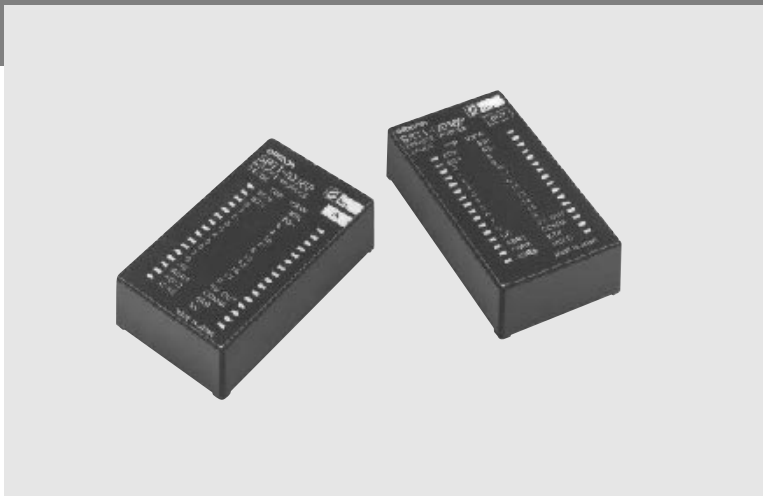
Terminal Arrangement

SRT2-DA02

H	BS +	NC	NC	V0 +	I0 +	V1 +	I1 +
BD L	BS −	NC	NC	NC	0 −	NC	1 −

SRT2-ID16P/-OD16P

Digital I/O Terminals



Module Type that Allows PCB Mounting

- Compact size at 60 x 16 x 35 (W x H x D)
- Lineup now includes the 16-point input model and 16-point output model.

Ordering Information

I/O classification	Internal I/O circuit common	I/O points	Rated voltage	I/O rated voltage	Model
Input	NPN (+ common)	16	24 V DC	24 V DC	SRT2-ID16P
Output	NPN (– common)				SRT2-OD16P

Specifications

Ratings

Input (SRT2-ID16P)

Input current	2 mA max./point
ON delay time	1.5 ms max.
OFF delay time	1.5 ms max.
ON voltage	15 V DC min. between each input terminal and BS+ terminal
OFF voltage	5 V DC max. between each input terminal and BS + terminal

Output (SRT2-OD16P)

Rated output current	0.2 A/point, 0.6 A/common
Residual voltage	0.6 V max. between each output terminal and G terminal at 0.2 A
Leakage current	0.1 mA max. between each output terminal and G terminal at 24 V DC

Characteristics

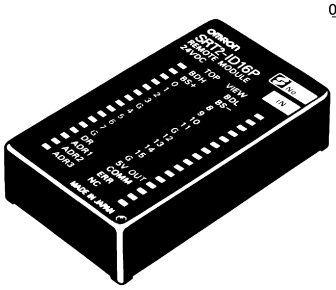
Communications power supply voltage	20.4 to 26.4 V DC
I/O power supply voltage	24 V DC $^{+10\%}/_{-15\%}$
Current consumption (see note)	60 mA max.
Connection method	Multi-drop method and T-branch method
Connecting Units	8 Input Terminals and 8 Output Terminals per Master
Dielectric strength	500 V AC for 1 min (1-mA sensing current between insulated circuits)
5-V output current	20 mA max. (5 V ± 0.5 V)
LED drive current (COMM, ERR)	10 mA max. (5 V DC)
SW carry current (ADR0 to 3, HOLD)	1 mA max.
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	35 g max.

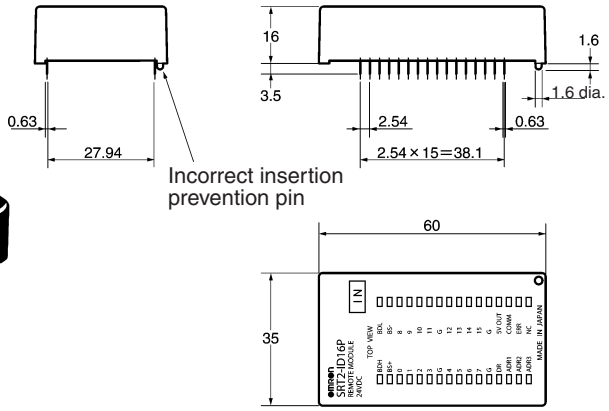
Note: The above current consumption is the value with all points turned ON excluding the current consumption of the external sensor connected to the input model and the current consumption of the load connected to the output model.

Dimensions

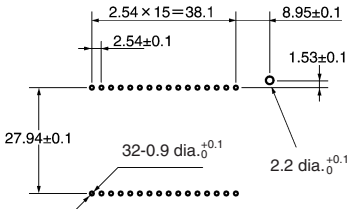
Note: All units are in millimeters unless otherwise indicated.

SRT2-ID16P
SRT2-OD16P





PCB dimensions (top view)

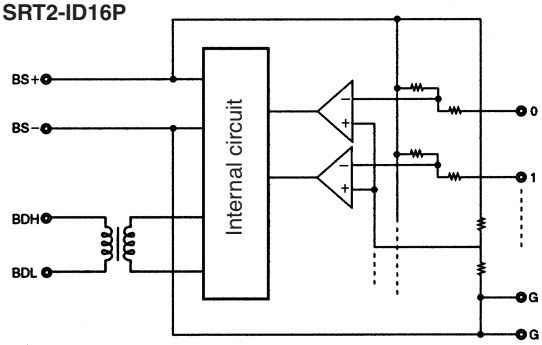


No cumulative tolerance allowed

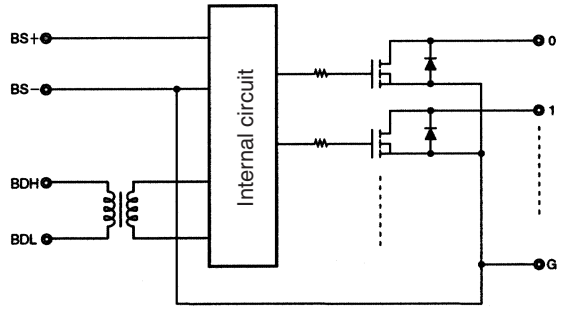
Installation

Internal Circuit Configuration

SRT2-ID16P

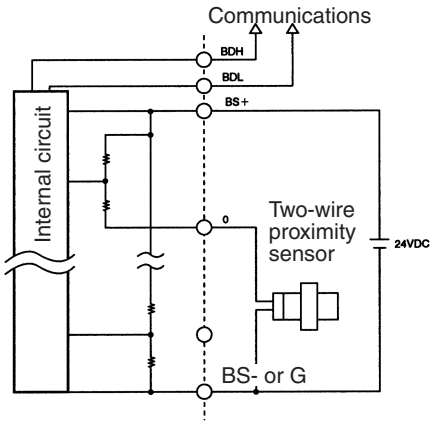


SRT2-OD16P

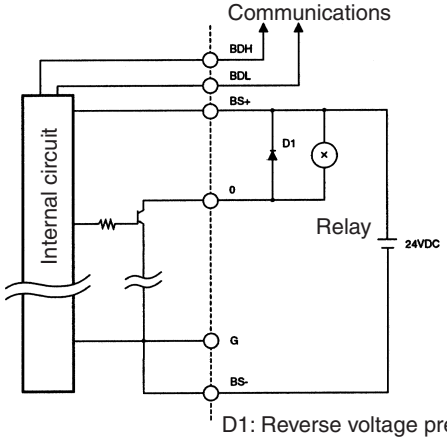


External Connections

Input Module (SRT2-ID16P)

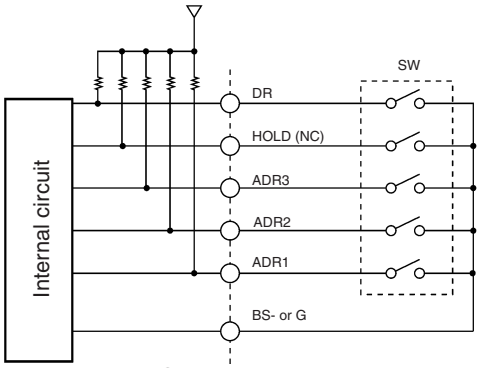


Output Module (SRT2-OD16P)



D1: Reverse voltage prevention diode

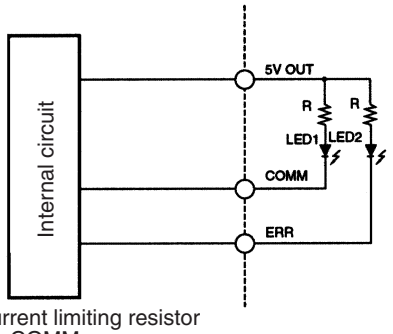
Node Number Settings and Output HOLD/CLEAR Mode



Note: NC in parentheses is for the Input Modules.

Note: Refer to the *CompoBus/S Operation Manual (W266-E1)* for details on the switch.

Indicators



R: LED current limiting resistor
LED1: LED for COMM
LED2: LED for ERR
The maximum current for LED1 and 2 is 10 mA.

The 5-V Output Terminals have positive power supplies (maximum output current of 20 mA) for the ERR and COMM LEDs. Recommended LED colors are red for ERR and yellow for COMM.