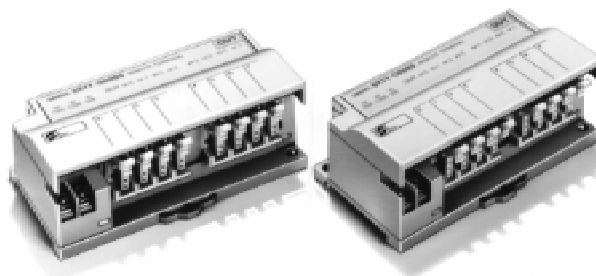


Sensor Remote Terminal Blocks

SRT1-□D08S

Simplify Connection of Two- and Three-Wire Sensors to CompoBus/S

- Easy-to-wire insulation displacement type connectors eliminate insulation stripping, shortens installation time
- Remote teaching function, diagnostics and bank selection functions can be set and monitored by a PLC using output signals of I/O Sensor Terminal (SRT1-ND08S)
- DIN track and screw mounting available



Ordering Information

■ SENSOR TERMINAL BLOCKS

| Classification | Internal I/O circuit common | I/O points | Part number |
|----------------|-----------------------------|-------------------------|-------------|
| For input | NPN (- common) | 8 input points | SRT1-ID08S |
| For I/O | NPN (- common) | 4 input/4 output points | SRT1-ND08S |
| For output | NPN (- common) | 8 output points | SRT1-OD08S |

■ CABLE CONNECTORS

| Item | Description | Part number |
|---|---|-------------|
| Sensor connectors (Order one for each I/O point) | For cable conductor sizes 0.3 to 0.5 mm ² | XS8A-0441 |
| | For cable conductor sizes 0.14 to 0.2 mm ² | XS8A-0442 |

Note: Refer to the Cable Conductor Size Calculation Formula in the "Accessories" section of Dimensions.

Specifications

■ RATINGS

Input

| Item | SRT1-ID08S/-ND08S |
|-------------------|---|
| Input current | 10 mA max./point |
| ON delay time | 1 ms max. |
| OFF delay time | 1.5 ms max. |
| ON voltage | 12 VDC min. between each input terminal and V_{CC} , the external sensor power supply |
| OFF voltage | 4 VDC 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 | SRT1-ID08S | SRT1-OD08S |
|----------------------|--------------|-------------|
| Rated output current | 20 mA/point | 30 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 VDC |
| Current consumption (See Note 2) | 50 mA max. at 24 VDC |
| Connection method | Multi-drop method and T-branch method Secondary branches cannot be connected to T-branch lines. |
| 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 μ s Power supply common: $\pm 1,500$ V for 10 minutes with a pulse width of 100 ns to 1 μ s |
| 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 track mounting |
| Mounting strength | No damage when 50 N pull load was applied for 10 s in all directions (except the DIN track 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 (32°F to 131°F) with no icing or condensation Storage: -20°C to 65°C (-4°F to 149°F) with no icing or condensation |
| Ambient humidity | Operating: 35% to 85% |
| Weight | SRT1-ID08S/-OD08S: 100 g max., SRT1-ND08S: 80 g max. |

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

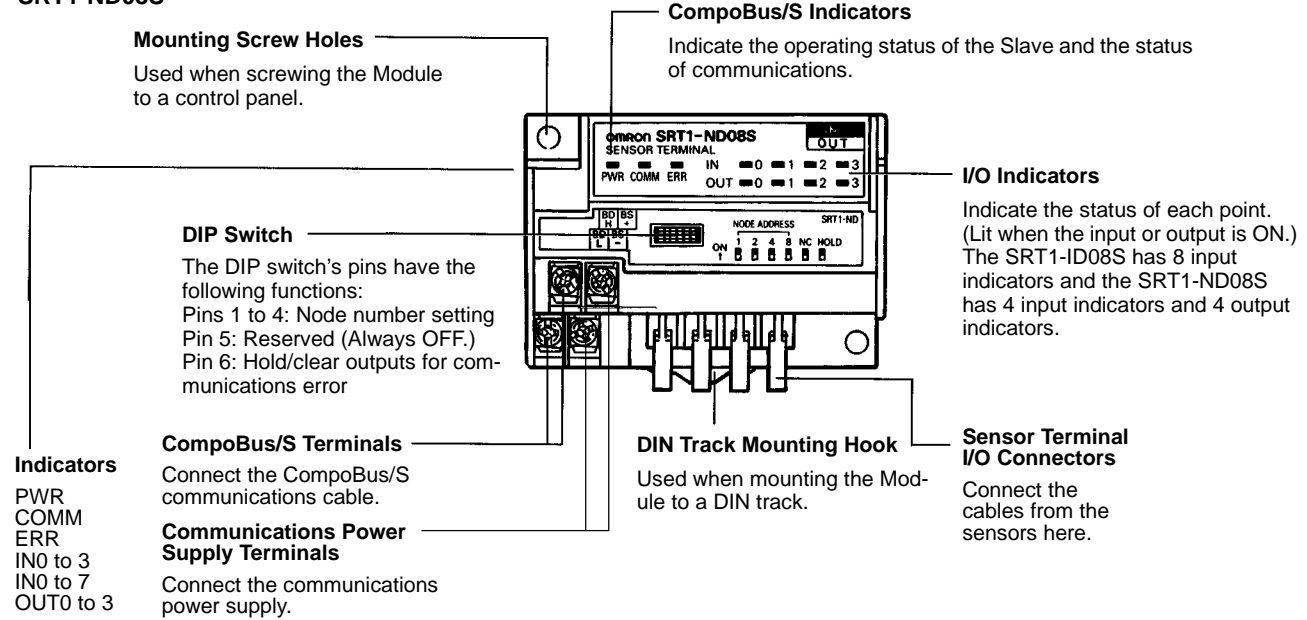
2. The above current consumption is a value with all the points turned OFF excluding the current consumption of the sensor connected to the Sensor Terminal.

■ EXTERNAL SENSOR POWER SUPPLY

| | |
|----------------------|----------------------|
| Power supply voltage | 13.5 to 26.4 VDC |
| Current consumption | 500 mA max. in total |

Nomenclature

SRT1-ID08S
SRT1-ND08S

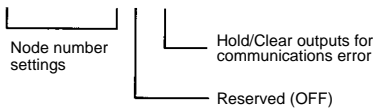
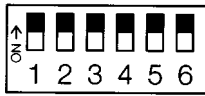


Indicators

| Indicator | Name | Display | Color | Meaning |
|---|---------------------|---------|--------|---|
| PWR | Power supply | Lit | Green | The communications power supply is ON. |
| | | Not lit | | The communications power supply is OFF. |
| COMM | Communication | Lit | Yellow | Normal communications |
| | | Not lit | | A communications error has occurred or the Module is in standby status. |
| ERR | Communication error | Lit | Red | A communications error has occurred. |
| | | Not lit | | Normal communications or the Module is in standby status. |
| 0 to 3 (4 inputs/outputs) 0 to 7 (8 inputs) | Input | Lit | Yellow | The corresponding input is ON. |
| | | Not lit | | The corresponding input is OFF or the Module is in standby status. |
| 0 to 3 (4 inputs/outputs) | Output | Lit | Yellow | The corresponding output is ON. |
| | | Not lit | | The corresponding output is OFF or the Module is in standby status. |

Switch Setting

All pins are factory-set to OFF.



Pin 5 (Reserved)

Always set pin 5 to OFF.

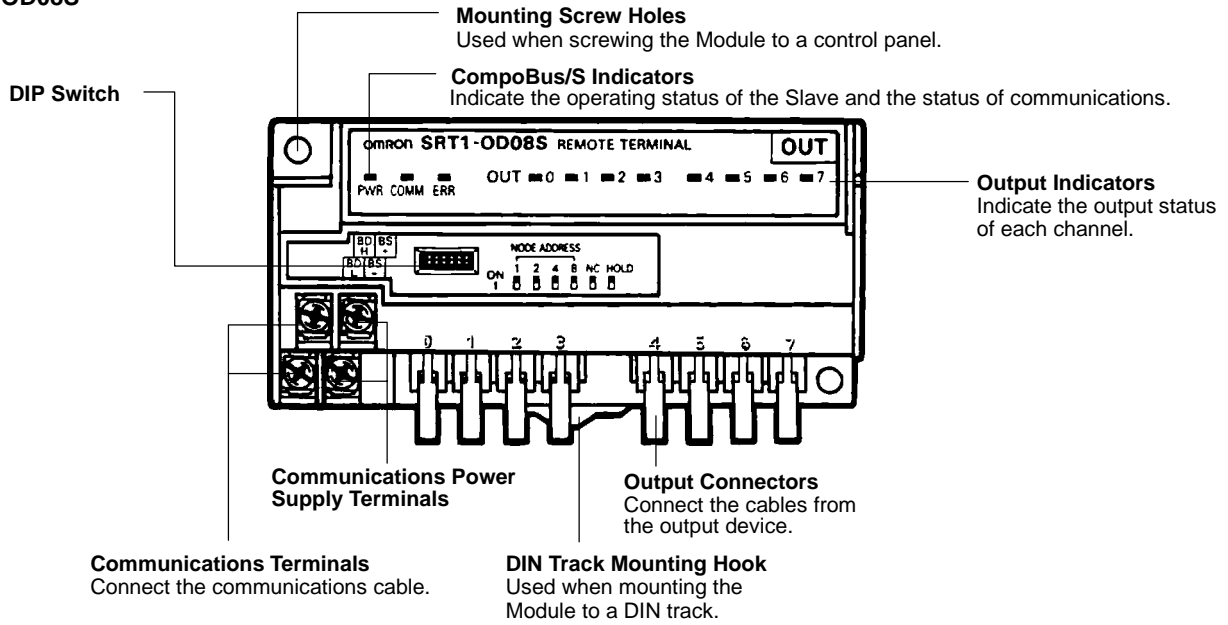
Output HOLD/CLEAR Mode (SRT-ND16S)

| HOLD | Function |
|------|---|
| OFF | Output status is cleared when a communications error occurs. |
| ON | Output status is maintained when a communications error occurs. |

Node Number Settings

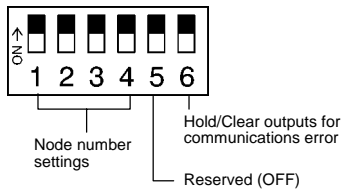
| Node number | 1 | 2 | 4 | 8 |
|-------------|-----|-----|-----|-----|
| 0 | OFF | OFF | OFF | OFF |
| 1 | ON | OFF | OFF | OFF |
| 2 | OFF | ON | OFF | OFF |
| 3 | ON | ON | OFF | OFF |
| 4 | OFF | OFF | ON | OFF |
| 5 | ON | OFF | ON | OFF |
| 6 | OFF | ON | ON | OFF |
| 7 | ON | ON | ON | OFF |
| 8 | OFF | OFF | OFF | ON |
| 9 | ON | OFF | OFF | ON |
| 10 | OFF | ON | OFF | ON |
| 11 | ON | ON | OFF | ON |
| 12 | OFF | OFF | ON | ON |
| 13 | ON | OFF | ON | ON |
| 14 | OFF | ON | ON | ON |
| 15 | ON | ON | ON | ON |

SRT1-OD08S



Switch Setting

All pins are factory-set to OFF.



Pin 5 (Reserved)

Always set pin 5 to OFF.

Output HOLD/CLEAR Mode (SRT-ND16S)

| HOLD | Function |
|------|---|
| OFF | Output status is cleared when a communications error occurs. |
| ON | Output status is maintained when a communications error occurs. |

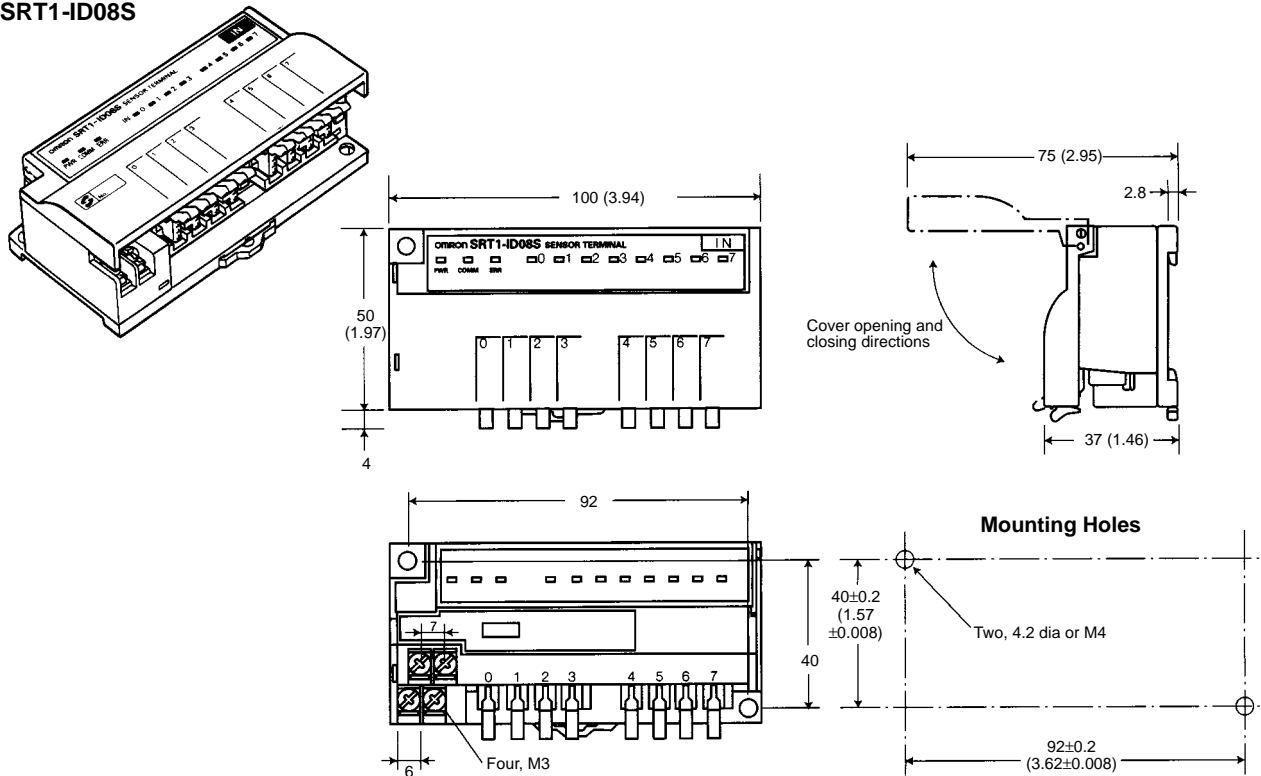
Node Number Settings

| Node number | 4 | 3 | 2 | 1 |
|-------------|-----|-----|-----|-----|
| 0 | OFF | OFF | OFF | OFF |
| 1 | OFF | OFF | OFF | ON |
| 2 | OFF | OFF | ON | OFF |
| 3 | OFF | OFF | ON | ON |
| 4 | OFF | ON | OFF | OFF |
| 5 | OFF | ON | OFF | ON |
| 6 | OFF | ON | ON | OFF |
| 7 | OFF | ON | ON | ON |
| 8 | ON | OFF | OFF | OFF |
| 9 | ON | OFF | OFF | ON |
| 10 | ON | OFF | ON | OFF |
| 11 | ON | OFF | ON | ON |
| 12 | ON | ON | OFF | OFF |
| 13 | ON | ON | OFF | ON |
| 14 | ON | ON | ON | OFF |
| 15 | ON | ON | ON | ON |

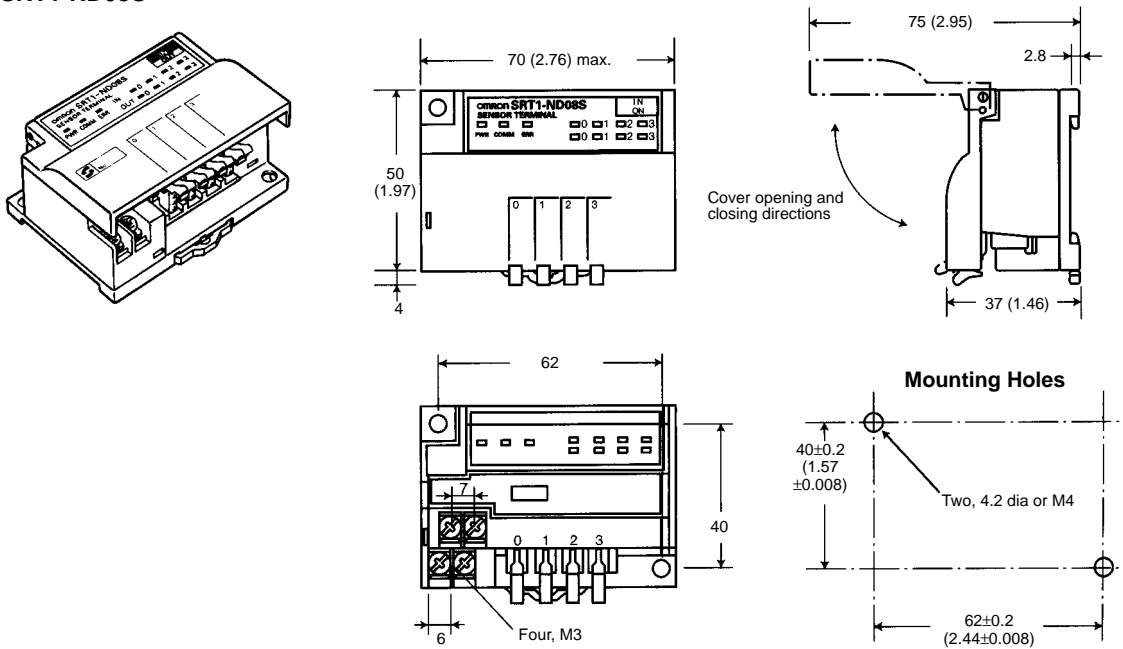
Dimensions

Unit: mm (inch)

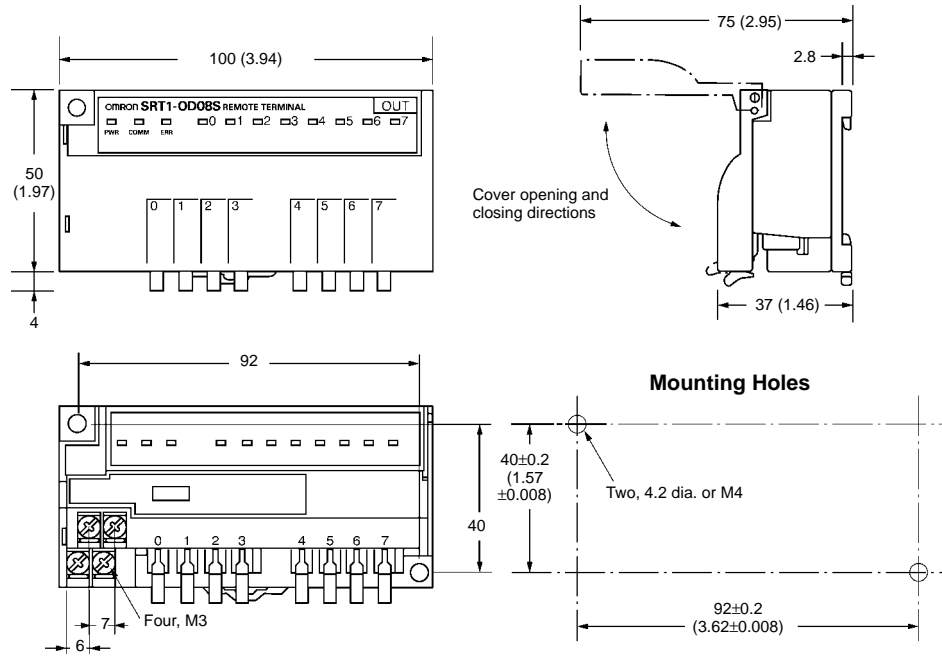
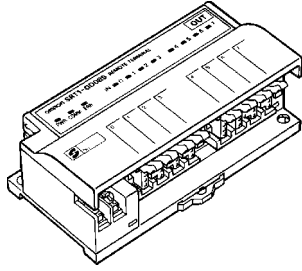
SRT1-ID08S



SRT1-ND08S



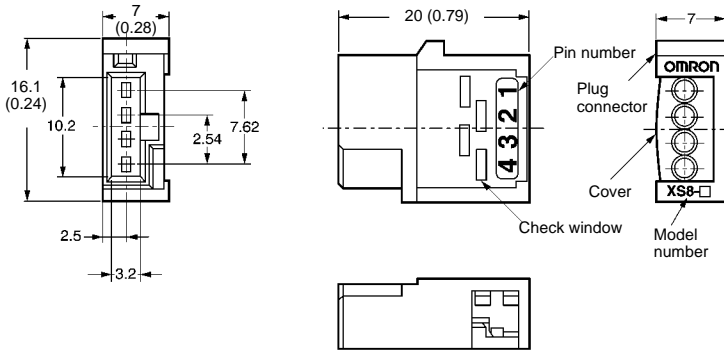
SRT1-OD08S



■ ACCESSORIES

XS8A-044□ Cable Connector

| Applicable conductor size (mm ²) | Part number |
|--|-------------|
| 0.3 to 0.5 | XS8A-0441 |
| 0.14 to 0.2 | XS8A-0442 |



Cable Conductor Size Calculation Formula

Calculate the cable conductor size as explained below.

The following information is given on each sensor cable:

Cable dia. (Number of conductors/Conductor dia.)

$$\text{Conductor size (mm}^2\text{)} = (\text{Conductor dia./2})^2 \times \pi \times \text{Number of conductors}$$

Example: E3S-A

4 dia. (18/0.12)

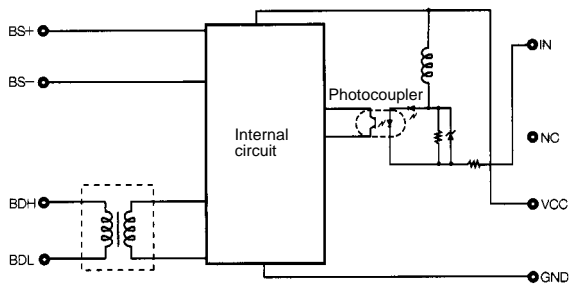
$$\text{Conductor size (mm}^2\text{)} = (0.12/2)^2 \times 3.14 \times 18 \approx 0.20$$

The conductor size is 0.2 mm². Use the XS8A-0442 cable connector.

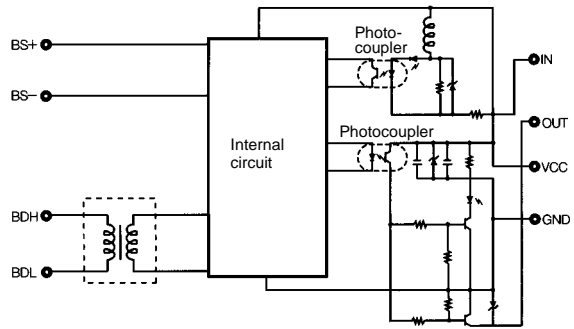
Installation

INTERNAL CIRCUIT CONFIGURATION

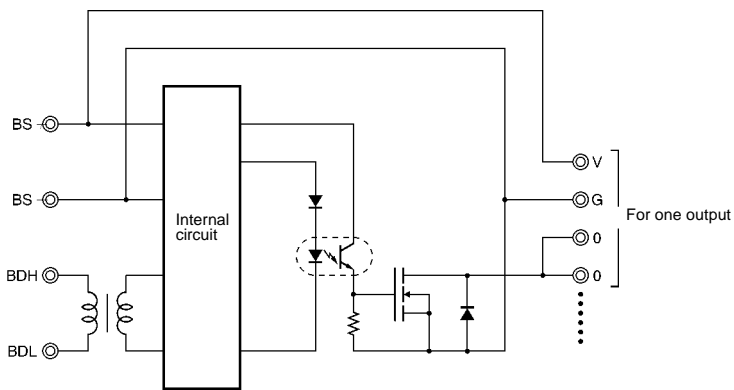
SRT1-ID08S



SRT1-ND08S



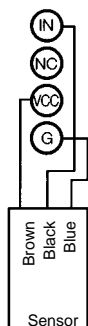
SRT1-OD08S



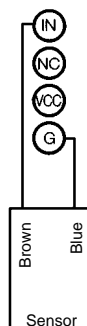
EXTERNAL CONNECTIONS

SRT1-ID08S

Three-wired Sensor

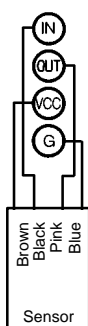


Two-wired Sensor

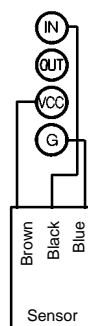


SRT1-ND08S

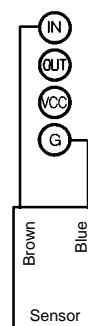
Sensor with Teaching Function
Sensor with External Diagnostic Function
Sensor with Bank-switching Function



Three-wired Sensor



Two-wired Sensor



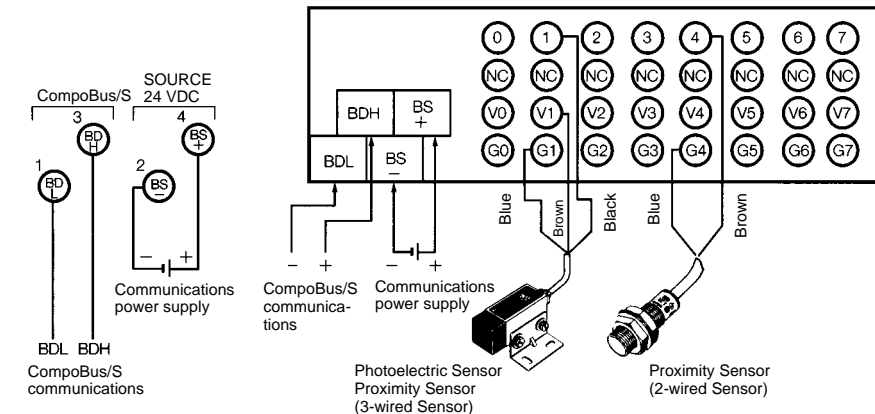
Sensor Compatibility with SRT1-ND08S Terminal Blocks

| Sensor type | Sensor series | Description | Output function |
|-----------------|--------------------|---|--------------------------------|
| Photoelectric | E3S-A | Miniature sensors with timer, diagnostics, aiming guide | Diagnostic output |
| | E3C-JB4P, E3C-JC4P | Amplifiers for miniature sensing heads | Diagnostic output |
| | E3M-VG | Registration mark sensor | Remote setting, bank selection |
| | E3C-L11M | Glass edge detection sensor | Diagnostic output |
| | E3L | Long distance laser sensors | Alarm output |
| Fiber-optic amp | E3X | General and special application amps | Diagnostic output |
| | E3X-NT21, E3X-NT51 | Auto-tuning amp | Teach function |
| | E3X-NH | One button teach function amp with 16-bit processor | Alarm output |
| | E3X-NV | Water-resistant amp for labeling, packaging | Teach function |
| Proximity | E2E-XD□□1S-N | 2-wire, short barrel DC inductive sensor | Diagnostic output |
| | E2CY | Non-ferrous metals inductive sensor | Diagnostic output |

■ TERMINAL ARRANGEMENT AND I/O DEVICE CONNECTION EXAMPLE

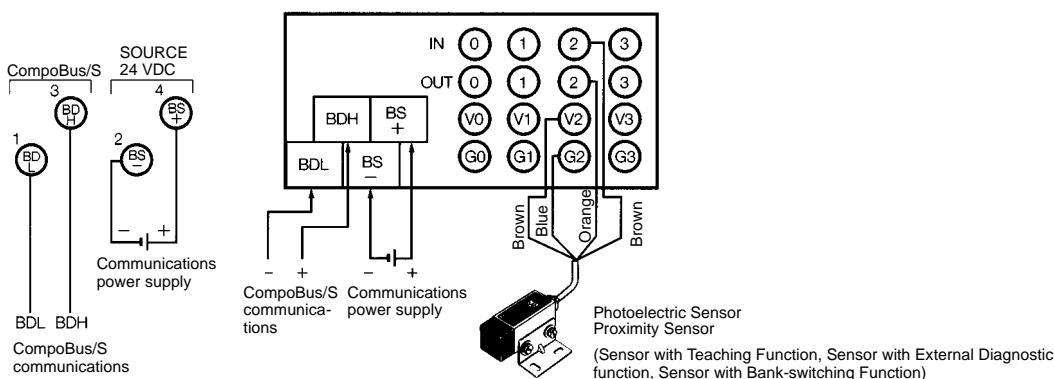
Input

SRT1-ID08S



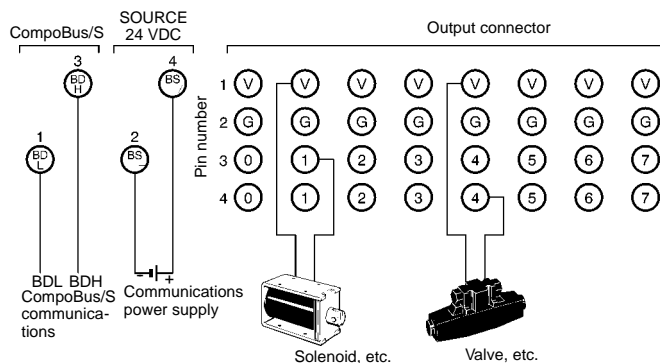
Mixed I/O

SRT1-ND08S



Output

SRT1-OD08S



Precautions

Refer to the *CompoBus/S Operation Manual (W266)* before using the Unit.

■ GENERAL SAFETY PRECAUTIONS

Installation Environment

Do not install the Unit in the following places.

- Places with water, oil, or chemical sprayed on the Unit.
- Places with rapid temperature changes.
- Places with high humidity resulting in condensation.
- Places with intense electric and magnetic fields.
- Places with excessive vibration or shock.

■ WIRING

To prevent inductive noise, do not wire power lines or high-tension lines along with or near the cables.

Make sure that the polarity of each terminal is correct.

Make sure that the communications path and power line are connected correctly.

Secure the cables properly. Do not pull the cables with strong force, otherwise the cables may be disconnected from the terminals or connectors of the Unit.

Do not touch the Unit when the Unit is used in places with high ambient temperatures because the surface may cause burns.

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

OMRON[®]**OMRON ELECTRONICS, INC.**One East Commerce Drive
Schaumburg, IL 60173**1-800-55-OMRON****OMRON CANADA, INC.**885 Milner Avenue
Scarborough, Ontario M1B 5V8**416-286-6465**