



FOR STAND-ALONE MODE

OPERATING INSTRUCTIONS

**CONTROL INPUT UNIT
CONTROL OUTPUT UNIT**

**SX-2000CI
SX-2000CO**

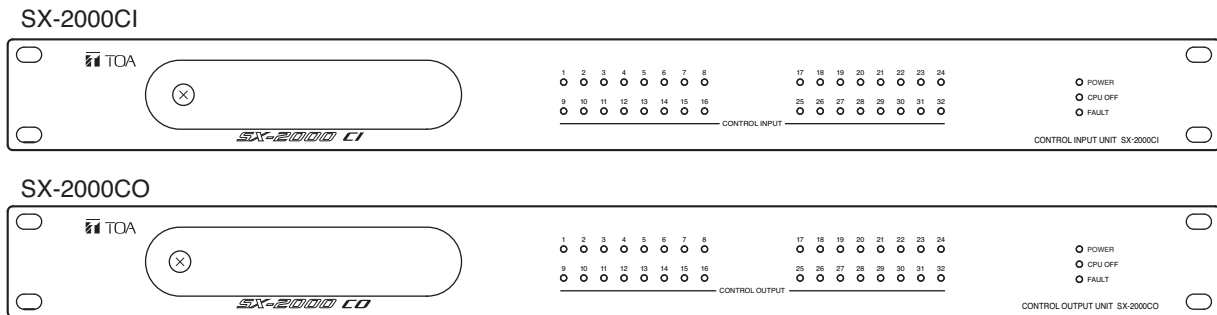


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Note

Two modes of operation are made available for the SX-2000CI and SX-2000CO: Normal mode where the unit operates within the SX-2000 system and Stand-alone mode where the unit operates independently of the SX-2000 system.

This book provides instruction when the SX-2000CI and SX-2000CO are used in stand-alone mode.

When using them in normal operation mode, refer to the instruction manual enclosed with the SX-2000SM System Manager of the SX-2000 series.

Thank you for purchasing TOA's Control Input Unit and Control Output Unit.

Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

1. SAFETY PRECAUTIONS

- Before installation or use, be sure to carefully read all the instructions in this section for correct and safe operation.
- Be sure to follow all the precautionary instructions in this section, which contain important warnings and/or cautions regarding safety.
- After reading, keep this manual handy for future reference.

Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety hazards.



WARNING

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.



CAUTION

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.



WARNING

When Installing the Unit

- Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in fire or electric shock.
- Use the unit only with the voltage specified on the unit. Using a voltage higher than that which is specified may result in fire or electric shock.
- Since the unit is designed for in-door use, do not install it outdoors. If installed outdoors, the aging of parts causes the unit to fall off, resulting in personal injury. Also, when it gets wet with rain, there is a danger of electric shock.

When the Unit is in Use

- Should the following irregularity be found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet and contact your nearest TOA dealer. Make no further attempt to operate the unit in this condition as this may cause fire or electric shock.
 - If you detect smoke or a strange smell coming from the unit.
 - If water or any metallic object gets into the unit
 - If the unit falls, or the unit case breaks
 - If it is malfunctioning (no tone sounds.)
- To prevent a fire or electric shock, never open nor remove the unit case as there are high voltage components inside the unit. Refer all servicing to qualified service personnel.

- Do not place cups, bowls, or other containers of liquid or metallic objects on top of the unit. If they accidentally spill into the unit, this may cause a fire or electric shock.



CAUTION

When Installing the Unit

- Avoid installing the unit in humid or dusty locations, in locations exposed to the direct sunlight, near the heaters, or in locations generating sooty smoke or steam as doing otherwise may result in fire or electric shock.
- SX-2000CI and SX-2000CO are designed exclusively to be mounted in an equipment rack. Be sure to follow the instructions below when rack-mounting the unit. Failure to do so may cause a fire or personal injury.
 - Install the equipment rack on a stable, hard floor. Fix it with anchor bolts or take other arrangements to prevent it from falling down.
 - When connecting the power cord of the DC power supply panel for the SX-2000CI/CO to an AC outlet, ensure that the total load current never exceeds the AC outlet's allowable current capacity.
 - The supplied rack-mounting screws can be used for the TOA equipment rack only. Do not use them for other racks.

When the Unit is in Use

- Use the specified DC power supply unit AD-011 or AD-031B for the unit. Note that the use of other DC power supply unit may cause a fire.

2. GENERAL DESCRIPTION

The SX-2000CI Control Input Unit is equipped with 32 control input channels, and the SX-2000CO Control Output Unit with 32 control output channels, allowing various operations to be performed by connecting external equipment.

One each of the SX-2000CI and SX-2000CO must be used in combination. Connecting the CI/CO link data terminals of each unit to one another permits the contact data of multiple channels to be transmitted to the remote locations with simple wiring.

The front-mounted indicators of each unit show the control input status or control output status.

The SX-2000CI and SX-2000CO are 1U-size* units that can be mounted in an EIA equipment rack. It has 2 power supply inputs, one of which can be connected to a backup power source to protect against power failures. The SX-2000CI has a function to supply a stabilized 24 V DC.

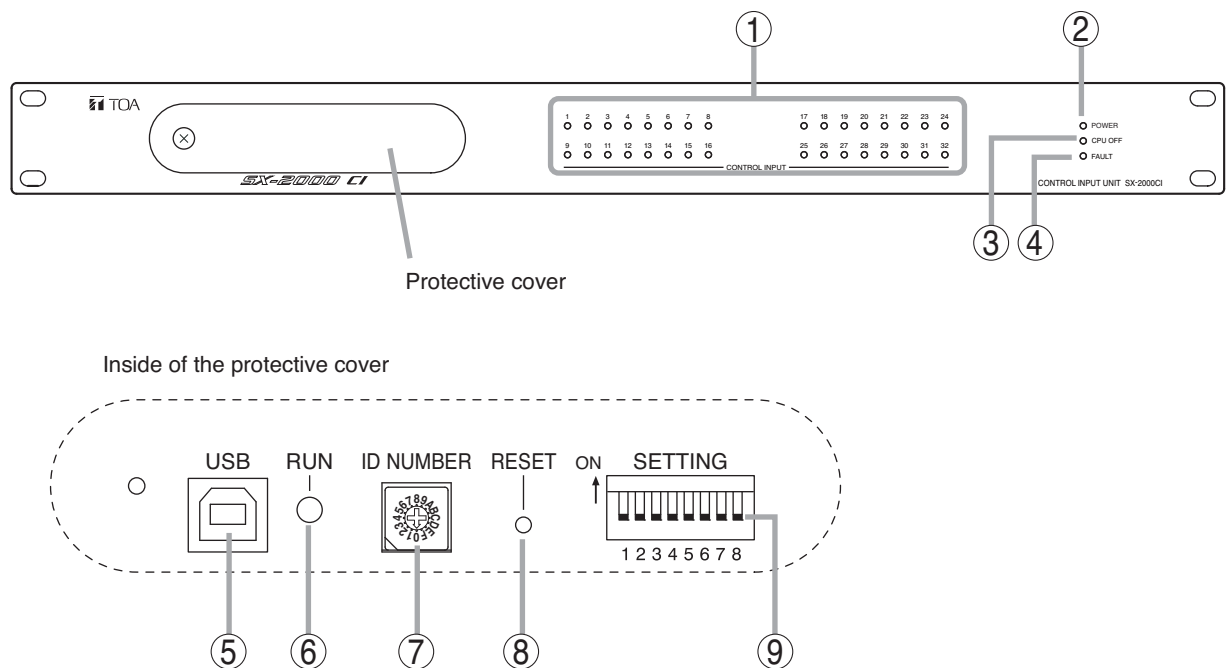
Priority control of the control input can be performed by making settings at the SX-2000CI.

*1U size = 44.5 mm (standard size)

3. NOMENCLATURE AND FUNCTIONS

3.1. SX-2000CI Control Input Unit

[Front]



1. Control Input Indicators

[CONTROL INPUT 1 – 32] (Green)

Light when the corresponding control inputs are turned ON.

2. Power Indicator [POWER] (Blue)

Lights when the power is switched on.

3. CPU OFF Indicator [CPU OFF] (Red)

This indicator is not used.

4. FAULT Indicator [FAULT] (Yellow)

Lights when communications with the connected SX-2000CO are interrupted.

5. USB Port [USB]

This port is not used.

6. RUN Indicator [RUN] (Green)

Normally flashes continuously.

7. ID Switch [ID NUMBER]

This switch is not used.
Always set to "0."

Note

This switch is set to "0" by default.

8. Reset Key [RESET]

Pressing this key restarts the SX-2000CI.

9. DIP Switch [SETTING]

• Switch 1

Sets operation mode. (See p. 15.)
ON: Operates in stand-alone mode.
OFF: Operates in normal mode.

• Switch 2

This switch is not used.

• Switches 3, 4

Perform priority control settings of the control inputs by combined settings of Switches 3 and 4. (See p. 16.)

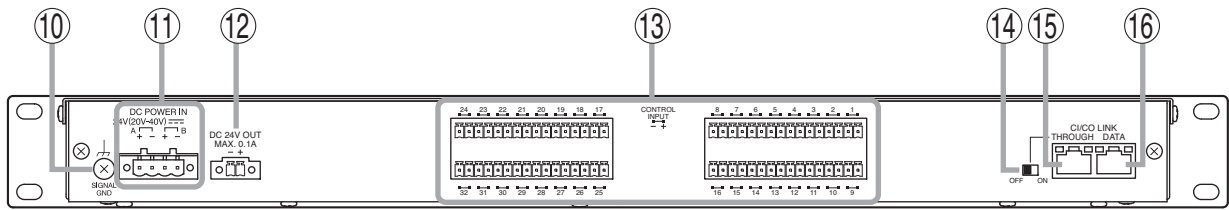
• Switches 5 – 8

These switches are not used.

Note

Switches 1 – 8 are set to the OFF position by default.

[Rear]



10. Functional Earth Terminal [SIGNAL GND]

Hum noise may be generated when external equipment is connected to the unit. Connecting this terminal to the functional earth terminal of the external equipment may reduce the hum noise.

Note: This terminal is not for protective earth.

11. DC Power Input Terminal [DC POWER IN]

Connect an optional AD-011 or AD-031B DC Power Supply Panel to this terminal. Select the appropriate panel taking into consideration the total current consumption of all equipment to be connected to the power supply unit. (See p. 10.)

When not using a redundant power system*, connect the [+] terminal of input A to the [+] terminal of input B, and the [-] terminal of input A to the [-] terminal of input B. (See p. 11 and p. 13.)

* A method of connecting separate power sources to each power input or connecting the commercial power supply and backup power supply separately to each power input to prevent the system from going down when a cable is broken or power fails.

12. 24 V DC Output Terminal [DC 24 V OUT]

This terminal supplies 24 V DC, max. 100 mA to connected external equipment.

13. Control Input Terminals [CONTROL INPUT 1 – 32]

Photo coupler inputs. A current of approximately 2 mA flows when shorted, and the voltage becomes approximately 24 V DC when opened. Activating the control input terminal causes the control output terminal with the same channel number (SX-2000CO) to close (provides make contact).

14. CI/CO Link Through Switch [ON/OFF]

Normally, set this switch to the OFF position.

Note
This switch is set to "OFF" by default.

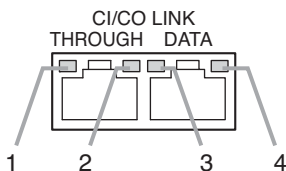
15. CI/CO Link Through Terminal [CI/CO LINK THROUGH]

This terminal is not used. Refer to the table below for the indicators' functions and status.

16. CI/CO Link Data Terminal [CI/CO LINK DATA]

Connect this terminal to the CI/CO Link Terminal of the SX-2000CO. Refer to the table below for the indicators' functions and status.

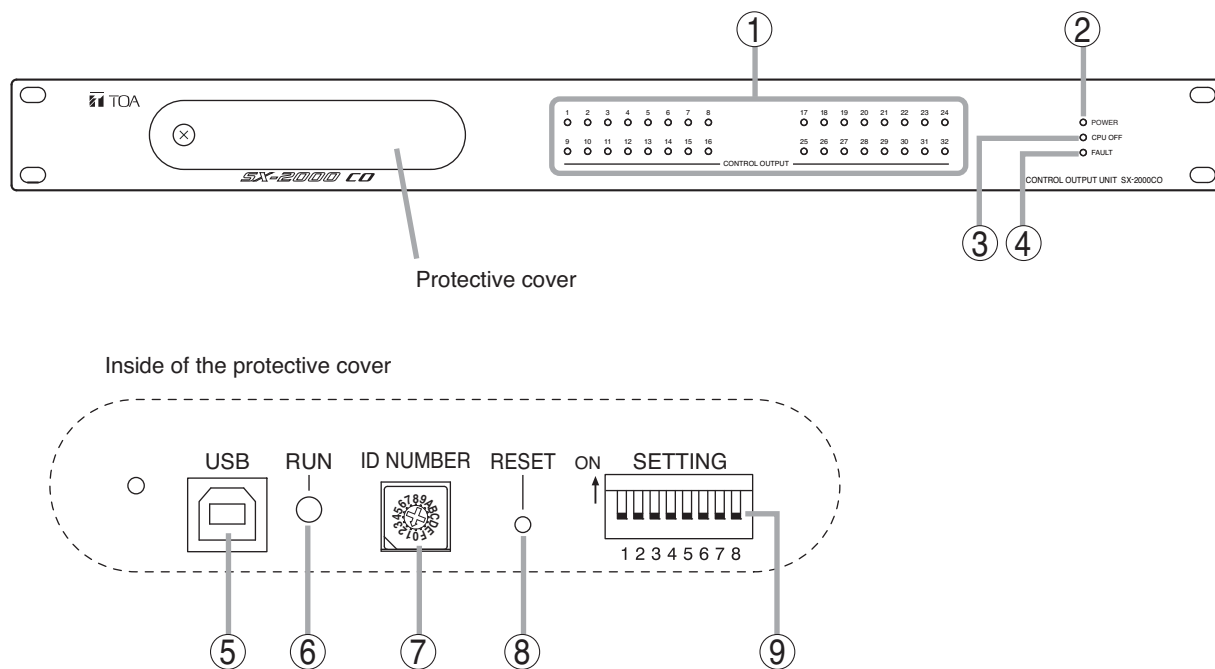
[Indicators' functions and status of the CI/CO Link Through/Data terminals]



Functions	LED On or Flashing (green)	LED Off	LED On (orange)
1. CI/CO LINK status	Communication start	Communication stop	_____
2. _____	_____	_____	_____
3. CI/CO LINK status	Communication start	Communication stop	_____
4. CI/CO LINK connection confirmation	_____	Unconnected	Connected

3.2. SX-2000CO Control Output Unit

[Front]



1. Control Output Indicators

[CONTROL OUTPUT 1 – 32] (Green)

Lights when the corresponding control outputs are turned ON.

2. Power Indicator [POWER] (Blue)

Lights when the power is switched on.

3. CPU OFF Indicator [CPU OFF] (Red)

This indicator is not used.

4. FAULT Indicator [FAULT] (Yellow)

Lights when communications with the connected SX-2000CI are interrupted.

5. USB Port [USB]

This port is not used.

6. RUN Indicator [RUN] (Green)

Normally flashes continuously.

7. ID Switch [ID NUMBER]

This switch is not used.

Always set to "1."

Note

This switch is set to "1" by default.

8. Reset Key [RESET]

Pressing this key restarts the SX-2000CO.

9. DIP Switch [SETTING]

• Switch 1

Sets operation mode. (See p. 15.)

ON: Operates in stand-alone mode.

OFF: Operates in normal mode.

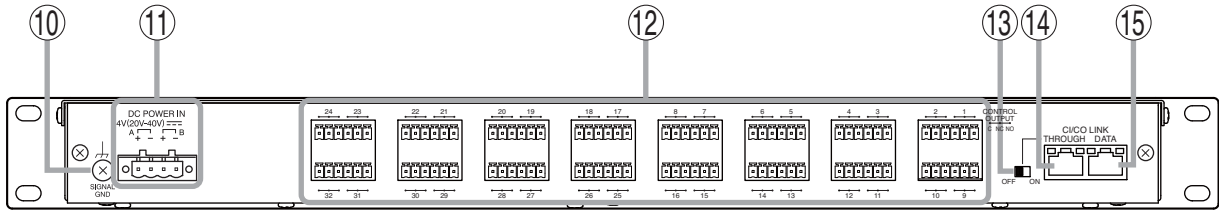
• Switches 2 – 8

These switches are not used.

Note

Switches 1 – 8 are set to the OFF position by default.

[Rear]



10. Functional Earth Terminal [SIGNAL GND]

Hum noise may be generated when external equipment is connected to the unit. Connecting this terminal to the functional earth terminal of the external equipment may reduce the hum noise.

Note: This terminal is not for protective earth.

11. DC Power Input Terminal [DC POWER IN]

Connect an optional AD-011 or AD-031B DC Power Supply Panel to this terminal.

Select the appropriate panel taking into consideration the total current consumption of all equipment to be connected to the power supply unit. (See p. 10.)

When not using a redundant power system*, connect the [+] terminal of input A to the [+] terminal of input B, and the [-] terminal of input A to the [-] terminal of input B.

(See p. 11 and p. 13.)

When driving the unit with the power supply unit connected to the SX-2000CI, connect the power supply to this terminal via an optional RM-200RJ Terminal Unit.

(See p. 12 and p. 13.)

* A method of connecting separate power sources to each power input or connecting the commercial power supply and backup power supply separately to each power input to prevent the system from going down when a cable is broken or power fails.

12. Control Output Terminals [CONTROL OUTPUT 1 – 32]

Relay make contact outputs.

Activating the control input terminal of the SX-2000CI causes the control output terminal with the same channel number to close.

Each contact capacity is rated at 40 V DC for withstand voltage, and 2 mA – 300 mA for control current.

13. CI/CO Link Through Switch [ON/OFF]

Normally, set this switch to the OFF position.

Note

This switch is set to "OFF" by default.

14. CI/CO Link Through Terminal [CI/CO LINK THROUGH]

This terminal is not used.

Refer to the table below for the indicators' functions and status.

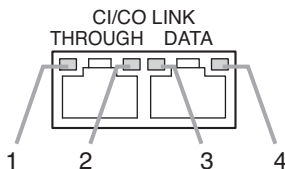
15. CI/CO Link Data Terminal [CI/CO LINK DATA]

Connect this terminal to the CI/CO Link Terminal of the SX-2000CI.

Power to operate the unit cannot be supplied through this terminal.

Refer to the table below for the indicators' functions and status.

[Indicators' functions and status of the CI/CO Link Through/Data terminals]



Functions	LED On or Flashing (green)	LED Off	LED On (orange)
1. CI/CO LINK status	Communication start	Communication stop	—
2. —	—	—	—
3. CI/CO LINK status	Communication start	Communication stop	—
4. CI/CO LINK connection confirmation	—	Unconnected	Connected

4. CONNECTIONS

4.1. Removable Terminal Plug Connection

Notes

- Do not use a micro screwdriver. Sufficient torque is not given to the screws when tightening them, and connections may not be secured.
- Avoid soldering stranded or shielded cable, as contact resistance may increase when the cable is tightened and the solder is crushed, possibly resulting in an excessive rise in joint temperatures.
- When connecting 2 cables or a shielded cable to a single terminal, use a ferrule terminal with an insulation sleeve to crimp the cables because such cable conductors could become loose.

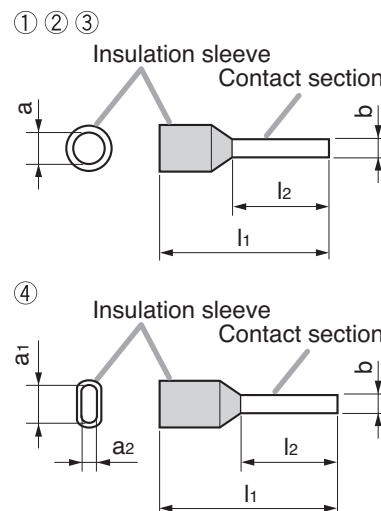
Recommended ferrule terminals for signal cables
(made by Phoenix Contact)

	Model Number	a	b	l ₁	l ₂
①	AI 0,34-8 TQ	2 mm	0.8 mm	12.5 mm	8 mm
②	AI 0,5-8 WH	2.5 mm	1.1 mm	14 mm	8 mm

Recommended ferrule terminals for power supply cables
(made by Phoenix Contact)

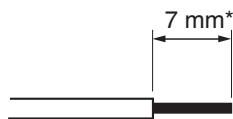
	Model Number	a	a ₁	a ₂	b	l ₁	l ₂
③	AI 1,5-8 BK	3.4 mm	—	—	1.8 mm	14 mm	8 mm
④	AI-TWIN 2 x 1,5-8 BK	—	6.6 mm	3.6 mm	2.3 mm	16 mm	8 mm

Crimping tool: CRIMPFOX UD6-4 (made by Phoenix Contact)

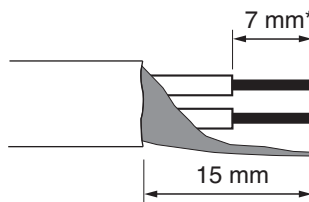


Cable sheath to trim

Solid cable and stranded cable



Shielded cable



* Expose 8 mm or more when using the above ferrule terminal, and cut off an extra conductor protruding from the sleeve.

Wiring procedures

Procedures below are for the removable terminal plug with fixing screws.

Step 1. Wiring the supplied removable terminal plug.

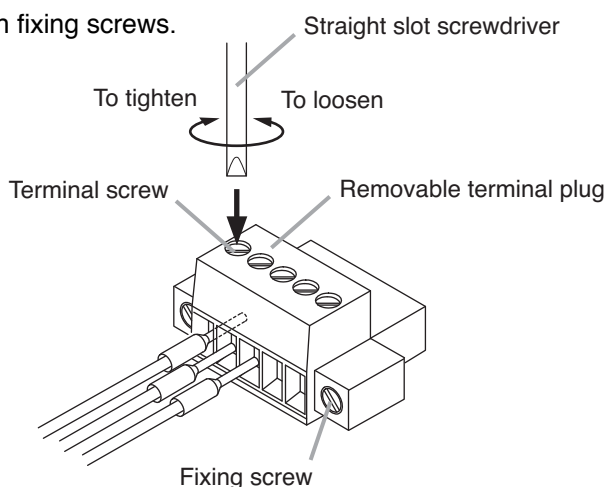
1-1. Loosen the terminal screws to insert the wire.

1-2. Tighten the terminal screws.

Ensure that the wire does not break free when pulled. If the wire does pull free, repeat the connection procedure from the start.

Step 2. Insert the wired terminal plug into the corresponding terminal block in the unit's rear panel.

Step 3. Tighten the fixing screw.



Notes

- Do not reverse Steps 1 and 2 above. Force is applied to the connected receptacle pins while tightening the terminal screw and they may be damaged, resulting in bad connector contact.
- When detaching the terminal plug, pull it straight out. Pulling it out at an angle may cause the terminal plug or terminal block to break.

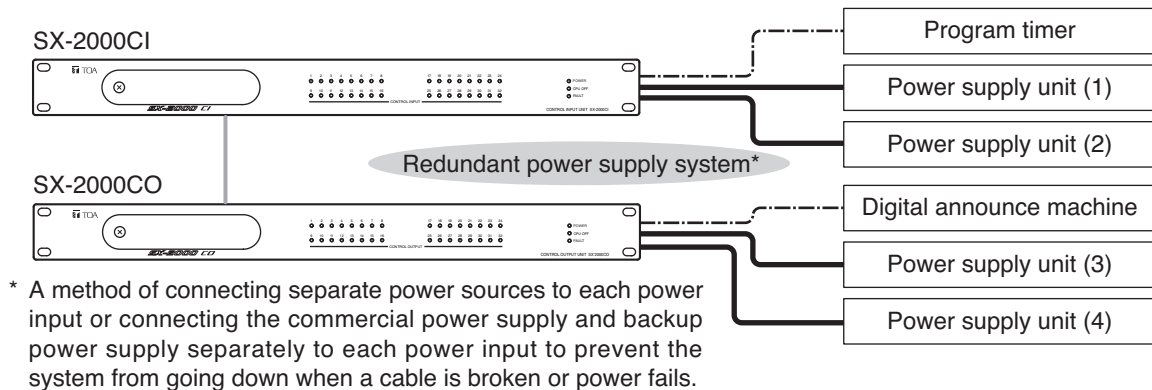
4.2. Connection Example

There are 4 connection configurations depending on the DC power supply and CI/CO link connections.

Note: For the detailed information on the connections of power supply unit and CI/CO links, refer to the page indicated at the end of each "Connection example."

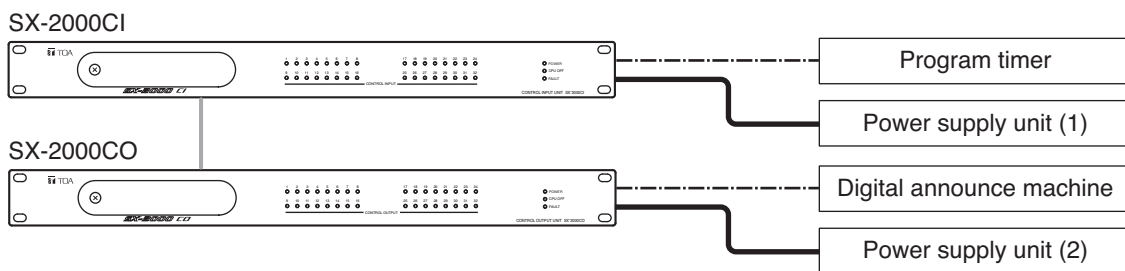
4.2.1. Connection example 1

Connect each 2 power supply units to the SX-2000CI and SX-2000CO separately. (See p. 10 and 15.)



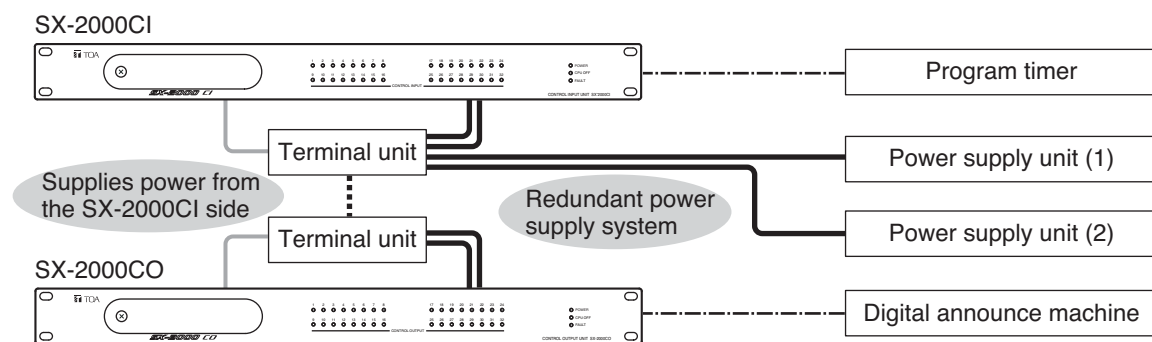
4.2.1. Connection example 2

Connect each one power supply unit to the SX-2000CI and SX-2000CO separately. (See p. 11 and 15.)



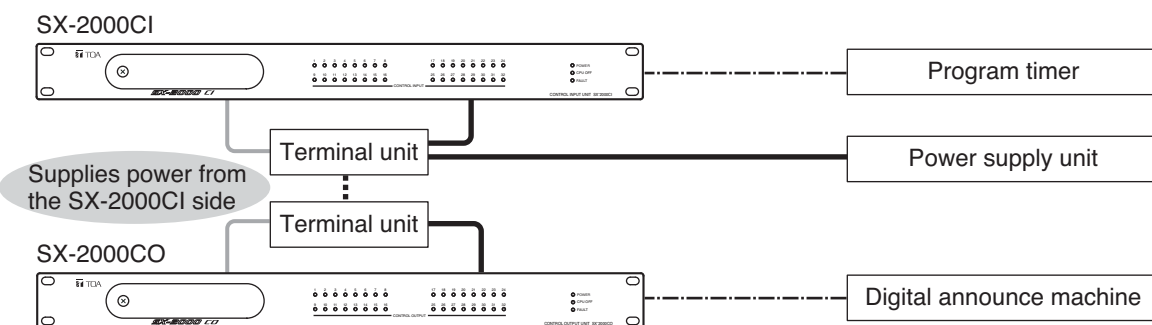
4.2.1. Connection example 3

Connect 2 power supply units to the SX-2000CI only via Terminal unit. (See p. 11.)



4.2.1. Connection example 4

Connect a single power supply unit to the SX-2000CI only via Terminal unit. (See p. 13.)



— : CI/CO link — : Power cable : CPEV cable - - - - : Control line

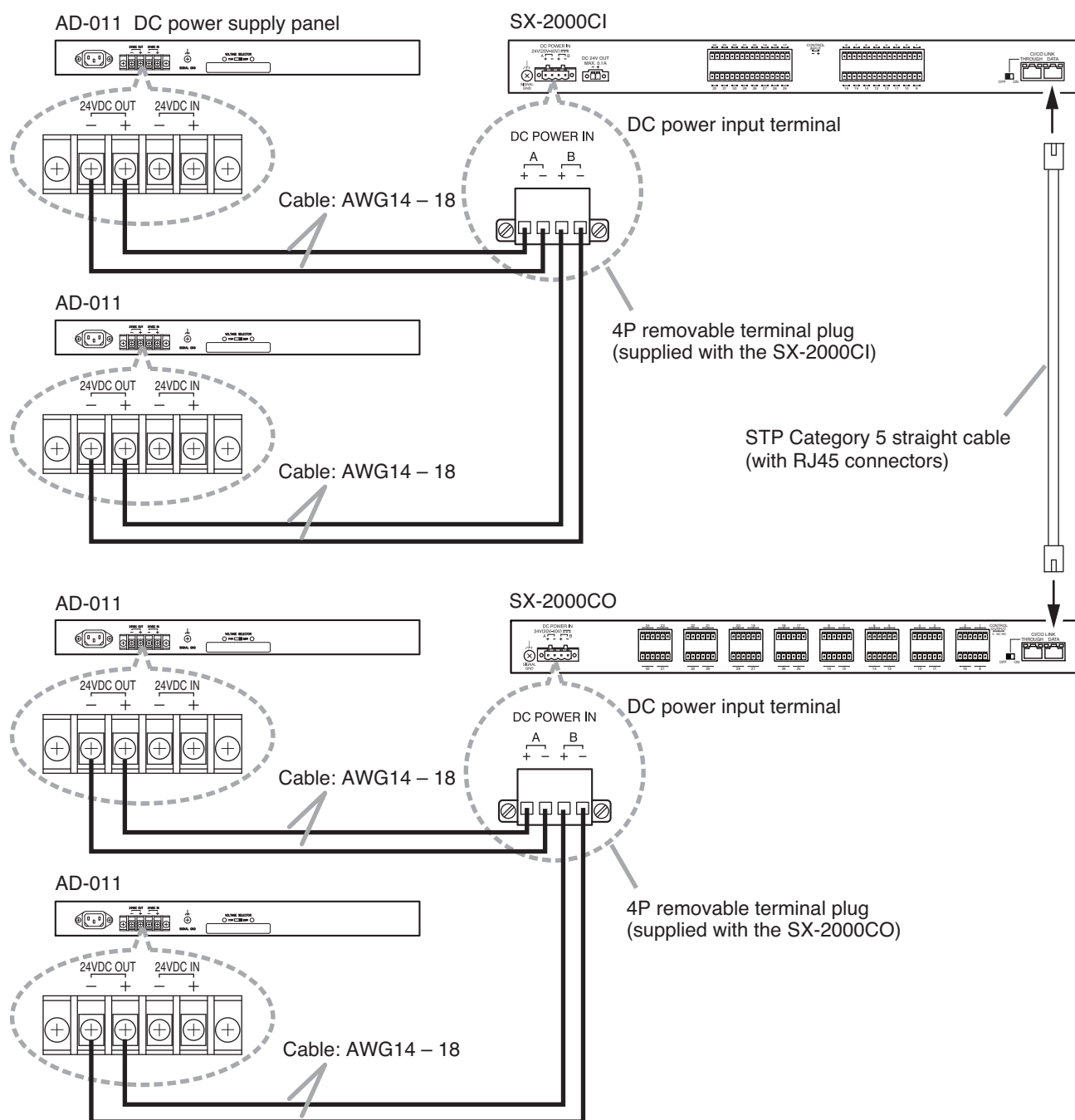
4.3. Power Supply Connections

Use an optional AD-011 or AD-031B DC Power Supply Panel to this terminal. Select the appropriate panel taking into consideration the total current consumption of all equipment to be connected to the power supply unit.

4.3.1. Connection for Example 1

Connect each 2 power supply units to the SX-2000CI and SX-2000CO separately as follows. Connect one power supply unit to A channel of the DC power input terminal and the other power supply unit to the B channel of the DC power input terminal on the SX-2000CI. Connect the power supply units to the SX-2000CO in the same manner.

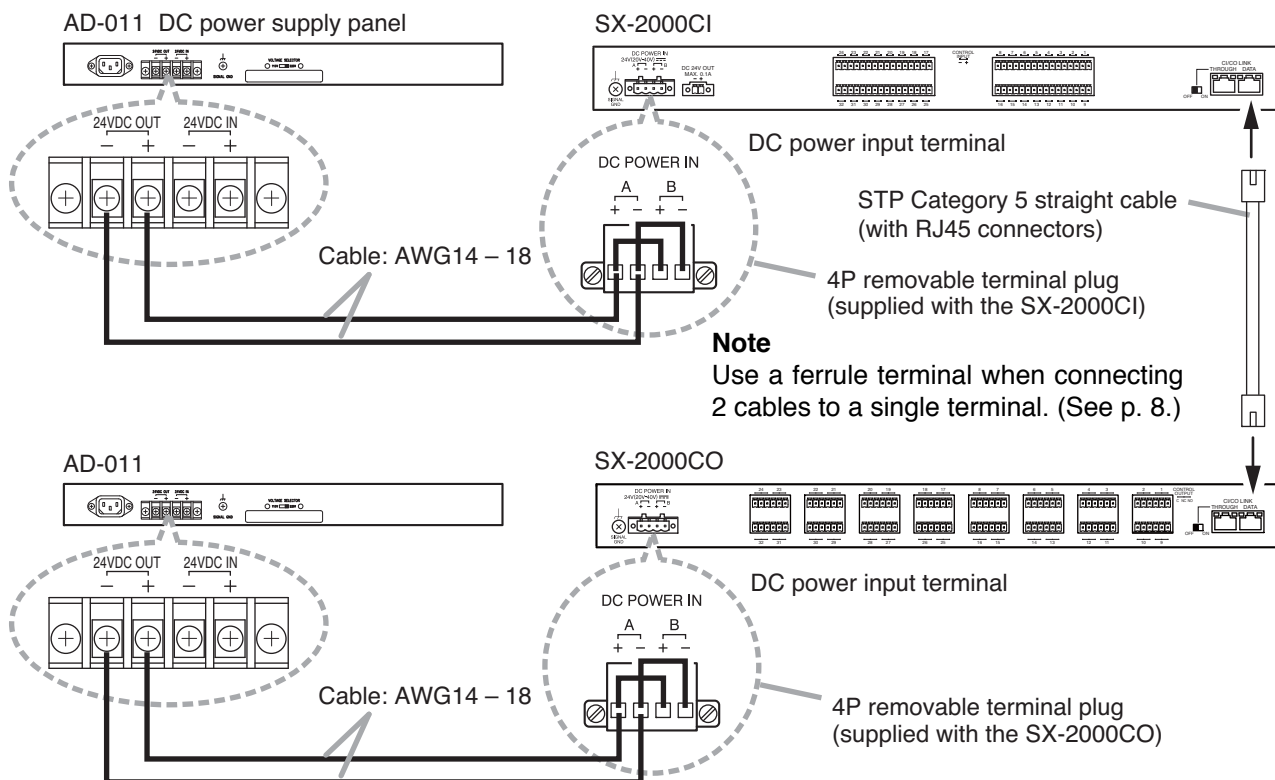
Even if one of the 2 units fails or its power supply line is broken, power is still supplied from the other unit, preventing the system from going down.



Note: When using the AD-031B DC power supply panel (optional), make connections in the same manner.

4.3.2. Connection for Example 2

Supply the power from each one power supply panel to the SX-2000CI and SX-2000CO separately. Connect the (+) terminal of channel A to the (+) terminal of channel B, and the (-) terminal of channel A to the (-) terminal of channel B.



Note: When using the AD-031B DC power supply panel (optional), make connections in the same manner.

4.3.3. Connection for Example 3

Both the SX-2000CI and SX-2000CO can be driven by connecting 2 power supply panels to the SX-2000CI only.

Connect the DC power input terminals of the SX-2000CI to those of the SX-2000CO and the CI/CO link data terminals of the SX-2000CI to those of the SX-2000CO via the RM-200RJ Terminal Unit (optional). (See the next page.)

When installing the SX-2000CI and SX-2000CO separately from each other, the power supply panel does not need to have at each unit by making connection in this manner.

Note

When connecting the power supply panel to one of the equipment, be sure to connect it to the SX-2000CI side.

If it is connected to the SX-2000CO side, the maximum cable length between the SX-2000CI and SX-2000CO may be reduced.

[Maximum cable length]

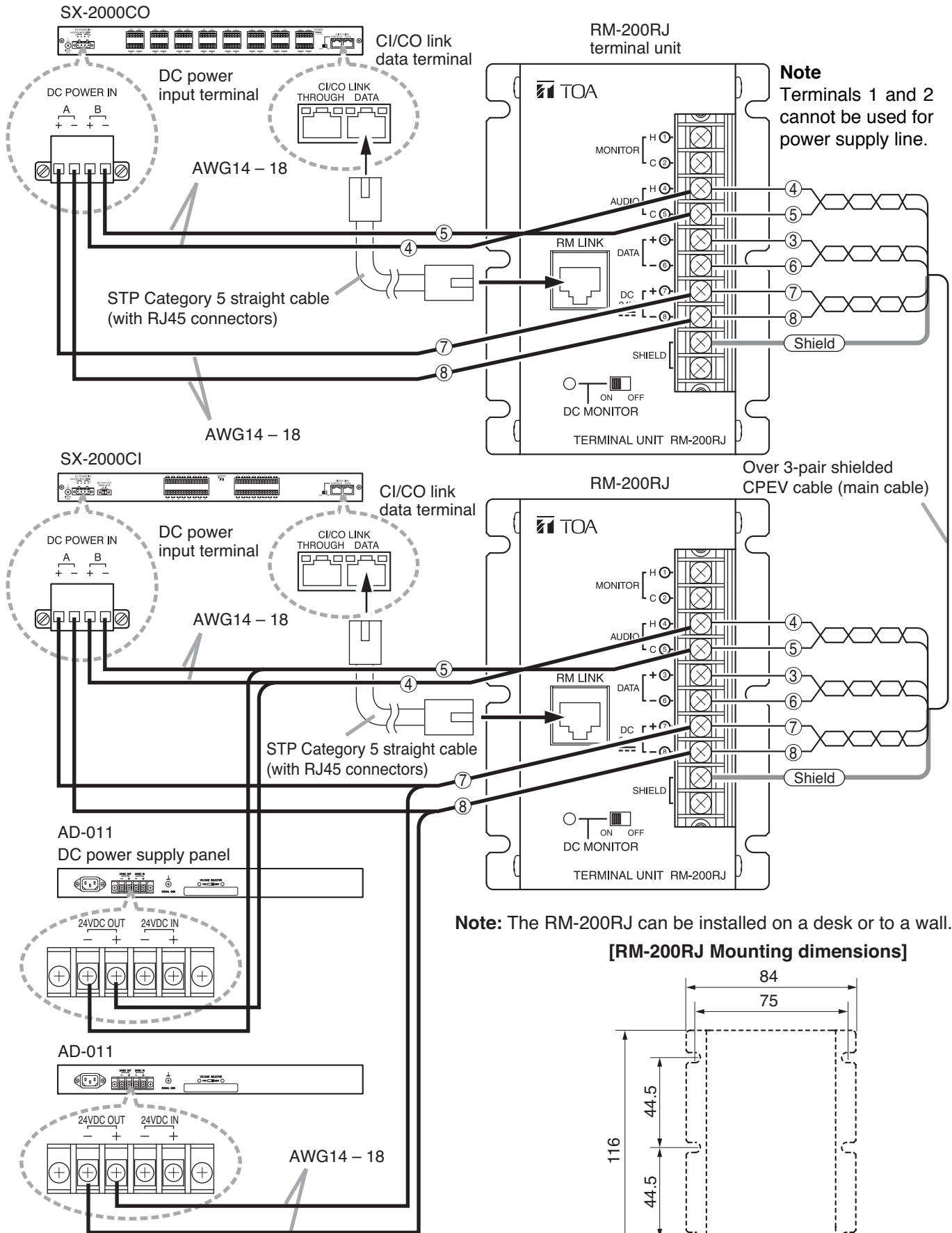
The maximum cable length between the SX-2000CI and SX-2000CO varies depending on the conductor diameter of the CPEV cable used between the RM-200RJ's.

The following table shows the conductor diameter of the CPEV cable vs. maximum cable length when the power is supplied from the SX-2000CI side.

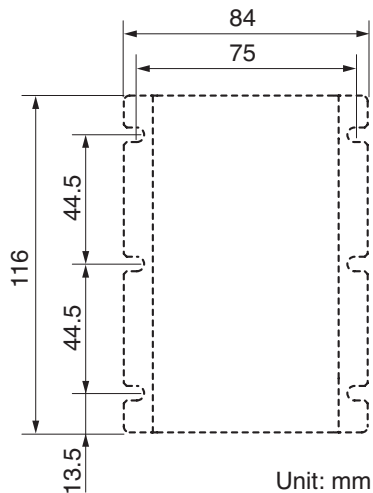
Conductor diameter	Maximum cable length
AWG 22	160 m
AWG 19	320 m
AWG 16	570 m
AWG 19 x 3 pair-CPEV (2 pairs for DC and 1 pair for data)	640 m
AWG 16 x 3 pair-CPEV (2 pairs for DC and 1 pair for data)	800 m

[Connections]

It is recommended to use an optional RM-200RJ Terminal Unit that serves wiring conversion between the CPEV cable and STP Category 5 straight cable (with RJ45 connectors). Connect the CPEV cable between the same terminals of both RM-200RJ units pairing cables 3 with 6, 4 with 5, and 7 with 8 as shown below. Terminals 4 and 5 serve to supply power to B channel.



[RM-200RJ Mounting dimensions]



Note: When using the AD-031B DC power supply panel (optional), make connections in the same manner.

4.3.4. Connection for Example 4

Drive both the SX-2000CI and SX-2000CO by connecting a single power supply panel to the SX-2000CI only. Connect the DC power input terminals of the SX-2000CI to those of the SX-2000CO and the CI/CO link data terminals of the SX-2000CI to those of the SX-2000CO via the RM-200RJ Terminal Unit (optional). When installing the SX-2000CI and SX-2000CO separately from each other, the power supply panel does not need to have at each unit by making connection in this manner.

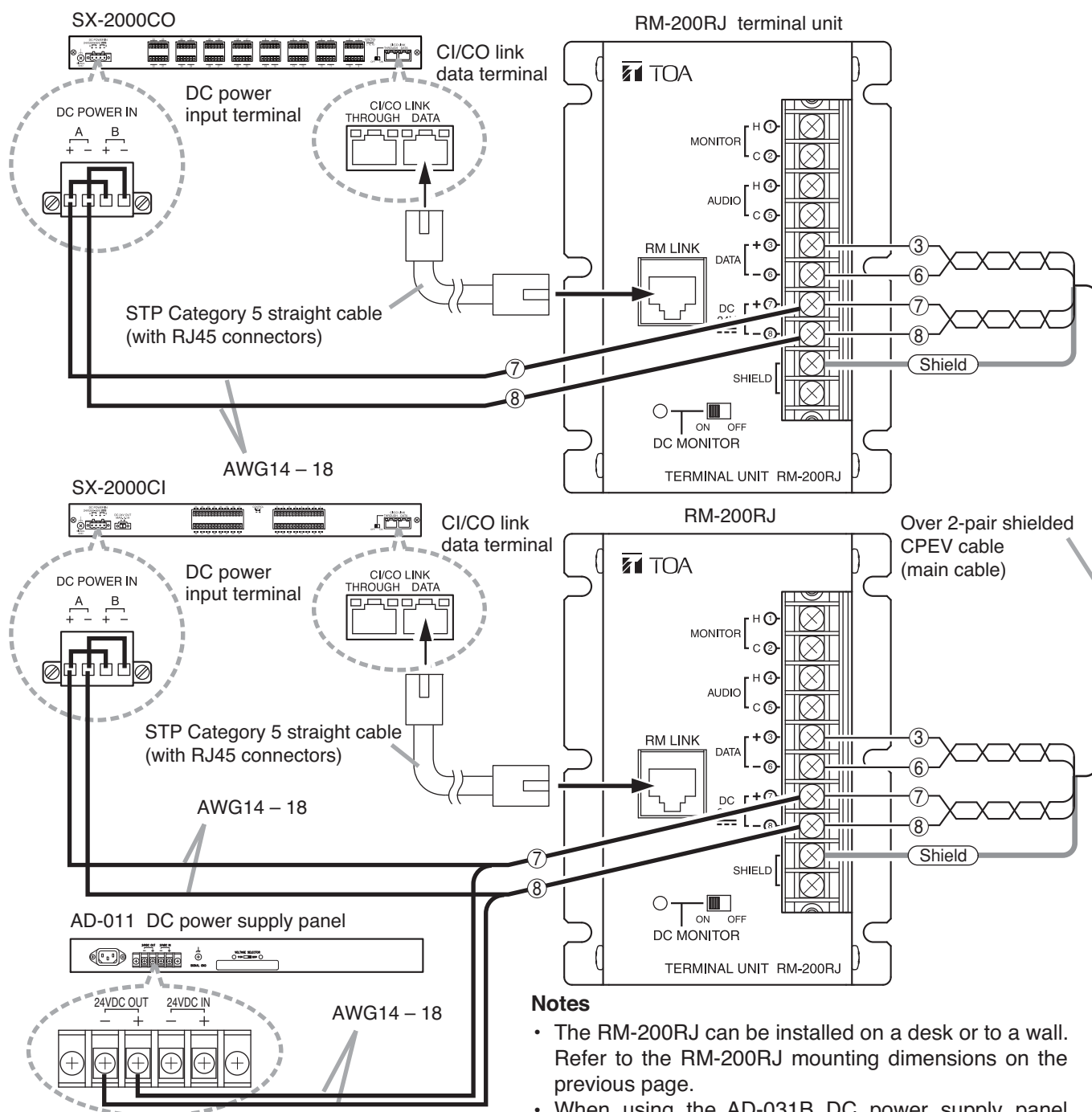
Note

When connecting the power supply unit to one of the equipment, be sure to connect it to the SX-2000CI side. If it is connected to the SX-2000CO side, the maximum cable length between the SX-2000CI and SX-2000CO may be reduced.

For the conductor diameter of the CPEV cable vs. maximum cable length when the power is supplied from the SX-2000CI side, refer to the table on p. 11.

[Connections]

It is recommended to use an optional RM-200RJ Terminal Unit that serves wiring conversion between the CPEV cable and STP Category 5 straight cable (with RJ45 connectors). Connect the CPEV cable between the same terminals of both RM-200RJ units pairing cables 3 with 6, and 7 with 8 as shown below.

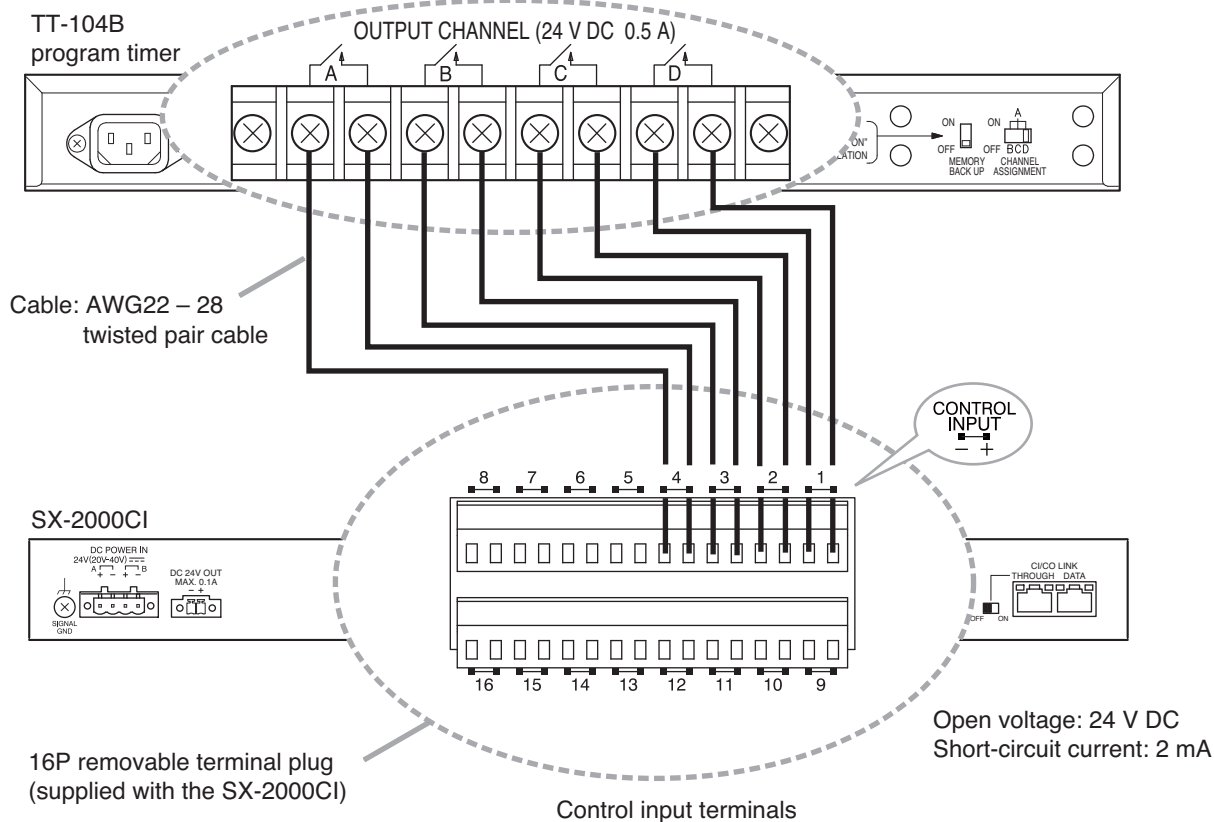


Notes

- The RM-200RJ can be installed on a desk or to a wall. Refer to the RM-200RJ mounting dimensions on the previous page.
- When using the AD-031B DC power supply panel (optional), make connections in the same manner.

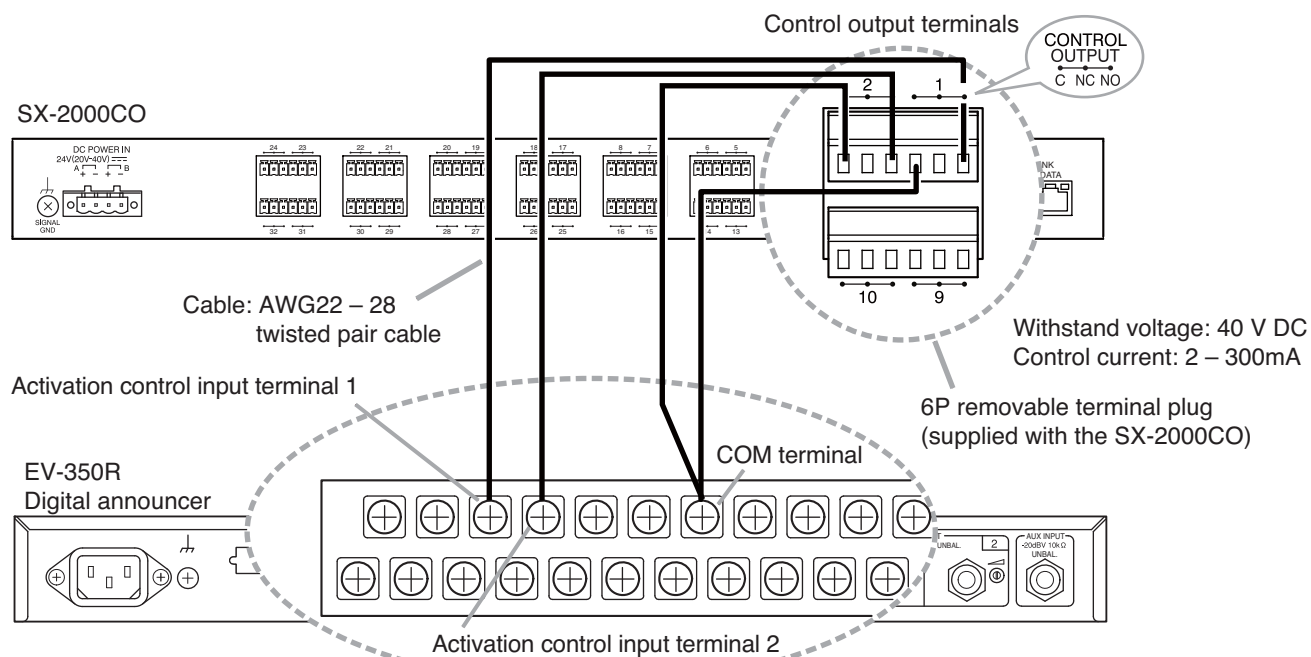
4.4. Control Input Connections (SX-2000CI Only)

This connection example allows timer-activated automatic broadcasts. When the TT-104B's preprogrammed time is reached, the SX-2000CI receives a control output signal (make contact) from the TT-104B and activates preset broadcast patterns.



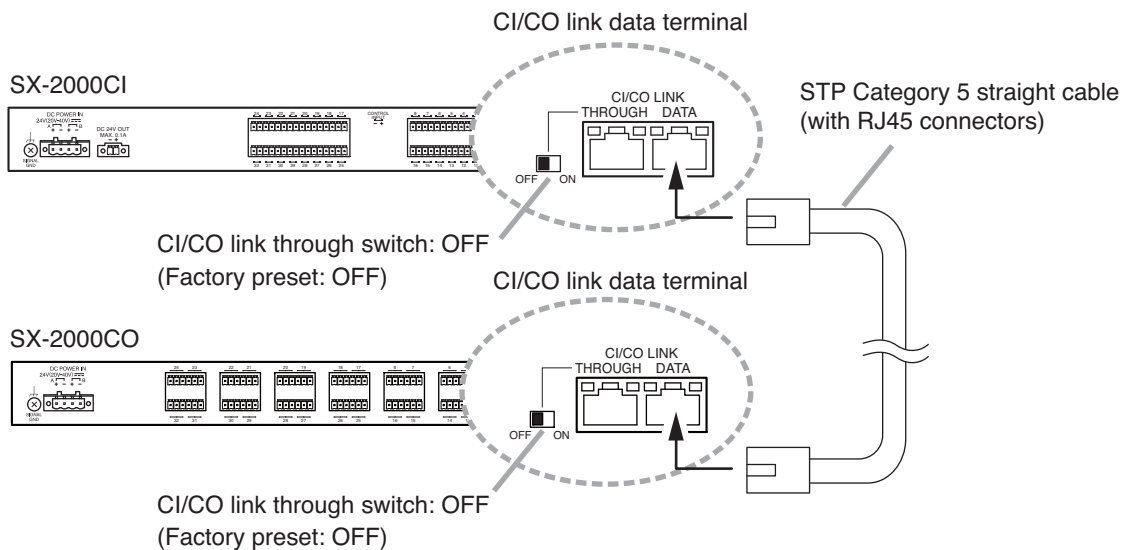
4.5. Control Output Connections (SX-2000CO Only)

This example shows the connection method to remotely activate the external sound source equipment. When a broadcast is started, the SX-2000CO provides a make contact to activate the EV-350R.



4.6. CI/CO Link Terminal Connections (Applies to the example 1 or 2 on p. 9.)

Connect the same CI/CO link data terminals of both the SX-2000CI and SX-2000CO. For the connection cable, use a STP Category 5 twisted pair cable (with RJ45 connectors).



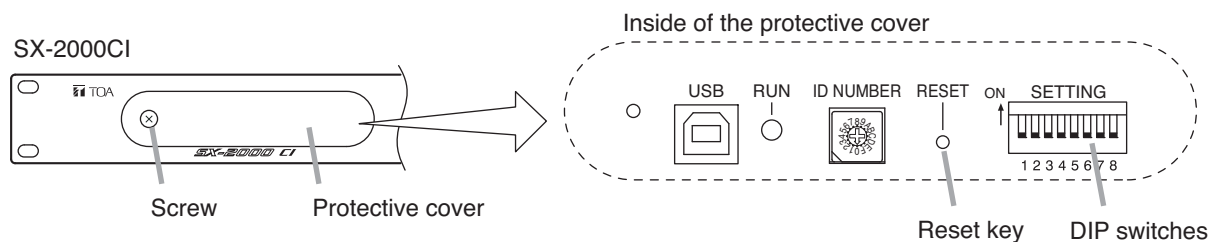
The SX-2000CI and SX-2000CO can be connected using the shielded CPEV cable (1-pair for data line) via the optional RM-200RJ Terminal unit.

Note

Total cable length connecting CI/CO link terminals within the system must be kept shorter than 800 m.

5. SETTINGS

5.1. Stand-Alone Mode Setting

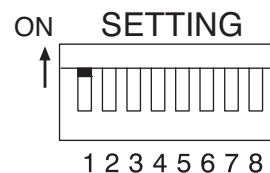


Note: Fragmentary view of the SX-2000CI. This view is the same for the SX-2000CO.

Step 1. Remove the protective cover on the SX-2000CI/CO's front panel by unscrewing it with a Phillips screwdriver.

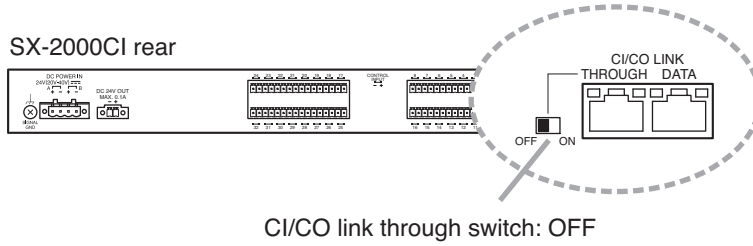
Step 2. Set the DIP switch 1 on the SX-2000CI/CO to ON.

Note: Switch 1 is set to OFF by default.



Step 3. Set the link through switch on the SX-2000CI/CO's rear panel to the OFF position.

Note: The CI/CO link through switch is set to OFF by default.

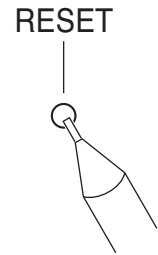


Note: Fragmentary view of the SX-2000CI. This view is the same for the SX-2000CO.

Step 4. Press the Reset key on the SX-2000CI/CO's front panel.

The SX-2000CI/CO is reactivated.

Step 5. Replace the protective cover.



Note

When operating the SX-2000CI/CO in stand-alone mode, do not connect it to the SX-2000AO or SX-2100AO as doing so may cause system malfunction.

5.2. Priority Control Settings of the Control Inputs (SX-2000CI Only)

Priority control of the control inputs can be performed by combined settings of the DIP switches 3 and 4 inside the protective cover (see the previous page) on the SX-2000CI's front panel.

Type of priority control	DIP switch 3	DIP switch 4	Figure of the DIP switch	Reference page
No priority control (factory default)	OFF	OFF		P. 17
Terminal number-based priority	ON	OFF		P. 17
Last-in-first-out	OFF	ON		P. 18
First-in-first-out	ON	ON		P. 18

Notes

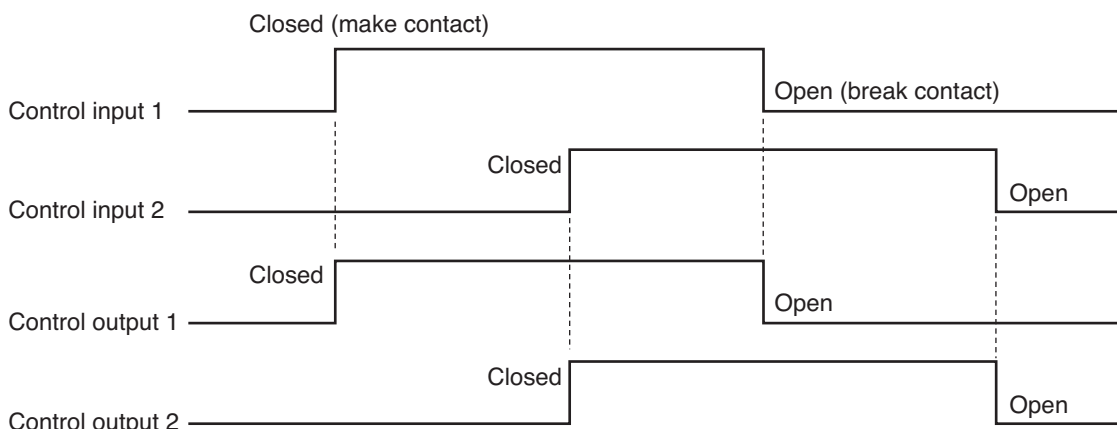
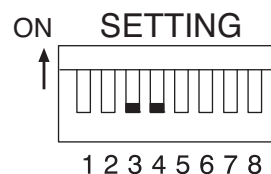
- If you change the DIP switch setting, be sure to press the Reset key inside the protective cover to restart the SX-2000CI.
- Control inputs act as such that they have been closed in numerical order of terminal numbers after the SX-2000CI is switched on or restarted with these inputs closed in any order. In this case, the highest priority is assigned to the control input of the largest terminal number when the priority control type is "Last-in-first-out," and to the control input of the smallest terminal number when "First-in-first-out."

5.2.1. No priority control (DIP switch 3: OFF, DIP switch 4: OFF)

In this mode, priority control is disabled. (Factory default)

For example, closing the control input 2 while the control input 1 is closed causes the control output 2 to close simultaneously while the control output 1 remains closed.

Control inputs 3 – 32 operate in the same manner.



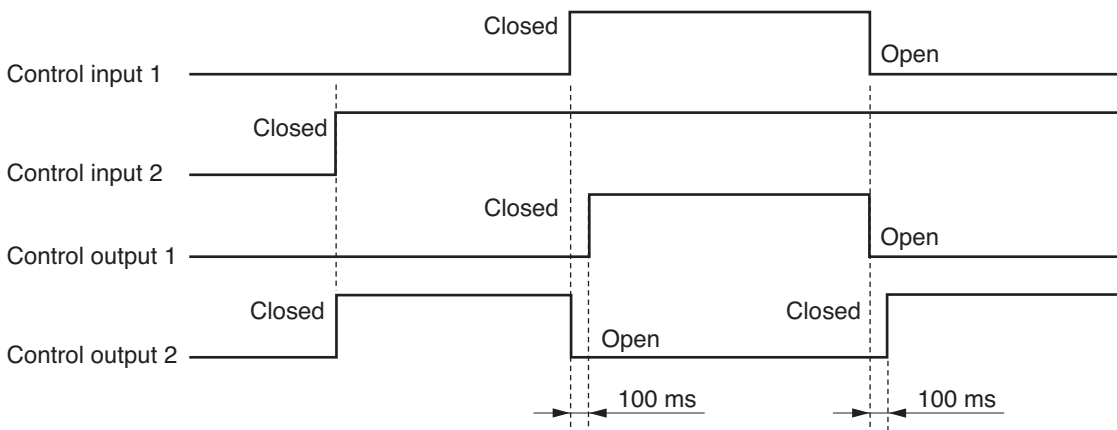
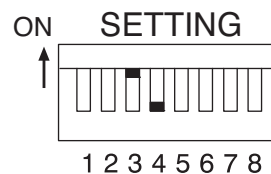
5.2.2. Terminal number-based priority (DIP switch 3: ON, DIP switch 4: OFF)

The smaller the terminal number of the control input, the higher the priority level.

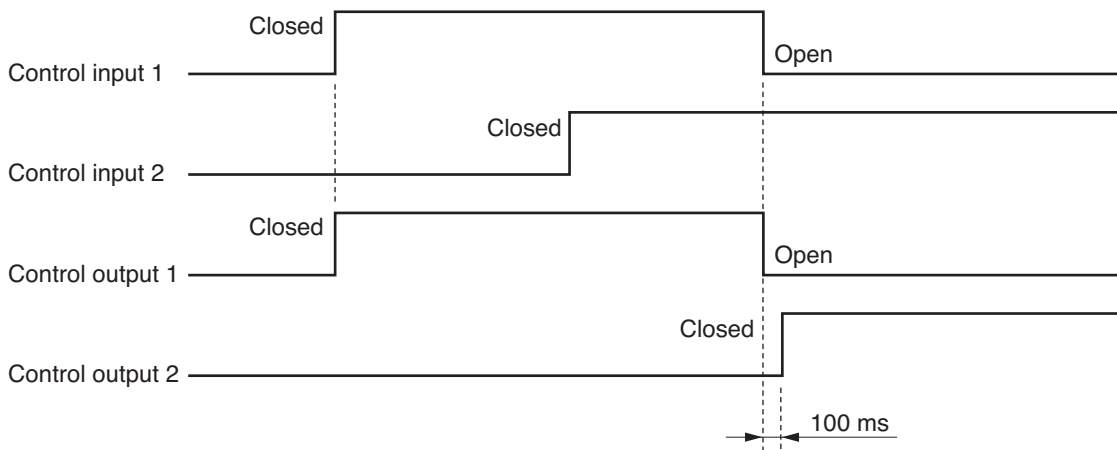
For example, closing the control input 1 while the control input 2 is closed causes the control output 2 to open.

Opening the control input 1 causes the control output 2 to close.

Control inputs 3 - 32 operate in the same manner. Latency of 100 ms is employed in order to prevent two or more control outputs from turning ON.

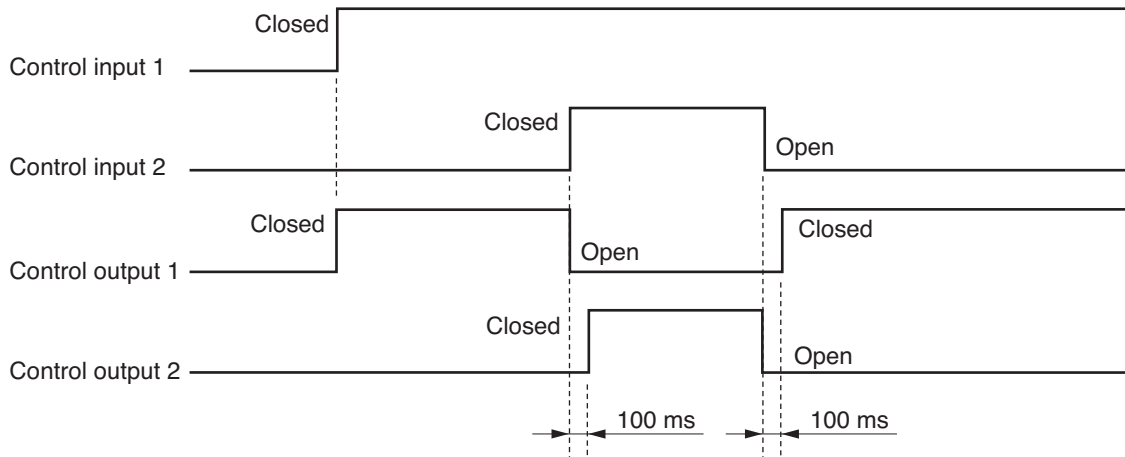
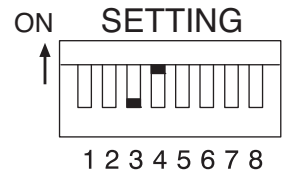


Control input 2 is disabled while the control input 1 is being closed. The control output 2 becomes closed when the control input 1 is opened.



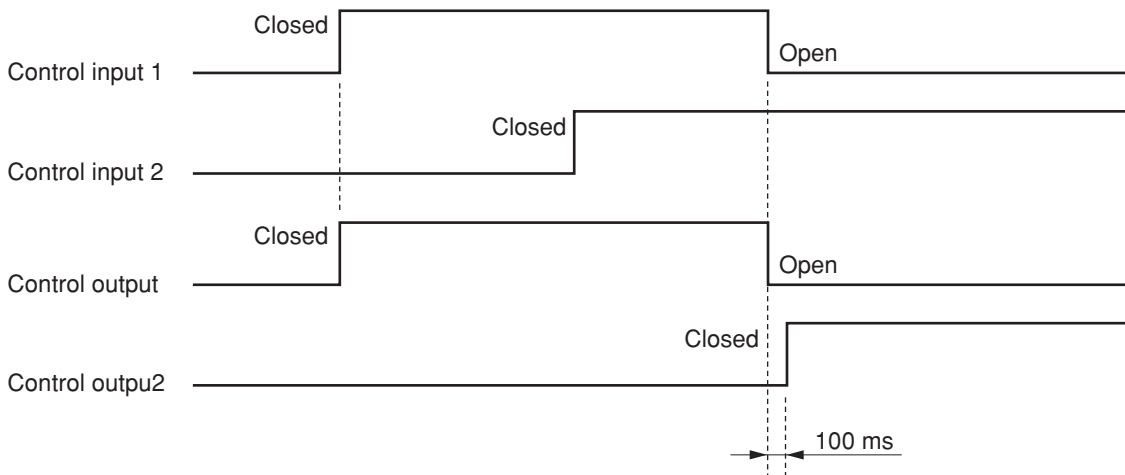
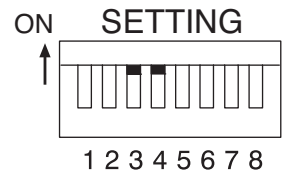
5.2.3. Last-in-first-out (DIP switch 3: OFF, DIP switch 4: ON)

The most recent control input takes precedence over the earlier one. For example, closing the control input 2 while the control input 1 is closed causes the control output 1 to open. The control output 1 becomes closed when the control input 2 is opened. Control inputs 3 - 32 operate in the same manner. Latency of 100 ms is employed in order to prevent two or more control outputs from turning ON.



5.2.4. First-in-first-out (DIP switch 3: ON, DIP switch 4: ON)

The first control input takes precedence over the later control output. For example, the control output 2 is not closed while the control input 1 is being closed. The control output 2 becomes closed when the control input 1 is opened. Control inputs 3 - 32 operate in the same manner. Latency of 100 ms is employed in order to prevent two or more control outputs from turning ON.



6 SPECIFICATIONS

6.1. SX-2000CI Control Input Unit

Power Source	Applicable power supply: AD-011, AD-031B 24 V DC (operational range: 20 – 40 V DC), redundant power supply enabled using 2 channels of DC inputs
Current Consumption	Under 0.7 A (maximum value in the power operating range) Under 0.55 A (at 24 V DC operation)
Indication	Power indicator, Control input indicators (32), CPU-OFF indicator, FAULT indicator
Control Input	32 inputs, no-voltage make contacts, open voltage: 24 V DC, short-circuit current: 2 mA, photo coupler inputs, removable terminal blocks (16P)
Priority Control	No priority control, Terminal number-based priority, Last-in-first-out priority, First-in-first-out priority
CI/CO Link	
Connector	RJ45 connector
Connection Cable	Main cable: Shielded CPEV cable* or STP Category 5 straight cable * When connecting the power supply to each unit: 1-pair for data line When connecting the power supply only to the SX-2000CI: 1-pair data line and 2-pair power line for a redundant power supply system, or 1-pair data line and 1-pair power line for a non-redundant power supply system Branch cable: STP Category 5 straight cable
Maximum Cable Distance	800 m
Maximum Delay Time	300 ms
24 V DC Output section	
Connector	Removable terminal block (2P)
Maximum Feeding Current	100 mA
Output Voltage	24 V DC within $\pm 10\%$
Operating Temperature	0 – 40 °C
Operating Humidity	35 – 80% RH (no condensation)
Finish	Panel: Aluminum, black, anodized aluminum Case: Surface-treated steel sheet
Dimensions	482 (w) x 44 (h) x 331.5 (d) mm
Weight	3.6 kg

Note: The design and specifications are subject to change without notice for improvement.

• Accessories

Removable terminal plug (16 pins)	4	Rack mounting screw	
Removable terminal plug (4 pins)	1	with plain washer (5 x 12)	4
Removable terminal plug (2 pins)	1		

• Optional products

DC power supply panel:	AD-011, AD-031B
Terminal unit:	RM-200RJ

6.2. SX-2000CO Control Output Unit

Power Source	Applicable power supply: AD-011, AD-031B 24 V DC (operational range: 20 – 40 V DC), redundant power supply enabled using 2 channels of DC inputs
Current Consumption	Under 0.34 A (maximum value in the power operating range) Under 0.29 A (at 24 V DC operation)
Indication	Power indicator, Control output indicators (32), CPU-OFF indicator, FAULT indicator
Control Output	32 outputs, no-voltage make contacts, relay contact outputs (withstand voltage: 40 V DC, control current: 2 – 300 mA), removable terminal blocks (6P)
CI/CO Link	
Connector	RJ45 connector
Connection Cable	Main cable: Shielded CPEV cable* or STP Category 5 straight cable * When connecting the power supply to each unit: 1-pair for data line When connecting the power supply only to the SX-2000CI: 1-pair data line and 2-pair power line for a redundant power supply system, or 1-pair data line and 1-pair power line for a non-redundant power supply system Branch cable: STP Category 5 straight cable
Maximum Cable Distance	800 m
Maximum Delay Time	300 ms
Operating Temperature	0 – 40 °C
Operating Humidity	35 – 80% RH (no condensation)
Finish	Panel: Aluminum, black, anodized aluminum Case: Surface-treated steel sheet
Dimensions	482 (w) x 44 (h) x 331.5 (d) mm
Weight	3.6 kg

Note: The design and specifications are subject to change without notice for improvement.

• Accessories

Removable terminal plug (6 pins)	16	Rack mounting screw	
Removable terminal plug (4 pins)	1	with plain washer (5 x 12)	4

• Optional products

DC power supply panel: AD-011, AD-031B
Terminal unit: RM-200RJ

Warning

This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

Traceability Information for Europe

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