

Instruction Manual

- Be sure to read this Instruction Manual before use, and then properly use the product.
- Ask an electrical contractor for troubleshooting and maintenance such as expansion of this product. In such case, be sure to pass these Instruction and Installation Manuals to the contractor.
- Mounting additional outlet plug requires no qualification as an electrical worker.
Note: Before mounting/dismounting or relocating plugs, be sure to turn OFF power supply
- Be sure to keep this Instruction Manual for future reference, and be sure to hand this manual to user.

There is longevity in Factory Line 100 · 60, and a standard use period is ten years. It becomes impossible to use finally due to the deterioration of internal if it uses it exceeding the service life. Deterioration advances every year though it differs in the environmental condition and the service space. In order to use the factory-line for a long time, please contact the specialist in the construction shop etc. when it checks, and trouble is found, and receive the check by the specialist in the construction shop etc. once every three years. Please be sure to observe the following, and the check.

Safety precautions

Be sure to observe the precautions fully

The precautions describe what must be observed not to harm humans nor cause property damage.

Warning

- | | |
|--|--|
| <ul style="list-style-type: none"> ● Do not modify to products in any way.
May cause fire, electric shock or damage due to falling of equipment. ● Do not install parts of incompatible.
May cause fire, electric shock or damage due to falling of equipment. ● Do not mount any bracket other than dedicated bracket to the Factory Line 100 or 60, or do not apply weight exceeding that of the dedicated bracket (allowable suspension load of hanger: 20 kg) to the Factory Line.
Doing so will result in a drop. | <ul style="list-style-type: none"> ● Do not install the illuminator that becomes a high temperature like the white heat ball etc.
Not doing so will result in an electric shock, a fire. ● If any abnormality occurs, immediately turn OFF the power supply, and then contact your electrical worker to take necessary actions. (In such case, be sure to pass Instruction and Installation Manuals)
Not doing so will result in an electric shock, a fire, or a drop. ● Use the rated voltage within the load capacity that is always displayed.
Not doing so will result in a fire. ● Use Fluorescent lighting plug below a permissible load.
Not doing so will result in a fire, or a drop. |
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Caution

- | | |
|---|---|
| <ul style="list-style-type: none"> ● this product is dedicated to ordinary indoor use, Do not use it at the place which is subject to the influence of heat, such as the upper part of a heater, or a place with moist place and vibration, which receives blowing in of rain, and a moist, where corrosive gas, where the smoke rises <ul style="list-style-type: none"> • A place with moist place and vibration • A place which receives blowing in of rain, and a moist place • A place where corrosive gas, where the smoke rises • The place which is subject to the influence of heat, such as the upper part of a heater. Not doing so will result in an electric shock, a fire, or a drop. ● Do not slide putting the plug in the duct.
Poor contact will cause a fire. ● Do not pull the plug cable.
Doing so may result in faulty connection, thus leading to a fire. ● Delicated plug for 100V in the Factory Line 100 or 60, do not use the Factory Line 30. Because of the different ground-taking. Similarly, the plug for the Factory Line 30, not used 2P 20 A line circuit in the Factory Line 100 · 60.
Not doing so may result in an electric shock or a fire. | <ul style="list-style-type: none"> ● Before check for the product, be sure to turn OFF the power supply.
Not doing so may result in an electric shock. ● If an earthquake occurs, turn OFF the power supply, and then ensure that thorough mounting strength is provided. If NOT, consult with your electrical contractor. In such case, be sure to pass these Installation and Instruction Manuals to the contractor.
Not doing so will result in a drop. ● Use the range of -10 °C ~ 40 °C ambient temperature
The use without of range, burn, or cause a fire. ● Attach the plug in the right direction.
If it attaches to reverse, it will become a cause of an electric shock, a fire, and fall. ● Do not apply directly weight to an outlet of the outlet plug and the reeler outlet plug.
Not doing so will result in an electric shock, a fire, or a drop. ● Use this product for the transmission of information.
The transmission performance might be deteriorated because of the signal decay in connected part. ● There is longevity in Factory Line 100 · 60, and a standard use period is ten years.
Even if abnormality is not found in externals, the check exchange is done internally because it is deteriorated |
|---|---|

Installation Manual

- Be sure to read this Instruction Manual before installation, and then properly install the product.
- Installing this product requires the qualification as an electrical worker. Be sure to ask a contractor

Safety precautions

Be sure to observe the precautions fully

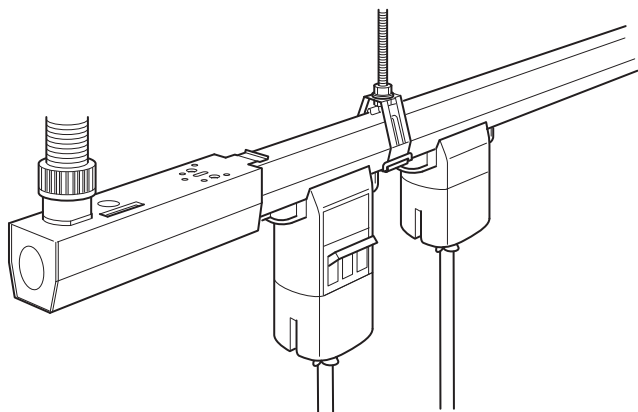
The precautions describe what must be observed not to harm humans nor cause property damage.

Warning

- Do not make any modification to this product.
Doing so will result in an electric shock, a fire, or a drop.
- Do not use it at the place which dew condensation generates by a quick temperature change like the wind of an air-conditioner.
Doing so will result in an electric shock, a fire, or a drop.
- Do not use it in places with combustion gas.
Cause of the explosion.
- Install this product in accordance with the Electrical Equipment Technical Standards (Law) and the Internal Wiring Regulations. Use proper overcurrent circuit breakers on the primary side of power supply. Choose a size of cable used to supply power to Factory Line suitable for overcurrent circuit breakers to protect the branch circuit and for the rated current.
Not doing so will result in an electric shock, a fire, or a drop.
- Before check for the product, be sure to turn OFF the power supply.
Doing so may result in an electric shock .
- Make below the weight that can allow the weight hung to the duct.
Not doing so will result in a drop.

Caution

- this product is dedicated to ordinary indoor use, Do not use it at the place which is subject to the influence of heat, such as the upper part of a heater, or a place with moist place and vibration, which receives blowing in of rain, and a moist, where corrosive gas, where the smoke rises
 - A place with moist place and vibration
 - A place which receives blowing in of rain, and a moist place
 - A place where corrosive gas, where the smoke rises
 - The place which is subject to the influence of heat, such as the upper part of a heater
 Not doing so will result in an electric shock, a fire, or a drop.
- Do not install the Factory Line duct.
Doing so may result in a fire.
- Do not slide putting the plug in the duct.
Poor contact will cause a fire.
- Do not cut the duct of the Factory Line 60 , because, the duct is of the Factory Line 60 subjected to special processing at both ends.
This may cause electric shock or fire fall.
- Use the range of $-10\text{ }^{\circ}\text{C} \sim 40\text{ }^{\circ}\text{C}$ ambient temperature
The use with out of range, burn, or cause a fire.
- Orientation of the duct and shall decide the orientation of the plug with breaker.
When installed in the opposite direction may cause electric shock or fire fall.
- If you use facts as the branch circuit line is 100 · 60, which mandates the installation of protective devices on the regulatory impact (Article 171 of the interpretation of the current technique), or installation of protective devices, such as using the terminal plug with a breaker.
Failure to install protective devices may cause a fire.
- If you uses a remote control plug with breaker terminal, and the operating voltage is 100V (not available in 200V).
- For cutting work, wear protective equipment such as safety glasses.
Not doing so may cause you to injure your finger.
- The opening of the duct, so as to be more aligned towards the bottom.
Due to loose connection can cause a fire.
- And after cutting the sandpaper to remove burrs, etc.
Not doing so may cause you to injure your finger.
- In the Factory Line 100·60, in order to prevent the misuse of 100V·200V, on the division must verify the polarity of voltage, voltage display unit label part number label bundled products, feed always put the cap and plug-ins.
wrong polarity voltage, causing burns or fire.
- If you are using unique and relocation, match the duct together with the polarity and voltage.
Not doing so will result in an electric shpck, a fire.
- If you use a 15A power plug to the Factory Line 100·60, use a 15A or 20A branch circuit by law.
Not doing so will result in an electric shpck, a fire.



Safety Check Sheet & Maintenance Sheet

- At least once a year, please do self-inspection due to safety check sheet. If any abnormality occurs, immediately contact electrical worker.
- Receive the check by the specialist in the construction shop etc. once every three years.
- when will use beyond 10 years after installation, At least once a year, please do inspection due et. At least once a year at least, please accept inspection by a electrical worker to be sure. and When it passes for 15 years after installation, Please stop use promptly and exchange it.

A title	Check day	Y	D	M	The check person in charge
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Caution

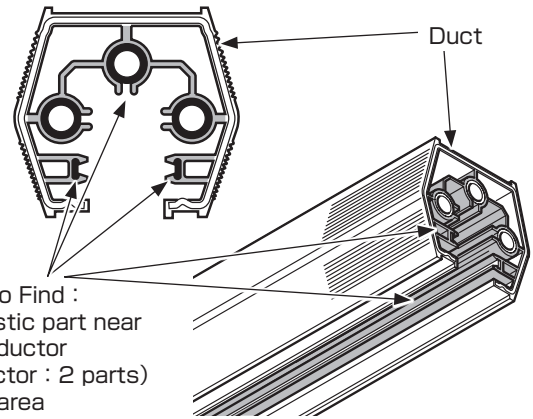
- Action against abnormal, turn off the power before, checks by the electrical worker. Not doing so will result in an electric shock, a fire, or a drop.

Result	○ : Normal	Measures	○ : Exchange required
	× : Abnormality		● : Finished with exchange
			△ : Adjustment required
			▲ : Finished with adjustment

■ Safety Check Sheet (Self-check) : At least once a year

		Contents of inspection	Result
Duration of use	1	Less than 10 years of use?	
		More than 15 years of use?	
conditions of use	1	Are there condense on the ducts?	
	2	Are there stains or discoloration on the inside of the duct?	
	3	Are there deposits of dust adhering to the inside of the duct?	
	4	Are there an abnormal looseness or gap?	
	5	Are the connection parts of duct straight ?	
	6	Are there such a strange odor or smell burnt?	
conditions of use	7	Did blocked the earth leakage breakers?	
	8	Had the power supply of the apparatus linked to a duct turned on and off ?	

2. Where to Find discoloration



■ Maintenance Sheet(The contents of check by electrical worker) : Least once every three years during and after completion

A title	Contents of inspection	Remedy	Result	Measures
Duct	Is there condensation?	Eliminate the cause of condensation		
	Are there discoloration or deformation in the plastic of the duct and	Change it.		
	Are there adhesion and deposition of dust in the inside of a duct?	Remove the dirt		
	Is a straight line connecting duct?	Attachment is improved so that it may become a straight line.		
	Is the thing which is not an exclusive plug attached to the duct?	Exchange plugs.		
The parts to connect • feed-in cap • Center-feed-in joiner • Joiner • Joiner L • End cap	Are there any slack of a set screw ?	Retighten		
	Is the duct insufficient to merge ?	Inserts enough to the back.		
	Is cover detached?	Replace the cover		
	Are there discoloration or deformation in the plastic ?	Change it.		
	Are there breakage and a crack?	Change it.		
Plug	Are there loose the terminal screw?	Retighten		
	Correct direction of the attachment to the duct?	Attach after checking direction.		
	Are there loose the terminal screw?	Retighten		
	Is the plastic of the plug discoloring and changing?	Change it.		
	Are there breakage and a crack?	Change it.		
Hanger	Is the electric wire of the plug pulled?	takes a little longer		
	Dose the rib part hitch on the hock part?	Hitch the rib part of the duct on the hook part.		
All	Insulation resistance voltage to ground 150 V or less : 0.1 M Ω or more ? voltage to ground 150 V or higher : 0.2 M Ω or more ?	Do pertain to your particular place and cause abnormal		

Installation Procedure

Precautions on installation

Relation between a direction in which the Factory Line duct is mounted and direction of plug

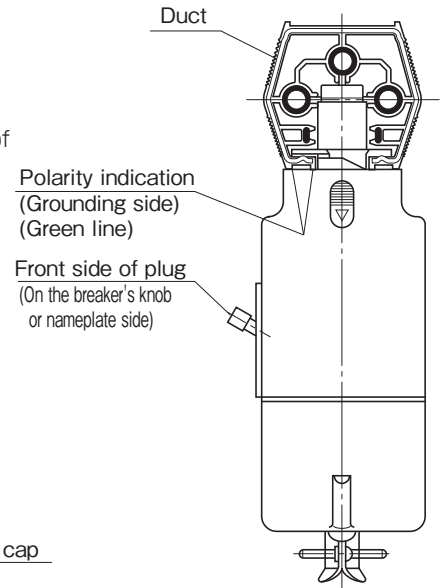
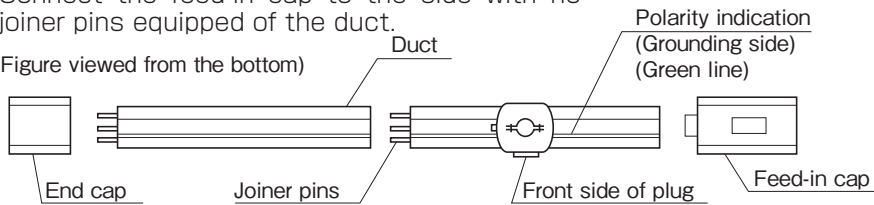
- Determine a direction in which the duct is mounted after determining the direction of plug.
- Install the duct pointing the front side of the plug and the polarity marking of the duct to the same direction.
(The feed-in cap is located on the left when viewed from the front side of the plug.)

Relation between the power feed position (feed-in) and the direction of plug

Standard installation

Connect the feed-in cap to the side with no joiner pins equipped of the duct.

(Figure viewed from the bottom)

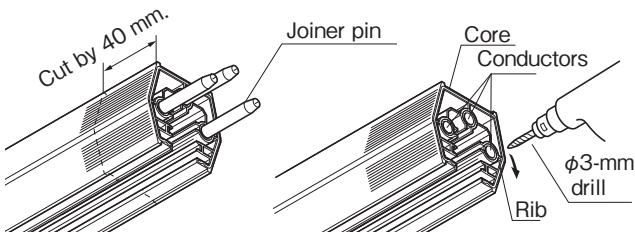


To connect the feed-in cap to the joiner pins side of the duct:

Factory Line 100

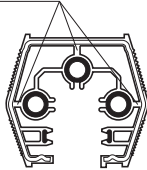
In this case, the joiner pins part of the duct needs to be cut.

1. Cut the joiner pins side of the duct by 40 mm using a metal saw.



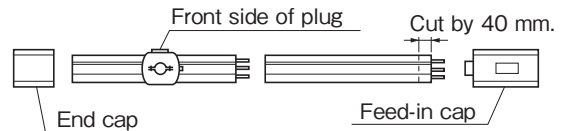
2. Cut the ribs (three places) of the duct using a drill of $\phi 3$ mm in diameter (10 to 11 mm in depth).

The ribs 3 places



Cut by 10 to 11 mm in length from the cut surface.

(Figure viewed from the bottom)



3. Thoroughly remove burrs and chips from the cut surface. (Be sure to chamfer the inner surface of the conductors in particular.)

Caution

- To cut the ribs, prevent the exposure of the conductors and cores. Not doing so may result in an electric shock.

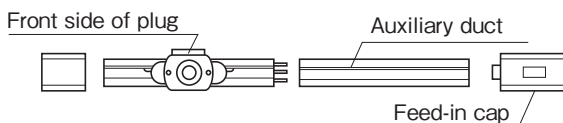
Note

- Using a power saw may cause insulating coating to peel or burn

Factory Line 60

Use the auxiliary duct unit (DH2310) for Factory Line 60.

(Figure viewed from the bottom)



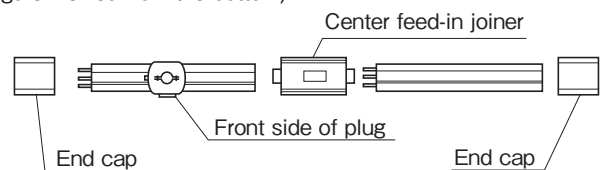
Note

- Since each end of Fact-line 60 is specially processed, do not cut the end.

When the power feed position is located in the middle:

Connect the ducts both ends of the center feed-in joiner

(Figure viewed from the bottom)

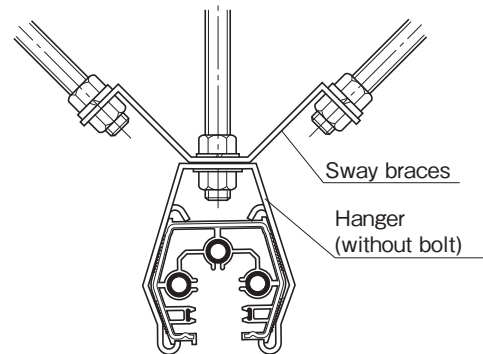
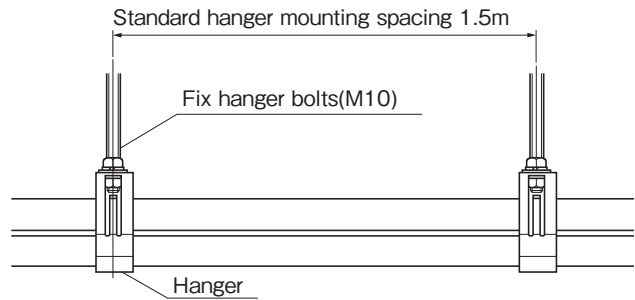


1 Hanger installation

1. Mount hangers at spacing of 1.5 m as a standard.
2. Fix hanger bolts securely to building structure.

Caution

- Use long hanger bolts, mount these bolts using sway braces (DL741Y).
- To prevent the ducts from meandering, align the hanger centers.
Not doing so may cause the hangers to drop.

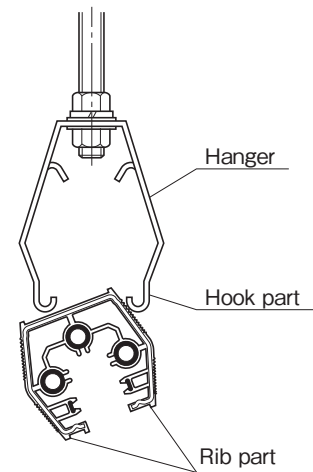


Installation of the duct

1. Push to open the hook part using the upper corner of the duct.
2. Directly push up the duct, and then hitch the rib part on the hook part.
To use hangers that do not use hanger bolts, mount them in the same way as that aforementioned.

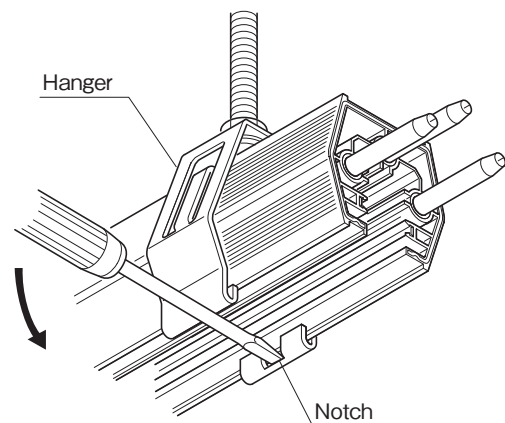
Caution

- Hangers must be securely fixed.
Not doing so may cause them to drop.



Removal of the duct

1. Insert a flat-blade screwdriver in a notch of a hanger, and then pull it up in the direction of an arrow. Subsequently, disengage the hook part of the hanger from the rib part of the duct.
2. Dismount the duct downwards.

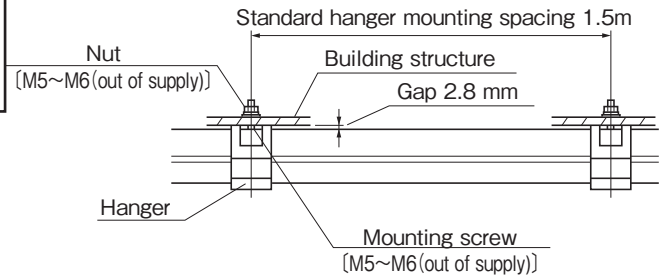
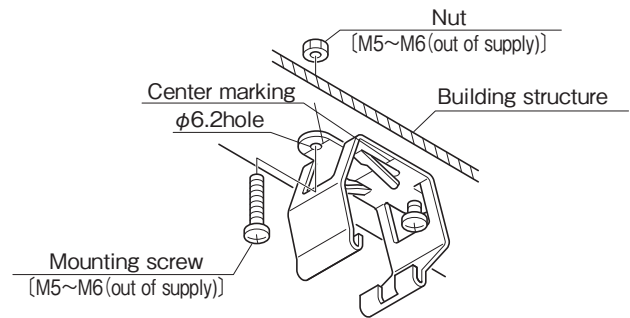


2 Installation of direct-mounted type hangers

1. Mount hangers at spacing of 1.5 m as a standard.
2. Align the hanger mounting position with a center mark punched on each hanger.
3. Fix the hanger securely to the building structure using M5 or M6 screws.
4. If the hanger mounting surfaces are not flush with each other, level the surfaces using spacers or else (that are not included in the scope of supply).

Caution

- Hangers must be securely fixed.
Not doing so may cause them to

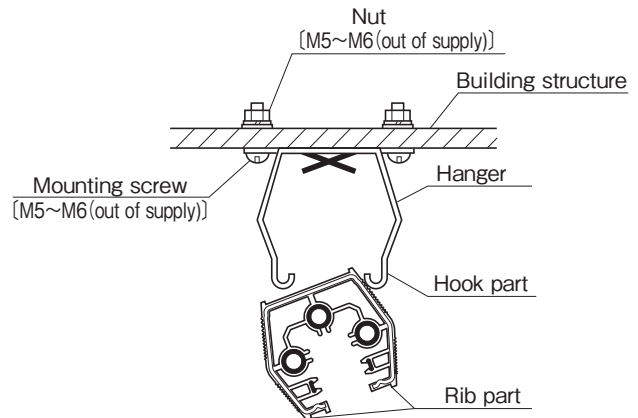


Installation of the duct

1. Push to open a hook on one side using the upper corner of the duct.
2. Push up the duct, and then hitch the Factory Line duct on a rib on one side to level the Factory Line duct halves.
3. Connect the duct halves, and then push the duct further upwards to hitch a hook on the other side on the rib part of the duct.

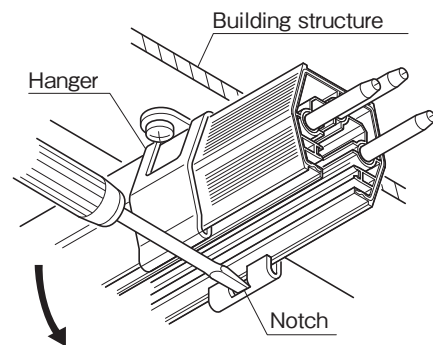
Caution

- Hangers must be securely fixed.
Not doing so may cause them to drop.



Removal of the hangers

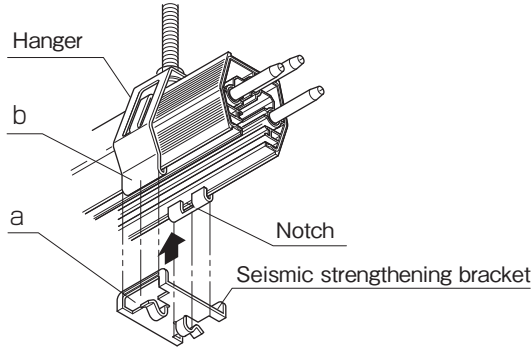
1. Insert a flat-blade screwdriver in a notch of a hanger, and then pull it up in the direction of an arrow. Subsequently, disengage the hook part of the hanger from the rib part of the duct.
2. Dismount the duct downwards.



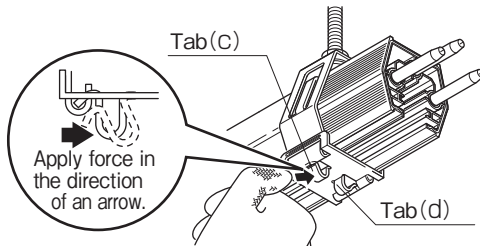
3 Mounting seismic strengthening brackets

Mounting seismic strengthening bracket

1. Align the center of seismic strengthening bracket with that of a hanger, and then fit the part "b" of the hanger in the part "a" of the seismic strengthening bracket.



2. Apply force in the direction of "▶" to push one tab (c) in the notch of the hanger with your thumb until you feel a click.
3. Subsequently, push the other tab (d) in the notch of the hanger in the same manner.



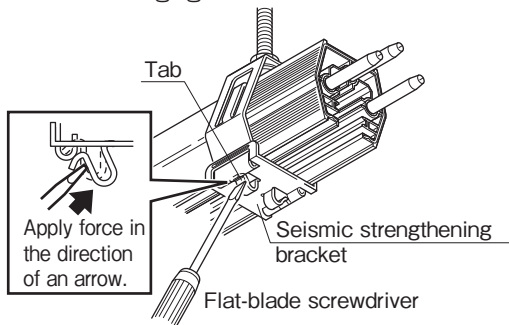
※Push in the tab with "Gloved" thumb.

Note

- If the seismic strengthening bracket is not fit to the hanger, the duct or the hanger may have caused deformation of damage. In this case, check for it, and then replace it if necessary.
- Note that seismic strengthening brackets used for Factory Line 30 are different in mounting dimensions.

Dismounting seismic strengthening brackets

1. As shown in the figure below, put a flat-blade screwdriver in a clearance between the tab of a seismic strengthening bracket and the bottom of a hanger.
2. Move the screwdriver in the direction of an arrow to disengage the bracket.



Note

- There are two tabs to be disengaged.
- Disengage these tabs one by one.
- Do not refuse any seismic strengthening brackets dismounted.

4 Connecting Factory Line ducts

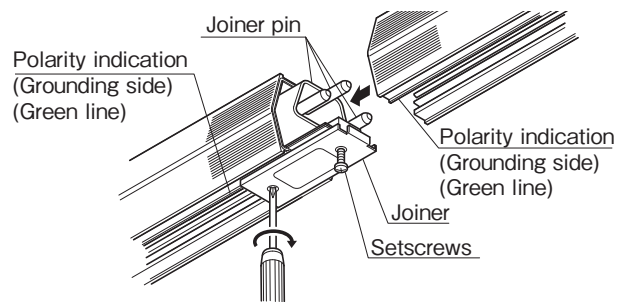
1. Unfasten the joiner setscrews, and then fit it to one Factory Line duct.
2. Securely fit the joiner pins of the Factory Line duct to the other Factory Line duct.
3. Securely fasten the joiner setscrews.

Note

- To connect Factory Line ducts, use a joiner.

Caution

- Connect the ducts so that they butt securely up each other.
- Securely fasten the joiner setscrews.
Not doing so may result in an electric shock or a fire.

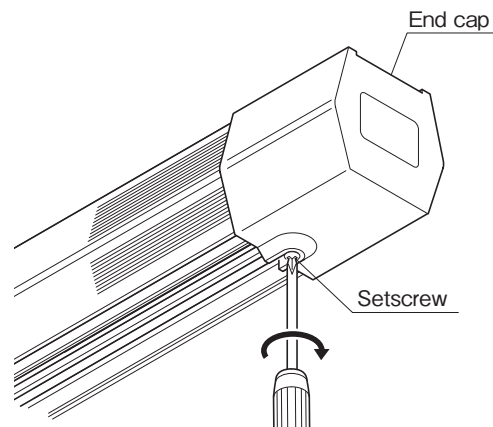


5 Attaching the end cap

1. Dismount the joiner pin protection cap, and then put an end cap in the duct.
2. Fasten the setscrew to fix the end cap.
 - The end cap can be mounted to the duct end with or without joiner pins.

Caution

- Be sure to mount an end cap to each duct end.
- Securely fasten the setscrew.
Doing so may result in an electric shock, or a fire



6 Installing feed-in cap

Connecting to Factory Line duct

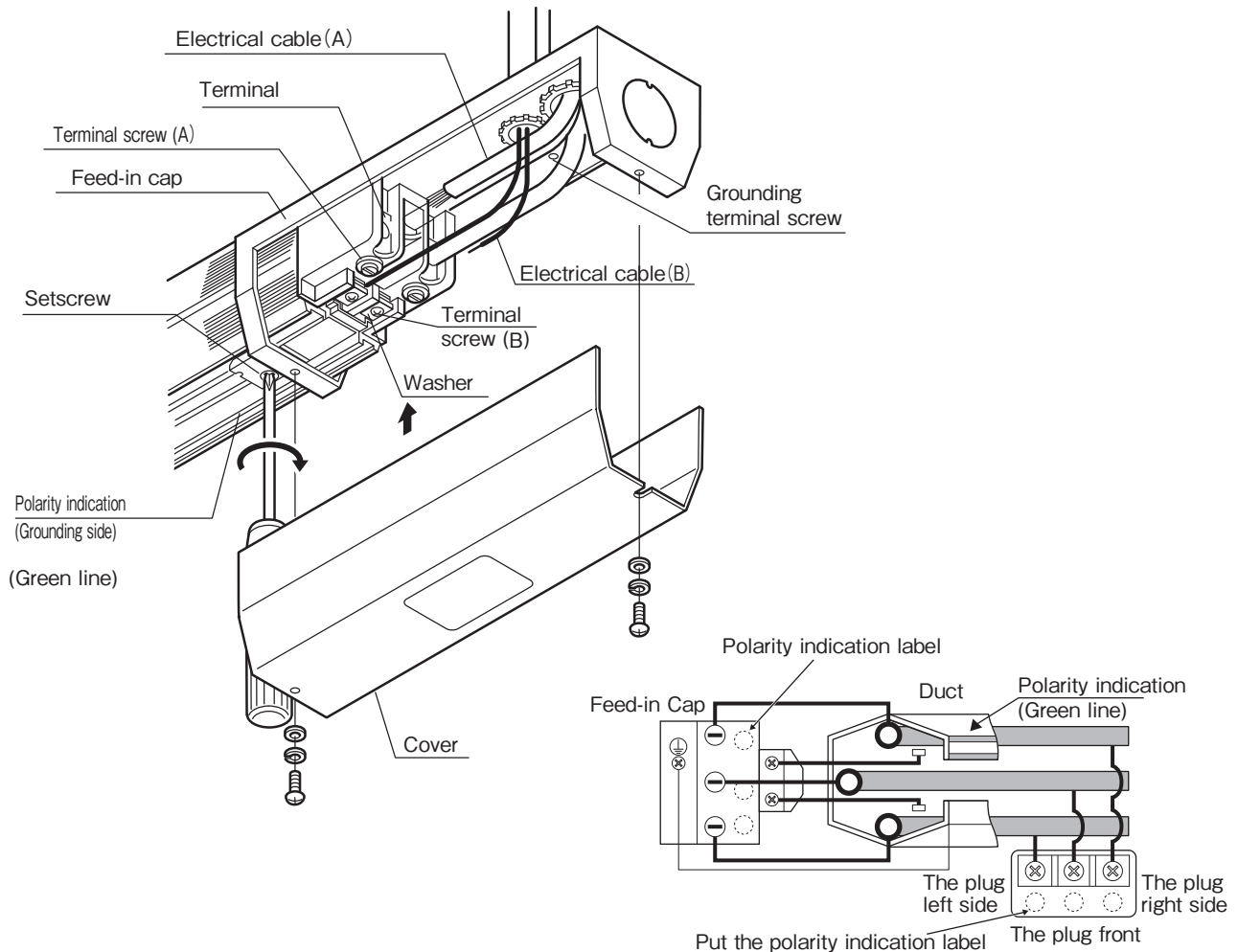
Put a feed-in cap in the Factory Line duct, and then fasten the setscrews to fix the cap.

Connecting cables

1. Strip the sheath of the electrical cable (A) by 18 to 20 mm in length, unfasten the terminal screw (A) to put the electrical cable (A) in the terminal, and then fasten the terminal screw (A) to securely connect the electrical cable (A). After connecting, post the polarity indication label near the screw terminals. (Tightening torque $5.0 \text{ N} \cdot \text{m} \sim 7.0 \text{ N} \cdot \text{m}$)
2. Strip the sheath of the electrical cable (B) by 10 to 12 mm in length, unfasten the terminal screw (B) to put the electrical cable (B) under the washer, and then fasten the terminal screw (B) to securely connect the electrical cable (B). (Tightening torque $2.1 \text{ N} \cdot \text{m} \sim 2.6 \text{ N} \cdot \text{m}$)
3. Mount the cover to the feed-in cap.

Note

- To connect the cable (B), be sure to put the polarity marking side of the duct on the grounding side.
- If the polarity is changed by processing the duct end or using the auxiliary duct unit (DH2310), the arrangement of terminals of the feed-in cap will be inverted.
- The cable (A) must be 14 to 38 mm² in size.
- The cable (B) must be a single-conductor cable of 1.6 to 2.0 mm in size or a stranded-conductor cable of 2 to 3.5 mm² in size.
- To use a terminal plug with a remote control circuit breaker, apply a 100V operating voltage. (200V operating voltage is not available for this product.)
- Connect a grounding cable to the grounding terminal screw by the use of a crimp-style terminal or winding the cable around the terminal.



⚠ Caution

- Securely fasten the setscrews and terminal screws. Doing so may result in an electric shock, or a fire

7 Installing feed-in cap with a circuit breaker equipped

Connecting to Factory Line duct

Put a feed-in cap with a circuit breaker equipped in the Factory Line duct, and then fasten the setscrew to fix the cap.

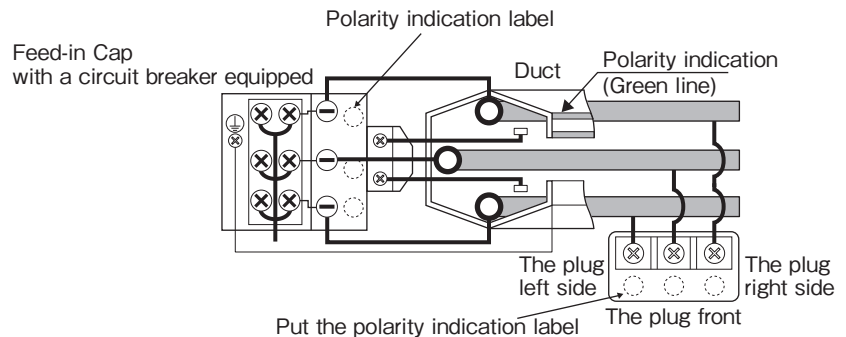
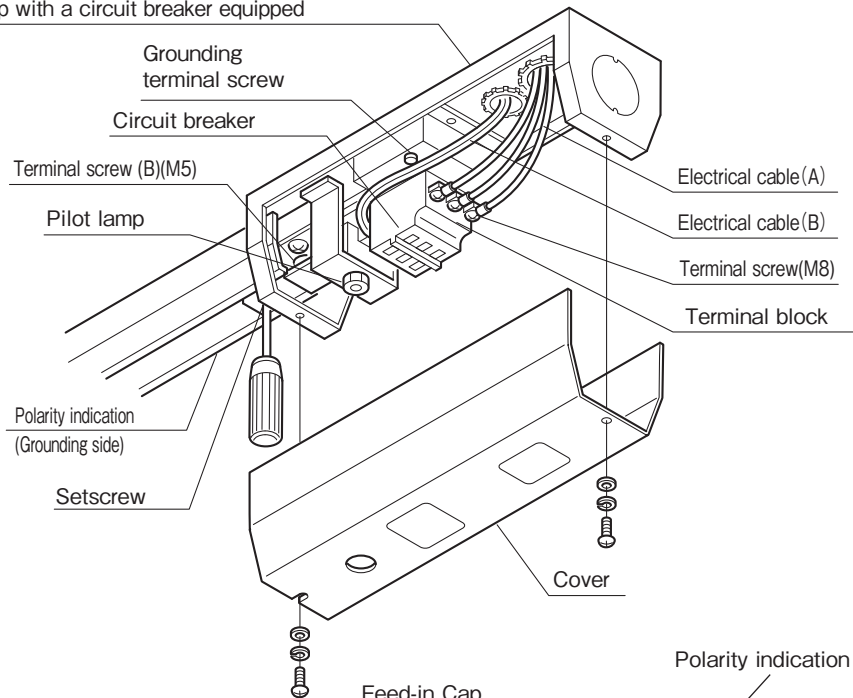
Connecting cables

1. Strip the sheath of the cable (A) by 13 to 15 mm in length, and then mount a crimp-style terminal to the electrical cable (A).
2. Securely connect the electrical cable (A) to the terminal block of the circuit breaker.
After connecting, post the polarity indication label near the screw terminals. (Tightening torque $5.0 \text{ N} \cdot \text{m} \sim 7.0 \text{ N} \cdot \text{m}$)
3. Strip the sheath of the electrical cable (B) by 10 to 12 mm in length, unfasten the terminal screw (B) to put the electrical cable (B) under the washer, and then fasten the terminal screw (B) to securely connect the electrical cable (B). (Tightening torque $2.1 \text{ N} \cdot \text{m} \sim 2.6 \text{ N} \cdot \text{m}$)
4. Mount the cover to the feed-in cap with the circuit breaker equipped.

Note

- To connect the cable (B), be sure to put the polarity indication side of the Fact-line duct on the grounding side.
- If the polarity is changed by processing the duct end or using the auxiliary duct unit (DH2310), the arrangement of terminals of the feed-in cap will be inverted.
- The cable (A) must be 14 to 38 mm² in size.
- The cable (B) must be a single-conductor cable of 1.6 to 2.0 mm in size or a stranded-conductor cable of 2 to 3.5 mm² in size.
- To use a terminal plug with a remote-control circuit breaker equipped, apply a 100V operating voltage. (200V operating voltage is not available for this product.)
- Connect a grounding cable to the grounding terminal screw by the use of a crimp-style terminal or winding the cable around the terminal.

Feed-in cap with a circuit breaker equipped



Caution

- Securely fasten the setscrews and terminal screws.
Doing so may result in an electric shock, or a fire

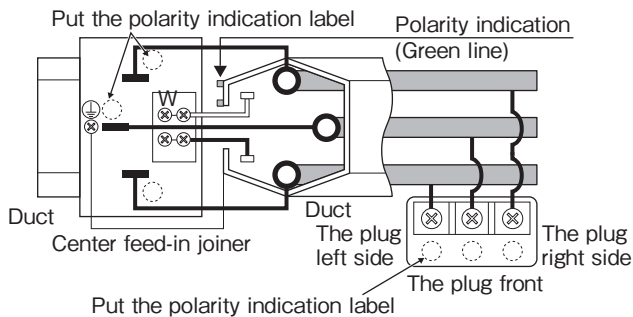
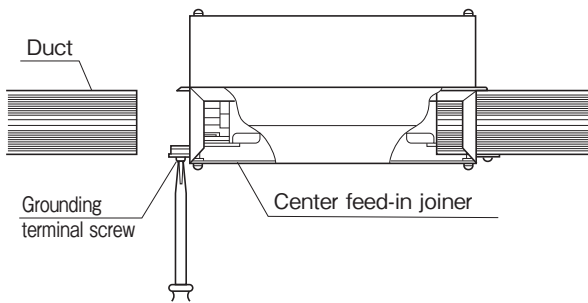
8 Installing a center feed-in joiner

Connecting to Factory Line duct

Put a center feed-in joiner in the duct, and then fasten setscrews to fix the joiner.

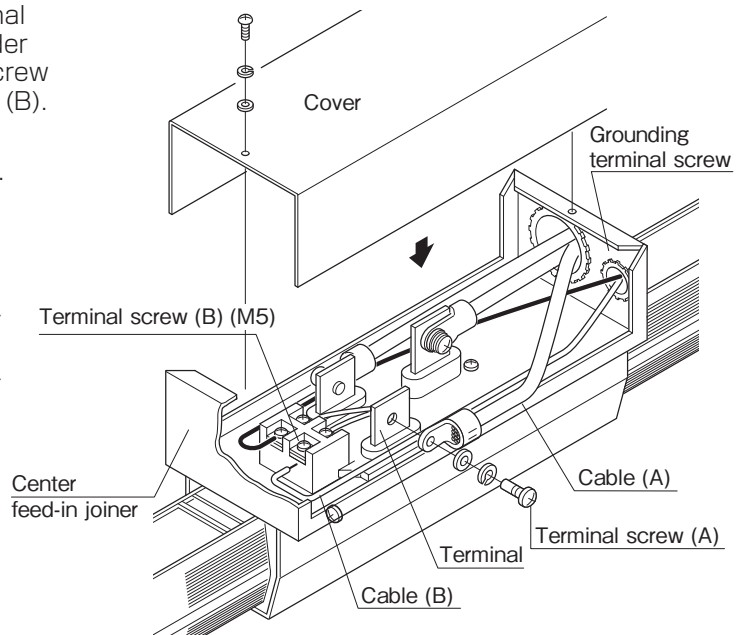
Connecting the wires

1. Fasten the terminal screw (A) to securely connect the electrical cable (A) by the crimp-style terminal. After connecting, post the polarity indication label near the screw terminals.
(Tightening torque 5.0 N·m ~ 7.0 N·m)
2. Strip the sheath of the electrical cable (B) by 10 to 12 mm in length, unfasten the terminal screw (B) to put the electrical cable (B) under the washer, and then fasten the terminal screw (B) to securely connect the electrical cable (B).
(Tightening torque 2.1 N·m ~ 2.6 N·m)
3. Mount the cover to the center feed-in joiner.



Notes

- To connect the cable (B), be sure to put the polarity marking side of the duct on the grounding side.
- The relation between the duct (conductor) and the terminal screws is as shown in the figure above. However, if the polarity is changed by processing the duct end or using the auxiliary duct unit (DH2310), the arrangement of terminals of the center feed-in joiner will be inverted.
- The cable (A) must be 14 to 38 mm² in size.
- The cable (B) must be a single-conductor cable of 1.6 to 2.0 mm in size or a stranded-conductor cable of 2 to 3.5 mm² in size.
- To use a terminal plug with a remote-control circuit breaker equipped, apply a 100V operating voltage. (200V operating voltage is not available for this product.)
- Connect a grounding cable to the grounding terminal screw by the use of a crimp-style terminal or winding the cable around the terminal.

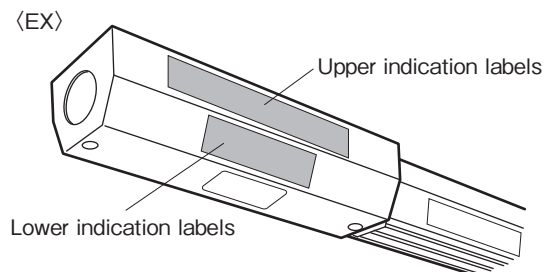


Caution

- Securely fasten the setscrews and terminal screws. Not doing so may result in a fire.

Notes

Paste the polarity indication label to conspicuous place of connection parts (Feed-in Cap, Center Feed-in Joiner, Joiner L) in order to prevent incorrect connection of voltage (100 · 200V).



Identificatuon label to be used (voltage indication label)

Upper	3ϕ3W200V	or	1ϕ3W200/100V
Lower	100V	or	200V

9 Mounting terminal plug A

Mounting 30A plug

Connecting cables

1. Remove the setscrews, and then dismount the cover.
2. Unfasten the cable clamp securing screw, and then put the cables in the cover.
3. Connect the cables to the terminal block by the use of a crimp-style terminal or winding the cable around the terminal, respectively.
After connecting, post the polarity indication label near the terminals screw (A). (Tightening torque $4.0 \text{ N} \cdot \text{m} \sim 5.0 \text{ N} \cdot \text{m}$)
4. Mount the cover to the main body on the terminal plug A side, and then fix it with the setscrews.
5. Fasten the securing screw of the cable clamp to fix the cables.

Caution

- Securely fasten the terminal screws.
- Do not use plugs (with an orange lever) for Factory Line 30.
- Do not mount the plug in the opposite direction.
Doing so may result in an electric shock or a fire.

Notes

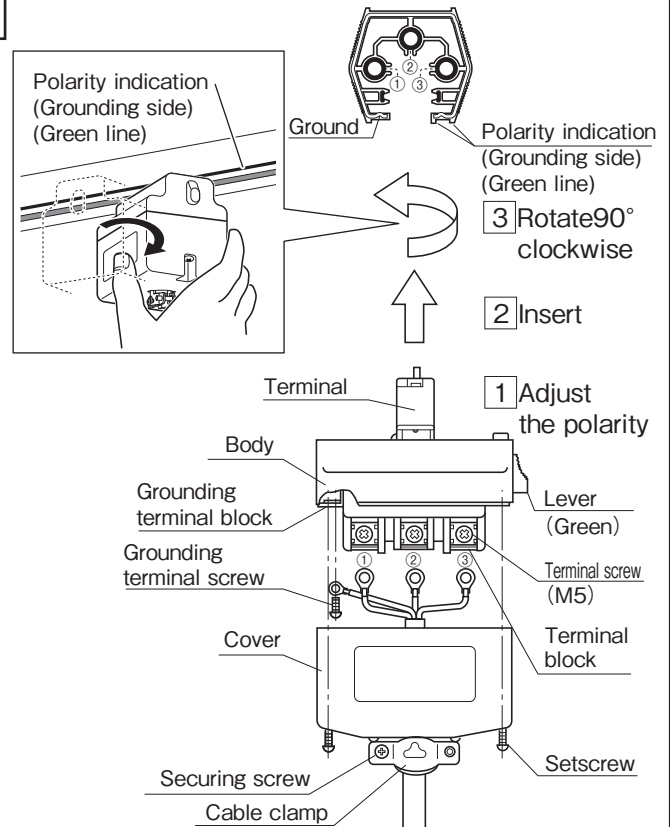
- Use cables of 3.5 mm^2 to 5.5 mm^2 in size.
- Connect a single core to the grounding terminal block.

Mounting plug

- Put the plug lever (green) in the duct in line with its polarity marking (green line), and then rotate it clockwise by 90 degrees.

Dismounting plug

- Pull down the plug lever, and then rotate it counterclockwise by 90 degrees.



Mounting 60A plug

Connecting cables

1. Remove the setscrews, and then dismount the cover.
2. Unfasten the cable clamp securing screw, and then put the cables in the cover.
3. Connect the cables to the terminal block by the use of a crimp-style terminal or winding the cable around the terminal, respectively.
After connecting, post the polarity indication label near the terminals screw (A). (Tightening torque $4.0 \text{ N} \cdot \text{m} \sim 5.0 \text{ N} \cdot \text{m}$)
4. Mount the cover to the main body on the terminal plug A side, and then fix it with the setscrews.
5. Fasten the securing screw of the cable clamp to fix the cables.

Caution

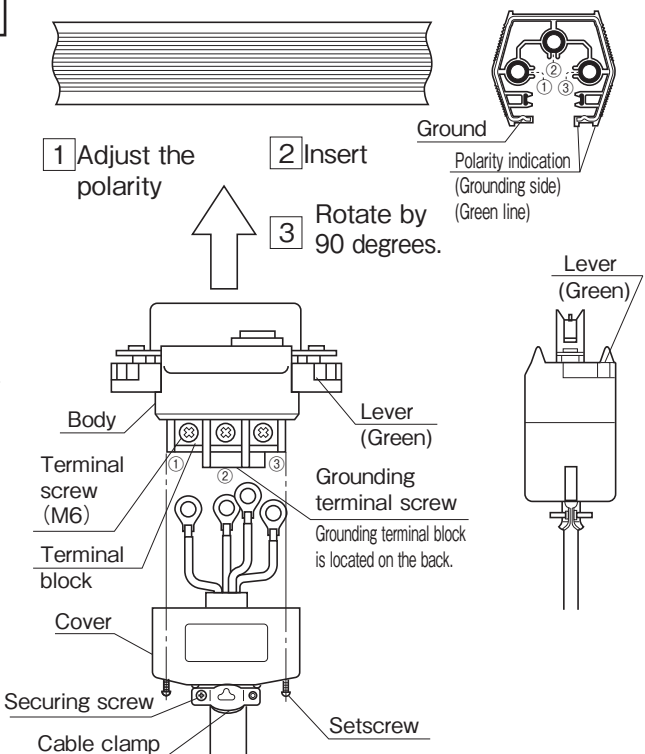
- Securely fasten the terminal screws.
- Do not use plugs (with an orange lever) for Factory Line 30.
- Do not mount the plug in the opposite direction.
Doing so may result in an electric shock or a fire.

Notes

- Use cables of 5.5 mm^2 to 14 mm^2 in size in accordance with load capacity.
- Connect a single core to the grounding terminal block by the use of a crimp-style terminal.

Mounting plug

- Put the lever (green) on each side of the duct in the duct in line with its polarity marking (green line), and then rotate it outwards by 90 degrees (until you feel a click).



Dismounting plug

- Pull down the lever on each side of the duct, and then rotate it inwards by 90 degrees (until you feel a click) to pull out the plug.

10 Mounting a circuit breaker equipped terminal plug

Mounting 20·30A plug

Connecting cables

1. Remove the setscrews, and then dismount the cover.
2. Unfasten the cable clamp securing screw, and then put the cables in the cover.
3. Connect the cables to the terminal block by the use of a crimp-style terminal or winding the cable around the terminal, respectively.
After connecting, post the polarity indication label near the terminals screw (A). (Tightening torque $4.0 \text{ N} \cdot \text{m} \sim 5.0 \text{ N} \cdot \text{m}$)
4. Mount the cover to the main body on circuit breaker equipped terminal plug, and then fix it with the setscrews.
5. Fasten the securing screw of the cable clamp to fix the cables.

Caution

- Securely fasten the terminal screws.
- Do not use plugs (with an orange lever) for Factory Line 30.
- Do not mount the plug in the opposite direction.
Doing so may result in an electric shock or a fire.

Notes

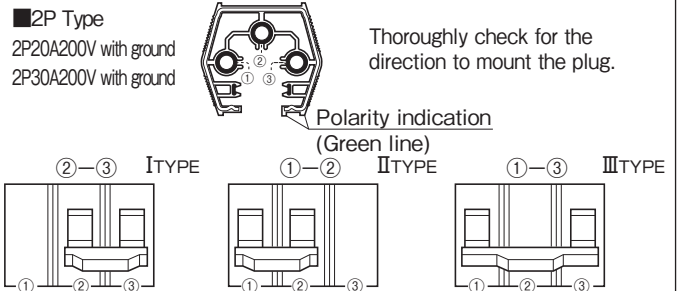
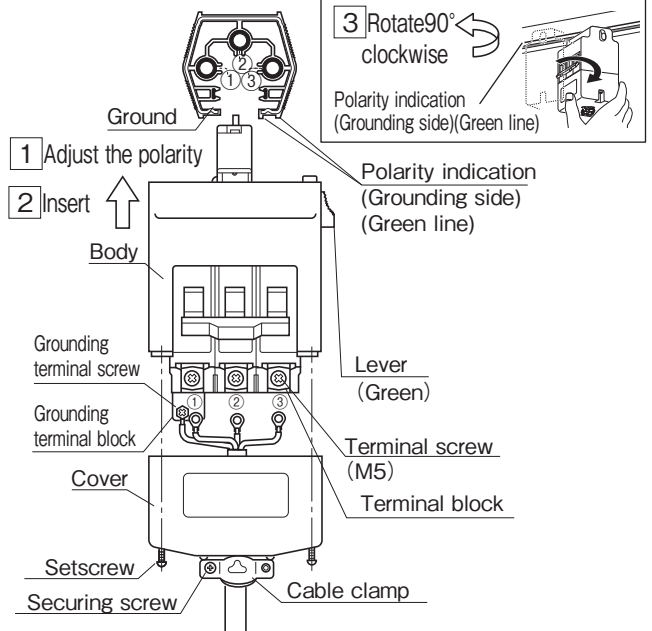
- Use cables of 3.5 mm^2 to 5.5 mm^2 in size in accordance with load capacity.
- Connect a single core to the grounding terminal block.

Mounting plug

- Put the plug lever (green) in the Factory line duct in line with its polarity marking (green line), and then rotate it clockwise by 90 degrees.

Dismounting plug

- Pull down the plug lever, and then rotate it counterclockwise by 90 degrees.



Mounting 60A plug

Connecting cables

1. Remove the setscrews, and then dismount the cover.
2. Unfasten the cable clamp securing screw, and then put the cables in the cover.
3. Connect the cables to the terminal block by the use of a crimp-style terminal or winding the cable around the terminal, respectively.
After connecting, post the polarity indication label near the terminals screw (A). (Tightening torque $5.0 \text{ N} \cdot \text{m} \sim 7.0 \text{ N} \cdot \text{m}$)
4. Mount the cover to the main body on circuit breaker equipped terminal plug, and then fix it with the setscrews.
5. Fasten the securing screw of the cable clamp to fix the cables.

Caution

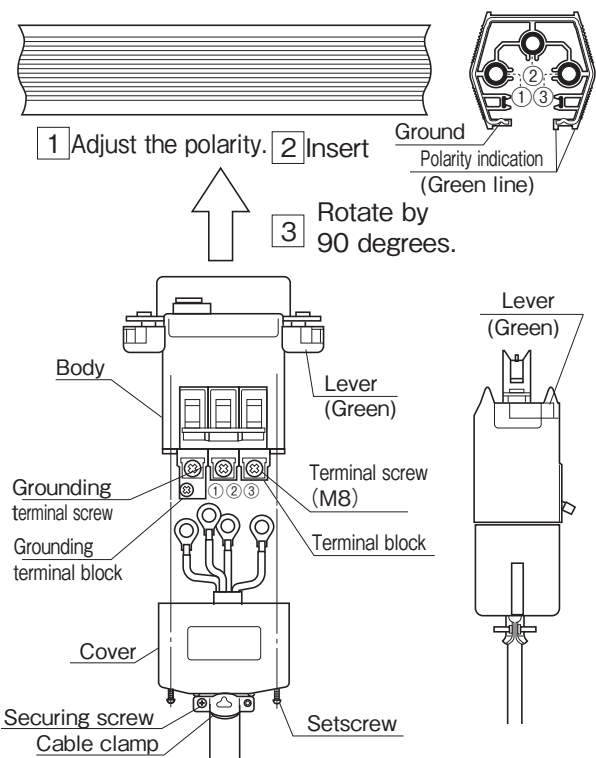
- Securely fasten the terminal screws.
- Do not use plugs (with an orange lever) for Factory Line 30.
- Do not mount the plug in the opposite direction.
Doing so may result in an electric shock or a fire.

Notes

- Use cables of 5.5 mm^2 to 14 mm^2 in size in accordance with load capacity.
- Connect a single core to the grounding terminal block by the use of a crimp-style terminal.

Mounting plug

- Put the lever (green) on each side of the duct in line with its polarity marking (green line), and then rotate it outwards by 90 degrees (until you feel a click).



Dismounting plug

- Pull down the lever on each side of the duct, and then rotate it wards by 90 degrees (until you feel a click) to pull out the plug.

1 Mounting fluorescent lighting fixture

Fixing clamp and fluorescent lighting plug

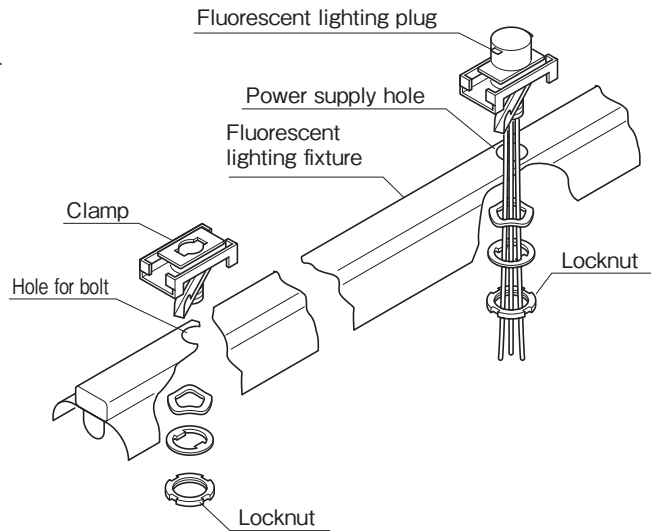
<Clamp>

As shown in the figure, put the clamp in the hole for bolt in the fluorescent lighting fixture, and then fasten the locknut to fix the clamp.

<Fluorescent lighting plug>

As shown in the figure, put the lighting plug in the hole for power supply cable, and then fasten the locknut to fix the plug.

※ The clamp and the fluorescent lighting plug come with a set of fluorescent lighting fixture.



Caution

- To connect the cable to unthreaded terminal, use bar type crimp-style terminal.

Not doing so may result in faulty cable connection, thus leading to a fire.

- Securely fasten the locknut.

Not doing so may result in a drop.

Mounting fluorescent lighting fixture to Factory Line duct

- Put the clamp and fluorescent lighting plug lever in line with the polarity indication (green line) of the duct.

Caution

- Do not mount the clamp in the opposite direction.

Doing so may result in an electric shock or a fire.

- Do not use plugs (with an orange lever) for Factory Line 30.

Doing so may result in an electric shock or a fire.

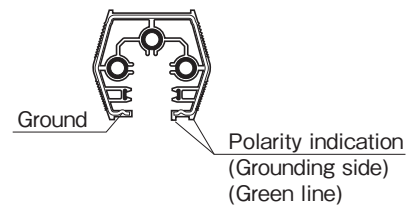
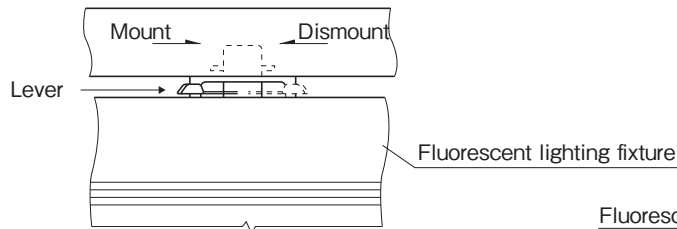
Fluorescent lighting plug and clamp lever handling method

<To mount>

Rotate clockwise until the lever no longer rotates.

<To dismount>

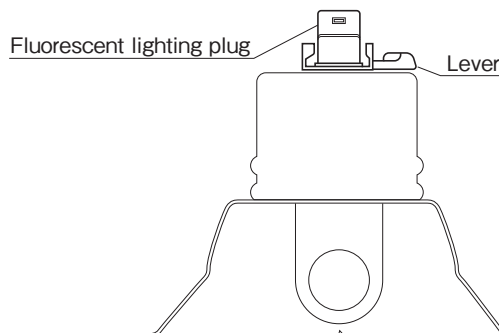
Rotate counterclockwise until the lever no longer rotates.



1 Adjust the polarity

2 Insert

3 Lever clockwise 90°



Caution

- Ensure proper lever handling.

Not doing so may result in a drop.

12 Mounting terminal plug with a remote-control circuit breaker equipped

Connecting cables

1. Remove the setscrews, and then dismount the cover.
2. Unfasten the cable clamp securing screw, and then put the cables in the cover.
3. Connect the electrical cable to the terminal block by the use of a crimp-style terminal or winding the cable around the terminal, respectively.
4. Mount the cover to the main body on the terminal plug with a remote-control circuit breaker equipped, and then fix it with the setscrews.
5. Fasten the securing screw of the cable clamp to fix the cables.

Notes

- Use cables of 3.5 mm² to 5.5 mm² in size.
- Connect a single core to the grounding terminal block.

Caution

- Use the terminal plug with a remote-control circuit breaker equipped at the operating voltage of 100V. (200V operating voltage is not available for this Product.)
- Securely fasten the terminal screws. Not doing so may result in a fire.
- Do not use plugs (with an orange lever) for Factory Line 30. Doing so may result in an electric shock or a fire.

Mounting plug

1. Put the plug with the lever (green) pulled down in the duct in line with its polarity indication (green line), and then rotate the plug clockwise by 90 degrees.
2. Pull up the plug lever, and then rotate it counterclockwise by 90 degrees.

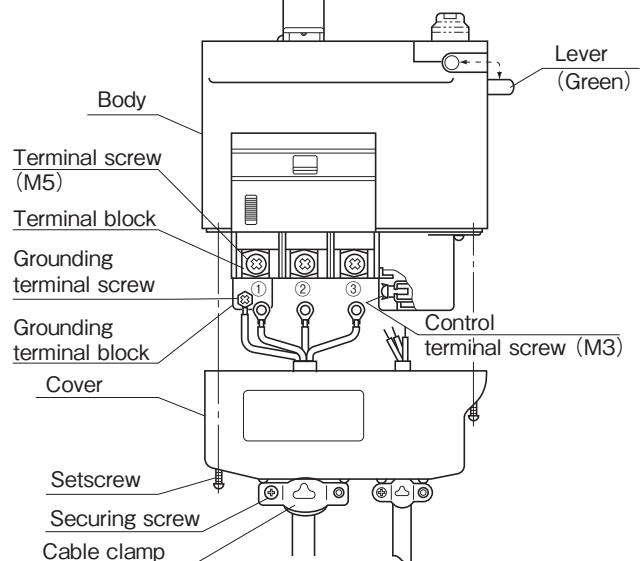
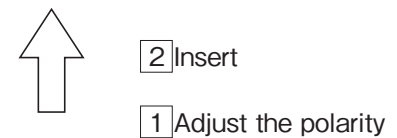
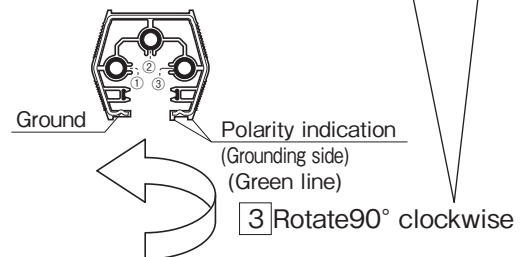
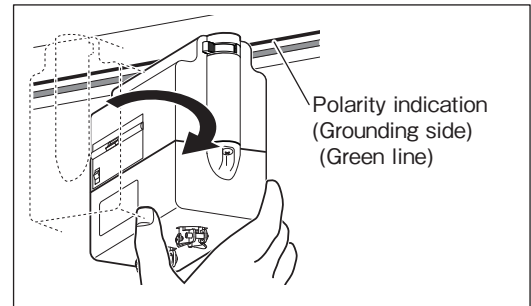
Caution

- Do not mount the clamp in the opposite direction. Doing so may result in an electric shock or a fire.
- Do not use plugs (with an orange lever) for Factory Line 30. Doing so may result in an electric shock or a fire.

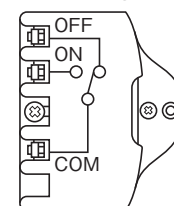
Dismounting plug

1. Rotate the plug lever clockwise by 90 degrees, and then pull it down.
2. Rotate the plug counterclockwise by 90 degrees.

Terminal plug with a remote-control circuit breaker equipped



Hand operation switch connection diagram



13 Mounting outlet plug

Mounting plug

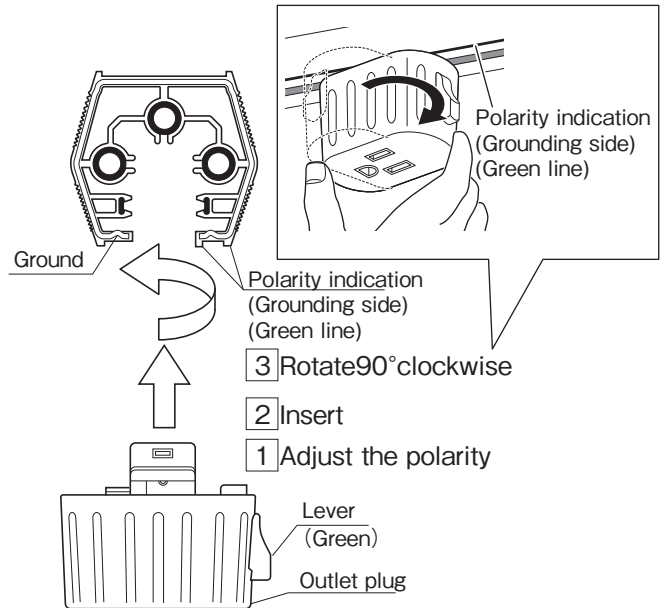
- Put the outlet plug lever in the duct in line with its polarity indication (green line), and then rotate the plug clockwise by 90 degrees.

Caution

- Do not mount the clamp in the opposite direction. Doing so may result in an electric shock or a fire.
- Do not use plugs (with an orange lever) for Factory Line 30. Doing so may result in an electric shock or a fire.

Dismounting plug

- Pull up the plug lever, and then rotate it counterclockwise by 90 degrees.



14 Mounting lighting plug (type B)

Connecting cables

1. Screw the lighting fixture setscrews in the plug cover, and then lock the setscrews with locknut or application of quick-drying adhesive.
2. Hitch lead wires on the end tension insulator to connect them to the terminal block (by the use of crimp-style terminal or winding the cables around the terminal).
3. Put the duct in the cover, and then fix it with setscrews.

Caution

- Securely fasten the terminal screws. Doing so may result in an electric shock or a fire.

Mounting plug

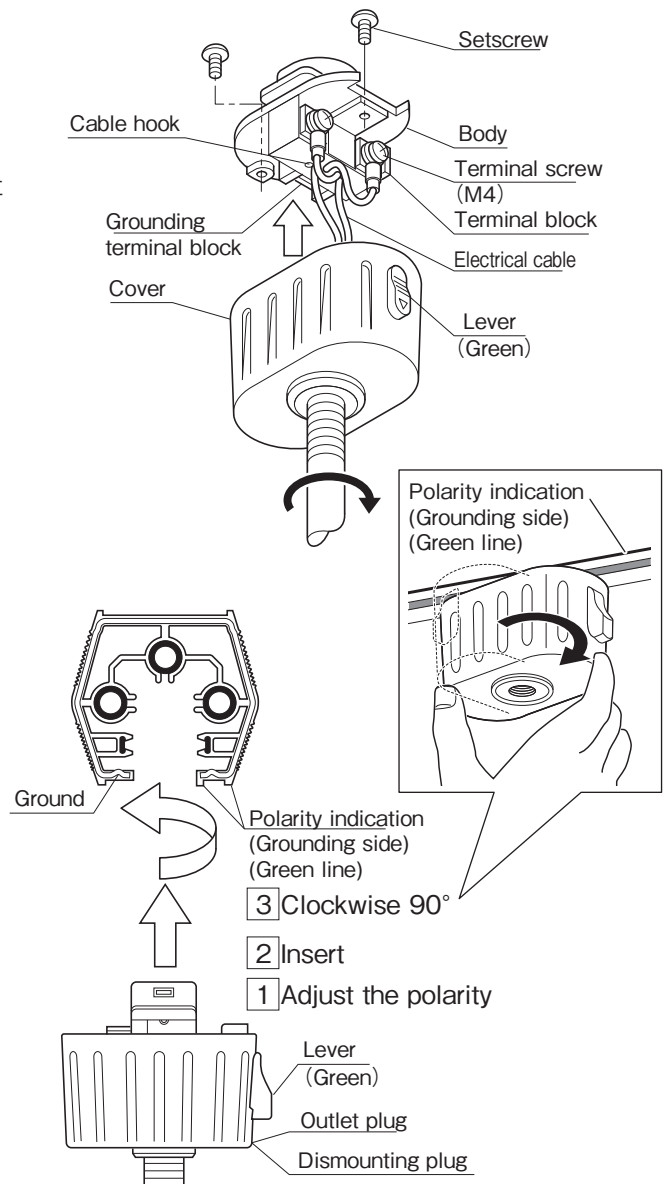
- Put the outlet plug lever in the duct in line with its polarity indication (green line), and then rotate the plug clockwise by 90 degrees.

Caution

- Do not mount the clamp in the opposite direction. Doing so may result in an electric shock or a fire.
- Do not use plugs (with an orange lever) for Factory Line 30. Doing so may result in an electric shock or a fire.

Dismounting plug

- Pull up the plug lever, and then rotate it counterclockwise by 90 degrees.



15 Mounting terminal plug B

Connecting electrical cables

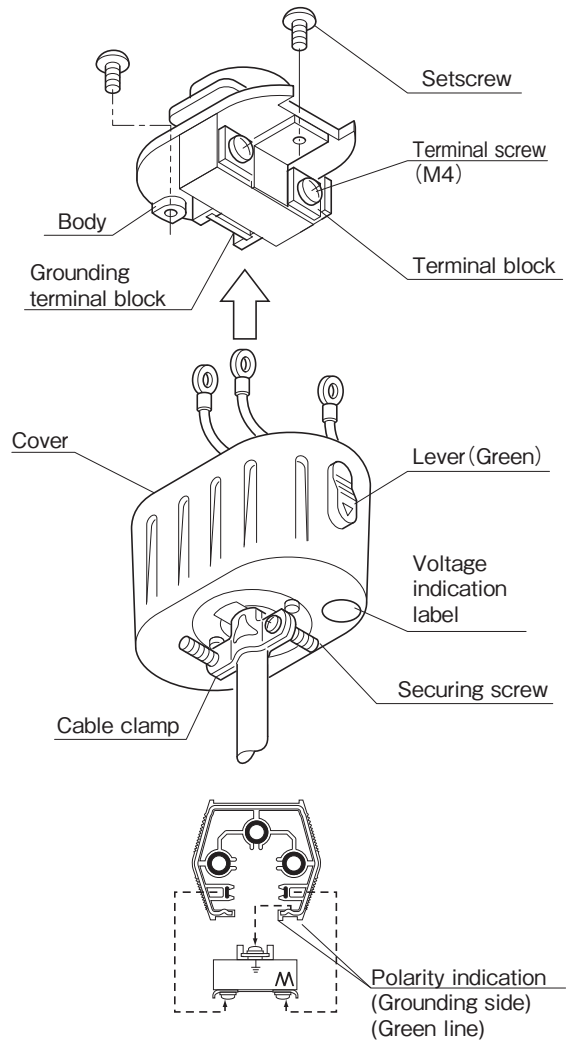
1. Remove the setscrews, and then dismount the cover.
2. Unfasten the cable clamp securing screw, and then put the electrical cable into the cover.
3. Connect the electrical cables to the terminal block by the use of a crimp-style terminal or winding the cable around the terminal, respectively.
4. Put the cover in the duct, and then fix it with the setscrews.
5. Fasten the setscrews of the cable clamp to fix the cables.

Caution

- Do not mount the clamp in the opposite direction.
- Securely fasten the terminal screws.
Doing so may result in an electric shock or a fire.

Notes

- Use cables of 0.75 mm² to 1.25mm² in size.
- Connect a single core to the grounding terminal block.
- To prevent improper use of operating voltage (100V or 200V) indicated in the operating voltage category, be sure to affix a voltage indication label, which comes with this product, to the bottom of the plug.



Mounting plug

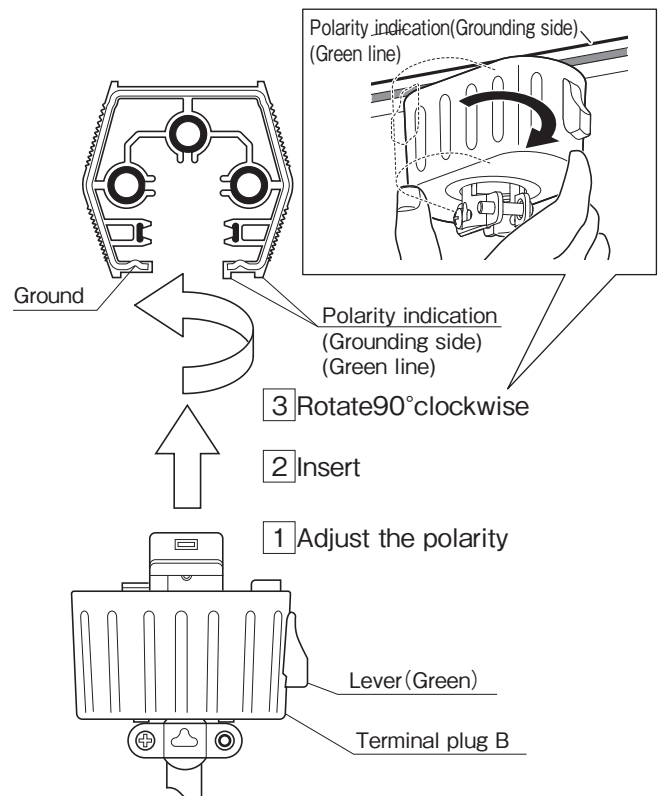
- Put the outlet plug lever in the duct in line with its polarity indication (green line), and then rotate the plug clockwise by 90 degrees.

Caution

- Do not mount the clamp in the opposite direction.
- Do not use plugs (with an orange lever) for Factory Line 30.
Doing so may result in an electric shock or a fire.

Dismounting plug

- Pull up the plug lever, and then rotate it counterclockwise by 90 degrees.



16 Procedure for mounting and using reeler outlet plug

Mounting reeler outlet

- To mount the reeler outlet, pull down the plug lever, and then rotate it clockwise by 90 degrees.

Caution

- Do not mount the clamp in the opposite direction. Doing so may result in an electric shock or a fire.
- Do not use plugs (with an orange lever) for Factory Line 30. Doing so may result in an electric shock or a fire.

Dismounting plug

- Pull up the plug lever, and then rotate it counterclockwise by 90 degrees.

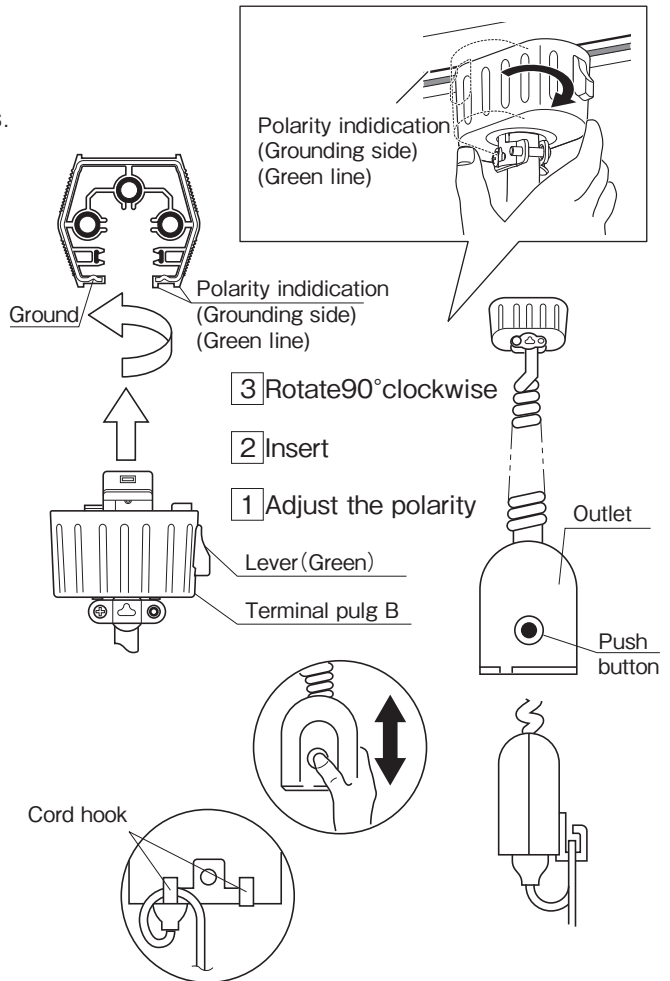
Up-and-down operation of outlet

(The outlet can expand and contract in the range of approximately 80 to 180 cm from the mounting surface.)

- Press the pushbutton to slightly pull up the main body of the outlet. It stops in a position in which the pushbutton is released.
- To return the main body to the original position, press and hold the pushbutton to push up the main body to a position to which you want to return it. (Releasing the pushbutton will stop it on the spot.)

Retaining the cap of fixture used

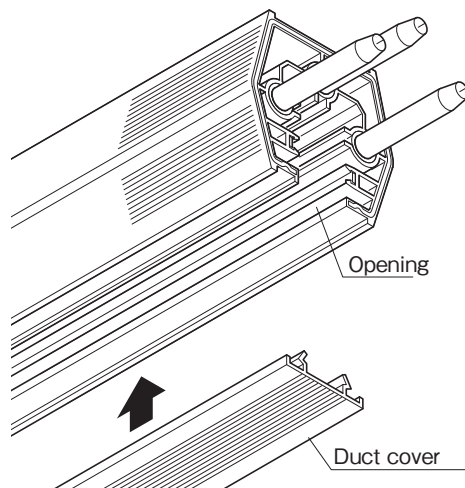
- Hitch the cord on the cord hook of the outlet to use the fixture.



17 Mounting duct cover

Mounting duct cover

- Push the duct cover into the opening of the duct.



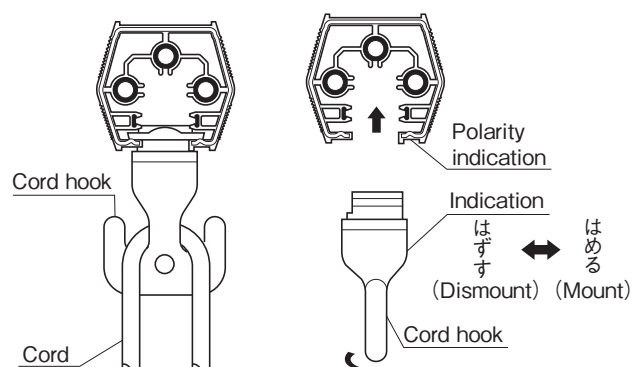
18 Mounting and using cord hook

Mounting cord hook

- Put the cord hook in the duct aligning the marking (Dismount) ← (Mount) on the hook with the polarity side of the duct, and then rotate the hook clockwise by 90 degrees.
- Hitch the cord as shown in the figure below.
- Hanging load shall be not more than 5 kg.

Dismounting cord hook

- To dismount the hook, rotate it counterclockwise by 90 degrees.



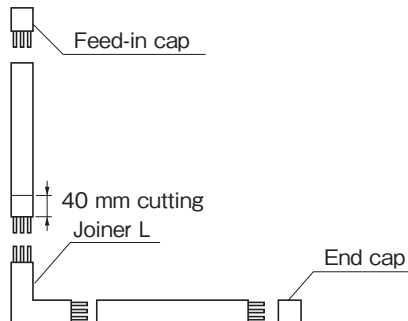
19 “L” shaped installation

To install Factory line 100 or 60 in a shape of “L”, use the Joiner L.

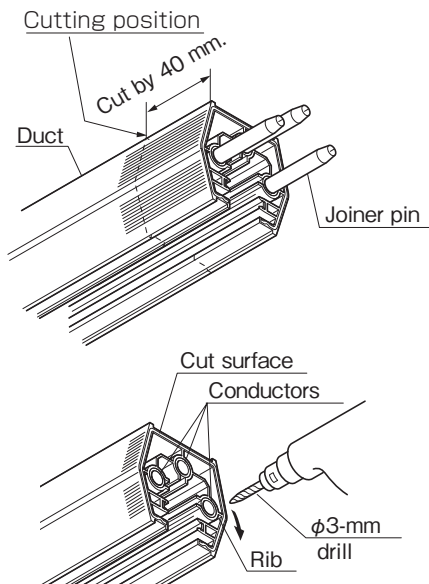
〈Factory Line 100〉

The Factory Line 100 duct needs to be cut.

■ L-shaped installation



● Cutting the duct



- Since joiner pins used for the duct connection are provided on each end of the Joiner L, the joiner pins side of the duct is not available for the connection. Consequently, cut the duct on the joiner pins side by 40 mm in length as shown in the figure.

Notes

- The Factory Line duct needs to be cut.
- Adjust the polarity of the duct.

- Cut the ribs (in three places) of the duct using a drill of $\phi 3$ mm in diameter (10 to 11 mm in depth).
- Thoroughly remove burrs and chips from the cut surface. (Be sure to chamfer the inner surface of the conductors in particular.)

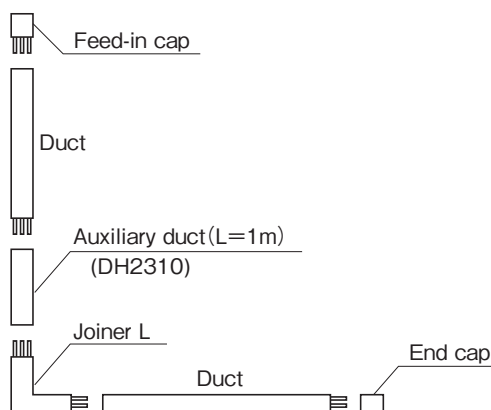
Notes

- Using a power saw may cause insulating coating to peel or burn.
- To cut the ribs, prevent the exposure of the conductors and cores. Cut by 10 or 11 mm in length from the cut surface.

〈Factory Line 60〉

The auxiliary duct unit (DH2310) is required. Do not cutting of the Fact-line 60 duct.

■ L-shaped installation



- Since joiner pins used for the duct connection are provided on each end of the Joiner L, use the auxiliary duct unit of 1 m in length to connect the ducts.

Notes

- The auxiliary duct unit (DH2310) is required. Cutting of the duct is not allowed.
- Adjust the polarity of the duct.