

MISUMI Conveyor Instruction Manual

Getting Started

Thank you very much for purchasing this product.

Please be sure to fully read this instruction manual before use to ensure user safety and correct use of it.

Please also be sure to keep this instruction manual.

1. Handling Precautions

■ Before using this product, please read the Handling Precautions carefully to ensure correct usage.

- Take care to avoid injury when unpacking the device. Also make sure that all the necessary parts are included.
- Use care as to not drop conveyor or get injured by the conveyor during transport. Furthermore, when hoisting it with a crane, etc., pay attention to the balance of the conveyor.
- Fix the belt conveyor securely in place.
- In order to prevent electric shocks, be sure to connect the ground wire. Additionally, be sure to attach a CE-compliant circuit breaker to the primary side of the device.
- Before connecting the power, make sure that the power and conveyor specifications (single-phase, three-phase, voltage) match.
- Perform the necessary inspections before use.
- Be sure to perform a test run and adjust the belt tension before running the conveyor.
- There are warning labels included with the conveyor. Be sure to affix them in a position that can be easily seen by the operators.
- Refer to the included Warning Label Manual regarding placement.

The warning labels for GV series conveyors are affixed in advance.

■ Precautions for Use

- Do not use our conveyors for the following purposes.
 - a) As equipment for medical purposes
 - b) As equipment for moving or transporting people
- Do not use the device in the following environments.
 - a) Places where it can get wet (it is not waterproof)
 - b) In an atmosphere with a risk of explosion (where there is combustible gas, dust, etc.)
- Touching moving parts during operation is dangerous. Attach a safety cover whenever necessary.
- Do not touch the motor during operation as it is hot. There is a risk of burns.
- Use within the specifications and transport capacity listed in the Catalog.
 - *When accumulating, the transport capacity is roughly half that of normal operation. Take appropriate care.
- Operating the conveyor in the reverse direction than the standard transport direction indicated by the "Catalog" is not covered by the product warranty.
- During use, be careful not to get your clothing or other personal items caught or entangled.
- Excessive impact on the body of the conveyor can cause damage.
- Do not touch electrical parts with wet hands. This can cause electrical shocks.
- Do not disassemble or modify this product in a way that affects its performance or function.
- When performing maintenance on the device, make sure that the power is off.
- Use a belt that satisfies the conditions of the objects being transported.
- When replacing the belt, pay attention to the transport direction when attaching it. (The belt has a mounting orientation.)
- When using a sliding belt, check the sliding direction.
- Do not start the conveyor with any objects on it. This may cause an overload and burn the motor.
- Do not put excessive tension on the belt. This may accelerate wear of the belt.
- Depending on usage conditions, the center and end portions of the belt may warp.
- Perform inspections of all screws once a year. (Screws may loosen due to vibration during operation.)
- As the [CVSSA] conveyor uses a thin stainless-steel belt, be careful not to touch the ends of the belt while it is rotating. There is a risk of injury.
- The performance of individual motor and gear headless conveyor, beltless conveyor, and self-kit conveyor parts is guaranteed, but the function of parts assembled by the customer cannot be guaranteed.



Shock hazard (1 pc)



High temperature (1 pc)



Entanglement hazard (2 pc)

2. Wiring

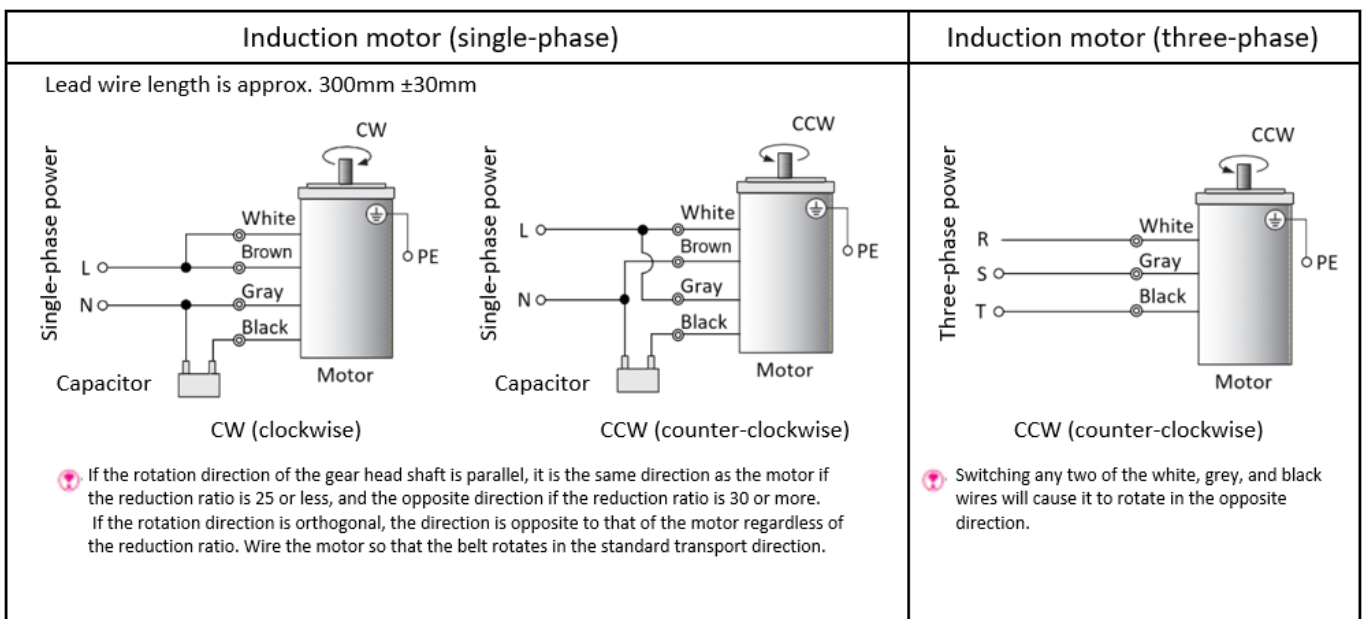
■ Precautions when Wiring

- When incorporating a conveyor into an automatic machine, etc., refer to wiring examples when creating the design.
- To prevent electrical shock, be sure to securely connect the ground wire under the supervision of the person in charge of electrical work.
- For the ground wire, use a wire size that meets EN60204-1 safety standards or has a resistance of 0.1Ω or less.
- Install a CE-compliant power shutoff device upstream from the conveyor.
- Install an emergency stop device so that the conveyor can be stopped immediately in case of an emergency.
- Take measures to prevent fraying of the core wires (reinforcement with solder, etc.).
- Make sure that the screws are properly tightened before supplying power.

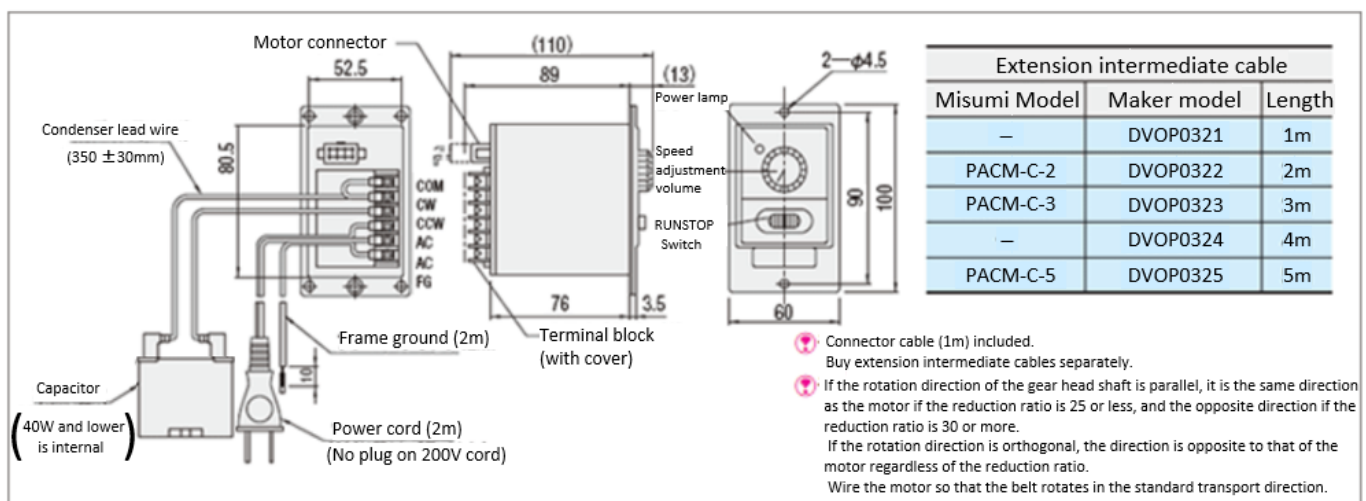
■ Motor Wiring Diagram (for Japan)

Motor Maker A (Panasonic Motor)

- Induction Motor Specifications Single-phase voltage: T100V, T200V, Three-phase voltage: S200V

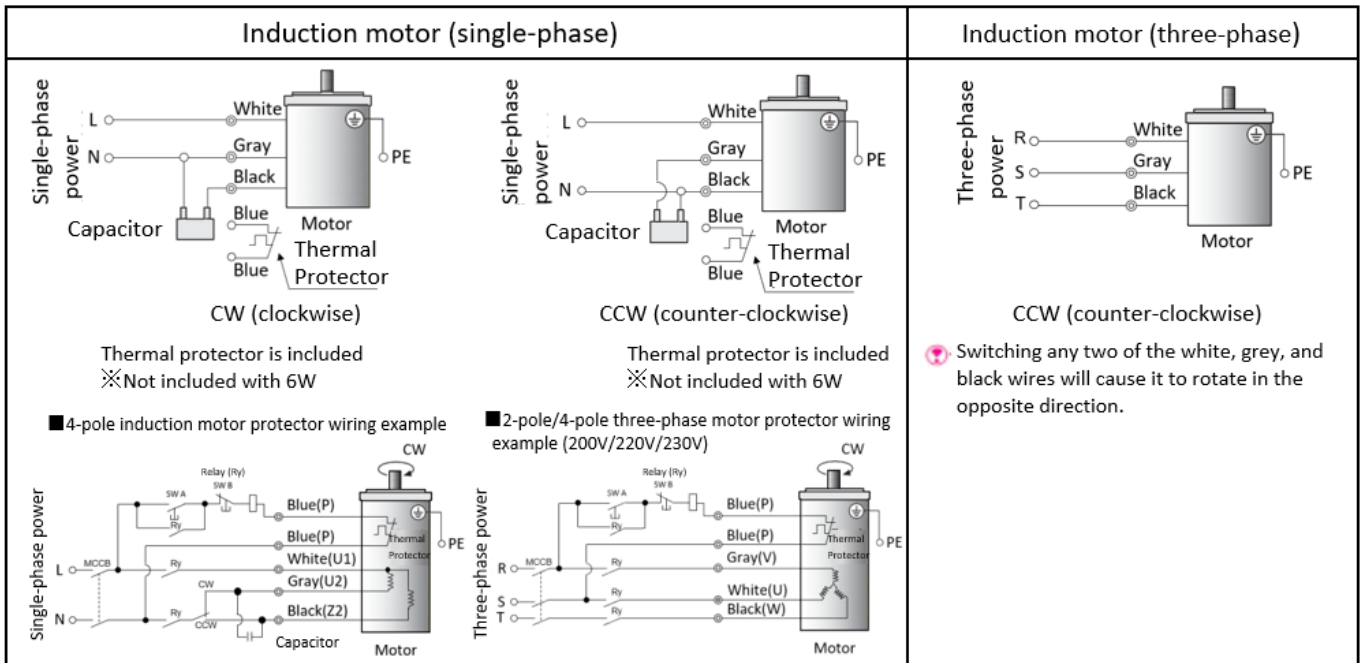


- Speed Controller Specifications Single-phase voltage: T100V, T200V

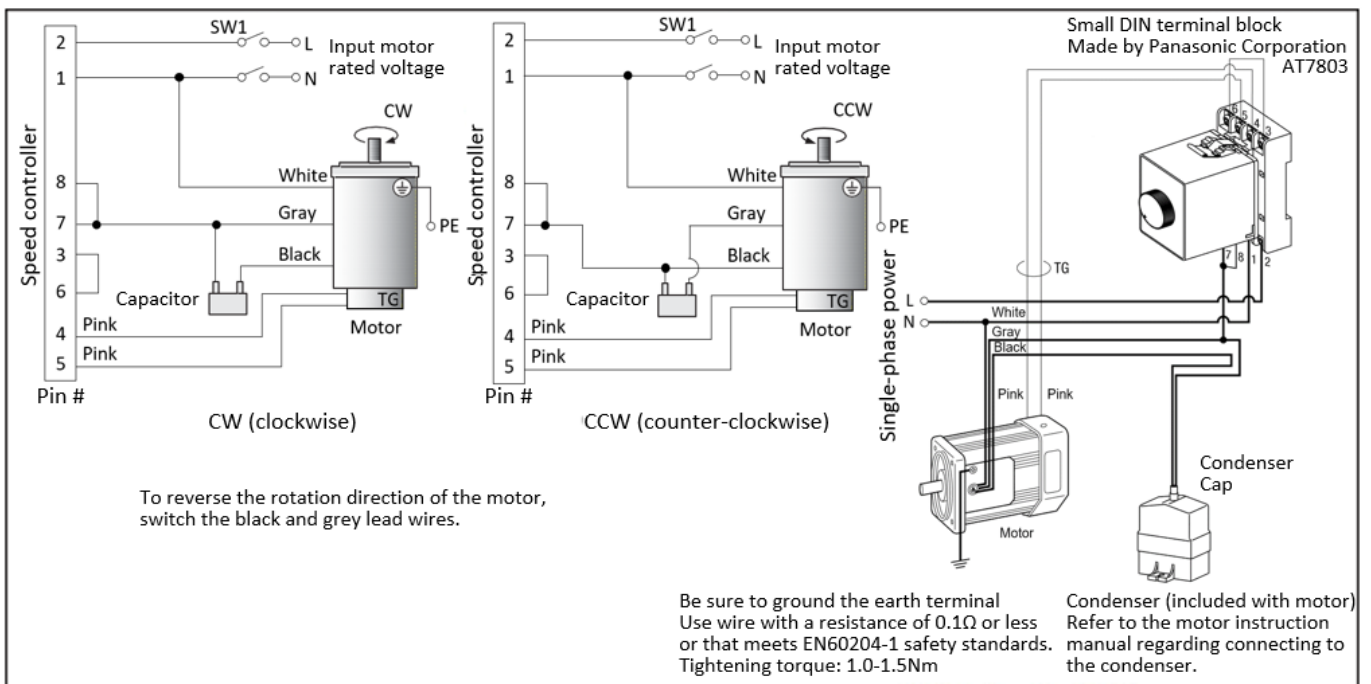


Motor Wiring Diagram (for abroad)

- Induction Motor Specifications Single-phase voltage: TA100V, TA110V, TA115V, TA200V, TA220V, TA230V
Three-phase voltage: SA200V, SA220V, SA230V



- Speed Controller Specifications Single-phase voltage: TA100V, TA110V, TA115V, TA200V, TA220V, TA230V



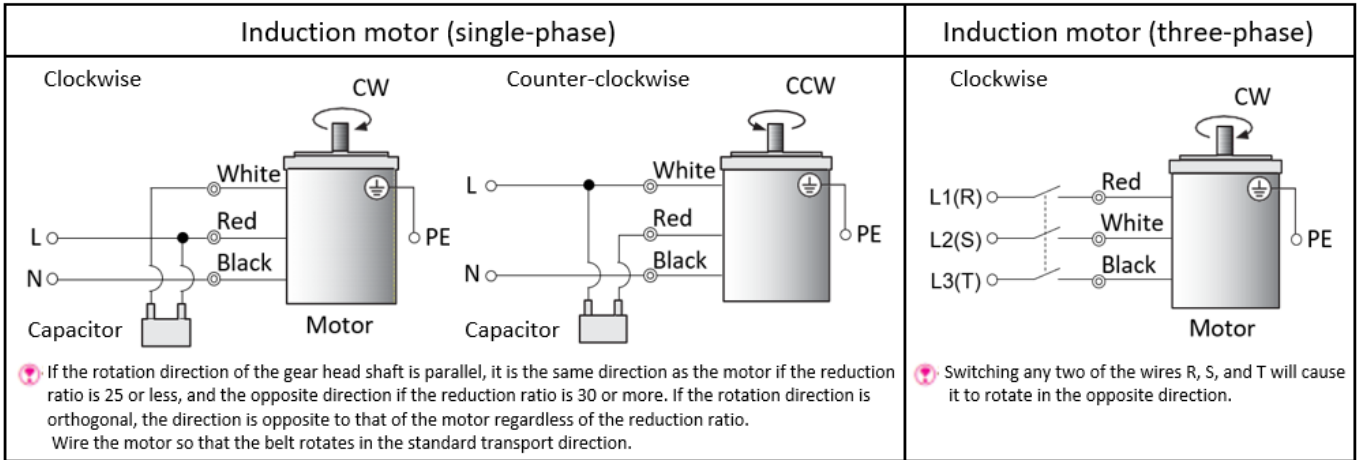
*Supplementary information

- Lead wire length is approx. 300mm ±30mm.
- To avoid malfunction caused by noise, attach a ferrite core (ZCAT3035-1330, made by TDK) to the motor wire, and wrap a shield tube (MLBF, made by Zippertubing Japan), and ground both ends to earth.
- CW: Clockwise (forward rotation) when viewed from the output shaft side; CCW: Counter-clockwise (reverse rotation) when viewed from the output shaft side.
- The speed control motor comes with a connector cable (1m). Extension cables can be ordered separately using the following model number.
Model number: PACM-C-□ (□ designates selectable length of 2, 3, or 5 meters)

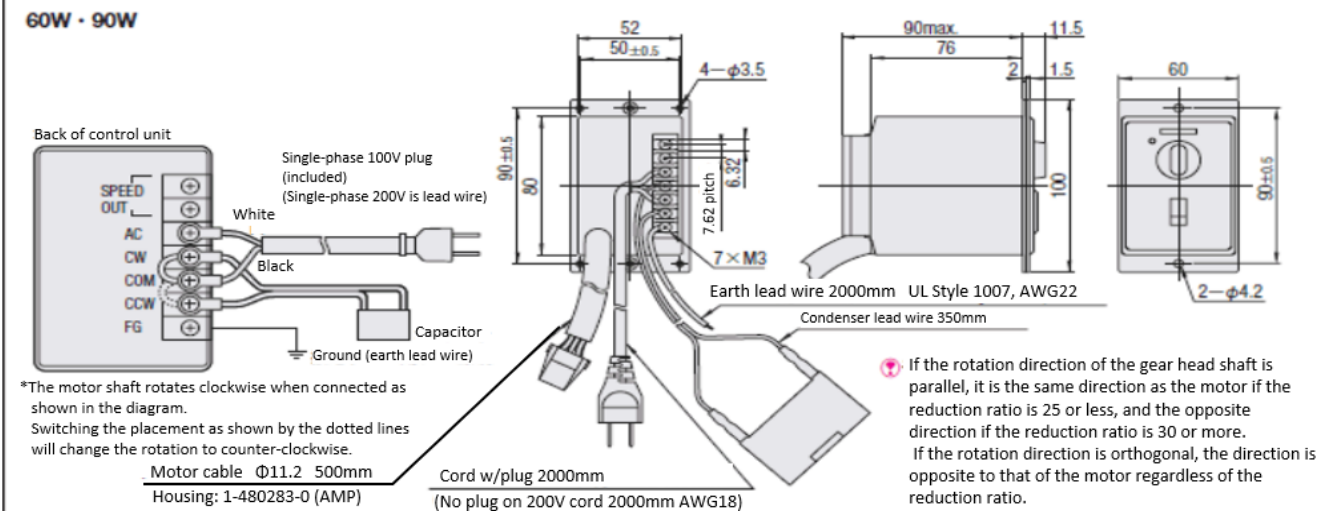
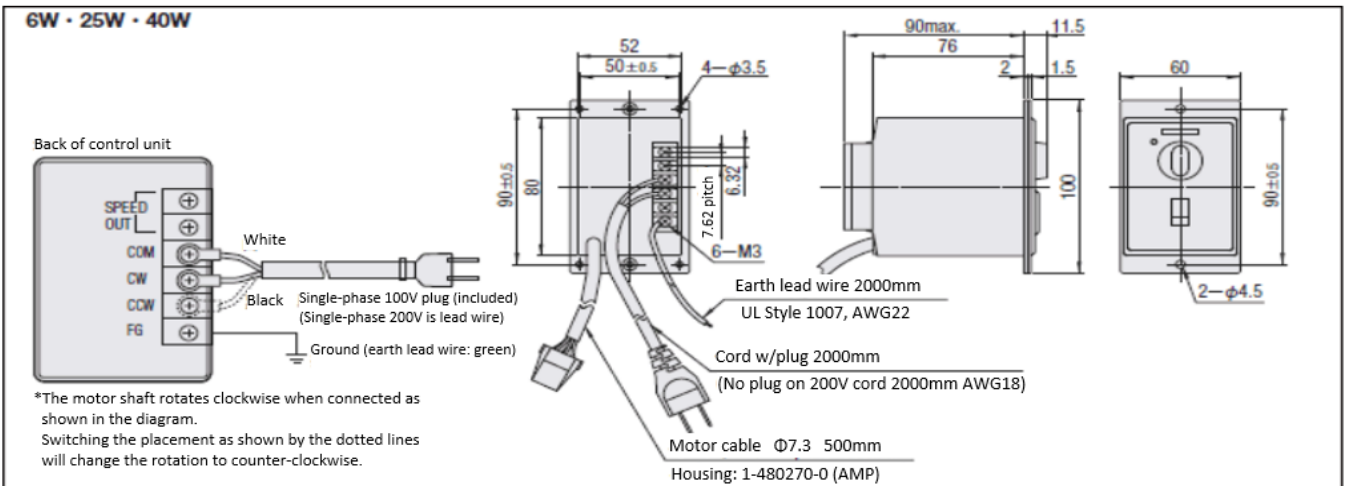
Motor Wiring Diagram (for Japan & abroad)

Motor Maker B (Oriental Motor)

- Induction Motor Specifications Single-phase voltage: T100V, T200V, Three-phase voltage: S200V
 Single-phase voltage: TA100V, TA110, TA115V, TA200V, TA220V, TA230V, Three-phase voltage: SA200V, SA220V, SA230V



- Speed Controller Specifications Single-phase voltage: T100V, T200V
 Single-phase voltage: TA100V, TA110V, TA115V, TA200V, TA220V, TA230V



Buy extension intermediate cables separately.

Motor Output	Extension Intermediate Cable Model			Length
	Single-phase 100V, Single-phase 200V	Single-phase 110/115V, Single-phase 220/230V		
6W	CC-1	CC01SU05		1m
	CC-2	CC02SU05		2m
25W	CC-3	CC03SU05		3m
	CC-4	CC03SU05		4m

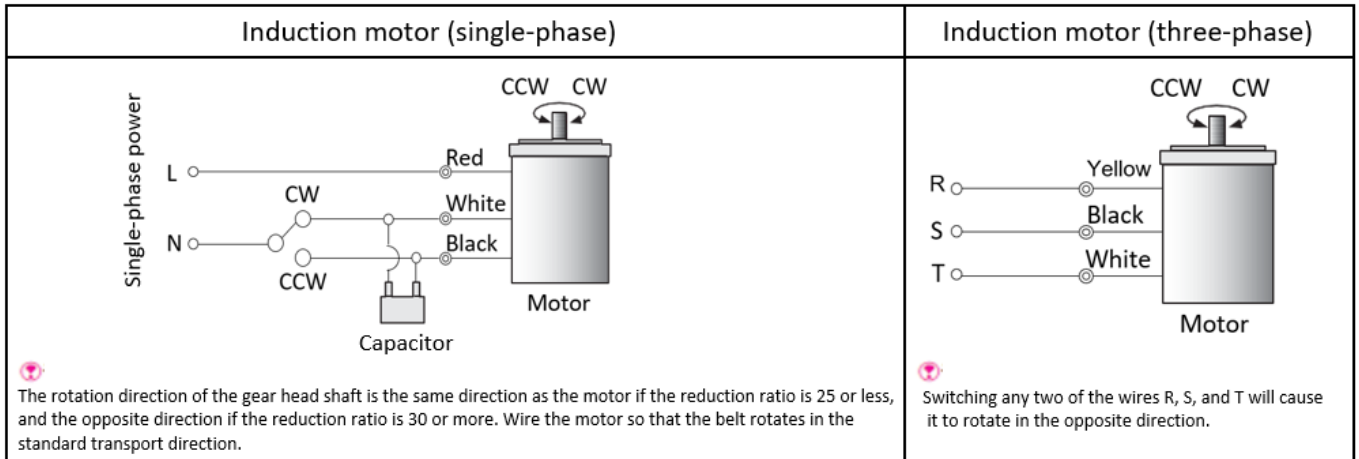
Motor Output	Extension Intermediate Cable Model			Length
	Single-phase 100V, Single-phase 200V	Single-phase 110/115V, Single-phase 220/230V		
60W	CC01S S2	CC01SU07		1m
	CC02S S2	CC02SU07		2m
90W	CC03S S2	CC03SU07		3m
	CC04S S2	CC03SU07		4m

***Supplementary information**

- Lead wire length is approx. 300mm ±30mm.
- To avoid malfunction caused by noise, connect an AC line filter (FN2070-10/06, made by Oriental Motor) to the power cable.
- CW: Clockwise (forward rotation) when viewed from the output shaft side; CCW: Counter-clockwise (reverse rotation) when viewed from the output shaft side.
- Buy extension intermediate cables separately.

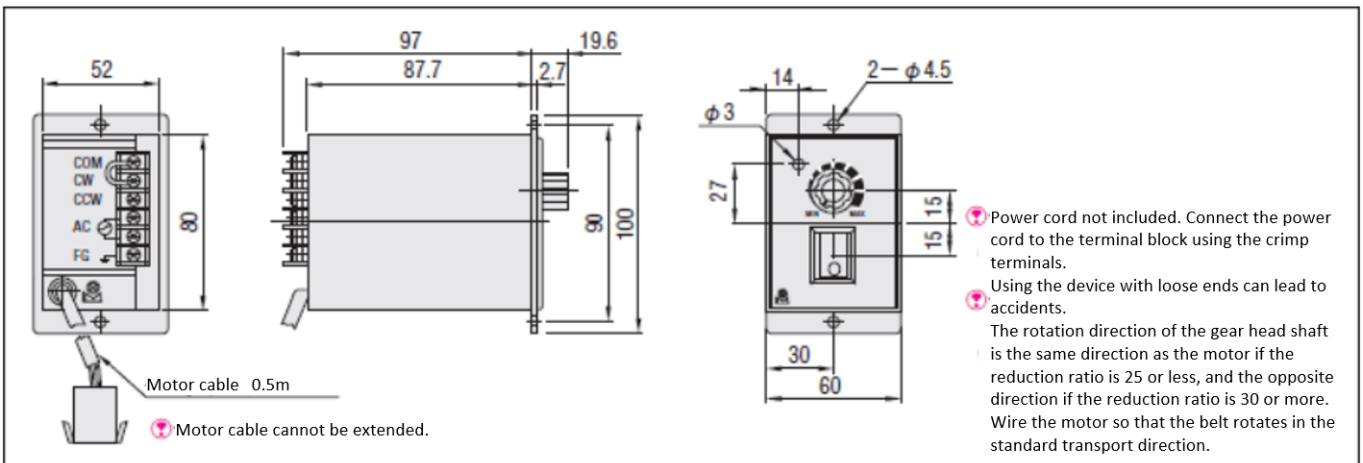
Motor Maker C (Taiwanese-made motors)

- Induction Motor Specifications Single-phase voltage: T100V, T200V, Three-phase voltage: S200V
Single-phase voltage: TA100V, TA110, TA115V, TA200V, TA220V, TA230V, Three-phase voltage: SA200V, SA220V, SA230V



• CW: Clockwise (forward rotation) when viewed from the output shaft side; CCW: Counter-clockwise (reverse rotation) when viewed from the output shaft side.

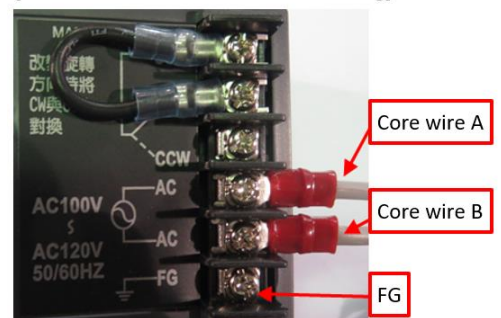
- Speed Controller Motor Specifications (Taiwanese-made motors) Single-phase voltage: T100V, T200V
Single-phase voltage: TA100V, TA110V, TA115V, TA200V, TA220V, TA230V



***Supplementary information**

- Lead wire length is approx. 300mm ±30mm
- CW: Clockwise (forward rotation) when viewed from the output shaft side; CCW: Counter-clockwise (reverse rotation) when viewed from the output shaft side.
- We do not offer extension intermediate cables.
- Taiwanese-made speed controllers do not come with an earth wire included. Supply your own earth wire. Connect the earth wire to the part labeled "FG" in the "Photo of Taiwanese-made motor wiring".
- When wiring, use the crimp terminals and make sure that core wires A and B are fixed securely in place as shown in "Photo of Taiwanese-made motor wiring" to the right and are not in contact with one another before turning on the power.

[Photo of Taiwanese-made motor wiring]

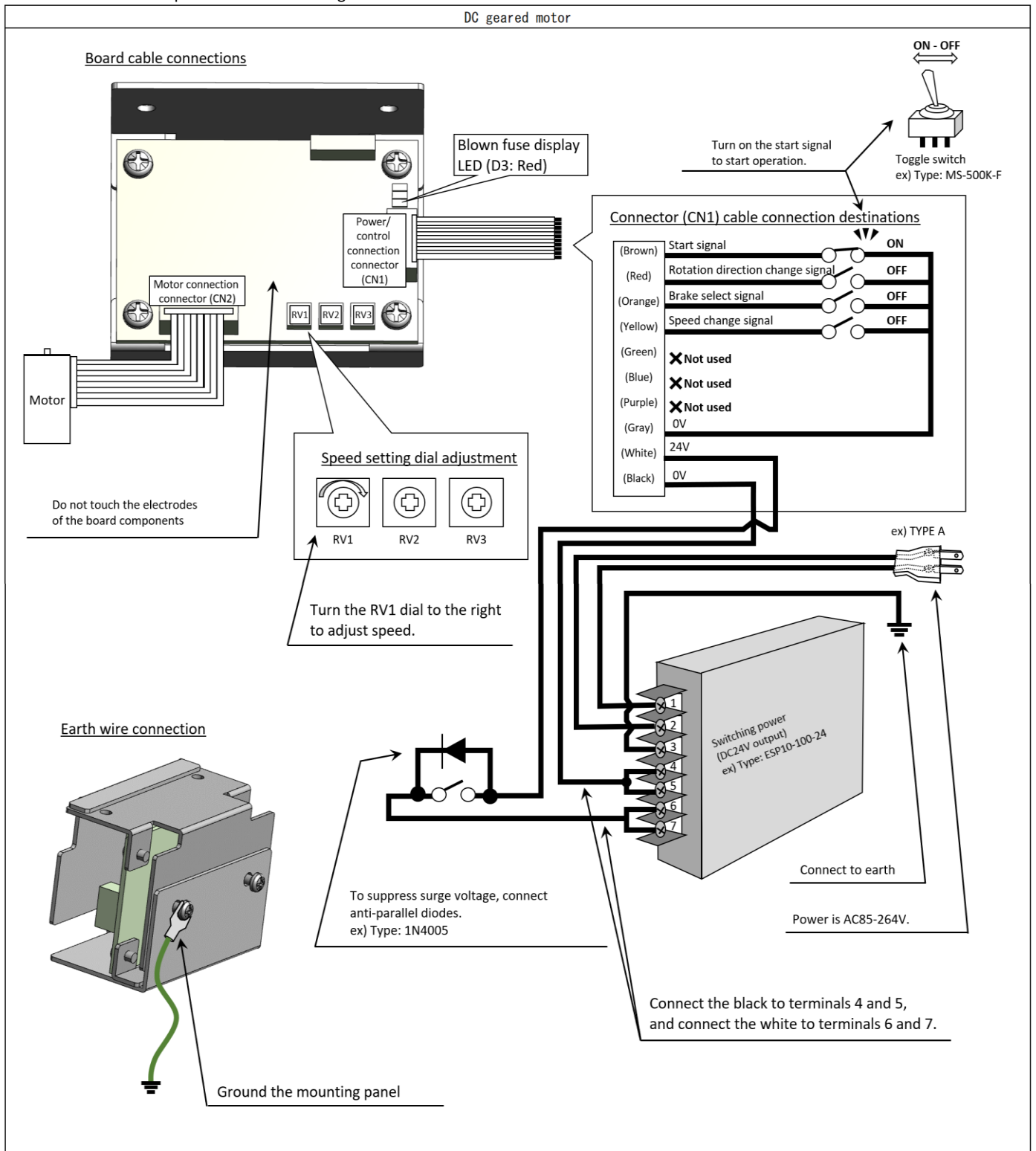


*Make sure that core wires A and B are not in contact with one another.

Motor Wiring Diagram (for Japan)

Motor Maker DA (Tsukasa Electric Motor)

- DC Geared Motor Specifications DC voltage: DC24V



*Supplementary information

- Power/control connection connector (CN1) cable length is 500mm ±20mm.
- Motor cable length is approx 500mm ±20mm.
- We do not offer extension intermediate cables.
- An earth wire is not included. Supply your own earth wire.
- To avoid malfunction caused by noise, attach a ferrite core (ZCAT3035-1330, made by TDK) to the power/control cable.
- When using an extension cable, use one with a length no more than 3 meters.
- When extending the motor cable, wrap it with an exterior coating so that it does not come loose. To avoid malfunction caused by noise, wrap a shield tube (MLBF, made by Zippertubing Japan), and ground both ends to earth.
- To avoid malfunction and damage to driver parts due to static electricity, ground the mounting panel attached to the board as shown on the earth wire connection diagram.
- If the power polarity is incorrect, there is a risk of damage occurring. Make sure that the adjacent wiring is not in contact with one another before turning on the power.
- Do not connect or disconnect the connector while the power is on, as it may lead to abnormal operation.
- Applying excessive force to connectors may cause problems such as the cables to become unattached, contact pins to disconnect, and poor contact with the connector solder. Use cable clamps, etc. to ensure that the wiring has a suitable amount of length.
- The included cables are for in-board wiring. Do not use them with moving parts.

Motor Wiring Diagram (for Japan)

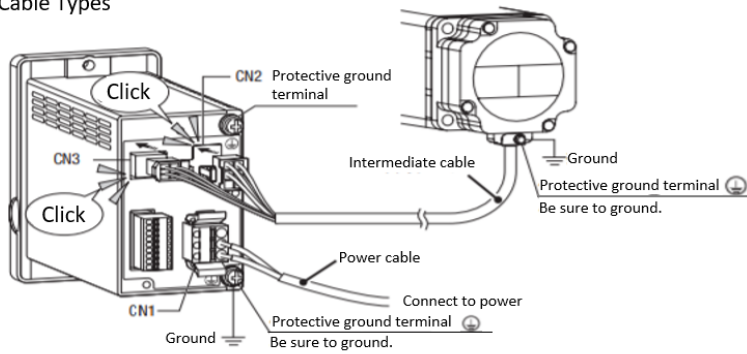
Motor Maker B (Oriental Motor)

- AC Brushless Motor Specifications Single-phase voltage : T100V, T200V, Three-phase voltage : S200V

■ Motor (30W, 60W)

The brushless motor-equipped conveyor includes a brushless motor, controller, intermediate cable (1m), and power cable (2m).

■ Cable Types



Extension intermediate cable	
Maker model	Length
CC01BL2	1m
CC02BL2	2m
CC03BL2	3m
CC05BL2	5m
CC07BL2	7m
CC10BL2	10m

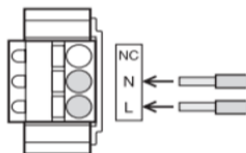
An intermediate cable (1m) is included. Buy extension intermediate cables separately. If using extension cables, keep the total length within 10.5 meters.

Connect the intermediate cable motor connector (white) to CN2 and the sensor connector (black) to CN3.

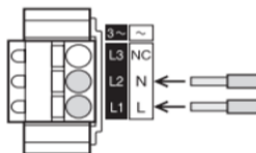
◇ Main power connector (CN1)

Connect the main power. Connect power that uses the same voltage as is to be used.

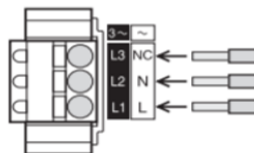
• Single-phase 100-120V



• Single-phase 200-240V



• Three-phase 200-240V

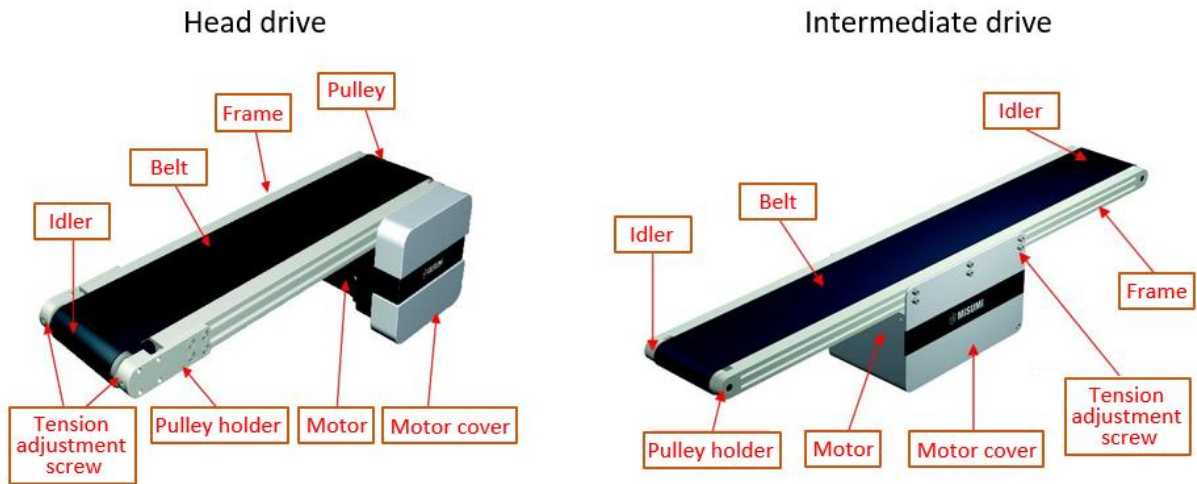


Applicable lead wire size
AWG18-14 (0.75-2.0mm²)

Motor		Controller Model	Motor & Gear Head Model	Connecting cable	Power cable
Output	Specifications	Maker model	Maker model	Maker model	Maker model
30W	Brushless motor	Single-phase 100V-120V	BLM230-□B (□: Gear head reduction ratio)	CC01BL2 (1m)	CC02AC03N (2m)
		Single-phase 200V-240V			CC02AC04N (2m)
		Three-phase 200V-240V			BMUD30-A2
60W	Brushless motor	Single-phase 100V-120V	BLM460S-□B (□: Gear head reduction ratio)	CC01BL2 (1m)	CC02AC03N (2m)
		Single-phase 200V-240V			CC02AC04N (2m)
		Three-phase 200V-240V			BMUD60-A2

3. Configuration

Example configuration diagrams are shown below.



*Only the major components are labeled in the diagrams above.

4. Operation

Power specifications can be selected from the following: for Japan: single-phase AC100V, 200V; three-phase AC200V; for abroad: AC100V, 110V, 115V, 200V, 220V, 230V, three-phase AC200V, 220V, 230V. Products are shipped unwired.

Be sure to have a qualified technician run the wiring and connect to each voltage outlet or control panel to start the conveyor.

*Be sure to always use the specified power voltage. Never use with a different voltage.

5. Maintenance

■ Maintenance Parts

The model numbers of maintenance parts for the conveyor you purchased can be easily checked and purchased on the MISUMI website.

MISUMI Conveyor Selection Website

<http://jp.misumi-ec.com/maker/misumi/mech/product/cvs/> (Japan)

<http://cn.misumi-ec.com/maker/misumi/mech/product/cvs/> (China)

<https://kr.misumi-ec.com/maker/misumi/mech/product/cvs/> (Korea)

<http://us.misumi-ec.com/maker/misumi/mech/product/cvs/> (USA)

*When replacing parts, be sure to select parts with the same model numbers as the specifications of the conveyor you are using.

Motors, belts, etc. are available for purchase from our product catalog.

*If the product is modified by the customer, the function is not covered by the warranty, and the safety certification (CE mark) is not applicable.

■ Points of Caution During Maintenance

- Before performing maintenance, make sure that the main power is turned off.
- Do not apply more tension to the belt than necessary. Continuing to operate the conveyor with excessive tension applied to the belt may cause deterioration of the belt and damage to the pulley bearings.
- When adjusting meandering of the belt, also take into consideration the tension of the belt.
- If you have selected a device with meandering prevention crosspiece, adjust the meandering so that the crosspiece does not come into direct contact with the pulley, belt holder, etc.
If the conveyor continues to meander, there is a risk of the cross-welded portion on the underside of the belt tearing.
- Perform regular cleaning of the conveyor before operating it.
- Be sure to adjust the belt tension a little bit at a time, alternating between left and right. Continuing to turn tension adjustment screws on only one side will cause the belt to suddenly shift to one side and come into contact with the pulley holder, guide, etc., causing the belt to become scratched or frayed.

■ Maintenance Material Search

Conveyor Selection Website

<http://jp.misumi-ec.com/maker/misumi/mech/product/cvs/> (Japan)

<http://cn.misumi-ec.com/maker/misumi/mech/product/cvs/> (China)

<https://kr.misumi-ec.com/maker/misumi/mech/product/cvs/> (Korea)

<http://us.misumi-ec.com/maker/misumi/mech/product/cvs/> (USA)

■ Belt Replacement

A video about belt replacement methods is available (for PC)

Conveyor Selection Website: Belt Replacement

<http://jp.misumi-ec.com/maker/misumi/mech/product/cvs/> (Japan)



6. Specifications & Environmental Conditions

6-1. Induction Motor/Speed Controller Motor

Output	6W, 25W, 40W, 60W, 90W
Rated voltage	Single-phase 100V, 110V, 115V, 200V, 220V, 230V Three-phase 200V, 220V, 230V
Working voltage range	±10% (against rated voltage) *1
Power frequency	50Hz/60Hz
Speed control range*2	90-1400min ⁻¹ (50Hz) 90-1700min ⁻¹ (60Hz)
Speed fluctuation	5% (standard value)
Speed setting	Set by volume (analog setting)
Working temperature range	-10°C-40°C
Storage temperature range	-20°C-60°C
Working humidity range	85%RH or less (no condensation)

*1: ±10% is the fluctuation range of the power voltage not the voltage that can be used at all times.

*2: Some differences may occur depending on motor maker.

*The sound pressure level of the noise generated by this device is 75dB (A) or less.

6-2. DC Geared Motor

Output	3.5W
Rated voltage	DC24V
Working voltage range	±10% (against rated voltage) *1
Speed control range	200-6900min ⁻¹
Speed fluctuation	5% (standard value)
Speed setting	Set by volume (analog setting)
Working temperature range	0°C-40°C
Storage temperature range	-10°C-60°C
Working humidity range	85%RH or less (no condensation)

*1: ±10% is the fluctuation range of the power voltage not the voltage that can be used at all times.

*The sound pressure level of the noise generated by this device is 75dB (A) or less.

6-3. Brushless Motor

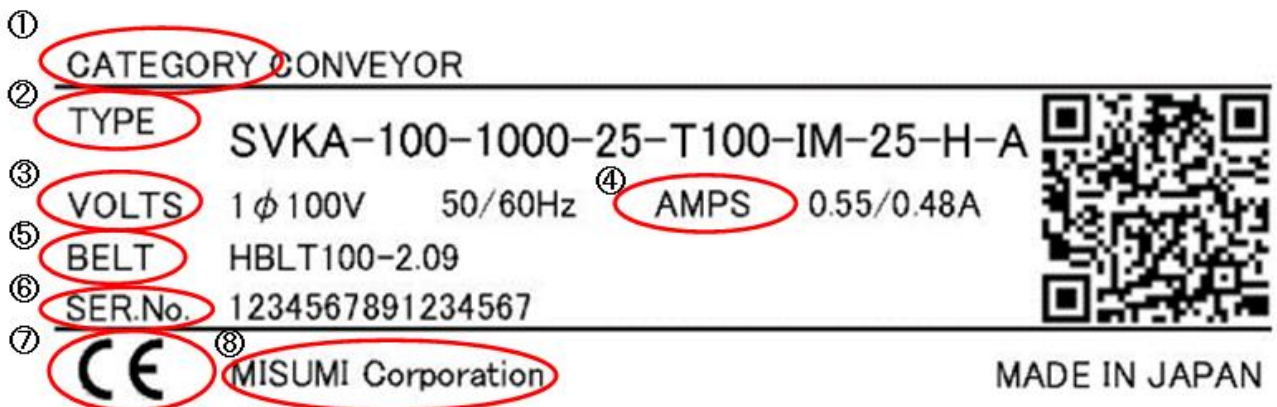
Output	30W, 60W
Rated voltage	Single-phase 100V, 200V, Three-phase 200V
Working voltage range	±10% (against rated voltage) *1
Power frequency	50Hz/60Hz
Speed control range	80-4000min ⁻¹ (50Hz/60Hz)
Speed fluctuation	5% (standard value)
Speed setting	Set by dial (digital setting)
Working temperature range	0°C-40°C
Storage temperature range	-20°C-70°C
Working humidity range	85%RH or less (no condensation)

*1: ±10% is the fluctuation range of the power voltage not the voltage that can be used at all times.

*The sound pressure level of the noise generated by this device is 75dB (A) or less.

■ Name Plate Label Display Contents

- ① Product Category ③ Voltage [V] ⑤ Belt Model ⑦ CE Mark (applicable models only)
- ② Model Number ④ Current [A] ⑥ Order Number ⑧ Manufacturer/Sales



Contact for technical questions:

MISUMI Corporation
Supplier Support
Iidabashi First Bldg., 5-1, Koraku 2-chome, Bunkyo-ku, Tokyo, 112-8583 Japan
<https://jp.misumi-ec.com/worldwide/>

February 2021. ver. 06