

MODEL H8PS
CAM Positioner

English INSTRUCTION MANUAL

Thank you for purchasing this OMRON product. This INSTRUCTION MANUAL describes the information such as function, performance, and how to use the product required for using the product.

- Please operate the product by the qualified specialist having the electrical know how.
- Read this instruction manual with enough, and use the product with enough understanding.
- Keep this instruction manual close at hand and use it for reference during operation.

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Refer to the H8PS User's Manual (Cat. No. Z199) for details.

Safety Precautions

Definition of Precautionary Information

CAUTION Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.

Precautionary Information

- CAUTION** Tighten terminal screws to a torque of 0.6 to 0.8 N·m so that they do not become loose. Minor fires may occasionally occur.
- Do not allow wire clippings, shavings, or other foreign material to enter any Unit. Otherwise, Unit burning, failure, or malfunction may occur. Cover the Units or take other suitable countermeasures, especially during wiring work.
- Do not allow foreign matter to enter the openings in the Unit. Doing so may result in Unit burning, electric shock, or failure.
- Do not disassemble, modify, or repair the Positioner or touch any of the internal parts. Minor electric shock, fire, or malfunction may occasionally occur.
- Do not allow metal fragments, lead wire scraps, or chips from processing during installation to fall inside the Positioner. Otherwise minor electric shock, fire, or malfunction may occasionally occur.
- Do not touch the terminals when power is being supplied. For Surface-mounting Positioners, always connect the terminal cover after completing wiring. Otherwise minor injury due to electric shock may occasionally occur.

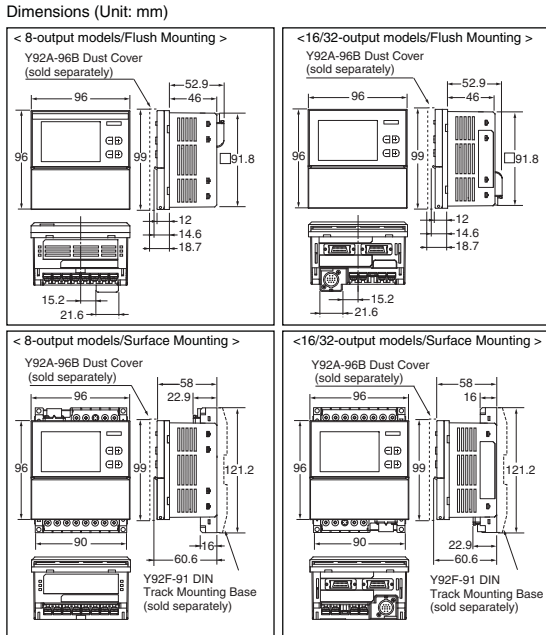
Precautions for Safe Use

- To ensure safety, please observe the following.
- Store the Positioner within the specified ratings. If the Positioner has been stored at -10°C or lower, let it stand for 3 hours or longer at room temperature before turning ON the power supply.
 - Use the Positioner within the specified ratings for the ambient operating temperature and humidity.
 - Do not use in the following locations:
 - Locations subject to sudden or extreme changes in temperature
 - Locations where high humidity may result in condensation
 - Do not use the Positioner in locations subject to vibration or shock. Extended use in such locations may result in damage due to stress.
 - Do not use the Positioner in locations subject to excessive dust, corrosive gas, or direct sunlight.
 - Install the Positioner well away from any sources of static electricity, such as pipes transporting molding materials, powders, or liquids.
 - The Positioner is not waterproof or oil resistance. Do not use it in locations subject to water or oil.
 - The life expectancy of internal components may be reduced if Positioners are mounted side-by-side.
 - Do not use organic solvents (such as paint thinners or benzene), strong alkali, or strong acids. They will damage the external finish.
 - Install a switch or circuit breaker that allows the operator to immediately turn OFF the power, and label it to clearly indicate its function.

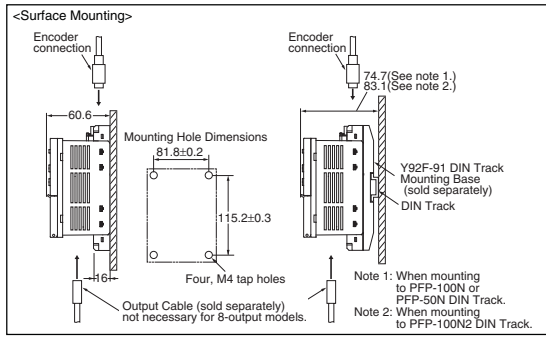
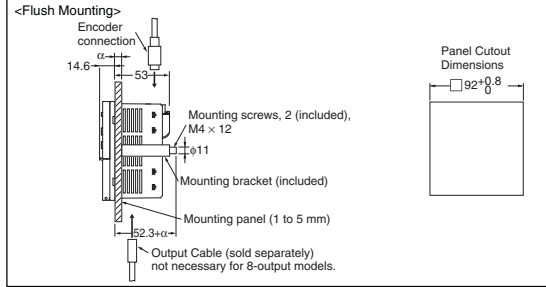
- Wire terminal polarity correctly.
- Do not connect more than two crimp terminals to the same terminal.
- Use the specified wires for wiring.
 - Applicable Wires: AWG24 to AWG18 (cross-sectional area of 0.208 to 0.823 mm²)
 - Solid or twisted wires of copper
- Do not connect loads that exceed the rated output current. The output elements may be destroyed, possibly resulting in short-circuit or open-circuit faults.
- Always connect a diode to protect against counterelectromotive force when using an inductive load. Counterelectromotive force may destroy output elements, possibly resulting in short-circuit or open-circuit faults.
- Use the specified cables to connect outputs.
- Do not install input lines in the same duct or conduit as power supply or other high-voltage lines. Doing so may result in malfunction due to noise. Separate the input lines from high-voltage lines.
- Input elements may be destroyed if a voltage outside the rated voltages is applied.
- Maintain voltage fluctuations in the power supply within the specified operating voltage range.
- Use a switch, relay, or other contact so that the rated power supply voltage will be reached within 0.1 second. If the power supply voltage is not reached quickly enough, the Positioner may malfunction or outputs may be unstable.
- Do not turn OFF the power supply when changing or deleting settings. The contents of the EEPROM may be corrupted.

Mounting Methods

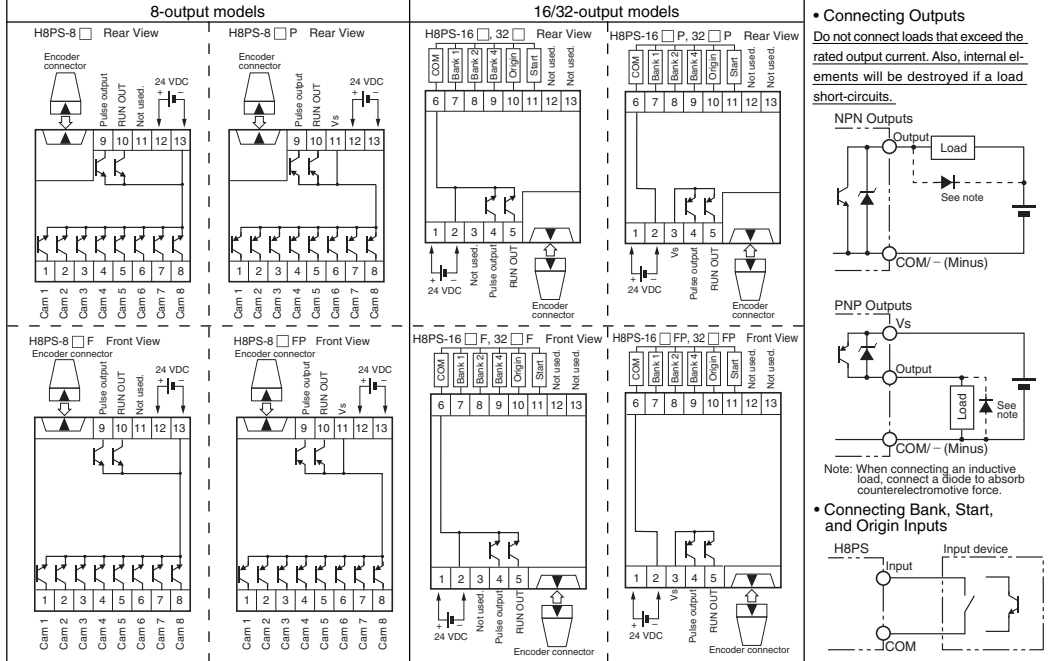
Mounting and Panel Dimensions



Installation Diagrams (Unit: mm)
An 8-output model is shown below. The encoder cable connects to the bottom of 16/32-output models.



Terminal Layout



Connecting Output Cables (sold separately) (Positioners with 16/32-output models Only)

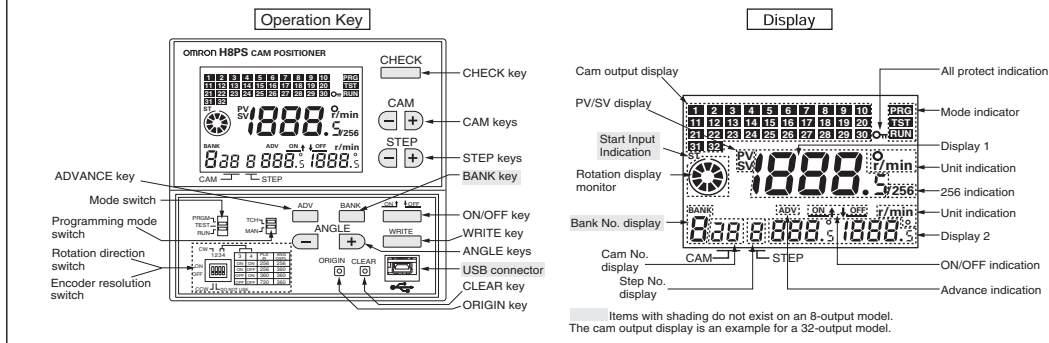
Output Cable Connections (sold separately) (16/32-output models Only)

Wire Color	Mark	Mark Color	Wire Color	Mark	Mark Color
Cam 1 (17)	Orange	Black	Cam 9 (25)	Orange	Red
Cam 2 (18)	Grey	Black	Cam 10 (26)	Grey	Red
Cam 3 (19)	White	Black	Cam 11 (27)	White	Red
Cam 4 (20)	Yellow	Black	Cam 12 (28)	Yellow	Red
Cam 5 (21)	Peach	Black	Cam 13 (29)	Peach	Red
Cam 6 (22)	Orange	Black	Cam 14 (30)	Orange	Red
Cam 7 (23)	Grey	Black	Cam 15 (31)	Grey	Red
Cam 8 (24)	White	Black	Cam 16 (32)	White	Red
COM	Yellow	Black	COM	Yellow	Red
Vs	Peach	Black	Vs	Peach	Red

Connecting Bank, Start, and Origin Inputs

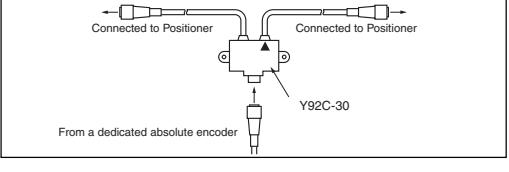
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COM	Yellow	Black	COM	Yellow	Red
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Names of Front Parts



Precautions for Correct Use

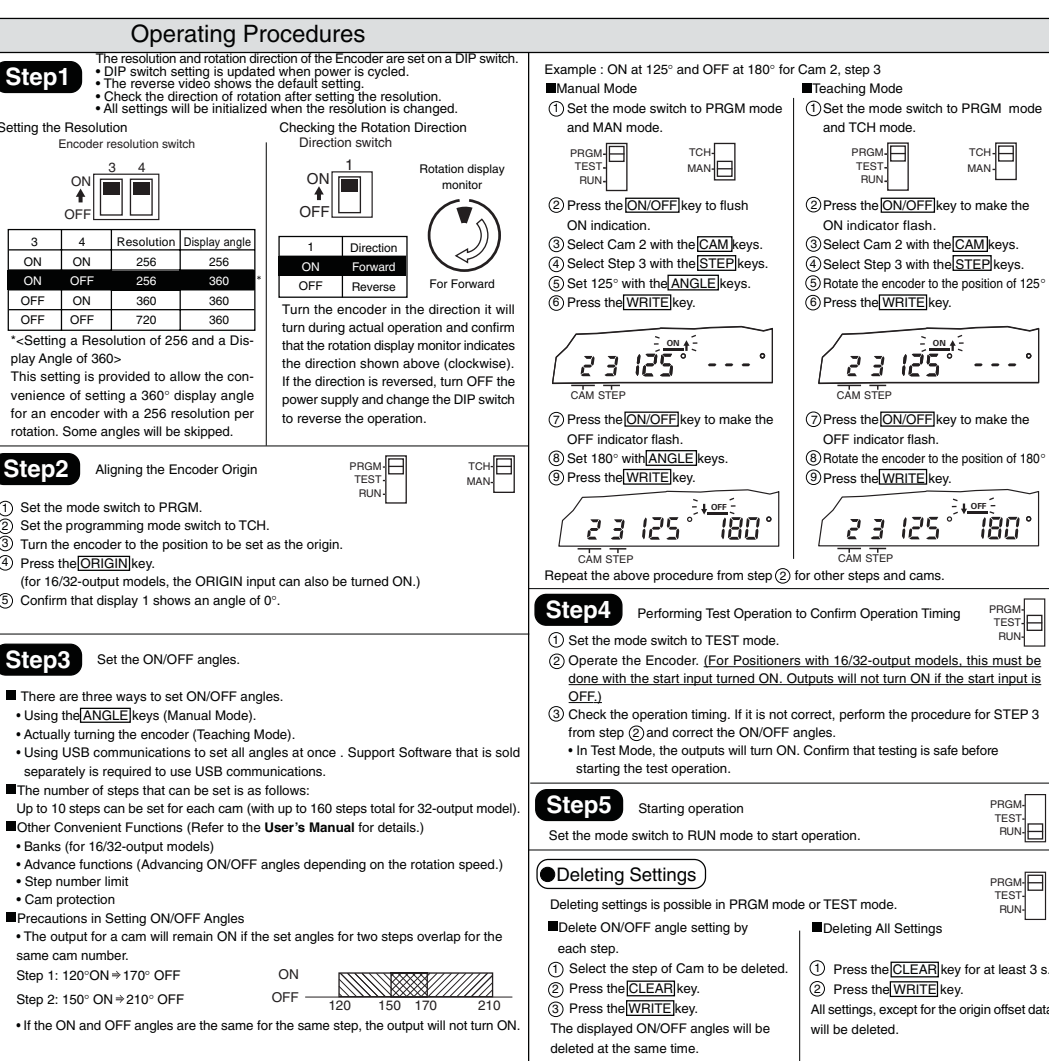
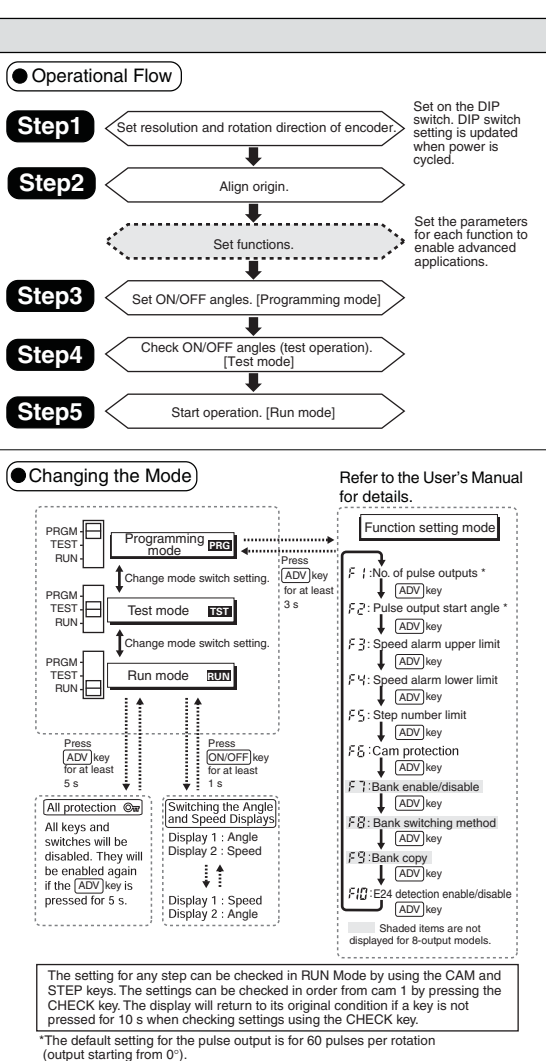
- When using the Y92C-30 Parallel Operation Adapter for parallel operation, do not connect more than two Positioners to the same encoder.
- Do not subject the connectors of outputs, encoder on the Positioner to more than 30 N of force.
- Keep the USB cable connector straight when connecting or disconnecting it. Otherwise the Positioner or connector may be damaged.
- Confirm the waveform of the power supply circuit and install a surge absorber. Surge or noise applied to the power supply may destroy internal elements, such as cause malfunctions.
- Switch the power supply circuit with a device rated at 3.5 A or higher.
- Inrush current of approximately 3.5 A will flow for a short period of time when the power supply is turned ON. The Positioner may not start if the capacity of the power supply is not sufficient. Be sure to use a power supply with sufficient capacity.
- EEPROM is used as memory when the power is interrupted. The write life of the EEPROM is 100,000 writes. The EEPROM is written when settings are changed, settings are deleted, or the initialization is changed.
- Make sure that all settings are appropriate for the application. Unexpected operation resulting in property damage or accidents may occur if the settings are not appropriate.
- Inputs signals may be accepted, not accepted, or unstable for the following times when the power supply is turned ON or OFF. Set the system to allow leeway in the timing of input signals. Approximately 1 second is required from the time the power supply is turned ON until outputs are made. Refer to the User's Manual for information on other timing.



Specifications

- Power supply voltage and power consumption: 24 VDC, 4.5 W (for 8-output models), 6.0 W (for 16/32-output models)
- Operating voltage range: 85% to 110% of rated voltage
- Ambient operating temperature: -10 to +55°C (When using USB: 0 to +40°C) (with no icing or condensation)
- Ambient operating humidity: 25% to 85% (with no icing or condensation)
- Storage temperature: -25 to 65°C (with no icing or condensation)
- Weight: Approx. 300g (Positioner only)
- Cam output and RUN OUT: 8 outputs model: Transistor outputs, 30 VDC, 100 mA (resistive load); 16/32 outputs model: NPN transistor outputs, 30 VDC, 100 mA (resistive load); PNP transistor outputs, 26.4 VDC, 100 mA (resistive load)
- Pulse output: Positioners with 8 outputs: Transistor outputs, 30 VDC, 30 mA (resistive load); Positioners with 16/32 outputs: NPN transistor outputs, 30 VDC, 30 mA (resistive load); PNP transistor outputs, 26.4 VDC, 30 mA (resistive load)
- Encoder input: Dedicated Absolute Encoder; Response speed: 1,600 rpm max. for 256/360 resolution; Response speed: 800 rpm max. for 720 resolution
- Bank, start, and origin inputs: No-voltage inputs, short-circuit impedance: 1 kΩ; Short-circuit residual voltage: 2 V max.; Minimum open impedance: 100 kΩ; Front: IP40; Rear: IP20
- Applicable Encoders: E6C3-AG5C-C 256, E6C3-AG5C-C 256/360/720, E6F-AG5C-C 256/360/720, and E6C2-AG5C-C 256 (sold separately)
- Applicable Output cable (sold separately): Y92S-41-□□□ (loose wires) or E5ZE-CBL-□□□ (connector)
- Applicable USB Cable (sold separately): Y92S-40 (A-miniB)
- Support Software: H8PS-SOFT-V□
- Contents of Package: Positioner, instruction manual (this manual), mounting bracket (Flush-mounting models only), Mounting screws, 2 (M4 x 12, Flush-mounting models only), Mounting screws, 4 (M4 x 16, Surface-mounting models only)

Operating Procedures



Self Diagnosis Function

The following displays will appear on display 1 if an error occurs, and all outputs will turn OFF.

Display	Meaning	Recovery method
E00	Origin designation data error	Press the [CLEAR] key for at least 3 seconds. All settings will be initialized.
E11	Memory error: RAM error	Cycle the power supply.
E12	Memory error: Checksum error	Press the [CLEAR] key for at least 3 seconds. All settings will be initialized.
E13	CPU error	Cycle the power supply.
E21	Response speed exceeded	Reduce the speed of the Encoder to within the allowable range and cycle the power supply.
E22	Encoder data error	There are surges or noise around the product or in the wiring. Check the wiring and protect the product from surges or noise, and then cycle the power supply.
E23	Encoder resolution inconsistent	Set the Encoder resolution according to the specifications of the Encoder.
E24	Encoder not connected	Connect the Encoder connector properly, and cycle the power supply.

Conformance to UL Standard.

- There is no isolation between the power supply circuit, the output circuit and the input circuit. Use a common supply for the power supply circuit and the output circuit.
- Cam output and RUN OUT: 8 outputs model: 24 VDC, 100 mA (resistive load); 16/32 outputs models: 24 VDC, 100 mA (resistive load). (Total for all outputs: 1.6 A max.)
- Pulse output: 24 VDC, 30 mA (resistive load)
- The USB connection is isolated from the other circuits.
- The Positioner is mounted on the flat surface of an enclosure that is rated and marked "Type 1". (Flush-mounting models only)

SUITABILITY FOR USE

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases. NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

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Note: Specifications subject to change without notice.

形 H8PS カムポジションナ

Japanese 取扱説明書

このたびは、オムロン製品をお買い上げいただきまして、まことにありがとうございます。この取扱説明書では、この製品を使用する上、必要な機能、性能、使用方法などの情報を記載しています。

オムロン株式会社

詳細は、「形H8PS ユーザーズマニュアル」(カタログ番号:SGTB-702A)を参照ください。

取付方法

取付およびパネル加工寸法図. 寸法図 (単位: mm). 取付加工図 (単位: mm). 埋込取付. 表面取付.

操作方法

操作のの流れ. Step1 分解能の設定と回転方向の確認. Step2 原点あわせ. Step3 ON/OFF角度の設定. Step4 ON/OFF角度の確認. Step5 運転. モードの変更.

安全上のご注意. ●警告表示の意味. ●警告表示. ●注意. ●注意.

安全上の要点. (1) 保存は、記載された定格範囲内としてください. (2) 使用周囲温度や使用周囲湿度については、記載された定格範囲内でご利用ください.

使用上の注意. (1) 並列運転アダプタ(形Y92C-30)を使用して、並列運転を行う場合は1台のエンコーダに対して形H8PSの接続台数は2台までとしてください. (2) 本体のコンタクト接続部(出力、エンコーダ)には、30N以上の応力が加わらないように配線してください.

端子配置. 8点出力タイプ. 16/32点出力タイプ. ●出力の接続. ●出力ケーブル(別売)の接続.

フロント部の名称. 操作キー部. 表示部. カム出力表示. PV/SV表示. 起動入力表示. 回転表示モニター. バンクNo.表示. カムNo.表示. ステップNo.表示.

仕様. ●電源電圧/消費電力. ●許容電圧変動範囲. ●使用周囲温度. ●使用周囲湿度. ●保存温度. ●質量. ●カム出力および運転中出力.

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自己診断機能. 異常が発生した場合は、第1表示が下記の表示になります. 表示 内容 復旧方法. E00 原点指定データエラー.

UL規格対応について. ●電源一入力、電源一出力、入力一出力端子間には非絶縁です. ●UL規格対応の電源は共通の電源を使用してください.

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