



型S8TS 开关电源

CHN 使用说明书

感谢您购买了S8TS。
此说明书内记载了S8TS使用时的功能、性能以及使用方法。
•请由具备电气知识的专业人员来操作S8TS。
•请充分阅读并理解本使用说明书的内容之后，再正确使用本产品。
请妥善保管本使用说明书以便参考。
连接使用时，请务必结合「连结说明书」阅读。

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CHN 安全注意

- (1) 安装/存储环境
- 请在环境温度为-25~+65°C，相对湿度为25~90%的条件下储藏本产品。
 - 由于安装状态不同出现的散热不良会导致内部元器件性能恶化或损坏。所以在没有确定产品正确安装的情况下不要使用本产品。
 - 可能会引起内部元件破损、恶化。请不要在超过使用温度范围的情况下使用本产品。
 - 请不要在日光直射的场所下使用本产品。
 - 请不要将本产品置于潮湿及腐蚀性的液体或气体的环境下。
 - 避免冲击和振动。触电断路器装置可能会产生振动，本产品应置于尽可能远离噪音源的地方以避免冲击或振动，并且，请将连接器盖（型PFP-M）安装到本体的两端。
 - 如果本产品在有较多电子噪音的环境下工作时，请尽可能把本产品放置在远离噪音源的地方。
- (2) 配线
- 请完全接地。确保接地端子处于安全使用状态。当接地不完全时，可能会引起触电和误动作。
 - 可能发生轻微的起火。请注意不要将输入输出端子误配线。
 - 为防止因负载异常所引起的配线材料的冒烟、起火，请选用以下材料作为连接导线。
推荐线型（单台使用时）

型号	推荐使用线径
S8TS-06024	AWG14 to 20 (Cross-sectional Area 0.517 to 2.081mm ²)
S8TS-03012	AWG14 to 20 (Cross-sectional Area 0.517 to 2.081mm ²)
S8TS-02505F	AWG14 to 18 (Cross-sectional Area 0.823 to 2.081mm ²)
S8TS-06024F	AWG12 to 20 (Cross-sectional Area 0.517 to 3.309mm ²)
S8TS-03012F	AWG12 to 20 (Cross-sectional Area 0.517 to 3.309mm ²)
S8TS-02505F	AWG12 to 18 (Cross-sectional Area 0.823 to 3.309mm ²)

- 紧固端子时，请不要用100N以上的力去按压端子台或连接器端子。
 - 通电前，请确定加工时覆盖在产品上面的薄膜已经被取下。
- (3) 输出电压调整
- 输出电压调节旋钮（V.ADJ）可能会被损坏。所以请勿施加不必要的外力。
 - 请确保在输出电压调整后，不要超过额定输出功率和额定输出电流。
- (4) 详细内容请查看商品目录。

CHN 使用时的注意事项

在客户的应用中，欧姆龙不负责产品与任何客户端产品所涉及的规格、规范和标准保持一致性。
请务必考虑本产品对于所应用的系统、机器和设备间的适用性。
使用时请注意并遵守本产品的禁止事项。
在没有确认整个系统设计时所考虑到的风险，以及没有确认在设备和系统中该欧姆龙产品的额定使用条件和正确安装条件的情况下，禁止将本产品应用于对人身及财产存在严重危险的情况。
详见产品规格书中保证及免责声明内容。



MODEL S8TS SWITCHING POWER SUPPLY

EN INSTRUCTION MANUAL

Thank you for purchasing the S8TS.
This Instruction Manual describes the functions, performance, and application methods required to use the S8TS.
• Make sure that a specialist with electric knowledge operates the S8TS.
• Read and understand this Instruction Manual, and use the product with enough understanding.
Keep this Instruction Manual close at hand and use it for reference during operation.
When using the multi-connecting type, read the "Notice in relation to the Multi-Connect" of the "MODEL S8TS SWITCHING POWER SUPPLY" together without fail.

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EN Precautions for Safe Use

- (1) Installing/Storage Environment
- Store the product with ambient temperature -25 to +65°C, and relative humidity 25 to 90%.
 - The internal parts may occasionally deteriorate and be broken due to adverse heat radiation depending on the mounting status. Do not use the product in any way other than the standard mounting.
 - The internal parts may occasionally be deteriorated or broken. Do not use the product outside the operation temperature range.
 - Avoid places where the product is subjected to direct sun light.
 - Avoid places where the product is subjected to penetration of liquid, foreign substance, or corrosive gas.
 - Avoid places subject to shock or vibration. Particularly, since a device such as a contactor may become the vibration source, set the Power Supply as far as possible from the vibration source. Besides, install the end plate (PFP-M model) to both ends of the power supply.
 - If the Power Supply is used in an area with excessive electronic noise, be sure to separate the Power Supply as far as possible from the noise sources.
- (2) Wiring
- Connect the ground completely. A protective earthing terminal stipulated in safety standards is used. Electric shock or malfunction may occur if the ground is not connected completely.
 - The latch ignition may possibly be caused. Ensure that input and output terminals are wired correctly.
 - Use the following material to the wire to be applied to the product for preventing from the occurrence of the smoking or ignition caused by the abnormal load.
Recommended Wire Type:(For Single unit operation)

Model	Recommended Wire Type
S8TS-06024	AWG14 to 20 (Cross-sectional Area 0.517 to 2.081mm ²)
S8TS-03012	AWG14 to 20 (Cross-sectional Area 0.517 to 2.081mm ²)
S8TS-02505	AWG14 to 18 (Cross-sectional Area 0.823 to 2.081mm ²)
S8TS-06024F	AWG12 to 20 (Cross-sectional Area 0.517 to 3.309mm ²)
S8TS-03012F	AWG12 to 20 (Cross-sectional Area 0.517 to 3.309mm ²)
S8TS-02505F	AWG12 to 18 (Cross-sectional Area 0.823 to 3.309mm ²)

- Do not press down the terminal block or connector terminal more than 100N force when tightening the product.
 - Be sure to remove the sheet covering the product for machining before power-on.
- (3) The output voltage adjuster
- Do not add the unnecessary power. The output voltage adjuster (V.ADJ) may be damaged.
 - Do not exceed the rated output capacity and current after adjusting the output voltage.
- (4) See product catalogue for details.

警告标识的含义

注意 若操作不当的话有可能发生轻度伤害或设备损坏的危险。

警告标识

注意	图标
可能会引起触电、起火或产品损坏。严禁拆分、改造、修理本产品或触摸产品内部。	
可能会引起轻度的烫伤。通电中以及电源刚切断后请不要马上接触电源本体。	
可能会引起因触电所导致的轻伤。通电中严禁触摸端子，配线后需关闭端子盖。本体内部最大会产生370V的电压。切断电源后30秒内会残留此电压。	
可能会发生触电。请不要拆除连接器端子盖，除非是使用总线连接。	
可能会引起燃烧。端子螺丝的规定扭矩为9.6in-lb (1.08Nm) 连接器螺丝和固定螺丝的规定扭矩为4.5 in-lb (0.51Nm)。	
可能引起轻度触电，燃烧，机器故障等危险。请不要使金属，导线或安装加工时产生的粉尘进入本产品内部。	

Key to Warning Symbols

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

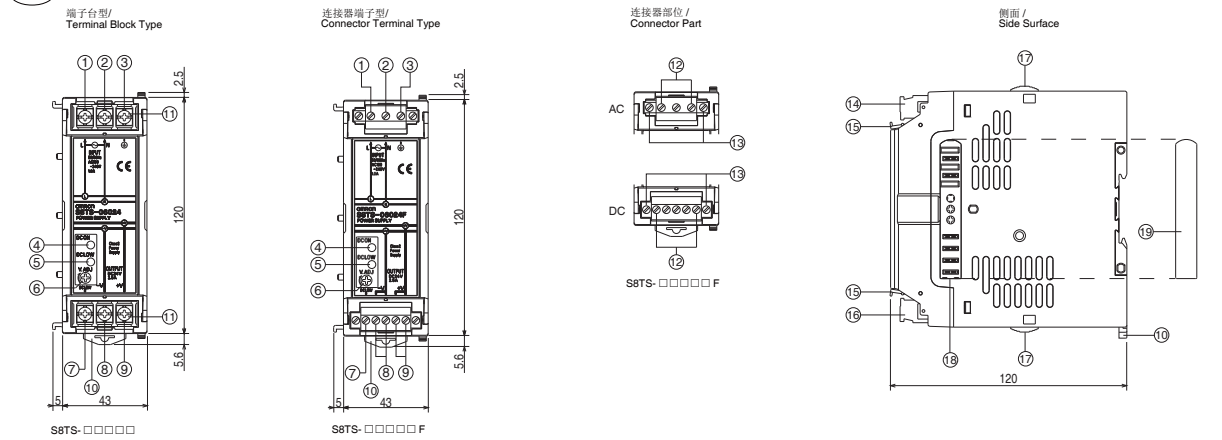
Warning Symbols

Warning Symbols	图标
Minor electric shock, fire, or Product failure may occasionally occur. Do not disassemble, modify, or repair the Product or touch the interior of the Product.	
Minor burns may occasionally occur. Do not touch the Product while power is being supplied or immediately after power is turned OFF.	
Minor injury due to electric shock may occasionally occur. Do not touch the terminals while power is being supplied. Always close the terminal cover after wiring. Working voltage can be 370V max. inside. This voltage can be also available 30s after the switch off.	
Electric shock may be caused. Do not remove any connector cover unless using bus line connectors.	
Minor fires may occasionally occur. Tighten the terminal screws with torque:9.6 in-lb(1.08 N·m), and tighten the connector screw flange with torque:4.5 in-lb (0.51N·m).	
Minor electric shock, fire, or Product failure may occasionally occur. Do not allow any pieces of metal or conductors or any clippings or cuttings resulting from installation work to enter the Product.	

EN Suitability for Use

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of the products in the customer's application or use of the product.
Take all necessary steps to determine the suitability of the product for the systems, machines, and equipment with which it will be used.
Know and observe all prohibitions of use applicable to this product.
NEVER USE THE PRODUCTS 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 IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
See also Product catalog for Warranty and Limitation of Liability.

Fig.2 各部位名称/Nomenclature



CHN 各部位名称

- 输入端子 (L)
(插入的保险丝。对于DC输入，(L)侧必须为(+))
- AC输入端子 (N)
- 接地端子 (⊕)
- 输出指示灯 (DC ON:绿色)
- 不足电压报警指示灯 (DC LOW:红色)
- 输出电压调整旋钮 (V.ADJ)
- 不足电压报警输出端子 (DC LOW OUT)
- DC输出端子 (-V)
- DC输出端子 (+V)
- 导轨固定销
- 端子台螺丝
- 连接器螺丝
- 固定螺丝
- AC输入连接器
- 端子盖
- DC输出连接器
- 滑块
- 总线连接器接口
- 连接器盖

EN Nomenclature

- Input terminals (L)
(inserted the fuse. For DC input, (L) side must be (+))
- AC Input terminals (N)
- Ground terminal (⊕)
- Undervoltage Alarm Indicator (DC LOW:Red)
- Output Voltage Adjuster (V.ADJ)
- Undervoltage Alarm Output Terminals (DC LOW OUT)
- DC Output Terminals (-V)
- DC Output Terminals (+V)
- Rail Stopper
- Terminal Screw
- Connector Screw
- Screw Flange
- AC Input Connector
- Terminal Cover
- DC Output Connector
- Slider
- Connecting Part of Bus Line Connector
- Connector Cover

CHN 安全规格

- DC输出端子 (⊕, ⊖) 与AC输入端子 (①, ②) 是相互电气绝缘的。(Fig.1)
- 过电压 category III。
- 这个设备为防护等级1。
- 气候等级: 3K3
按照EN50178(=VDE0160)。过电压 category II。
: 按照UL60950-1和EN60950-1。
CSA Level 3
针对UL508 Listing而言，周围温度 (Surrounding Air Temperature) 是40°C

EN Safety standards

- DC output terminals (⊕, ⊖) are galvanically separated from the AC input terminals (①, ②). (Fig.1)
- Overvoltage category III.
- This equipment is for protection class 1.
- Climatic class: 3K3
According to EN50178 (=VDE0160).
Overvoltage category II.
: According to UL60950-1 and EN60950-1.
CSA Level 3
Surrounding Air Temperature according to UL508 Listing : 40 °C

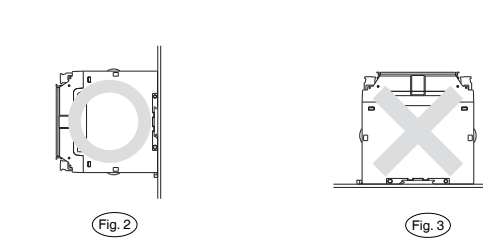
CHN 使用注意

- 连接器插拔次数 (连接器端子型)
交流输入连接器，直流输出连接器的插拔次数请控制在20次之内。
- 安装
• 安装方向
- | | |
|--------------|-----|
| 标准安装 (Fig.2) | 可以 |
| 向上安装 (Fig.3) | 不可以 |
| 其他安装 | 不可以 |
- 安装空间
请不要在标准安装以外的情况下使用。散热性恶化会导致内部元件性能恶化或损坏。本产品采用空气自然对流散热方式。安装时请使电源周围的空气利于对流。
* 1 空气的对流方向
* 2 75 (mm) 以上
* 3 75 (mm) 以上
* 4 20 (mm) 以上
- 容许输入电压
100~240VAC (容许范围: 85~264VAC, 85~370VDC)
注:
IE指令和各安全规格 (UL, EN, 其他) 的适用范围是100~240VAC (85~264VAC)。对于UL508, 容许输入电压范围是100~240VAC。
- 输出电压调整
出厂时: 设定输出电压为额定电压。
调整范围: 调节产品正面的“V.ADJ”旋钮, 顺时针旋转时增大输出电压, 逆时针旋转时减少输出电压。
- | 型号 | 可调整范围 |
|-------------|--------------|
| S8TS-06024□ | 22 to 28V |
| S8TS-03012□ | 额定输出电压的 ±10% |
| S8TS-02505□ | 范围之内 |
- 注:
1. 如果输出电压被调节到低于额定电压的-10%时, 不足电压检出功能会启动。
2. 并联运行时的输出电压调整请参考「连接说明」。
3. 通过“V.ADJ”的调节, 输出电压可能上升到电压可调整范围之上。所以调整输出电压时, 请确认电源的输出电压并防止负载遭到破坏。
- 耐压试验
额定耐压:
3000VAC于<所有输入端子①, ②>和<所有输出端子⑦, ⑧, ⑨>之间持续1分钟。
实验时, 耐压测试装置的切断电流设置为20mA。
注:
1. 突然加载3000VAC高压可能产生电压冲击而损坏电源。请缓慢增加/减小实验电压。
2. 为避免输出端子、不足电压检出输出端子发生破损, 请务必将全部的端子短路。

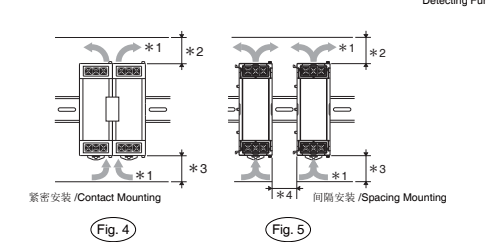
EN Precautions for Correct Use

- Insulation Resistance Test
When testing the insulation resistance of the power supply, use a DC ohmmeter at 500 VDC.
Note:
Be sure to short-circuit all the output terminals and the Undervoltage Alarm Output Terminal or the power supply to protect the power supply from damage.
- Overload Protection
The load and the power supply unit are automatically protected from overcurrent damage by this function.
Overload protection is activated if the output current rises above 105 % of the rated current.
When the output current returns within the rated range, overload protection is automatically cleared.
Notes:
1. If the power supply has been short-circuited or supplied with an overcurrent longer than 20 seconds, the internal parts of the power supply may be deteriorated or damaged.
2. The internal parts may possibly be deteriorated or damaged. Do not use the product for applications where the load causes frequent inrush current and overload.
- Overvoltage Protection
This power supply automatically protects itself and the load from overvoltage. Overvoltage protection is activated if the output voltage rises above approx. 130% of the rated voltage.
To reset the power supply, turn off the power supply for more than 1 minute and then turn it on again.
Note:
Be sure to clear the cause of the overvoltage, before turning on the power supply. (Fig.5)
- Undervoltage Alarm Indication and Output (DC LOW) (Fig.7)
LED (⑤, ⑥ DC LOW red) lights to warn of output voltage drop. Detection voltage is set to approx. 80% (75 to 90%) of the rated output voltage.
Also, when undervoltage is detected, the Power Supply outputs via the transistor (⑦, ⑧ DC LOW OUT). (When detecting the output voltage drop, the transistor is in OFF status.)
Notes:
1. Transistor Output: Open Collector
30VDC max, 50mA max.
Residual voltage when ON: 2V or less, leakage current when OFF: 0.1mA or less.
2. This function monitors the voltage at the power supply unit output terminals. To check actual voltage, measure voltage on the load side.
- Case of Not Outputting Voltage
The possible cause for this remedy is either the overload protection or the overvoltage protection is functioned. The latch protecting function may operate if a large amount of surge voltage such as lightning surge charged during turning on the power supply. In case of not outputting the voltage after checking the following two points first.
Then contact us:
- Checking Method of Overcurrent Protected Status
Check whether the load is in overcurrent status or short-circuit (with the load wire removed).
- Procedure for Overcurrent and Latch Protection Confirmation
Turn off the power supply once and leave it for more than 1 minute. Then turn it on again.
- Conformance to EU Directives
Refer to the catalogue and this instruction manual for details on the operating condition for EMC-compliance.
- Frequency of Connector Insertion and Extraction (Connector Terminal Type)
The frequency of the connector insertion and extraction of the AC input terminal and DC output one is under 20 times.
- Mounting
• Mounting Direction
- | | |
|-----------------------------|---------|
| Standard Mounting (Fig.2) | Valid |
| Horizontal Mounting (Fig.3) | Invalid |
| Others Mounting | Invalid |
- Do not mount with its back down or other directions. Apply the standard mounting only. The deterioration of the heat radiation could cause the deterioration or breakage of the inner component.
• Mounting Space
Install the power supply unit so that the air flow takes place around the power supply unit as the power supply is designed to radiate heat by means of natural air flow.
* 1 Direction of air circulation
* 2 75 (mm) or more
* 3 75 (mm) or more
* 4 20 (mm) or more
- Input Voltage Tolerance
Rating:
100 to 240 VAC (allowable range: 85 to 264 VAC, 80 to 370 VDC)
Note:
The applicable range of EU directives and various safety standards (UL, EN, others) is 100 to 240 VAC (85 to 264 VAC). For UL508 only, the rating is 100-240VAC.
- Output Voltage Adjustment
Default Setting: Set at the rated voltage.
Adjustable Range: Adjustable with "V.ADJ" on the front surface of the product as follows. Turning clockwise increases the output voltage, and turning counterclockwise decreases the output voltage.
- | Model | Adjustable Range |
|-------------|-----------------------------------------------------|
| S8TS-06024□ | 22 to 28V |
| S8TS-03012□ | within ±10% of the S8TS-02505□ rated output voltage |
| S8TS-02505□ | rated output voltage |
- Notes:
1. If the output voltage is adjusted to less than -10% of the rated value, the undervoltage alarm function may be activated.
2. For the output voltage adjustment during the parallel operation, read the "Notice in relation to the Multi-Connect" of the "MODEL S8TS SWITCHING POWER SUPPLY".
3. The output voltage may increase beyond the allowable voltage range when "V.ADJ" (⑥) operation is performed.
When adjusting the output voltage, check the output voltage of the Power Supply and be sure that the load is not destroyed.
- Dielectric Strength Test
Rated dielectric strength:
3000 VAC between input terminals-①, ②- together and output terminals < ⑦, ⑧, ⑨ together > for 1 minute.
When testing, set the cutoff current for the withstand voltage test device to 20mA.
Notes:
1. Increase/ decrease test voltage gradually. Sudden switching of 3000 VAC may cause a voltage surge, damaging the power supply unit.
2. Be sure to short-circuit all the output terminals and the Undervoltage Alarm Output Terminal of the power supply to protect the power supply form damage.

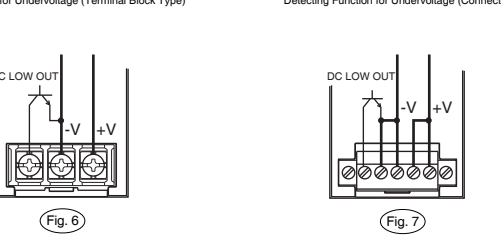
标准安装/Normal mounting 向上安装/Back Down Mounting



安装/Mounting 不足电压检出功能 (端子台型) / Detecting Function for Undervoltage (Terminal Block Type)



不足电压检出功能 (连接器端子型) / Detecting Function for Undervoltage (Connector Terminal Type)



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