

# Switch Mode Power Supply S8TS

CSM\_S8TS\_DS\_E\_8\_1

## Block-type Switch Mode Power Supply That Mounts to DIN Rail

- One model covers 30 to 120 W (12-V models).
- One model covers 60 to 240 W (24-V models).
- Easy creation of multi-power supply configurations with different output power supplies connected together (5-V, 12-V, and 24-V models).
- Improve power supply system reliability by creating N+1 redundant systems (12-V and 24-V models).
- RoHS-compliant
- Input conditions: 80 to 370 VDC supported for DC input too (EC Directives and safety standards are not applicable.)
- Operating temperatures to  $-20^{\circ}\text{C}$  (24-V models).



For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

⚠ Refer to *Safety Precautions for All Power Supplies and Safety Precautions* on page 12.

## Model Number Structure

### Model Number Legend

**Note:** Not all combinations are possible. Refer to *List of Models* in *Ordering Information*, below.

S8TS-□□□□□□-□□  
1 2 3 4

#### 1. Capacity

025: 25 W  
030: 30 W  
060: 60 W

#### 2. Output Voltage

05: 5 V  
12: 12 V  
24: 24 V

#### 3. Structure

None: Screw terminals  
F: Connector terminals

#### 4. Bus Line Connectors

None: Basic Block only  
E1: One S8T-BUS01 and one S8T-BUS02 included as accessories

## Ordering Information

**Note:** For details on normal stock models, contact your nearest OMRON representative.

### List of Models

#### Basic Block

Output voltage	Output current	Screw terminal Model		Connector terminal Model (See note 3.)	
		With Bus Line Connectors (See note 1.)	Without Bus Line Connectors (See note 2.)	With Bus Line Connectors (See note 1.)	Without Bus Line Connectors (See note 2.)
5 V	5 A	---	S8TS-02505	---	S8TS-02505F
12 V	2.5 A	S8TS-03012-E1	S8TS-03012	S8TS-03012F-E1	S8TS-03012F
24 V	2.5 A	S8TS-06024-E1	S8TS-06024	S8TS-06024F-E1	S8TS-06024F

#### Bus Line Connector

Specifications	Number of Connectors	Model number
Connector with DC line connected (For parallel operation)	1 Connector	S8T-BUS01
	10 Connectors (See note 4.)	S8T-BUS11
Connector with DC line not connected (Not for parallel operation)	1 Connector	S8T-BUS02
	10 Connectors (See note 5.)	S8T-BUS12

**Note:** 1. One S8T-BUS01 Connector and one S8T-BUS02 Connector are included as accessories.

2. Bus Line Connectors are ordered separately. When connecting Power Supplies with Bus Line Connectors, order the Bus Line Connectors separately.
3. Attached connectors: 2ESDPLM-05P (for output terminal) and 3ESDPLM-03P (for input terminal) made by DINKLE ENTERPRISE.
4. One package contains 10 S8T-BUS01 Connectors.
5. One package contains 10 S8T-BUS02 Connectors.

# Specifications

## ■ Ratings/Characteristics

### 12/24-V Models (Basic Block: S8TS-06024□/S8TS-03012□)

Item		Single operation	Parallel operation	
Efficiency (TYP.)		24-V models: 80% TYP. ; 12-V models: 73% TYP. (with rated input, 100% load)		
Input	Voltage (See note 1.)	Ratings: 100 to 240 VAC (Allowable range: 85 to 264 VAC, 80 to 370 VDC (See note 8.))		
	Frequency (See note 1.)	50/60 Hz (47 to 63 Hz)		
	Current	100 V input	24-V models: 1.0 A max. 12-V models: 0.7 A max.	24-V models: 1.0 A × (No. of Blocks) max. 12-V models: 0.7 A × (No. of Blocks) max.
		200 V input	24-V models: 0.5 A max. 12-V models: 0.4 A max.	24-V models: 0.5 A × (No. of Blocks) max. 12-V models: 0.4 A × (No. of Blocks) max.
	Power factor		24-V models: 0.9 min.; 12-V models: 0.8 min. (with rated input, 100% load)	
	Harmonic current emissions		Conforms to EN61000-3-2	
	Leakage current	100 V input	0.35 mA max.	0.35 mA × (No. of Blocks) max.
		240 V input	0.7 mA max.	0.7 mA × (No. of Blocks) max.
	Inrush current (See note 5.)	100 V input	17.5 A max. (for a cold start at 25°C)	17.5 A × (No. of Blocks) max. (for a cold start at 25°C)
		200 V input	35 A max. (for a cold start at 25°C)	35 A × (No. of Blocks) max. (for a cold start at 25°C)
Output (See note 4.)	Voltage adjustment range		24-V models: 22 to 28 V 12-V models: 12 V ±10% (with V.ADJ) (See note 2.)	
	Ripple		2% (p-p) max.	
	Input variation influence		0.5% max. (with 85 to 264 VAC input, 100% load)	
	Load variation influence		2% max. (with rated input, 10% to 100% load)   3% max. (with rated input, 10% to 100% load)	
	Temperature variation influence		0.05%/°C max. (with rated input and output)	
	Startup time		1,000 ms max. (with 100/200 VAC, rated input)	
Hold time (See note 5.)		20 ms min. (with 100/200 VAC, rated input)		
Additional functions	Overload protection (See note 5.)		105% to 140% of rated load current, voltage drop, automatic reset   100% to 140% of rated load current, voltage drop, automatic reset	
	Overvoltage protection (See notes 5 and 6.)		Yes	
	Parallel operation		Yes (Up to 4 Blocks)	
	N+1 redundant system		Yes (Up to 5 Blocks)	
	Series operation		Yes	
	Undervoltage indicator (See note 5.)		Yes (color: red)	
	Undervoltage detection output (See note 5.)		Yes (open collector output), 30 VDC max., 50 mA max.	
Other	Ambient operating temperature (See note 5.)		Refer to the derating curve in <i>Engineering Data</i> (with no icing or condensation).	
	Storage temperature		-25 to 65°C	
	Ambient operating humidity		25% to 85% (Storage humidity: 25% to 90%)	
	Dielectric strength		3.0 kVAC for 1 minute (between all inputs and all outputs; detection current: 20 mA)	
			2.0 kVAC for 1 minute (between all inputs and PE terminal; detection current: 20 mA)	
	Insulation resistance		1.0 kVAC for 1 minute (between all outputs and PE terminal; detection current: 20 mA)	
			100 MΩ min. (between all outputs, and all inputs/PE terminal) at 500 VDC	
	Vibration resistance (See note 7.)		10 to 55 Hz, 0.375-mm single amplitude for 2 h each in X, Y, and Z directions	
	Shock resistance (See note 7.)		150 m/s <sup>2</sup> , 3 times each in ±X, ±Y, and ±Z directions	
	Output indicator		Yes (color: green)	
	EMI (See note 8.)	Conducted Emission	Conforms to EN61204-3 EN55011 Class B and based on FCC Class A (See note 9.)	
		Radiated Emission	Conforms to EN61204-3 EN55011 Class B (See note 9.)	
	EMS (See note 8.)		Conforms to EN61204-3 High severity levels (See note 9.)	
	Approved standards (See note 8.)		24V model UL Listed: UL508 (Listing, Class2 Output: Per UL1310) (See note 3.) UL UR: UL60950-1 (Recognition) cUL Listed: CSA C22.2 No.107.1 (Class2 Output: Per CSA C22.2 No.223) (See note 3.) cUR: CSA C22.2 No.60950-1 EN/VDE: EN50178 (=VDE0160) , EN60950-1 (=VDE0805 Teil1)	
	Weight		450 g max.	450 g × (No. of Blocks) max.

- Note:**
- Do not use an inverter output for the Power Supply. Inverters with an output frequency of 50/60 Hz are available, but the rise in the internal temperature of the Power Supply may result in ignition or burning.
  - Refer to page 7 for details on adjusting the output voltage for parallel operation. If set to less than -10%, the undervoltage detection function may operate. Ensure that the output capacity and output current after adjustment do not exceed the rated output capacity and rated output current respectively. Adjusting V.ADV may cause the output voltage to exceed the voltage range. When adjusting the output voltage, confirm the actual output voltage from the Power Supply and be sure that the load is not damaged.
  - Class 2 approval does not apply to parallel operation.
  - The output current is specified at power output terminals.
  - Refer to the *Engineering Data* on page 8 for details.
  - To reset the protection, turn OFF the input power for one minute or longer and then turn it back again.
  - Be sure to mount End Plates (PFP-M) on both ends of the Power Supply.
  - The range for compliance with EC Directives and safety standards (UL, EN, etc.) is 100 to 240 VAC (85 to 264 VAC).
  - The noise level depends on the wiring method and other factors. Insert one clamp filter (the ZCAT2436-1330A from TDK) as a noise countermeasure on the input line and ground line combined.