

# Specifications

## ■ Ratings/Characteristics

| Item                                 | Power rating                                   | 15 W  | 30 W   | 50 W  | 100 W  | 150 W      |            |
|--------------------------------------|--|---|--|---|--|------------|------------|
| Efficiency                           | 5-V models                                     | 75% min.  | 75% min.   | 80% min.  | 81% min.   | 81% min.   |            |
|                                      | 12-V models                                    | 78% min.  | 79% min.   | 79% min.  | 81% min.   | 81% min.   |            |
|                                      | 15-V models                                    | 78% min.  | 79% min.   | 79% min.  | 81% min.   | 81% min.   |            |
|                                      | 24-V models                                    | 80% min.  | 81% min.   | 80% min.  | 82% min.   | 83% min.   |            |
| Input                                | Voltage (See note 1.)                          | 100 to 240 VAC (85 to 264 VAC)  |  |   |  |            |            |
|                                      | Frequency (See note 1.)                        | 50/60 Hz (47 to 63 Hz)  |  |   |  |            |            |
|                                      | Current  | 100-V input   | 0.5 A max.   | 0.9 A max.  | 0.8 A max.   | 1.4 A max. | 2.0 A max. |
|                                      |  | 200-V input   | 0.25 A max.  | 0.45 A max.   | 0.4 A max.   | 0.7 A max. | 1.0 A max. |
|                                      | Power factor                                   | 100-V input   | ---  |   |  | 0.98 min.  |            |
|                                      |  | 200-V input   | ---  |   |  | 0.94 min.  |            |
|                                      | Harmonic current emissions                     | ---   |  |   | Conforms to EN 61000-3-2   |            |            |
|                                      | Leakage current                                | 100-V input   | 0.4 mA max. (at rated output)  |   |  |            |            |
|                                      |  | 200-V input   | 0.75 mA max. (at rated output)   |   |  |            |            |
|                                      | Inrush current (See note 2.)                   | 100-V input   | 17.5 A max. (for cold start at 25°C)   |   |  |            |            |
| 200-V input                          |  | 35 A max. (for cold start at 25°C)  |  |   |  |            |            |
| Output                               | Voltage adjustment range (See note 3.)         | -20% to 20% (with V. ADJ) (S8VM-□□□24A□/P□: -10% to 20%)  |  |   |  |            |            |
|                                      | Ripple   | 3.2% (p-p) max. (5 V),<br>1.5% (p-p) max. (12 V),<br>1.2% (p-p) max. (15 V),<br>1.0% (p-p) max. (24 V),<br>(at rated input/output voltage)  |  | 3.2% (p-p) max. (5 V),<br>1.5% (p-p) max. (12 V),<br>1.2% (p-p) max. (15 V),<br>0.75% (p-p) max. (24 V),<br>(at rated input/output voltage) |  |            |            |
|                                      | Input variation influence                      | 0.4% max. (at 85 to 264 VAC input, 100%)  |  |   |  |            |            |
|                                      | Load variation influence (rated input voltage) | 0.8% max. (with rated input, 0 to 100% load)  |  |   |  |            |            |
|                                      | Temperature variation influence                | 0.02%/°C max.   |  |   |  |            |            |
|                                      | Startup time (See note 2.)                     | 1,100 ms max. (at rated input/output voltage)   |  | 800 ms max. (at rated input/output voltage)   |  |            |            |
|                                      | Hold time (See note 2.)                        | 20 ms typ. (15 ms min.) (at rated input/output voltage)   |  |   |  |            |            |
|                                      | Additional functions                           | Overload protection (See note 2.)   | 105% to 160% of rated load current, voltage drop, intermittent, automatic reset  |   | 105% to 160% of rated load current, voltage drop (12 V, 15 V, and 24 V), voltage drop, intermittent (5 V), automatic reset |            |            |
| Overvoltage protection (See note 2.) |  | Yes (See note 4.)   |  |   |  |            |            |
| Undervoltage alarm indication        |  | Yes (color: Yellow (DC LOW1), red (DC LOW2)) (S8VM-□□□24A□/P□ only)   |  |   |  |            |            |
| Undervoltage alarm output            |  | No  |  |   | Yes (S8VM-□□□24A□/P□ only) (Transistor output), 30 VDC max., 50 mA max. (See note 8.)                                      |            |            |
| Series operation                     |  | Yes for up to 2 Power Supplies (with external diode)  |  |   |  |            |            |
| Parallel operation                   |  | No  |  |   |  |            |            |
| Remote sensing function              |  | No  |  |   |  | Yes        |            |
| Other                                | Ambient operating temperature                  | Refer to the derating curve in <i>Engineering Data (15-W, 30-W, 50-W, 100-W, 150-W Models)</i> . (with no icing or condensation) (See note 2.)  |  |   |  |            |            |
|                                      | Storage temperature                            | -25 to 65°C   |  |   |  |            |            |
|                                      | Ambient operating humidity                     | 30% to 85% (Storage humidity: 25% to 90%)   |  |   |  |            |            |
|                                      | Dielectric strength                            | 3.0 kVAC for 1 min. (between all inputs and outputs; detection current: 20 mA)<br>2.0 kVAC for 1 min. (between all inputs and PE/FG terminals; detection current: 20 mA)<br>500 VAC for 1 min. (between all outputs and PE/FG terminals; detection current: 100 mA)<br>500 VAC for 1 min. (between all outputs (except the detection output terminals) and detection output terminals; detection current: 20 mA) (S8VM-□□□24A□/P□ only) |  |   |  |            |            |
|                                      | Insulation resistance                          | 100 MΩ min. (between all outputs and all inputs, PE/FG terminals) at 500 VDC  |  |   |  |            |            |
|                                      | Vibration resistance                           | 10 to 55 Hz, 0.375-mm single amplitude for 2 hours each in X, Y, and Z directions   |  |   |  |            |            |
|                                      | Shock resistance                               | 150 m/s <sup>2</sup> , 3 times each in ±X, ±Y, ±Z directions  |  |   |  |            |            |
|                                      | Output indicator                               | Yes (color: Green)  |  |   |  |            |            |
|                                      | EMI  | Conducted Emission  | Conforms to EN61204-3 EN55011 Class B and based on FCC Class B (See note 5.)   |   |  |            |            |
|                                      |  | Radiated Emission   | Conforms to EN61204-3 EN55011 Class B (See note 6.)  |   |  |            |            |
|                                      | EMS  | Conforms to EN61204-3 High severity levels  |  |   |  |            |            |
|                                      | Approved standards                             | UL<br>cUL<br>cUR<br>EN/TÜV  | UL508 (Listing), UL60950-1, UL1604 (Listing; Class I/Division 2, Group A, B, C, D Hazardous Locations) (See note 9.), CSA C22.2 No. 14, No. 213 (Class I/Division 2, Group A, B, D, D Hazardous Locations) CSA No. 60950-1 EN50178, EN60950-1 SELV (EN60950-1) According to VDE0160/P100 |   |  |            |            |
|                                      |  | SEMI  | SEMI F47-0200 (200 VAC input)  |   |  |            |            |
|                                      | Weight (See note 7.)                           | 180 g max.  | 220 g max.   | 290 g max.  | 460 g max.   | 530 g 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 *Engineering Data (15-W, 30-W, 50-W, 100-W, 150-W Models)* on page 9 to 11 for details.
  - If the output voltage adjuster (V. ADJ) is turned, the voltage will increase by more than +20% of the voltage adjustment range. If the adjuster is turned too far, it may activate the overvoltage protection function and interrupt the output.  
When adjusting the output voltage, confirm the actual output voltage from the Power Supply and be sure that the load is not damaged.  
To reset the protection, turn OFF the input power for three minutes or longer and then turn it back ON.
  - Conducted emissions: The noise value is affected by factors such as the wiring method. The Power Supply conforms to Class B when the aluminum plate is laid under the Power Supply. For 15-W models, insert a clamp filter (ZCAT2436-1330 by TDK: 50 Ω min. [50 to 500 MHz], or the equivalent) in the output wire to reduce noise.
  - Radiated emissions: The noise value is affected by factors such as the wiring method. The Power Supply conforms to Class B when the aluminum plate is laid under the Power Supply. For 150-W models, insert a clamp filter (ZCAT2017-0930 by TDK: 35 Ω min. [50 to 500 MHz], or the equivalent) in the input wire to reduce noise.
  - The weight indicated is for bottom mounting, open-frame models.
  - A□: Sinking type (NPN)  
P□: Sourcing type (PNP)
  - With the S8VM-15024□□□, the output current for UL1604 certification is 6.3 A.

| Item                                 | Power rating   | 300 W   | 600 W  | 1,500 W  |  |
|--------------------------------------|--|---|--|--|--|
| Efficiency                           | 5-V models   | 77% min.  | 77% min.   | ---  |  |
|                                      | 12-V models  | 78% min.  | 79% min.   | ---  |  |
|                                      | 15-V models  | 79% min.  | 80% min.   | ---  |  |
|                                      | 24-V models  | 81% min.  | 81% min.   | 82% min.   |  |
| Input                                | Voltage (See note 1.)                                | 100 to 240 VAC (85 to 264 VAC)  |  | 100 to 240 VAC (85 to 265 VAC)   |  |
|                                      | Frequency (See note 1.)                              | 50/60 Hz (47 to 63 Hz)  |  |  |  |
|                                      | Current  | 100-V input   | 4.0 A max. (5 V)<br>4.3 A max. (12 V, 15 V, and 24 V)                        | 8.0 A max. (5 V)<br>8.3 A max. (12 V, 15 V, and 24 V)  | 20.0 A max.  |
|                                      |  | 200-V input   | 2.0 A max. (5 V)<br>2.2 A max. (12 V, 15 V, and 24 V)                        | 4.0 A max. (5 V)<br>4.2 A max. (12 V, 15 V, and 24 V)  | 11.0 A max.  |
|                                      | Power factor   | 100-V input   | 0.98 min.  |  | 0.97 min.  |
|                                      |  | 200-V input   | 0.94 min.  |  | 0.93 min.  |
|                                      | Harmonic current emissions                           |   | Conforms to EN61000-3-2  |  |  |
|                                      | Leakage current                                      | 100-V input   | 0.4 mA max.  |  | 1.5 mA max.  |
|                                      |  | 200-V input   | 0.75 mA max.   |  | 1.5 mA max.  |
|                                      | Inrush current (See note 2.)                         | 100-V input   | 20 A max. (for cold start at 25°C)   |  |  |
| 200-V input                          |  | 40 A max. (for cold start at 25°C)  |  |  |  |
| Output                               | Voltage adjustment range (See note 3.)               | -20% to 20% (with V. ADJ)   |  |  |  |
|                                      | Ripple   | 3.8% (p-p) max. (5 V), 2.0% (p-p) max. (12 V), 2.0% (p-p) max. (15 V), 1.25% (p-p) max. (24 V), (at rated input/output voltage)   |  | 1.25% (p-p) max. (See note 7.), (at rated input/output voltage)  |  |
|                                      | Input variation influence                            | 0.4% max. (at 85 to 264 VAC input, 100%)  |  |  |  |
|                                      | Load variation influence (rated input voltage)       | 0.6% max. (with rated input, 0 to 100% load)  |  |  |  |
|                                      | Temperature variation influence                      | 0.02%/°C max.   |  |  |  |
|                                      | Startup time (See note 2.)                           | 1,000 ms max. (at rated input/output voltage)   |  |  |  |
|                                      | Hold time (See note 2.)                              | 20 ms typ. (15 ms min.) (at rated input/output voltage)   |  |  |  |
|                                      | Overload protection (See note 2.)                    | 105% to 160% of rated load current (5 V, 12 V, and 15 V), 120% to 160% of rated load current (S8VM-30024C), 115% to 160% of rated load current (S8VM-60024C), voltage drop (12 V, 15 V, and 24 V), voltage drop, intermittent (5 V), automatic reset      |  | 105% to 160% of rated load current (100 VAC), 155% to 200% of rated load current (200 VAC), voltage drop, automatic reset (Turns OFF when continuous for 5 s min.) (See note 4.) |  |
| Overvoltage protection (See note 2.) | Yes (See note 4.)                                    |   |  |  |  |
| Overheat protection (See note 2.)    | Yes (See note 4.)                                    |   |  |  |  |
| Undervoltage alarm indication        | No   |   |  |  |  |
| Undervoltage alarm output            | No   |   |  |  |  |
| Power failure alarm indication       | Yes (color: Red)                                     |   |  |  |  |
| Power failure alarm output           | Yes (Transistor output), 30 VDC max., 50 mA max.     |   |  |  |  |
| Series operation                     | Yes for up to 2 Power Supplies (with external diode) |   |  |  |  |
| Parallel operation                   | Yes (Up to 2 units)                                  |   |  |  |  |
| Remote sensing function              | Yes  |   |  |  |  |
| Remote control function              | Yes  |   |  |  |  |
| Other                                | Ambient operating temperature                        | Refer to the derating curve in <i>Engineering Data (300-W, 600-W, 1,500-W Models)</i> . (with no icing or condensation) (See note 2.)   |  |  |  |
|                                      | Storage temperature                                  | -25 to 65°C   |  |  |  |
|                                      | Ambient operating humidity                           | 30% to 85% (Storage humidity: 25% to 90%)   |  |  |  |
|                                      | Dielectric strength                                  | 3.0 kVAC for 1 min. (between all inputs and outputs; detection current: 20 mA)  |  | 3.0 kVAC for 1 min. (between all inputs and outputs; detection current: 20 mA)   |  |
|                                      |  | 2.0 kVAC for 1 min. (between all inputs and PE terminals; detection current: 20 mA)   |  | 2.0 kVAC for 1 min. (between all inputs and FG terminals; detection current: 20 mA)  |  |
|                                      |  | 500 VAC for 1 min. (between all outputs and PE terminals; detection current: 100 mA)  |  | 500 VAC for 1 min. (between all outputs and FG terminals; detection current: 20 mA)  |  |
|                                      |  | 100 VAC for 1 min. (between all outputs and RC terminals; detection current: 100 mA)  |  | 100 VAC for 1 min. (between all outputs and RC terminals; detection current: 100 mA)   |  |
|                                      |  | 500 VAC for 1 min. (between all outputs and PF terminals; detection current: 20 mA)   |  | 500 VAC for 1 min. (between all outputs and PF terminals; detection current: 20 mA)  |  |
|                                      | Insulation resistance                                | 100 MΩ min. (between all outputs and all inputs, PE terminals) at 500 VDC   |  | 100 MΩ min. (between all outputs and all inputs, FG terminals) at 500 VDC  |  |
|                                      | Vibration resistance                                 | 10 to 55 Hz, 0.375-mm single amplitude for 2 hours each in X, Y, and Z directions   |  | 10 to 55 Hz, 0.15-mm single amplitude for 2 hours each in X, Y, and Z directions   |  |
|                                      | Shock resistance                                     | 150 m/s <sup>2</sup> , 3 times each in ±X, ±Y, ±Z directions  |  |  |  |
|                                      | Output indicator                                     | Yes (color: Green)  |  |  |  |
|                                      | EMI  | Conducted Emission  | Conforms to EN61204-3 EN55011 Class B and based on FCC Class B (See note 5.) |  | Conforms to EN61204-3 EN55011 Class A and based on FCC Class A (See note 6.) |
|                                      |  | Radiated Emission   | Conforms to EN61204-3 EN55011 Class B (See note 5.)                          |  | Conforms to EN61204-3 EN55011 Class A (See note 6.)                          |
|                                      | EMS  | Conforms to EN61204-3 High severity levels  |  |  |  |
| Approved standards (See note 8.)     | UL   | UL508 (Recognition) (5 V, 12 V, and 15 V) UL508 (Listing) (24 V), UL60950-1 UL1604 (Listing; Class I/Division 2, Group A, B, C, D Hazardous Locations) (24 V) CSA C22.2 No. 14, No. 213 (Class I/Division 2, Group A, B, C, D Hazardous Locations) (24 V) |  | UL508, UL60950-1   |  |
|                                      | cUR  | CSA No. 60950-1   |  | CSA C22.2 No. 14, CSA No. 60950-1 EN50178, EN60950-1 SELVE (EN60950-1)   |  |
|                                      | cUR EN/TÜV   | EN50178, EN60950-1 SELVE (EN60950-1)  |  |  |  |
|                                      | SEMI   | SEMI F47-0200 (200-VAC input)   |  |  |  |
| Weight                               | 1,100 g max.   |   | 1,700 g max.   | 3,800 g 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 *Engineering Data (300-W, 600-W, 1,500-W Models)* on page 15 to 17 for details.
  - If the output voltage adjuster (V. ADJ) is turned, the voltage will increase by more than +20% of the voltage adjustment range. If the adjuster is turned too far, it may activate the overvoltage protection function and interrupt the output. When adjusting the output voltage, confirm the actual output voltage from the Power Supply and be sure that the load is not damaged.
  - To reset the protection, turn OFF the input power for three minutes or longer and then turn it back ON. Alternatively, turn OFF the remote control signal and then turn it back ON again.
  - Conducted emissions: The noise value is affected by factors such as the wiring method. The Power Supply conforms to Class B when the aluminum plate is laid under the Power Supply. For 600-W models, insert a clamp filter (ZCAT3035-1330 by TDK: 100 Ω min. [50 to 500 MHz], or the equivalent) in the input wire, and ring core (HF60T38X14X22 by TDK: 16 Ω typ. [1 MHz], 46 Ω typ. [10 MHz], or the equivalent) in the output wire to reduce noise.
  - Radiated emissions: The noise value is affected by factors such as the wiring method. The Power Supply conforms to Class A when the aluminum plate is laid under the Power Supply (1,500-W models).
  - The measuring method conforms to JEITA standard RC-9131A. Refer to *Ripple* under *Safety Precautions* on page 32.
  - The Power Supply will not conform to safety standards if the customer replaces the fan.