## omROn <br> ®

## Switching Power Supply

 Up to 600 W■ Models range from 10 to 600 W

- UL 508 approval

- Class 2 approval on $50-\mathrm{W}(24 \mathrm{~V})$ model
- Wide range of output voltages: 5 V , $12 \mathrm{~V}, 15 \mathrm{~V}$, or 24 V
- UL, CSA, VDE, and CE Approvals
- 10- to $150-\mathrm{W}$ models can easily be DIN-rail mounted with S82Y bracket (sold separately)
- 3-Year warranty


## Ordering Information

## OPEN-FRAME TYPE POWER SUPPLIES

| Power ratings | Output voltage/current |  |  |  | Part number |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5 V | 12 V | 15 V | 24 V | 120 VAC input | 240 VAC input |
| 10 W | 2 A | - | - | - | S82J-0105 | S82J-2105 |
|  | - | 1 A | - | - | S82J-0112 | S82J-2112 |
|  | - | - | 0.7 A | - | S82J-0115 | S82J-2115 |
|  | - | - | - | 0.5 A | S82J-0124 | S82J-2124 |
| 25 W | 5 A | - | - | - | S82J-0205 | S82J-2205 |
|  | - | 2.1 A | - | - | S82J-0212 | S82J-2212 |
|  | - | - | 1.7 A | - | S82J-0215 | S82J-2215 |
|  | - | - | - | 1.1 A | S82J-0224 | S82J-2224 |
| 50 W | 10 A | - | - | - | S82J-0505 | S82J-2505 |
|  | - | 4.2 A | - | - | S82J-0512 | S82J-2512 |
|  | - | - | - | 2.1 A | S82J-05024A 100 to 240 VAC input |  |
| 100 W | 20 A | - | - | - | S82J-10005A1 | S82J-10005A2 |
|  | - | 8.5 A | - | - | S82J-10012A1 | S82J-10012A2 |
|  | - | - | 7.0 A | - | S82J-10015A1 | S82J-10015A2 |
|  | - | - | - | 4.5 A | S82J-10024A 100 to 240 VAC input |  |
| 150 W | - | - | - | 6.5 A | S82J-15024A 120 or 240 VAC automatically selected |  |

Note: A mounting bracket is included with each power supply.

## COVERED-FRAME TYPE POWER SUPPLIES

| Power ratings | Output voltage/current |  |  |  | Part number |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5 V | 12 V | 15 V | 24 V | 120 VAC input | 240 VAC input |
| 10 W | 2 A | - | - | - | S82J-5105 | S82J-6105 |
|  | - | 1 A | - | - | S82J-5112 | S82J-6112 |
|  | - | - | 0.7 A | - | S82J-5115 | S82J-6115 |
|  | - | - | - | 0.5 A | S82J-5124 | S82J-6124 |
| 25 W | 5 A | - | - | - | S82J-5205 | S82J-6205 |
|  | - | 2.1 A | - | - | S82J-5212 | S82J-6212 |
|  | - | - | 1.7 A | - | S82J-5215 | S82J-6215 |
|  | - | - | - | 1.1 A | S82J-5224 | S82J-6224 |
| 50 W | 10 A | - | - | - | S82J-5505 | S82J-6505 |
|  | - | 4.2 A | - | - | S82J-5512 | S82J-6512 |
|  | - | - | - | 2.1 A | S82J-05024D 100 to 240 VAC input |  |
| 100 W | 20 A | - | - | - | S82J-10005D1 | S82J-10005D2 |
|  | - | 8.5 A | - | - | S82J-10012D1 | S82J-10012D2 |
|  | - | - | 7.0 A | - | S82J-10015D1 | S82J-10015D2 |
|  | - | - | - | 4.5 A | S82J-10024D 100 to 240 VAC input |  |
| 150 W | - | - | - | 6.5 A | S82J-15024D 120 or 240 VAC automatically selected |  |

Note: A mounting bracket is included with each power supply.

## ENCLOSED-FRAME TYPE POWER SUPPLIES

| Input voltage | Power rating | Output | Part number |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  | Voltage | Current |  |
| 120 or 230 VAC (selectable) | 300 W | 24 V | 14.0 A | S82J-30024 |
|  | 600 W | 24 V | 27.0 A | S82J-60024 |

Note: 1. A mounting bracket is included with each power supply.
2. To order without a mounting bracket (normally included with the 300 W or 600 W ), add an " N " at the end of the part number.
3. For other accessories, refer to the Accessories section that follows.

## ACCESSORIES

| Description | Applicable power supplies | Part number |
| :--- | :--- | :--- |
| DIN-rail mounting bracket | for $10-\mathrm{W}$ models | S82Y-01N |
|  | for $25-\mathrm{W}$ models | S82Y-03N |
|  | for $50-\mathrm{W}$ models | S82Y-05N |
|  | for $100-\mathrm{W}$ and $150-\mathrm{W}$ models | S82Y-10N |
| Front-mounting bracket | for $100-\mathrm{W}, 24-\mathrm{V}$ models | S82Y-J10F |
| DIN-rail | $1 \mathrm{~m}(3.28 \mathrm{ft})$ length for $10-$ to $150-\mathrm{W}$ models | PFP-100N/PFP-100N2 |
|  | $0.5 \mathrm{~m}(1.64 \mathrm{ft})$ length for $10-$ to $150-\mathrm{W}$ models | PFP-50N |
|  | for $10-\mathrm{W}$ models | S82Y-J01K |
|  | for $25-\mathrm{W}$ models | S82Y-J02K |
|  | for $50-\mathrm{W}$ models | S82Y-J05K |
|  | for $100-\mathrm{W}, 24-\mathrm{V}$ models | S82Y-J10K |
| Fan | for $600-\mathrm{W}$ models | S82Y-JFAN |
| Ferrite <br> (a sing core of 3 pieces in package) | for $300-\mathrm{W}$ and $600-\mathrm{W}$ models | S82Y-JC-T |
| Noise filter | for $300-\mathrm{W}$ models | S82Y-JF3-N |
|  | for $600-\mathrm{W}$ models | S82Y-JF6-N |

## MODEL NUMBER LEGEND

## S82J 10-/25-/50-W (5-V, 12-V) Models

S82J -


1. Input voltage/configuration

0,1: 100-120 VAC/Open-frame type
2: 200-240 VAC/Open-frame type
5: 100-120 VAC/Covered-type
6: 200-240 VAC/Covered-type
2. Power ratings

1: 10 W
2: 25 W
5: 50 W
3. Output voltage

05: 5 V
12: 12 V
15: 15 V
24: 24 V

## S82J 50-W (24 V)/100-/150-/300-/600-W Models

S82J -

$\qquad$ $\square$ 2 4

1. Power ratings

050: 50 W
100: 100 W
150: 150 W
300: 300 W
600: 600 W
3. Configuration

A: Open-frame type, front terminals
D: Covered-type, front terminals None: Enclosed-type, front terminals
4. Input Voltage

1: 100-120 VAC
2: $200-240$ VAC
None: 100-240 VAC
120/240 VAC
(selectable or automatically selected)

## Specifications

## S82J MODELS (10/25/50 W AND 100 W AT 24 V)

| Item |  | 120 VAC input |  |  |  | 240 VAC input |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 10 W | 25 W | $\begin{aligned} & 50 \mathrm{~W} \\ & (5,12 \mathrm{~V}) \end{aligned}$ | $\begin{aligned} & 100 \mathrm{~W} \\ & (5,12,15 \mathrm{~V}) \\ & \hline \end{aligned}$ | 10 W | 25 W | $\begin{array}{\|l} 50 \mathrm{~W} \\ (5,12 \mathrm{~V}) \\ \hline \end{array}$ | $\begin{aligned} & 100 \mathrm{~W} \\ & (5,12,15 \mathrm{~V}) \end{aligned}$ |
| Efficiency (typical) |  | 67\% min. |  |  | 76\% min. | 67\% min. |  |  | 76\% min. |
| Life expectancy |  | $8 \mathrm{yrs} . \min$. (Used at $40^{\circ} \mathrm{C}$ at the rated input with a $50 \%$ load, standard installation) |  |  |  |  |  |  |  |
| Input |  |  |  |  |  |  |  |  |  |
| Voltage | AC | 85 to 132 VAC |  |  |  | 170 to 264 VAC |  |  |  |
|  | DC | 110 to 170 VDC (See Note 1.) |  |  |  | No |  |  |  |
| Frequency |  | $50 / 60 \mathrm{~Hz}(47$ to 450 Hz ) |  |  |  |  |  |  |  |
| Current (See Note 2.) |  | 0.35 A max. | 0.8 A max. | 1.4 A max. | 2.5 A max. | $\begin{aligned} & 0.3 A \\ & \max . \end{aligned}$ | $\begin{aligned} & 0.6 \mathrm{~A} \\ & \max . \end{aligned}$ | $0.8 \mathrm{~A}$ max. | 1.4 A max. |
| Leakage current (See Note 2.) |  | 0.5 mA max. |  |  |  | 1 mA max. |  |  |  |
| Inrush current (See Note 2.) |  | 25 A max. |  |  |  | 50 A max. |  |  |  |
| Noise filter |  | Yes |  |  |  |  |  |  |  |
| Output (See Note 3.) |  |  |  |  |  |  |  |  |  |
| Voltage adjustment range |  | $\pm 10 \%$ adjustable with variable resistor (V.ADJ) |  |  |  |  |  |  |  |
| Ripple |  | 2\% (p-p) max. |  |  |  |  |  |  |  |
| Input variation influence |  | 0.4\% max. (at 85 to 132 VAC input, 100\% load) |  |  |  | $0.4 \%$ max. (at 170 to 264 VAC input, $100 \%$ load) |  |  |  |
| Load variation influence |  | 0.8\% max. (with rated input, $10 \%$ to $100 \%$ load) |  |  |  |  |  |  |  |
| Temperature variation influence |  | $0.05 \% /{ }^{\circ} \mathrm{C}$ max. (with rated input and output) |  |  |  |  |  |  |  |
| Startup time |  | 200 ms max . (up to 90\% of output voltage at rated voltage and rated output voltage/current) |  |  |  |  |  |  |  |
| Hold time |  | 20 ms min . (up to $90 \%$ of output voltage at rated voltage and rated output voltage/current) |  |  |  |  |  |  |  |
| Additional functions |  |  |  |  |  |  |  |  |  |
| Overload protection |  | $105 \%$ min. of rated load current, automatic reset. See the overload protection in the Engineering Data section. |  |  |  |  |  |  |  |
| Overvoltage protection |  | No |  |  | Yes (5 V model only) | No |  |  | Yes (5 V model only) |
| Parallel operation |  | No |  |  |  | No |  |  |  |
| Series operation |  | No |  |  | Yes | No |  |  | Yes |
| Characteristics |  |  |  |  |  |  |  |  |  |
| Ambient temperature | Operating | See the derating curve in the Engineering Data section. |  |  |  |  |  |  |  |
|  | Storage | $-20^{\circ} \mathrm{C}$ to $65^{\circ} \mathrm{C}\left(68^{\circ} \mathrm{F}\right.$ to $\left.149^{\circ} \mathrm{F}\right)$ with no condensation and icing |  |  |  |  |  |  |  |
| Ambient humidity | Operating | 25\% to $85 \%$ |  |  |  |  |  |  |  |
|  | Storage | 25\% to 90\% |  |  |  |  |  |  |  |
| Dielectric strength |  | 3000 VAC between input and output terminals (2200 VAC between input and GR terminals) |  |  |  |  |  |  |  |
| Insulation resistance |  | $100 \mathrm{M} \Omega \mathrm{min}$. (between all outputs and all inputs/GR terminals at 500 VDC) |  |  |  |  |  |  |  |
| Vibration resistance |  | 10 to $55 \mathrm{~Hz}, 0.75-\mathrm{mm}$ double amplitude (approx. 4.5 G ) for 2 h each in $\mathrm{X}, \mathrm{Y}$, and Z directions |  |  |  |  |  |  |  |
| Shock resistance |  | $294 \mathrm{~m} / \mathrm{s}^{2}$ (approx. 30G), 3 times each in $\pm \mathrm{X}, \pm \mathrm{Y}$, and $\pm \mathrm{Z}$ directions |  |  |  |  |  |  |  |
| Output indicator |  | Green LED |  |  |  |  |  |  |  |
| Electromagnetic interference |  | Conforms to FCC class A |  |  |  |  |  |  |  |
| Mean time between failures |  | 135,000 hrs min. |  |  |  |  |  |  |  |

(This table continues on the next page.)
Note: 1. DC inputs are not included in safety standard approvals.
2. At $100 \%$ load for rated input voltage ( 100 or 200 VAC)
3. The Output specification is defined as the power supply output terminals.

Specifications Table - continued from previous page

| Item | 120 VAC input |  |  |  | 240 VAC input |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 10 W | 25 W | $\begin{aligned} & 50 \mathrm{~W} \\ & (5,12 \mathrm{~V}) \\ & \hline \end{aligned}$ | $\begin{aligned} & 100 \mathrm{~W} \\ & (5,12,15 \mathrm{~V}) \end{aligned}$ | 10 W | 25 W | $\begin{aligned} & 50 \mathrm{~W} \\ & (5,12 \mathrm{~V}) \end{aligned}$ | $\begin{aligned} & 100 \mathrm{~W} \\ & (5,12,15 \mathrm{~V}) \end{aligned}$ |
| EMC | Emission Enclosure: EN55011 class A <br> Emission AC Mains: EN55011 class A <br> Immunity ESD: EN61000-4-2: 4 kV contact discharge (level 2); 8 kV air discharge (level 3) <br> Immunity RF-interference: ENV50140: $10 \mathrm{~V} / \mathrm{m}(80 \mathrm{MHz}$ to 1 GHz (level 3) <br> Immunity Conducted Distubance: ENV50141: $10 \mathrm{~V}(0.5$ to 80 MHz$)($ level 3) <br> Immunity Burst: EN61000-4-4: 2 kV power-line (level 3); 2 kV output line (level 4) |  |  |  |  |  |  |  |
| EMC Standards | Conforms to EN50081-2, EN50082-2 |  |  |  |  |  |  |  |
| Approved standards | UL 508, UL 1012 (except 100 W), CSA C22.2 No. 14, EN 50173 (VDE 0160), EN 60950 |  |  |  |  |  |  |  |
| Weight (covered-type) | 250 g max. | 350 g max. | $400 \mathrm{~g}$ <br> max. | $\begin{aligned} & 1,000 \mathrm{~g} \\ & \text { max. } \end{aligned}$ | 250 g max. | $350 \mathrm{~g}$ <br> max. | $400 \mathrm{~g}$ <br> max. | $\begin{aligned} & \hline 1,000 \mathrm{~g} \\ & \text { max. } \end{aligned}$ |

## S82J MODELS 50-W (24 V)/100 (24 V)/150/300/600 W)

| Item | 100-240 input |  | $\begin{aligned} & \text { 120/240 VAC } \\ & \text { (automatically selected) } \end{aligned}$ | 120/230 VAC (selectable) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $50 \mathrm{~W}(24 \mathrm{~V})$ | $100 \mathrm{~W}(24 \mathrm{~V})$ | 150 W | 300 W | 600 W |
| Efficiency (typical) | 77\% min. | 83\% min. | 82\% min. | 82\% min. |  |
| Input |  |  |  |  |  |
| Voltage | 85 to 264 VAC |  | $\begin{aligned} & 85 \text { to } 132 \text { VAC or } \\ & 170 \text { to } 264 \text { VAC } \\ & \text { (automatically selected) } \\ & \hline \end{aligned}$ | 85 to 132 or 170 to 253 VAC (selectable) |  |
| Frequency | $50 / 60 \mathrm{~Hz}$ ( 47 to 450 Hz ) |  |  |  |  |
| Current (See Note 2.) | 1.4 A max. at 100 VAC, <br> 0.8 A max. at 200 VAC | 2.5 A max. at 100 VAC, <br> 1.5 A max. at 200 VAC | 3.5 A max. at 100 VAC, <br> 2.1 A max. at 200 VAC | 8 A max. at 100 VAC or 4 A max. at 200 VAC | 14 A at 100 VAC or 7 A at 200 VAC |
| Leakage current (See Note 2.) | 0.5 mA max. at 100 VAC or 1.0 mA max. at 200 VAC |  |  |  |  |
| Inrush current (See Note 2.) | 25 A max. at 100 VAC or 50 A max. at 200 VAC |  |  |  | 30 A max. at 100 VAC or 60 A max. at 200 VAC |
| Noise filter | Yes |  |  |  |  |
| Output (See Note 3.) |  |  |  |  |  |
| Voltage adjustment range | $\pm 10 \%$ (adjustable with variable resistor (V.ADJ)) |  |  |  |  |
| Ripple (See Note 2.) | 2\% (p-p) max. |  |  |  |  |
| Input variation influence | 0.4\% max. |  |  |  |  |
| Load variation influence | 0.8\% max. (with rated input, 10\% to 100\% load) |  |  |  |  |
| Temperature variation influence | $0.05 \% /{ }^{\circ} \mathrm{C}$ max. (with rated input and output) |  |  |  |  |
| Startup time | 500 ms max. (up to $90 \%$ of output voltage at rated input and output) |  |  | 300 ms max. (up to $90 \%$ of output voltage at rated input and output) |  |
| Hold time (See Note 2.) | 20 ms min . |  |  |  |  |
| Additional functions |  |  |  |  |  |
| Overload protection | 105\% min. of rated load current, automatic reset. See the overload protection in the Engineering Data section. |  |  |  |  |
| Overvoltage protection (See Note 6.) | No | Yes | No | Yes, protection-ON alarm indicator lit (red) for 300 W and 600 W models |  |

(This table continues on the next page.)
Note: 1. DC inputs not included in safety standard approvals.
2. Defined with a $100 \%$ load and the rated input voltage ( 100 or 200 VAC).
3. The output specification is defined at the power supply output terminals.
4. The weight indicated is the weight of the open-frame type. (Includes the covers for 300-W and 600-W models.)
5. To ensure the Emission Enclosure rating, ferrite ring cores (recommended model: S82Y-JC-T) should be used on all cabling.
6. For resetting, turn OFF the power supply, leave for more than two minutes ( 90 seconds min. for the 300-W models and 3 minutes min. for the $600-\mathrm{W}$ models), and then turn ON the power supply.

Specifications Table - continued from previous page

| Item | 100-240 VAC input |  | 120/240 VAC (automatically selected) | 120/230 VAC (selectable) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 50 W (24 V) | 100 W (24 V) | 150 W | 300 W | 600 W |
| Overheat protection (See Note 6.) | No |  |  | No | Yes, protec-tion-ON alarm indicator lit (red) 600 W only |
| Parallel operation | No |  |  | Yes, 5 Units max. |  |
| Series operation | Yes |  |  | Yes |  |
| Characteristics |  |  |  |  |  |
| Ambient temperature | Operating: See the derating curve in the Engineering Data section |  |  |  |  |
|  | Storage: $-25^{\circ} \mathrm{C}$ to $65^{\circ} \mathrm{C}\left(-13^{\circ} \mathrm{F}\right.$ to $\left.149^{\circ} \mathrm{F}\right)$ |  |  |  |  |
| Ambient humidity | Operating: 25\% to 85\% |  |  |  |  |
|  | Storage: $25 \%$ to $90 \%$ |  |  |  |  |
| Dielectric strength | 3,000 VAC, $50 / 60 \mathrm{~Hz}$ for 1 min (between all inputs and all outputs) 2,200 VAC, $50 / 60 \mathrm{~Hz}$ for 1 min (between all inputs and GR terminal) $1,000 \mathrm{VAC}, 50 / 60 \mathrm{~Hz}$ for 1 min (between all outputs and GR terminal) |  |  |  |  |
| Insulation resistance | $100 \mathrm{M} \Omega$ min. at 500 VDC (between all outputs and all inputs/GR terminal) |  |  |  |  |
| Vibration resistance | Malfunction: 10 to $55 \mathrm{~Hz}, 0.75$-mm double amplitude (approx. 4.5G) for 2 h each in $\mathrm{X}, \mathrm{Y}$, and Z directions |  |  |  |  |
| Shock resistance | Malfunction: $294 \mathrm{~m} / \mathrm{s}^{2}$ (30G), 3 times each in $\pm X, \pm Y$, and $\pm Z$ directions |  |  |  |  |
| Output indicator | Yes (green) |  |  |  |  |
| Electromagnetic interference | Conforms to FCC class A |  |  |  |  |
| EMC | Emission Enclosure: EN55011 class A <br> Emission AC Mains: EN55011 class A <br> Immunity ESD: EN61000-4-2:4 kV contact discharge (level 2): 8 kV <br>  air discharge (level 3) <br> Immunity RF-interference: ENV50140: $10 \mathrm{~V} / \mathrm{m} \mathrm{(80} \mathrm{MHz} \mathrm{to} 1 \mathrm{GHz}$ ) (level 3) <br> Immunity Conducted Disturbance: ENV50141:10 $(0.5$ to 80 MHz ) (level 3) <br> Immunity Burst: EN610004-4: 2 kV power-line (level 3): 2 kV output <br>  line (level 4) |  |  |  |  |
| EMC standards | Conforms to EN50081-2 and EN50082-2 <br> 1 |  |  | Conforms to EN50081-2 and EN50082-2 (See Note 5.); With noise filter, conforms to EN50081-1 (See Notes 5 \& 7.) |  |
| Approved standards | UL 508 (Listed), UL 1950, Class 2 (per UL 1310); CSA C22.2 No. 14/No. 950; | UL 508 (Listed), <br> UL 1950, <br> UL 1012; <br> CSA C22.2 <br> No. 14/No. 950; | UL 508 (Listed), UL 1950, CSA C22.2 <br> No. 14/No. 950; | $\begin{aligned} & \text { UL 508, UL 1950; } \\ & \text { CSA EB1402C } \\ & \text { EN50178 (VDE 0160), } \\ & \text { EN60950 } \end{aligned}$ |  |
| Life expectancy (See Note 8.) | 10 yrs . |  | 8 yrs . | 10 yrs . |  |
| Weight (See Note 4.) | 400 g max. | 500 g max. | $1,000 \mathrm{~g}$ max. | 2,000 g max. | 2,500 g max. |

Note: 1. DC inputs not included in safety standard approvals.
2. Defined with a $100 \%$ load and the rated input voltage ( 100 or 200 VAC).
3. The output specification is defined at the power supply output terminals.
4. The weight indicated is the weight of the open-frame type. (Includes the covers for $300-\mathrm{W}$ and $600-\mathrm{W}$ models.)
5. To ensure the Emission Enclosure rating, ferrite ring cores (recommended model: S82Y-JC-T) should be used on all cabling.
6. For resetting, turn OFF the power supply, leave for more than two minutes ( 90 seconds min. for the $300-\mathrm{W}$ models and 3 minutes min. for the 600-W models), and then turn ON the power supply.
7. To ensure the Emission AC Mains rating for EN50081-1 (only for 200-VAC input), a noise filter (recommended models: S82Y-JF3-N for 300 W, S82Y-JF6-N for 600 W ) should be used on the input lines.
8. Under rated input voltage, load rated of $50 \%$, ambient temperature of $40^{\circ} \mathrm{C}$, and standard mounting.

## Engineering Data

## - DERATING CURVE

## S82J 10/25/50/100 (24 V)/150 W

Note: 1. The derating curve shown is for standard installation. The derating curve depends on the mounting direction of the Power Supply.
2. Provide a minimum clearance of 20 mm between the Power Supplies. Refer to the Mounting information in the Dimensions section.

## Open-frame type



Covered-type


Mounting Position for Standard Installation


Mounting Position for Standard Installation


300-W Model
Single Operation


Parallel Operation


Mounting Position for Standard Installation


## 600-W ModeI

## Single Operation



## Parallel Operation



Mounting Position for Standard Installation


## OVERLOAD PROTECTION

## 10- to 300-W Models

The Power Supply is provided with an overload protection function that protects the load and the power supply from possible damage by overcurrent. When the output current rises above $105 \%$ of the rated output current ( $105 \%$ to $160 \%$ of the rated output current for $50(24 \mathrm{~V})$-W and $100(24 \mathrm{~V})$-W models), the protection function is triggered, decreasing the output voltage. When the output current falls within the rated range, the overload protection function is automatically cleared.

10- to 300-W Models
(except for $50-\mathrm{W}(24 \mathrm{~V})$ and
100-W (24 V) Models)


50-W (24 V) and 100-W (24 V) Models


## 600-W Models

If an excessive current flows for 5 s or more, the output will be turned off and simultaneously protection-ON alarm indicator will be lit. To reset the S82J, turn off the input voltage, leave the S82J for at least three minutes, and then apply the input voltage again.
Note: Do not continue using the S82J with the output terminals short-circuited or the overcurrent condition continued, otherwise the internal elements of the S82J may be damaged or broken.


## OVERVOLTAGE PROTECTION

## 100-W (5, 24 V) Output Models

These power supplies have an overvoltage protection function that protects the load and the power supply from possible damage by overvoltage. When the output voltage rises above a set value ( $120 \%$ of the rated output voltage), the protection function is triggered, shutting off the output voltage. If this occurs, reset the power supply by turning it off for 2 minutes minimum ( 1 minute minimum for 5 V model) and then turning it on again.

## 300- and 600-W Models

If a voltage that is $120 \%$ of the rated output voltage or above is output, the output voltage will be turned off and simultaneously protection-ON alarm indicator will be lit. To reset the S82J, turn off the input voltage, leave the S82J for at least three minutes if it is a $600-\mathrm{W}$ model or at least 90 seconds if it is a $300-\mathrm{W}$ model, and then apply the input voltage again.


Note: The output voltage can be varied by the V. ADJ adjuster on the front panel. When it is set to a value $10 \%$ higher than the rated value, the overvoltage protection function may be effected.

## OVERHEAT PROTECTION FUNCTION

## 600-W Model Only

If the internal temperature of the 582 J rises excessively as a result of fan failure or any other reason, the overheat protection circuit will be triggered to protect the internal elements of the S82J and simultaneously a protection-ON alarm indicator will be lit. To reset the S82J, turn off the input voltage, leave the S82J for at least three minutes, and then apply the input voltage again.

## INRUSH CURRENT, START UP TIME, HOLD TIME

Output voltage

## Nomenclature



## Operation

## BLOCK DIAGRAMS

S82J- $\square 1 \square \square$ (10 W)
S82J- $\square 2 \square \square$ (25 W)
S82J- 505 (50 W)
S82J- $\square 512$ (50 W)


S82J-05024 $\square$
S82J-10024


S82J-10005 $\square \square$ (100 W) S82J-10012 $\square \square(100 \mathrm{~W})$
S82J-10015 $\square \square$ ( 100 W )


S82J-15024 $\square$ (150 W)



Note: Short-circuit the input voltage terminals if the input is 100 to 120 VAC.
Keep the terminals open if the input is 200 to 230 VAC.

## S82J-60024 (600 W)



Note: Short-circuit the input voltage terminals if the input is 100 to 120 VAC.
Keep the terminals open if the input is 200 to 230 VAC.

## GENERATING OUTPUT VOLTAGE ( $\pm$ )

An output of $\pm$ can be generated by using two power supplies as shown below, because the power supply produces a floating output.


If operation amplifiers as loads are connected in series, connect a diode between the positive and negative output terminals of each Switching Power Supplies as shown in the illustration below. Without these diodes, the Power Supplies may not start when power is turned on, possibly damaging internal circuits over a period of time.
Use Schottky barrier diodes with a low forward voltage $\left(\mathrm{V}_{\mathrm{F}}\right)$. Other types of diodes will not be effective.
Guidelines for the dielectric strength and current of the diodes are as follows:
Dielectric strength: At least twice the rated output voltage of the Power Supply
Forward current: At least twice the rated output current
No diodes are required for models that allow series operation.


## SERIES OPERATION

Only models with power ratings of $50(24 \mathrm{~V}) / 100 / 150 / 300 / 600 \mathrm{~W}$ allow series operation.
As shown in the following diagram, the output voltage from each Switching Power Supply can be added.


With the S82J-05024 $\square$ or S82J-10024 $\square$, if the load is shorted a reverse voltage may result in the Power Supply causing deterioration and damage. It is recommended that diodes are connected as shown in the previous diagram $\left(D_{1}, D_{2}\right)$.

## PARALLEL OPERATION

Only 300- and 600-W models can be in parallel operation. Do not operate any other models in parallel. The output of the models in parallel operation is a maximum of $80 \%$ of the rated output.
Set the parallel operation selector to PARALLEL if the Units are in parallel operation and make sure that the thickness and the length of all wires connected to the load are the same to ensure that the wires will have no voltage drop differences.


## Dimensions

Unit: mm (inch)

## ■ OPEN-FRAME AND COVERED-FRAME TYPES

S82J- $\square 1 \square \square$


S82J- $\square 2 \square \square$


Mounting Holes
(Surface Screw Mounting)
Side Mounting


Bottom Mounting


## Unit: mm (inch)

S82J- $\square$ 5 $\square \square$ S82J-05024 $\square$


Bottom Mounting


S82J-10024 $\square$


Bottom Mounting


S82J-100 $\square \square \square$
S82J-15024 $\square$


## ENCLOSED-FRAME TYPE

## Mounting Holes

S82J-30024



## S82J-60024



## MOUNTING BRACKET (INCLUDED WITH POWER SUPPLY UNIT)

## S82J 10-/25-/50-/100-W (24-V) Models

## Front-mounting Bracket (Included)



Using the Mounting Bracket
Attach the mounting bracket to the panel and loosely tighten the two screws. Insert the projected parts of the bracket (b) to the square holes of the power supply (a). Then securely tighten the screws.

(a)

S82J 100-W (5-/12-/15-V) Models or 150-W Models
Front Mounting Brackets (Included)

## Mounting with Brackets



300-W Models


600-W Models


Note: Using the bracket provides 23.6 mm ventilation space.

## Accessories (Order Separately)

Unit: mm (inch)

## ■ OPTIONAL DIN-RAIL MOUNTING BRACKET (ORDER SEPARATELY)

| Item | S82Y-01N | S82Y-03N | S82Y-05N | S82Y-10N |
| :---: | :---: | :---: | :---: | :---: |
| Applicable power supply | S82J- $\square 1 \square \square$ | S82J- $\square 2 \square \square$ | $\begin{aligned} & \hline \text { S82J- } \square 5 \square \square \\ & \text { S82J-05024 } \square \end{aligned}$ | $\begin{aligned} & \hline \text { S82J-100 } \square \square \square \\ & \text { S82J-15024 } \square \end{aligned}$ |
| Dimensions |  |  |  |  |
| Dimensions: L1 | 113 mm (4.45) | 143 mm (5.63) | 163 mm (6.42) | 185 mm (7.28) |
| L2 | 114.8 mm (4.52) | 144.8 mm (5.70) | 164.8 mm (6.49) | 186.8 mm (7.35) |

Note: The figures in row L1 apply if a mounting bracket is attached to the power supply. The figures in row L2 apply if PFP-50N or PFP-100N DIN rail is used. Add 10.5 mm to each figure in the L1 row if PFP-100N2 DIN rail is used.

## DIN RAIL (ORDER SEPARATELY)

## PFP-100N/PFP-50N



Note: The values shown in parentheses are for the PFP-50N.

## FRONT-MOUNTING BRACKET FOR 100-W, 24-V (ORDER SEPARATELY)

## S82Y-J10F



Mounting Holes


Note: The front mounting bracket (above) cannot be used for S82J 100-W (5-, 12-, 15-V) or 150-W models.

## COVER (ORDER SEPARATELY)

Note: This optional cover is available for the open-frame models also.

| Item | S82Y-J01K | S82Y-J02K | S82Y-J05K | S82Y-J10K |
| :---: | :---: | :---: | :---: | :---: |
| Applicable supply unit | S82J-01/-21 | S82J-02/-11 | S82J-05/-25 | S82J-10/-20 |
| Dimensions | Attaching Cover to Power Supply <br> Remove screw (A) before attaching the cover to the Power Supply. Tighten the screw to secure the cover on the Power Supply. <br> Note: The derating curve shown in Engineering Data may change with changes in ambient temperature when the cover is attached to the Power Supply. |  |  |  |
| Dimensions: A | 75 mm (2.95) | 109 mm (4.29) | 146 mm (5.75) | 154 mm (6.06) |
| B | 35 mm (1.38) | 39 mm (1.54) | 38 mm (1.50) | 48 mm (1.89) |

## FERRITE RING CORE (ORDER SEPARATELY)



## NOISE FILTER (ORDER SEPARATELY)

## S82Y-JF3-N for 300-W Models

 S82Y-JF6-N for 600-W Models

| Model | A | B | C | D |
| :--- | :--- | :--- | :--- | :--- |
| S82Y-JF3-N | $107(4.21)$ | $75(2.95)$ | $90(3.54)$ | $26(1.02)$ |
| S82Y-JF6-N | $117(4.60)$ | $85(3.35)$ | $100(3.94)$ | $30(1.18)$ |

## MOUNTING METHODS

S82J 10/25/50/100 (24 V) W
The following three mounting methods are available.
(A) Side mounting
(B) Bottom mounting
(C) Bottom mounting (with S82Y optional bracket)


S82J 100 (5, 12, 15 V)/150 W
The following mounting methods are available.
(A) Side mounting
(B) Bottom mounting (secured with screws from the inside of the power supply)
(C) Bottom mounting (secured with screws from the back of the power supply)

(A) Front mounting

Front mounting is possible with the mounting brackets provided. Refer to the Dimensions Section.

## Precautions

## MOUNTING

- When mounting the power supply, allow space for adequate air flow around it - to improve and maintain the reliability of the power supply over a long period of time. The power supply is designed to dissipate heat through natural air-flow.
- Omron recommends mounting the power supply to a metal plate.
- When mounting two or more power supplies side-by-side, allow at least $20 \mathrm{~mm}(0.79)$ spacing between them, as shown in the illustration provided here.
- Forced-air cooling is recommended.


## FAN REPLACEMENT

The service life of the fan is approximately 50,000 hours (at $25^{\circ} \mathrm{C}$ ). The service life varies, however, depending on the ambient temperature or other surrounding environmental conditions such as dust. As a preventive maintenance measure, replace the fan within two years if it is used at an ambient temperature of $40^{\circ} \mathrm{C}$.
Fans are available as replacements.
Model: S82Y-JFAN



Fan Set:
Fan (above), four M4 x 35 sems screws, instruction sheet, and packing case
Replace the fan as shown in the following illustration.


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