## omron <br> ( ${ }^{\text {B }}$

## Switching Power Supply <br> S82J

Open-Frame, Covered-Frame, or Enclosed-Frame Type with Capacity Up to 600 W

- Models range from 10 to 600 W

■ UL 508 approval on 100-W 150-W,
 $300-\mathrm{W}$, and $600-\mathrm{W}$ models

■ 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-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-0524 | S82J-2524 |
| 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-1024 | S82J-2024 |
| 150 W | - | - | - | 6.5 A | S82J-15024A1 | S82J-15024A2 |

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-5524 | S82J-6524 |
| 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-5024 | S82J-6024 |
| 150 W | - | - | - | 6.5 A | S82J-15024D1 | S82J-15024D2 |

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 240 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 below.

## ACCESSORIES

| Description | Applicable power supplies | Part number |
| :---: | :---: | :---: |
| DIN-rail mounting bracket | for 10-W models | S82Y-01N |
|  | for 25-W models | S82Y-03N |
|  | for 50-W models | S82Y-05N |
|  | for 100-W and 150-W models | S82Y-10N |
| 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 |
| Cover | for 10-W models | S82Y-J01K |
|  | for 25-W models | S82Y-J02K |
|  | for 50-W models | S82Y-J05K |
|  | for 100-W, 24-V models | S82Y-J10K |
| Fan | for 600-W models | S82Y-JFAN |
| Ferrite ring core (a set of 3 pieces in package) |  | S82Y-JC-T |
| Noise filter | for 300-W models | S82Y-JF3-N |
|  | for 600-W models | S82Y-JF6-N |

## MODEL NUMBER LEGEND

## S82J 10-/25-/50-/100-W (24 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
0: 100 W

## 3. Output voltage

05: 5 V
12: 12 V
15: 15 V
24: 24 V (for S82J-1024/ 2024/5024/6024)

S82J 100 (5,12,15 V)/150-/300-/600-W Models
S82J -
 $\frac{\square \square}{2}$ $\stackrel{\square}{3} \frac{\square}{4}$

1. Power ratings

100: 100 W 150: 150 W 300: 300 W 600: 600 W
2. Output voltage

05: 5 V
12: 12 V
15: 15 V
24: 24 V
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: 120/240 VAC (selectable)

## Specifications

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

| Item |  | 120 VAC input |  |  |  | 240 VAC input |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 10 W | 25 W | 50 W | 100 W | 10 W | 25 W | 50 W | 100 W |
| Efficiency (typical) |  | $70 \%$ (at 5 V output) to $86 \%$ (24 V output) |  |  |  |  |  |  |  |
| Life expectancy |  | 8 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 |  | 47 to 450 Hz |  |  |  |  |  |  |  |
| Current (See Note 2.) |  | $\begin{aligned} & 0.35 \mathrm{~A} \\ & \text { max. } \end{aligned}$ | 0.8 A max. | $1.4 \mathrm{~A}$ $\max .$ | $2.5 \mathrm{~A}$ max. | $0.3 \mathrm{~A}$ max. | 0.6 A max. | $0.8 \mathrm{~A}$ max. | $1.5 \mathrm{~A}$ 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) |  |  |  |  |  |  |  |
| Rise time |  | $200 \mathrm{~ms} \mathrm{max}$. (up to $90 \%$ of output voltage at rated voltage and rated output voltage/current) |  |  |  |  |  |  |  |
| Hold time |  | 20 ms max . (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 |  |  |  |  |  |  |  |
| Overvoltage protection |  | No |  |  | Yes | No |  |  | Yes |
| 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 $149^{\circ} \mathrm{F}$ ) 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. 4.5G) 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, EN55011 Gr1 class A:EN50081-2 |  |  |  |  |  |  |  |
| Mean time between failures |  | 100,000 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 | 50 W | 100 W | 10 W | 25 W | 50 W | 100 W |
| EMC | Emission Enclosure: EN55011 Group 1 class A: EN50081-2 <br> Emission AC Mains: EN55011 Group 1 class A: EN50081-2 <br> Immunity ESD: IECC01-2: 4 kV contact discharge (level 2): EN50082-2; 8 kV air discharge (level 3) <br> Immunity RF-interference: ENV50140: $10 \mathrm{~V} / \mathrm{m}$ (80 MHz to 1 GHz) (level 3),EN50082-2 <br> Immunity Conducted Distubance: ENV50141: $10 \mathrm{~V}(0.15$ to 80 MHz ) (level 3): EN50082-2 <br> Immunity Burst: IEC801-4: 2 kV power-line (level 3): EN50082-2; 2 kV output line (level 4): <br>  EN50082-2 |  |  |  |  |  |  |  |
| Approved standards | UL 1012, CSA (LR63986), CE, VDE 0160, VDE 0805, and EN 60950 (IEC 950), conforms to EN50081-2, EN50082-2 |  |  |  |  |  |  |  |
| Weight (covered-type) | 250 g max. | 350 g max . | $\begin{aligned} & \hline 400 \mathrm{~g} \\ & \text { max. } \end{aligned}$ | 500 g max. | 250 g max. | $350 \mathrm{~g}$ max. | $\begin{array}{\|l} \hline 400 \mathrm{~g} \\ \mathrm{max} . \\ \hline \end{array}$ | $500 \mathrm{~g}$ $\max .$ |

## S82J MODELS 100 (5, 12, 15V)/150/300/600 W)

| Item | 120 VAC input |  | 240 VAC input |  | 120/240 VAC (selectable) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 100 W | 150 W | 100 W | 150 W | 300 W | 600 W |
| Efficiency (typical) | 78\% to 85\% (depends on the model) |  |  |  | 82\% min. |  |
| Inputs |  |  |  |  |  |  |
| Voltage (See Note 1.) | 85 to 132 VAC or 110 to 170 VDC |  | 170 to 264 VAC |  | 85 to 132 or 170 to 253 VAC (selectable) |  |
| Frequency | 47 to 450 Hz |  |  |  |  |  |
| Current (See Note 2.) | 2.5 A max. | 3.5 A max. | 1.4 A max. | 2.1 A max. | $\begin{aligned} & 8 \text { A max. at } 100 \text { VAC or } \\ & 4 \mathrm{~A} \text { max. at } 200 \text { VAC } \end{aligned}$ | $\begin{aligned} & 14 \mathrm{~A} \text { at } 100 \mathrm{VAC} \text { or } 7 \mathrm{~A} \\ & \text { at } 200 \text { VAC } \\ & \hline \end{aligned}$ |
| Leakage current (See Note 2.) | 0.5 mA max. |  | 1 mA max. |  | 0.5 mA max. at 100 VAC or 1.0 mA max. at 200 VAC |  |
| Inrush current (See Note 2.) | 25 A max. (at $25^{\circ} \mathrm{C}$ ) |  | 50 A max. (at $25^{\circ} \mathrm{C}$ ) |  | $\begin{aligned} & 25 \text { A max. at } 100 \text { VAC } \\ & \text { or } 50 \text { A max. at } 200 \\ & \text { VAC } \end{aligned}$ | 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. (at 85 to 132 VAC input, 100\% load) |  | $0.4 \%$ max. (at 170 to 264 VAC input, 100\% load) |  | ```0.4% max. (at }85\mathrm{ to }132\mathrm{ VAC/170 to 253 VAC input, 100% load)``` |  |
| Load variation influence | 0.8\% max. (with rated input, 10\% to 100\% load) |  |  |  | 0.8\% max. |  |
| Temperature variation influence | $0.05 \% /{ }^{\circ} \mathrm{C}$ max. (with rated input and output) |  |  |  | 0.05\% max. |  |
| Rise time | 200 ms max. (up to $90 \%$ of output voltage at rated input and output) |  |  |  | 300 ms max. |  |
| Hold time (See Note 2.) | 20 ms min . |  |  |  |  |  |
| Additional functions |  |  |  |  |  |  |
| Overload protection | 105\% min. of rated load current (typical), inverted L drop type, automatic reset |  |  |  |  |  |
| Overvoltage protection (See Note 6.) | Yes (5-V output models only) | --- | Yes (5-V output models only) | --- | 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 $300-\mathrm{W}$ 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 |  | 120 V input |  | 240 V input |  | 120/240 V (selectable) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 100 W | 150 W | 100 W | 150 W | 300 W | 600 W |
| Overheat protection (See Note 6.) |  | No |  |  |  | No | Yes, protection-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 $149{ }^{\circ} \mathrm{F}$ ) |  |  |  |  |  |
| 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) |  |  |  |  |  |
| Insulation resistance |  | $100 \mathrm{M} \Omega$ min. at 500 VDC (between all outputs and all inputs/GR terminal) |  |  |  |  |  |
| Vibration resistance |  | Malfunction: 10 to $55 \mathrm{~Hz}, 0.75-\mathrm{mm}$ double amplitude ( $44.1 \mathrm{~m} / \mathrm{s}^{2}$, approx. 4.5 G ) 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 $\pm \mathrm{X}, \pm \mathrm{Y}$, and $\pm \mathrm{Z}$ directions |  |  |  |  |  |
| Output indicator |  | Yes (green) |  |  |  |  |  |
| Electromagnetic interference |  | Conforms to FCC class A, EN50081-2 |  |  |  |  |  |
| EMC |  | Emission Enclosure: <br> Emission AC Mains: <br> Immunity ESD: <br> Immunity RF-interference: Immunity Conducted Disturbance: Immunity Burst: |  |  |  | EN55011 Group 1 class A: EN50081-2 (EN55022 class B: EN50081-1) <br> EN55011 Group 1 class A: EN50081-2(EN55022 class B: EN50081-1) <br> EC801-2:4 kV contact discharge (level 2): EN50082-28 kV air discharge (level 3) <br> ENV50140: $0 \mathrm{~V} / \mathrm{m}$ ( 80 MHz to 1 GHz ) (level 3), EN50082-2 <br> ENV50141:10 V ( 0.15 to 80 MHz ) (level 3): EN50082-2 <br> IEC801-4: 2 kV power-line (level 3): EN50082-22 kV output line (level 4): EN50082-2 |  |
| EMC standards |  | Conforms to EN50081-2 andEN50082-2 |  |  |  | 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, CSA E.B.1402C, VDE 0160, VDE 0805 and EN60950 (IEC950) |  |  |  | UL 508, UL 1012, CSA EB1402C VDE 0160 and EN60950 (IEC950) VDE0805 |  |
| Life expectancy |  | 8 yrs. min. (at $40^{\circ} \mathrm{C}$ at the rated input with a $50 \%$ load) |  |  |  | 10 yrs (under rated input voltage, load rate of $50 \%$, ambient temperature of $40^{\circ} \mathrm{C}$, and standard mounting) |  |
| Weight (See Note 4.) |  | $1,000 \mathrm{~g} \mathrm{max}$. |  |  |  | 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 $600-\mathrm{W}$ 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.

## Engineering Data

## DERATING CURVE

S82J 10/25/50/100/150 W
Note: The derating curve shown is for standard installation. The derating curve depends on the mounting direction of the Power Supply.

## Open-frame type



300-W Model
Single Operation



Parallel Operation


Mounting Position for Standard Installation


## Mounting Position for

 Standard Installation

## Parallel Operation



Mounting Position for Standard Installation


Note: Provide a minimum clearance of 20 mm between the Power Supplies. Refer to the Mounting information in the Dimensions section.

## OVERLOAD PROTECTION

## 10- to 300-W Models

The power supply has an overload protection function that protects the load and the power supply from possible damage by overcurrent. When the output current rises above a set value ( $105 \%$ of the rated output current), 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.

## 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-V Output Models Only

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 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 S82J 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, RISE TIME, HOLD TIME



## Nomenclature



## 300-W Models

1. DC Output Terminals: Connect the load lines to these terminals.
2. Input Terminals: Connect the input lines to these terminals.

Note: A fuse is inserted into the AC (L) side.
3. Ground Terminal (GR): Connect a ground line to this terminal.
4. Input Voltage Terminals: Short-circuit the terminals if the input is 100 to 120 VAC and open the terminals if the input is 200 to 230 VAC
5. Output Indicator (DC ON): Lights while a Direct Current (DC) output is ON.
6. Output Voltage Adjuster (V.ADJ): It is possible to increase or decrease the output voltage by $10 \%$.
7. Protection-ON Alarm Indicator: The red indicator will be lit if the overvoltage (for a 300-/600-W model) or overheat protection (for a $600-\mathrm{W}$ model) circuit is triggered. This indicator will also be lit when overcurrent (for a 600-W model) is detected.
8. Parallel/Single Operation Selector: Set the selector to PARALLEL if the Units are in parallel operation.
9. NC Terminals: Leave unconnected.

## Operation

## BLOCK DIAGRAMS

S82J-01/-02/-05
S82J-21/-22/-25
S82J-51/-52/-55
S82J-61/-62/-65


S82J-1024
S82J-2024
S82J-5024
S82J-6024


## S82J-100 $\square \square \square \square$ (100 W)

S82J-15024 $\square \square$ (150 W)


S82J-30024 (300 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)



## 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.


## SERIES OPERATION

As shown in the following diagram, the output voltage from each power supply can be added.
Note: 300-W models and 600-W models cannot be conected in series.


## PARALLEL OPERATION

Only 300-W 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.


## Dimensions

Unit: mm (inch)

## ■ OPEN-FRAME AND COVERED-FRAME TYPES

S82J-01 $\square \square$
S82J-21 $\square \square$
S82J-51 $\square \square$
S82J-61 $\square \square$


S82J-02 $\square \square$
S82J-22 $\square \square$
S82J-52 $\square \square$
S82J-62 $\square \square$


Mounting Holes (Surface Screw Mounting)

## Side Mounting



Bottom Mounting


Unit: mm (inch)

S82J-05 $\square \square$
S82J-25 $\square \square$
S82J-55 $\square \square$
S82J-65 $\square \square$


S82J-1024
S82J-2024
S82J-5024
S82J-6024



## ENCLOSED-FRAME TYPE



## 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 <br> Mounting with Brackets



Mounting Holes



300-W Models


Appearance and Mounting Dimensions



600-W Models


Note: Using the bracket provides 23.6 mm ventilation space.

Unit: mm (inch)

## ■ OPTIONAL DIN-RAIL MOUNTING BRACKET

DIN-Rail Mounting Bracket (Order Separately)

| Item | S82Y-01N | S82Y-03N | S82Y-05N | S82Y-10N |
| :---: | :---: | :---: | :---: | :---: |
| Applicable power supply | S82J- $\square 1 \square \square$ | S82J- $\square 2 \square \square$ | S82J- $\square 5 \square \square$ | S82J-■0■■ |
| 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



PFP-100N2


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

## ■ OTHER ACCESSORIES (ORDER SEPARATELY)

Front-Mounting Bracket for 100-W, 24-V (F-type) (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 Pow <br> Remove screw (A) befo Supply. Tighten the scr Supply. <br> Note: The derating cu change with cha the cover is atta | the cover to the Power e the cover on the Power <br> Engineering Data may bient temperature when 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) <br> S82Y-JC-T



## 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 W (S82J-1024/2024/5024/6024)
The following three mounting methods are available.
(A) Side mounting
(B) Bottom mounting
(C) Bottom mounting (with S82Y optional bracket)


## S82J 100/150 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)

(B) 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.


