



# Switching Power Supplies

## PSA Series

### Overview

AutomationDirect's AchieVe PSA series of switching power supplies are designed with essential features needed for industrial applications without compromising quality and reliability at a lower cost. These models can operate in constant current mode making them suitable for inductive and capacitive loads.

### Features

- Universal AC input voltage range
- Built-in constant current circuit for reactive loads
- Quick installation by 35mm DIN rail mounting
- Adjustable output voltage via potentiometer
- 2-year warranty



**PSA-24-75**



**PSA-24-240**

| Switching Power Supplies PSA Series |          |                        |                |              |                         |                  |                     |
|-------------------------------------|----------|------------------------|----------------|--------------|-------------------------|------------------|---------------------|
| Part Number                         | Price    | Nominal Output Voltage | Output Current | Output Power | Nominal Input Frequency | Housing Material | Drawing Link        |
| <b>Single-Phase</b>                 |          |                        |                |              |                         |                  |                     |
| <a href="#">PSA-12-75</a>           | \$25.50  | 12VDC                  | 6.25 A         | 75W          | 50/60 Hz                | Plastic          | <a href="#">PDF</a> |
| <a href="#">PSA-12-120</a>          | \$32.00  |                        | 10A            | 120W         |                         | Aluminum         | <a href="#">PDF</a> |
| <a href="#">PSA-12-240</a>          | \$59.00  |                        | 20A            | 240W         |                         |                  | <a href="#">PDF</a> |
| <a href="#">PSA-24-75</a>           | \$25.50  | 24VDC                  | 3.125 A        | 75W          |                         | Plastic          | <a href="#">PDF</a> |
| <a href="#">PSA-24-120</a>          | \$29.50  |                        | 5A             | 120W         |                         | Aluminum         | <a href="#">PDF</a> |
| <a href="#">PSA-24-240</a>          | \$59.00  |                        | 10A            | 240W         |                         |                  | <a href="#">PDF</a> |
| <a href="#">PSA-24-480</a>          | \$118.00 |                        | 20A            | 480W         |                         |                  | <a href="#">PDF</a> |
| <a href="#">PSA-48-120</a>          | \$32.00  | 48VDC                  | 2.5 A          | 120W         |                         |                  | <a href="#">PDF</a> |
| <a href="#">PSA-48-240</a>          | \$59.00  |                        | 5A             | 240W         |                         |                  | <a href="#">PDF</a> |
| <a href="#">PSA-48-480</a>          | \$118.00 |                        | 10A            | 480W         |                         |                  | <a href="#">PDF</a> |



# Switching Power Supplies

## PSA Series Specifications

| Input Specifications       |                       |                           |                       |                                   |                                  |                                  |                        |
|----------------------------|-----------------------|---------------------------|-----------------------|-----------------------------------|----------------------------------|----------------------------------|------------------------|
| Part Number                | Nominal Input Voltage | Input Voltage Range       | Input Frequency Range | Max. Input Current                | Max. Inrush Current (cold start) | Efficiency                       | Circuit Breaker (Min.) |
| <a href="#">PSA-12-75</a>  | 100/240 VAC           | 85-264 VAC<br>120-375 VDC | 47-63 Hz              | 1.4 A @ 115VAC<br>0.9 A @ 230VAC  | 50A @ 230VAC                     | 87.5% @ 230VAC                   | 20A<br>B Curve         |
| <a href="#">PSA-12-120</a> |                       | 90-264 VAC                |                       | 2.1 A @ 115VAC<br>1.3 A @ 230VAC  | 35A @ 230VAC                     | 88% @ 115VAC<br>86% @ 230VAC     |                        |
| <a href="#">PSA-12-240</a> |                       |                           |                       | 2.5 A @ 115VAC<br>1.3 A @ 230VAC  | 40A @ 230VAC                     | 88% @ 115VAC<br>86.5% @ 230VAC   |                        |
| <a href="#">PSA-24-75</a>  |                       |                           |                       | 85-264 VAC<br>120-375 VDC         | 1.4 A @ 115VAC<br>0.9 A @ 230VAC | 50A @ 230VAC                     |                        |
| <a href="#">PSA-24-120</a> |                       | 90-264 VAC                |                       | 2.1 A @ 115VAC<br>1.3 A @ 230VAC  | 35A @ 230VAC                     | 88% @ 115VAC<br>88.5% @ 230VAC   |                        |
| <a href="#">PSA-24-240</a> |                       |                           |                       | 2.5 A @ 115VAC<br>1.3 A @ 230VAC  | 40A @ 230VAC                     | 88% @ 115VAC<br>90% @ 230VAC     |                        |
| <a href="#">PSA-24-480</a> |                       |                           |                       | 4.7 A @ 115VAC<br>2.4 A @ 230VAC  | 40A @ 230VAC                     | 91.5% @ 115VAC<br>93% @ 230VAC   |                        |
| <a href="#">PSA-48-120</a> |                       |                           |                       | 2.1 A @ 115VAC<br>1.3 A @ 230VAC  | 35A @ 230VAC                     | 88% @ 115VAC<br>9.5% @ 230VAC    |                        |
| <a href="#">PSA-48-240</a> |                       |                           |                       | 2.5 A @ 115VAC<br>1.3 A @ 230VAC  | 40A @ 230VAC                     | 91.5% @ 115VAC<br>90.5% @ 230VAC |                        |
| <a href="#">PSA-48-480</a> |                       |                           |                       | 4.7 A @ 115 VAC<br>2.4 A @ 230VAC | 40A @ 230VAC                     | 91.5% @ 115VAC<br>93.5% @ 230VAC |                        |

| Output Specifications      |                             |                      |                       |                                    |                                |             |
|----------------------------|-----------------------------|----------------------|-----------------------|------------------------------------|--------------------------------|-------------|
| Part Number                | Factory Set Point Tolerance | Output Voltage Range | Rise Time @ 100% Load | Start-up Time @ 100% Load          | Hold Up Time @ 100% Load       | MTBF        |
| <a href="#">PSA-12-75</a>  | 12VDC ± 2%                  | 10.8-13.2 VDC        | 30ms @ nominal input  | 1200ms @ 115VAC<br>1000ms @ 230VAC | 16ms @ 115VAC<br>60ms @ 230VAC | > 700,000 h |
| <a href="#">PSA-12-120</a> | 12VDC ± 1%                  |                      | 30ms @ 115/230 VAC    | 500ms @ 115/230 VAC                | 10ms @ 115VAC<br>16ms @ 230VAC |             |
| <a href="#">PSA-12-240</a> | 12VDC ± 1%                  |                      |                       |                                    | 20ms @ 115/230 VAC             |             |
| <a href="#">PSA-24-75</a>  | 24VDC ± 2%                  | 21.6-26.4 VDC        | 30ms @ nominal input  | 1200ms @ 115VAC<br>1000ms @ 230VAC | 16ms @ 115VAC<br>60ms @ 230VAC |             |
| <a href="#">PSA-24-120</a> | 24VDC ± 1%                  |                      | 30ms @ 115/230 VAC    | 500ms @ 115/23 VAC                 | 10ms @ 115VAC<br>16ms @ 230VAC |             |
| <a href="#">PSA-24-240</a> | 24VDC ± 1%                  |                      |                       |                                    | 20ms @ 115/230 VAC             |             |
| <a href="#">PSA-24-480</a> | 24VDC ± 1%                  | 24-28 VDC            |                       |                                    | 25ms @ 115/230 VAC             |             |
| <a href="#">PSA-48-120</a> | 48VDC ± 1%                  | 43.2-52.8 VDC        |                       |                                    | 10ms @ 115VAC<br>16ms @ 230VAC |             |
| <a href="#">PSA-48-240</a> | 48VDC ± 1%                  |                      |                       |                                    | 20ms @ 115/230 VAC             |             |
| <a href="#">PSA-48-480</a> | 48VDC ± 1%                  | 48-55 VDC            |                       | 800ms @ 230VAC                     | 25ms @ 115/230 VAC             |             |

Specifications continued on the following page.



# Switching Power Supplies

## Specifications PSA Series

| General Specifications                   |           |                                                                     |                               |                              |                               |                         |                         |                         |                            |                         |                    |
|------------------------------------------|-----------|---------------------------------------------------------------------|-------------------------------|------------------------------|-------------------------------|-------------------------|-------------------------|-------------------------|----------------------------|-------------------------|--------------------|
| Part Number                              |           | PSA-12-75                                                           | PSA-12-120                    | PSA-12-240                   | PSA-24-75                     | PSA-24-120              | PSA-24-240              | PSA-24-480              | PSA-48-120                 | PSA-48-240              | PSA-48-480         |
| Temperature                              | Operating | -20 to 70°C<br>[-4 to 158°F]                                        | -30 to 70°C<br>[-22 to 158°F] | -20 to 70°C<br>[-4 to 158°F] | -30 to 70°C<br>[-22 to 158°F] |                         |                         |                         |                            |                         |                    |
|                                          | Storage   | -40 to 85°C<br>[-40 to 185°F]                                       |                               |                              |                               |                         |                         |                         |                            |                         |                    |
| Humidity Non-Condensing                  |           | 5 to 95% RH                                                         | 20 to 90% RH                  | 5 to 95% RH                  | 20 to 90% RH                  |                         |                         |                         |                            |                         |                    |
| Line Regulation @ 100% Load              |           | < .05% @<br>85-264 VAC                                              | ± 0.5% @<br>115/230 VAC       | < .05% @<br>85-264 VAC       | ±0.5% @<br>115/230 VAC        |                         |                         |                         |                            |                         |                    |
| Load Regulation @ 0-100% Load            |           | <1%                                                                 | ±1%                           | <1%                          | ± 0.5 %                       |                         |                         |                         |                            |                         |                    |
| Start-up With Capacitive Loads (maximum) |           | 5,000 µF                                                            | 8,000 µF                      | 5,000 µF                     | 8,000 µF                      |                         |                         |                         | 3,000 µF                   |                         |                    |
| Short Circuit Protection                 |           | Hiccup Mode, Non-Latching (Auto-Recovery when the fault is removed) |                               |                              |                               |                         |                         |                         |                            |                         |                    |
| Leakage Current                          |           | < 1mA<br>@ 240VAC                                                   | 0.5 mA<br>@ 240VAC            | 0.75 mA<br>@ 240VAC          | < 1mA<br>@ 240VAC             | 0.5 mA<br>@ 240VAC      | 0.75 mA<br>@ 240VAC     | 1.5 mA<br>@ 240VAC      | 0.5 mA<br>@ 240VAC         | 0.75 mA<br>@ 240VAC     | 1.5 mA<br>@ 240VAC |
| Overload Protection                      |           | Yes                                                                 |                               |                              |                               |                         |                         |                         |                            |                         |                    |
| No Power Load Consumption                |           | –                                                                   | 0.15 W @<br>115/230 VAC       | –                            | 0.15 W @<br>115/230 VAC       | 0.21 W @<br>115/230 VAC | 0.75 W @<br>115/230 VAC | 0.21 W @<br>115/230 VAC | 0.3 W @<br>115/230 VAC     | 0.75 W @<br>115/230 VAC |                    |
| Overvoltage Latch Mode                   |           | <18V SELV                                                           | 17.4 SELV                     | < 33.6 V SELV                |                               |                         |                         | < 34V SELV              | <64.8 V SELV               |                         | < 68V SELV         |
| Status Indicators                        |           | LED (green): DC OK                                                  |                               |                              |                               |                         |                         |                         |                            |                         |                    |
| Ripple                                   |           | <120 mVpp<br>@ -10 to 70°C                                          | <120 mVpp<br>@ 0 to 70°C      | <120 mVpp<br>@ -10 to 70°C   | <150 mVpp<br>@ 0 to 70°C      |                         |                         |                         | <200 mVpp<br>@ 0 to 70°C   |                         |                    |
|                                          |           | < 360 mVpp<br>@ -10 to 30°C                                         | < 360 mVpp<br>@ -30 to 0°C    | < 360 mVpp<br>@ -10 to 30°C  | < 450 mVpp<br>@ -30 to 0°C    |                         |                         |                         | < 600 mVpp<br>@ -30 to 0°C |                         |                    |
| Vibration                                |           | IEC 60068-2-6                                                       |                               |                              |                               |                         |                         |                         |                            |                         |                    |
| Shock                                    |           | IEC 60068-2-27                                                      |                               |                              |                               |                         |                         |                         |                            |                         |                    |
| Protection Rating                        |           | IP20                                                                |                               |                              |                               |                         |                         |                         |                            |                         |                    |
| Mounting                                 |           | 35mm DIN rail                                                       |                               |                              |                               |                         |                         |                         |                            |                         |                    |
| Connection                               |           | Screw terminals (see additional data on following page)             |                               |                              |                               |                         |                         |                         |                            |                         |                    |
| Weight kg [lb]                           |           | 0.22<br>[0.49]                                                      | 0.45<br>[99.20]               | 0.62<br>[1.136]              | 0.22<br>[0.49]                | 0.45<br>[99.20]         | 0.62<br>[1.136]         | 0.87<br>[1.91]          | 0.45<br>[99.20]            | 0.62<br>[1.136]         | 0.87<br>[1.91]     |
| Agency Approval                          |           | CE, cULus File: E197592, cURus File: E131881                        |                               |                              |                               |                         |                         |                         |                            |                         |                    |



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| Additional Data          |                                                                 |                                                                 |                                                                                                                                                                                       |
|--------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Part Number              | Solid Wire Size                                                 |                                                                 |                                                                                                                                                                                       |
|                          | Input                                                           | Output                                                          | ADC Ferrule Part Number                                                                                                                                                               |
| <b><u>PSA-12-75</u></b>  | 0.8 - 3.3 mm <sup>2</sup> [18 - 12 AWG]<br>0.4 N•m [3.5 lb•in]  | 0.8 - 3.3 mm <sup>2</sup> [22 - 12 AWG]<br>0.4 N•m [3.5 lb•in]  | 20AWG <a href="#">V30AE000038</a><br>18AWG <a href="#">V30AE000041</a><br>16AWG <a href="#">V30AE000048</a><br>14AWG <a href="#">V30AE000052</a><br>12AWG <a href="#">V30AE000055</a> |
| <b><u>PSA-12-120</u></b> | 0.8 - 3.3 mm <sup>2</sup> [18 - 12 AWG]<br>0.4 N•m [3.5 lb•in]  | 0.34 - 4 mm <sup>2</sup> [22 - 12 AWG]<br>0.4 N•m [3.5 lb•in]   | 18AWG <a href="#">V30AE000041</a><br>16AWG <a href="#">V30AE000048</a><br>14AWG <a href="#">V30AE000052</a><br>12AWG <a href="#">V30AE000055</a>                                      |
| <b><u>PSA-12-240</u></b> | 0.8 - 3.3 mm <sup>2</sup> [18 - 12 AWG]<br>0.4 N•m [3.5 lb•in]  | 0.8 - 3.3 mm <sup>2</sup> [18 - 12 AWG]<br>0.4 N•m [3.5 lb•in]  | 18AWG <a href="#">V30AE000041</a><br>16AWG <a href="#">V30AE000048</a><br>14AWG <a href="#">V30AE000052</a><br>12AWG <a href="#">V30AE000055</a>                                      |
| <b><u>PSA-24-75</u></b>  | 0.8 - 3.3 mm <sup>2</sup> [18 - 12 AWG]<br>0.4 N•m [3.5 lb•in]  | 0.8 - 3.3 mm <sup>2</sup> [20 - 12 AWG]<br>0.4 N•m [3.5 lb•in]  | 20AWG <a href="#">V30AE000038</a><br>18AWG <a href="#">V30AE000041</a><br>16AWG <a href="#">V30AE000048</a><br>14AWG <a href="#">V30AE000052</a><br>12AWG <a href="#">V30AE000055</a> |
| <b><u>PSA-24-120</u></b> | 0.8 - 3.3 mm <sup>2</sup> [18 - 12 AWG]<br>0.4 N•m [3.5 lb•in]  | 0.34 - 4 mm <sup>2</sup> [22 - 12 AWG]<br>0.4 N•m [3.5 lb•in]   | 18AWG <a href="#">V30AE000041</a><br>16AWG <a href="#">V30AE000048</a><br>14AWG <a href="#">V30AE000052</a><br>12AWG <a href="#">V30AE000055</a>                                      |
| <b><u>PSA-24-240</u></b> | 0.8 - 3.3 mm <sup>2</sup> [18 - 12 AWG]<br>0.4 N•m [3.5 lb•in]  | 0.8 - 3.3 mm <sup>2</sup> [18 - 12 AWG]<br>0.4 N•m [3.5 lb•in]  | 18AWG <a href="#">V30AE000041</a><br>16AWG <a href="#">V30AE000048</a><br>14AWG <a href="#">V30AE000052</a><br>12AWG <a href="#">V30AE000055</a>                                      |
| <b><u>PSA-24-480</u></b> | 2.1 - 3.3 mm <sup>2</sup> [14 - 12 AWG]<br>0.51 N•m [4.5 lb•in] | 2.1 - 3.3 mm <sup>2</sup> [14 - 12 AWG]<br>0.51 N•m [4.5 lb•in] | 14AWG <a href="#">V30AE000052</a><br>12AWG <a href="#">V30AE000055</a>                                                                                                                |
| <b><u>PSA-48-120</u></b> | 0.8 - 3.3 mm <sup>2</sup> [18 - 12 AWG]<br>0.4 N•m [3.5 lb•in]  | 0.34 - 4 mm <sup>2</sup> / 22 - 12 AWG<br>0.4 N•m [3.5 lb•in]   | 18AWG <a href="#">V30AE000041</a><br>16AWG <a href="#">V30AE000048</a><br>14AWG <a href="#">V30AE000052</a><br>12AWG <a href="#">V30AE000055</a>                                      |
| <b><u>PSA-48-240</u></b> | 0.8 - 3.3 mm <sup>2</sup> [18 - 12 AWG]<br>0.4 N•m [3.5 lb•in]  | 0.8 - 3.3 mm <sup>2</sup> [18 - 12 AWG]<br>0.4 N•m [3.5 lb•in]  | 18AWG <a href="#">V30AE000041</a><br>16AWG <a href="#">V30AE000048</a><br>14AWG <a href="#">V30AE000052</a><br>12AWG <a href="#">V30AE000055</a>                                      |
| <b><u>PSA-48-480</u></b> | 2.1 - 3.3 mm <sup>2</sup> [14 - 12 AWG]<br>0.51 N•m [4.5 lb•in] | 2.1 - 3.3 mm <sup>2</sup> [14 - 12 AWG]<br>0.51 N•m [4.5 lb•in] | 14AWG <a href="#">V30AE000052</a><br>12AWG <a href="#">V30AE000055</a>                                                                                                                |