

# DIN-Rail Mount SMPS



## SPB Series CATALOG

**For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.**  
 The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

### Major Features

- Efficient power conversion
  - High conversion efficiency up to 92% with LLC circuit (SPB-240)
  - Stable power supply with minimal noise and ripple
- Space efficient design
  - Slim and compact size for maximum space efficiency
  - Uniform depth size (except SPB-015/030) for neat and tidy installation
- Safety and user-friendly features
  - Terminal protection cover (SPB-060/120/180/240)
  - Easy wiring with rising clamp terminal (SPB-015/030)
  - Inrush current prevention, output over-current prevention, output over-voltage prevention, output short-circuit protection, circuit over-heating protection
  - Low output voltage indicator (red LED), output indicator (green LED)

### Ordering Information

This is only for reference.  
 For selecting the specific model, follow the Autonics web site.

|            |   |          |   |          |
|------------|---|----------|---|----------|
| <b>SPB</b> | - | <b>①</b> | - | <b>②</b> |
|------------|---|----------|---|----------|





**① Output power**  
 Number: Output power (unit: W)

**② Output voltage**  
 Number: Output voltage (unit: VDC=)

### Specifications

| Output range                                 | 15 to 31.2 W   |                  |                  |                    |                  |                  |
|--|--|------------------|------------------|--------------------|------------------|------------------|
| Model  | SPB-015-05   | SPB-015-12       | SPB-015-24       | SPB-030-05         | SPB-030-12       | SPB-030-24       |
| <b>Output power</b>                          | 15 W   | 15.6 W           | 15.6 W           | 25 W               | 30 W             | 31.2 W           |
| <b>Input condition</b>                       |  |                  |                  |                    |                  |                  |
| Voltage <sup>(1)</sup>                       | 100 - 240 VAC~ (permissible voltage: 85 - 264 VAC~ / 120 - 370 VDC=) |                  |                  |                    |                  |                  |
| Frequency                                    | 50 / 60 Hz   |                  |                  |                    |                  |                  |
| Efficiency <sup>(2)</sup> (Typical)          | 100 VAC~<br>240 VAC~   | 77%<br>76%       | 80%<br>79%       | 83%<br>82%         | 77%<br>78%       | 82%<br>83%       |
| Power factor <sup>(2)</sup>                  | -  |                  |                  |                    |                  |                  |
| Max. current consumption <sup>(2)</sup>      | 0.4 A  |                  |                  | 0.8 A              |                  |                  |
| Current consumption <sup>(2)</sup> (Typical) | 100 VAC~<br>240 VAC~   | 0.35 A<br>0.19 A | 0.35 A<br>0.19 A | 0.34 A<br>0.19 A   | 0.56 A<br>0.30 A | 0.63 A<br>0.35 A |
| <b>Output characteristics</b>                |  |                  |                  |                    |                  |                  |
| Voltage                                      | 5 VDC=   | 12 VDC=          | 24 VDC=          | 5 VDC=             | 12 VDC=          | 24 VDC=          |
| Current                                      | 3 A  | 1.3 A            | 0.65 A           | 5 A                | 2.5 A            | 1.3 A            |
| Voltage adjustment range                     | ≤ ±10%   |                  |                  |                    |                  |                  |
| Input variation <sup>(3)</sup>               | ≤ ±0.5%  |                  |                  |                    |                  |                  |
| Load variation                               | ≤ ±1%  |                  |                  |                    |                  |                  |
| Ripple noise <sup>(2), (4)</sup>             | ≤ ±1.5%  |                  |                  |                    |                  |                  |
| Start-up time <sup>(2)</sup> (Typical)       | 100 VAC~<br>240 VAC~   | 500 ms<br>550 ms | 550 ms<br>550 ms | 650 ms<br>650 ms   | 600 ms<br>550 ms | 550 ms<br>550 ms |
| Hold time <sup>(2)</sup> (Typical)           | 100 VAC~<br>240 VAC~   | 24 ms<br>190 ms  | 25 ms<br>190 ms  | 25 ms<br>190 ms    | 20 ms<br>110 ms  | 15 ms<br>110 ms  |
| <b>Protection</b>                            |  |                  |                  |                    |                  |                  |
| Inrush current protection (Typical)          | 100 VAC~<br>240 VAC~   | 7 A<br>32 A      | 7 A<br>30 A      | 7 A<br>31 A        | 7 A<br>29 A      | 6 A<br>29 A      |
| Over-current protection <sup>(4), (5)</sup>  | 105 to 160%  |                  |                  |                    |                  |                  |
| Over-voltage protection <sup>(5)</sup>       | -  |                  |                  |                    |                  |                  |
| Output low-voltage indicate                  | 4.2V<br>±10%   | 9.6V<br>±10%     | 20.0V<br>±10%    | 4.2V<br>±10%       | 9.6V<br>±10%     | 20.0V<br>±10%    |
| <b>Power factor correction circuit</b>       | -  |                  |                  |                    |                  |                  |
| <b>Approval</b>                              | CE, UL, ENEC, ENEC   |                  |                  | CE, UL, ENEC, ENEC |                  |                  |
| <b>Unit weight (Package)</b>                 | ≈ 129 g (≈ 202 g)  |                  |                  | ≈ 176 g (≈ 249 g)  |                  |                  |

| Output range                                 | 60 to 120 W  |                  |                  |                    |                   |                   |
|--|--|------------------|------------------|--------------------|-------------------|-------------------|
| Model  | SPB-060-12   | SPB-060-24       | SPB-060-48       | SPB-120-12         | SPB-120-24        | SPB-120-48        |
| <b>Output power</b>                          | 60 W   | 60 W             | 62.4 W           | 96 W               | 120 W             | 120 W             |
| <b>Input condition</b>                       |  |                  |                  |                    |                   |                   |
| Voltage <sup>(1)</sup>                       | 100 - 240 VAC~ (permissible voltage: 85 - 264 VAC~ / 120 - 370 VDC=) |                  |                  |                    |                   |                   |
| Frequency                                    | 50 / 60 Hz   |                  |                  |                    |                   |                   |
| Efficiency <sup>(2)</sup> (Typical)          | 100 VAC~<br>240 VAC~   | 81%<br>83%       | 84%<br>86%       | 85%<br>87%         | 82%<br>85%        | 85%<br>88%        |
| Power factor <sup>(2)</sup>                  | -  |                  |                  |                    |                   |                   |
| Max. current consumption <sup>(2)</sup>      | 1.6 A  |                  |                  | 1.9 A              |                   |                   |
| Current consumption <sup>(2)</sup> (Typical) | 100 VAC~<br>240 VAC~   | 1.24 A<br>0.66 A | 1.21 A<br>0.65 A | 1.19 A<br>0.64 A   | 1.19 A<br>0.52 A  | 1.49 A<br>0.61 A  |
| <b>Output characteristics</b>                |  |                  |                  |                    |                   |                   |
| Voltage                                      | 12 VDC=  | 24 VDC=          | 48 VDC=          | 12 VDC=            | 24 VDC=           | 48 VDC=           |
| Current                                      | 5 A  | 2.5 A            | 1.3 A            | 8 A                | 5 A               | 2.5 A             |
| Voltage adjustment range                     | ≤ ±5%  |                  |                  |                    |                   |                   |
| Input variation <sup>(3)</sup>               | ≤ ±0.5%  |                  |                  |                    |                   |                   |
| Load variation                               | ≤ ±1%  |                  |                  |                    |                   |                   |
| Ripple noise <sup>(2), (4)</sup>             | ≤ ±1%  |                  |                  |                    |                   |                   |
| Start-up time <sup>(2)</sup> (Typical)       | 100 VAC~<br>240 VAC~   | 520 ms<br>530 ms | 550 ms<br>550 ms | 1200 ms<br>400 ms  | 1200 ms<br>400 ms | 1200 ms<br>400 ms |
| Hold time <sup>(2)</sup> (Typical)           | 100 VAC~<br>240 VAC~   | 15 ms<br>100 ms  | 14 ms<br>110 ms  | 15 ms<br>108 ms    | 98 ms<br>97 ms    | 75 ms<br>43 ms    |
| <b>Protection</b>                            |  |                  |                  |                    |                   |                   |
| Inrush current protection (Typical)          | 100 VAC~<br>240 VAC~   | 13 A<br>19 A     | 14 A<br>17 A     | 10 A<br>37 A       | 9 A<br>37 A       | 11 A<br>36 A      |
| Over-current protection <sup>(4), (5)</sup>  | 105 to 160%  |                  |                  |                    |                   |                   |
| Over-voltage protection <sup>(5)</sup>       | -  |                  |                  |                    |                   |                   |
| Output low-voltage indicate                  | 9.6 V<br>±10%  | 20.0 V<br>±10%   | 43.0 V<br>±10%   | 9.6 V<br>±10%      | 20.0 V<br>±10%    | 58.0 V<br>±10%    |
| <b>Power factor correction circuit</b>       | Built-in   |                  |                  |                    |                   |                   |
| <b>Approval</b>                              | CE, UL, ENEC, ENEC   |                  |                  | CE, UL, ENEC, ENEC |                   |                   |
| <b>Unit weight (Package)</b>                 | ≈ 274 g (≈ 347 g)  |                  |                  | ≈ 466 g (≈ 570 g)  |                   |                   |

|   |   |                   |  |                   |                   |
|---|---|-------------------|--|-------------------|-------------------|
| <b>Output range</b>                           | <b>180 to 240 W</b>   |                   |  |                   |                   |
| <b>Model</b>                                  | <b>SPB-180-24</b>   | <b>SPB-180-48</b> | <b>SPB-240-12</b>  | <b>SPB-240-24</b> | <b>SPB-240-48</b> |
| <b>Output power</b>                           | 180 W   | 182.4 W           | 240 W  |                   |                   |
| <b>Input condition</b>                        |   |                   |  |                   |                   |
| Voltage <sup>(01)</sup>                       | 100 - 240 VAC~ (permissible voltage: 85 - 264 VAC~ / 120 - 370 VDC=)  |                   |  |                   |                   |
| Frequency                                     | 50 / 60 Hz  |                   |  |                   |                   |
| Efficiency <sup>(02)</sup> (Typical)          | 100 VAC~  | 89%               | 89%  | 87%               | 89%               |
|   | 240 VAC~  | 92%               | 92%  | 90%               | 92%               |
| Power factor <sup>(02)</sup>                  | ≥ 0.9   |                   |  |                   |                   |
| Max. current consumption <sup>(02)</sup>      | 3.0 A   |                   | 3.8 A  |                   |                   |
| Current consumption <sup>(02)</sup> (Typical) | 100 VAC~  | 2.03 A            | 2.04 A   | 2.76 A            | 2.71 A            |
|   | 240 VAC~  | 0.83 A            | 0.84 A   | 1.14 A            | 1.12 A            |
| <b>Output characteristics</b>                 |   |                   |  |                   |                   |
| Voltage                                       | 24 VDC=   | 48 VDC=           | 12 VDC=  | 24 VDC=           | 48 VDC=           |
| Current                                       | 7.5 A   | 3.8 A             | 20 A   | 10 A              | 5 A               |
| Voltage adjustment range                      | ≤ ±5%   |                   | ≤ ±5%  |                   |                   |
| Input variation <sup>(03)</sup>               | ≤ ±0.5%   |                   | ≤ ±0.5%  |                   |                   |
| Load variation                                | ≤ ±1%   |                   | ≤ ±1%  |                   |                   |
| Ripple noise <sup>(02),(04)</sup>             | ≤ ±1%   |                   | ≤ ±1.5%  | ≤ ±1%             | ≤ ±1%             |
| Start-up time <sup>(02)</sup> (Typical)       | 100 VAC~  | 87 ms             | 75 ms  | 75 ms             | 87 ms             |
|   | 240 VAC~  | 56 ms             | 45 ms  | 45 ms             | 56 ms             |
| Hold time <sup>(02)</sup> (Typical)           | 100 VAC~  | 36 ms             | 25 ms  | 33 ms             | 36 ms             |
|   | 240 VAC~  | 36 ms             | 25 ms  | 33 ms             | 25 ms             |
| <b>Protection</b>                             |   |                   |  |                   |                   |
| Inrush current protection (Typical)           | 100 VAC~  | 8 A               | 8 A  | 8 A               | 8 A               |
|   | 240 VAC~  | 25 A              | 26 A   | 22 A              | 25 A              |
| Over-current protection <sup>(04),(05)</sup>  | 105 to 160%   |                   |  |                   |                   |
| Over-voltage protection <sup>(05)</sup>       | 30.0 V  | 58.0 V            | 16.0 V   | 30.0 V            | 58.0 V            |
|   | ±10%  | ±10%              | ±10%   | ±10%              | ±10%              |
| Output low-voltage indicate                   | 20.0 V  | 43.0 V            | 10.0 V   | 20.0 V            | 43.0 V            |
|   | ±10%  | ±10%              | ±10%   | ±10%              | ±10%              |
| <b>Power factor correction circuit</b>        | Built-in  |                   | Built-in   |                   |                   |
| <b>Approval</b>                               | CE  ENEC  |                   | CE  ENEC  |                   |                   |
| <b>Unit weight (Package)</b>                  | ≈ 505 g (≈ 609 g)   |                   | ≈ 736 g (≈ 866 g)  |                   |                   |

01) Since there is no separate input over-voltage protection for the voltage over the rated input voltage range, supplying over-voltage may result in product damage.

02) It is for 100% load condition.

03) It is in the rated input voltage 100-240VAC~ (85-264VAC~) with 100% load.

04) It is for the rated input voltage 100-240VAC~.

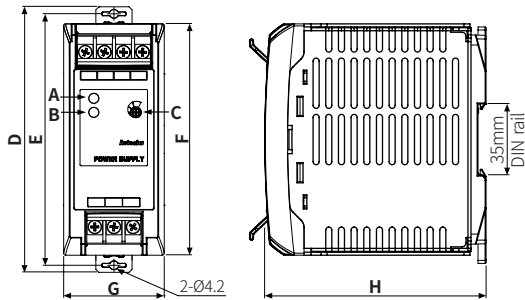
05) Refer to the catalog to check the related feature data.

|   |  |
|---|--|
| <b>Indicator</b>                          | Output indicator (green), output low-voltage indicator (red)   |
| <b>Insulation resistance</b>              | ≥ 100 MΩ (500 VDC= megger, between all input and output terminals)   |
| <b>Dielectric strength</b>                | 3,000 VAC~ 50/60 Hz for 1 min (between all input and output terminals)<br>1,500 VAC~ 50/60 Hz for 1 min (between all input terminals and F.G.) |
| <b>Vibration</b>                          | 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours  |
| <b>Shock</b>                              | 300 m/s <sup>2</sup> (≈ 30G) in each X, Y, Z direction for 3 times   |
| <b>EMS</b>                                | Conforms to EN61000-6-2  |
| <b>EMI</b>                                | Conforms to EN61000-6-4  |
| <b>Ambient temperature<sup>(01)</sup></b> | -10 to 50 °C, storage: -25 to 65 °C (no freezing or condensation)  |
| <b>Ambient humidity</b>                   | 25 to 85%RH, storage: 25 to 90%RH (no freezing or condensation)  |
| <b>Protection structure</b>               | IP20 (IEC standard)  |

01) UL approved ambient temperature is 40°C, refer to 'Output De-rating Curve by Ambient Temperature'.

## Dimensions

- Unit: mm, refer to the Autonics website for the details of the product.
- This is based on SPB-030 model.



|         | A   | B  | C  | D   | E   | F   | G    | H   |
|---------|---|--|--|-----|-----|-----|------|-----|
| SPB-015 |   |  |  | 107 | 100 | 90  | 22.5 | 90  |
| SPB-030 | Output indicator: DC ON, Green<br>Output low voltage indicator: DC LOW, Red | Output voltage adjuster: V.ADJ <sup>(01)</sup> | Output voltage adjuster: V.ADJ <sup>(01)</sup> | 107 | 100 | 90  | 30   | 90  |
| SPB-060 |   |  |  | 117 | 110 | 100 | 36   | 110 |
| SPB-120 |   |  |  | 132 | 125 | 115 | 50   | 110 |
| SPB-180 |   |  |  | 132 | 125 | 115 | 50   | 110 |
| SPB-240 |   |  |  | 132 | 125 | 115 | 80   | 110 |

01) Use within the voltage variable range. If the voltage exceeds the output voltage range, over-voltage protection function is activated and the output is cut off.