

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.

SPB	-	①	-	②
-----	---	---	---	---

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
Output power	15 W	15.6 W	15.6 W	25 W	30 W	31.2 W
Input condition						
Voltage ⁽¹⁾	100 - 240 VAC~ (permissible voltage: 85 - 264 VAC~ / 120 - 370 VDC≐)					
Frequency	50 / 60 Hz					
Efficiency ⁽²⁾ (Typical)	100 VAC~ 240 VAC~	77% 76%	80% 79%	83% 82%	77% 83%	82% 85%
Power factor ⁽²⁾	-					
Max. current consumption ⁽²⁾	0.4 A			0.8 A		
Current consumption ⁽²⁾ (Typical)	100 VAC~ 240 VAC~	0.35 A 0.19 A	0.35 A 0.19 A	0.34 A 0.19 A	0.56 A 0.30 A	0.63 A 0.35 A
Output characteristics						
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 ⁽³⁾	≤ ±0.5%					
Load variation	≤ ±1%					
Ripple noise ^{(2), (4)}	≤ ±1.5%					
Start-up time ⁽²⁾ (Typical)	100 VAC~ 240 VAC~	500 ms 550 ms	550 ms 550 ms	650 ms 650 ms	600 ms 600 ms	550 ms 550 ms
Hold time ⁽²⁾ (Typical)	100 VAC~ 240 VAC~	24 ms 190 ms	25 ms 190 ms	25 ms 190 ms	20 ms 130 ms	15 ms 110 ms
Protection						
Inrush current protection (Typical)	100 VAC~ 240 VAC~	7 A 32 A	7 A 30 A	7 A 31 A	7 A 29 A	6 A 29 A
Over-current protection ^{(4), (5)}	105 to 160%					
Over-voltage protection ⁽⁵⁾	-					
Output low-voltage indicate	4.2V ±10%	9.6V ±10%	20.0V ±10%	4.2V ±10%	9.6V ±10%	20.0V ±10%
Power factor correction circuit						
Approval	CE, UL, ENEC, EAC			CE, UL, ENEC, EAC		
Unit weight (Package)	≈ 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
Output power	60 W	60 W	62.4 W	96 W	120 W	120 W
Input condition						
Voltage ⁽¹⁾	100 - 240 VAC~ (permissible voltage: 85 - 264 VAC~ / 120 - 370 VDC≐)					
Frequency	50 / 60 Hz					
Efficiency ⁽²⁾ (Typical)	100 VAC~ 240 VAC~	81% 83%	84% 86%	85% 87%	82% 85%	85% 88%
Power factor ⁽²⁾	-					
Max. current consumption ⁽²⁾	1.6 A			1.9 A		
Current consumption ⁽²⁾ (Typical)	100 VAC~ 240 VAC~	1.24 A 0.66 A	1.21 A 0.65 A	1.19 A 0.64 A	1.19 A 0.52 A	1.49 A 0.61 A
Output characteristics						
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 ⁽³⁾	≤ ±0.5%					
Load variation	≤ ±1%					
Ripple noise ^{(2), (4)}	≤ ±1%					
Start-up time ⁽²⁾ (Typical)	100 VAC~ 240 VAC~	520 ms 530 ms	550 ms 550 ms	1200 ms 400 ms	1200 ms 400 ms	1200 ms 400 ms
Hold time ⁽²⁾ (Typical)	100 VAC~ 240 VAC~	15 ms 100 ms	14 ms 110 ms	15 ms 108 ms	98 ms 97 ms	75 ms 43 ms
Protection						
Inrush current protection (Typical)	100 VAC~ 240 VAC~	13 A 19 A	14 A 17 A	10 A 37 A	9 A 37 A	11 A 36 A
Over-current protection ^{(4), (5)}	105 to 160%					
Over-voltage protection ⁽⁵⁾	-					
Output low-voltage indicate	9.6 V ±10%	20.0 V ±10%	43.0 V ±10%	9.6 V ±10%	20.0 V ±10%	58.0 V ±10%
Power factor correction circuit						
Approval	CE, UL, ENEC, EAC			CE, UL, ENEC, EAC		
Unit weight (Package)	≈ 274 g (≈ 347 g)			≈ 466 g (≈ 570 g)		

Output range	180 to 240 W				
Model	SPB-180-24	SPB-180-48	SPB-240-12	SPB-240-24	SPB-240-48
Output power	180 W	182.4 W	240 W		
Input condition					
Voltage ⁽⁰¹⁾	100 - 240 VAC~ (permissible voltage: 85 - 264 VAC~ / 120 - 370 VDC=)				
Frequency	50 / 60 Hz				
Efficiency ⁽⁰²⁾ (Typical)	100 VAC~	89%	89%	87%	89%
	240 VAC~	92%	92%	90%	92%
Power factor ⁽⁰²⁾	≥ 0.9				
Max. current consumption ⁽⁰²⁾	3.0 A		3.8 A		
Current consumption ⁽⁰²⁾ (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
Output characteristics					
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 ⁽⁰³⁾	≤ ±0.5%		≤ ±0.5%		
Load variation	≤ ±1%		≤ ±1%		
Ripple noise ^{(02),(04)}	≤ ±1%		≤ ±1.5%	≤ ±1%	≤ ±1%
Start-up time ⁽⁰²⁾ (Typical)	100 VAC~	87 ms	75 ms	75 ms	87 ms
	240 VAC~	56 ms	45 ms	45 ms	56 ms
Hold time ⁽⁰²⁾ (Typical)	100 VAC~	36 ms	25 ms	33 ms	36 ms
	240 VAC~	36 ms	25 ms	33 ms	25 ms
Protection					
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 ^{(04),(05)}	105 to 160%				
Over-voltage protection ⁽⁰⁵⁾	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%
Power factor correction circuit	Built-in		Built-in		
Approval	CE		CE		
Unit weight (Package)	≈ 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~.

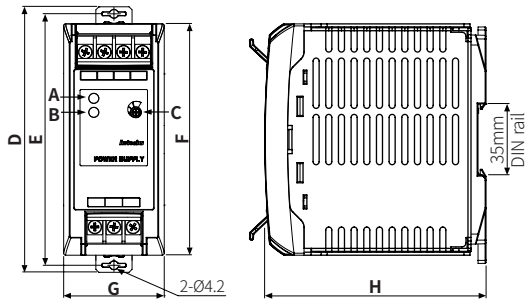
05) Refer to the catalog to check the related feature data.

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