



Slimline Single Phase Power Supply

ALTECH's slim type DIN rail switching power supply, PS-S Series designed for the fast growing demand of low wattage DIN rail applications. These 10W to 100W models are enclosed with fully isolated plastic case to prevent users from hazardous shock. The design complies with the slim trend that the precious space on the industrial rail can be saved effectively. Featuring up to 84% of efficiency, this series is cooled by only free air convection up to 70°C that significantly increase the reliability and lifetime of the power supply. Another important feature of PS-S Series is its low power consumption (<0.75W). This unique characteristic can significantly expand the application of PS-S series beyond just heavy industrial field, but can also be implied to datacom or IT applications that require green power to save the energy and to obey the anticipated government laws in the near future!

Short circuit protection, overload protection, over voltage protection, and the DC OK signal for monitoring the status of power supply are standard functions for the PS-S Series. Typical applications includes factory automation, process control, electro-mechanical industry, datacom and IT.

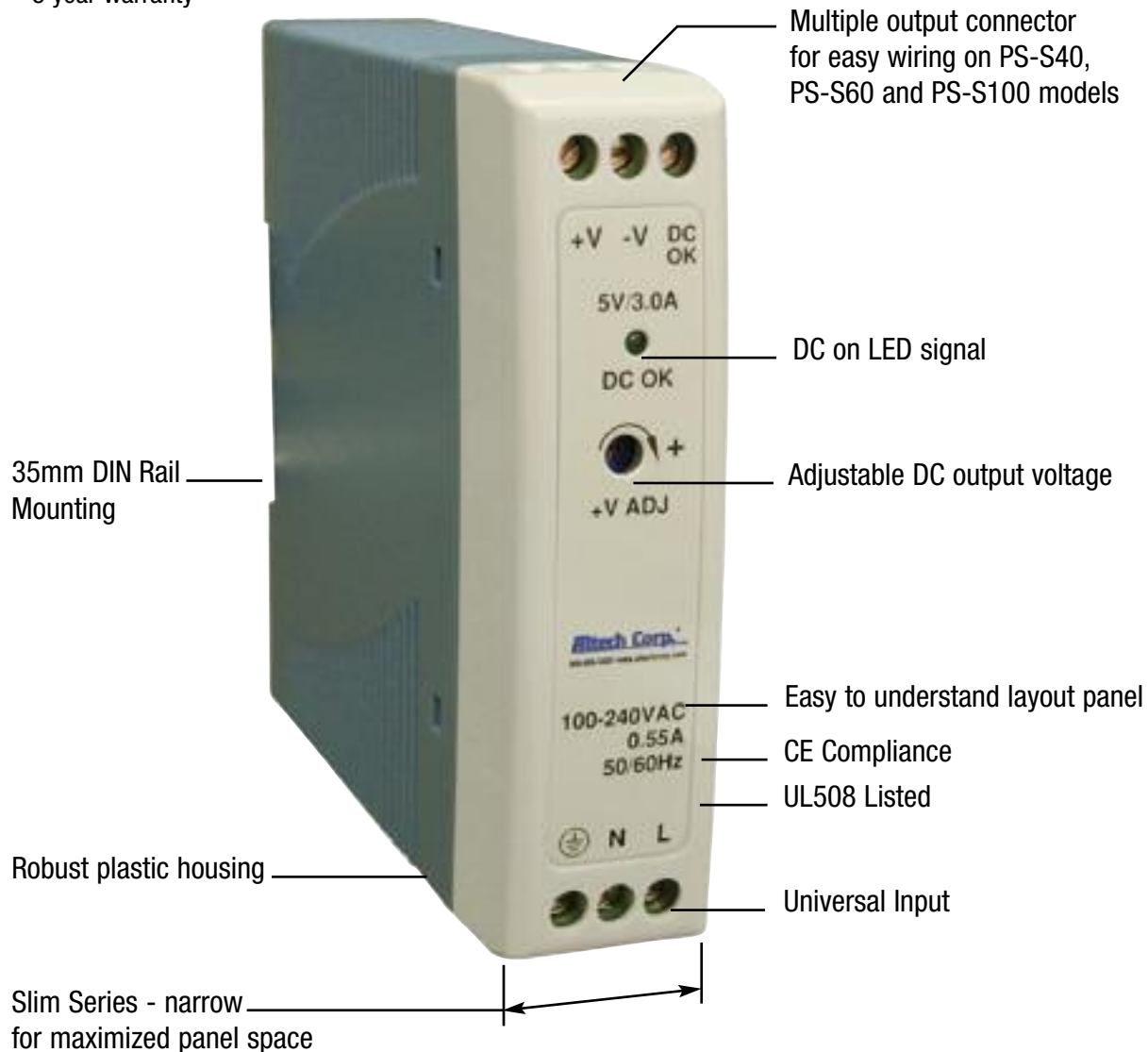
- Input voltage range: 85 - 264V AC; 120-370V DC
- AC inrush current (max): Cold start: 20A at 115V AC,; 40A at 230V DC
- DC adjustment range: $\pm 10\%$ rated output voltage
- Overload protection: 105% - 160% constant current limiting (auto- recovery)
- Over-voltage protection: 115% - 135% rated output voltage
- Setup, rise, time (max): 500ms, 30ms/230V AC
1000ms, 30ms/115V AC, at full load
- Withstand voltage: I/P-O/P: 3KV AC, I/P-FG:1.5KV AC, O/P-FG:0.5KV AC
- Working temperature: -20 to +70°C (-4° to +158°F), refer to output derating curve
- Safety standards: UL508, EN60950-1
- EMC standards: EN55022 class B
EN61000-4-2,3,4,5,6,8,11
ENV50204; EN55024; EN61000-6-1; EN61204-3;
Light Industry Level criteria A
- Military Standard MIL-HDBK-217F

PS-S Series



Features:

- Universal AC input/Full range
- Protections: Short circuit / Overload / Overvoltage
- Cooling by free air convection
- DIN rail mountable
- NEC class 2 / LPS compliant (12V,24V,48V only)
- LED indicator for power on
- DC OK relay contact
- No load power consumption <math><0.75W</math>
- 100% full load burn-in test
- 3 year warranty



10-100W Slimline POWER SUPPLIES



10W Single Output Industrial DIN Rail Power Supply

Cat. No.	Output V DC	A	Tol. %	Ripple & Noise	Efficiency	NOTES
PS-S1005	5V DC	2A	±5%	80 mVp-p	77%	
PS-S1012	12V DC	0.84A	±3%	120 mVp-p	81%	
PS-S1015	15V DC	0.67A	±3%	120 mVp-p	81%	
PS-S1024	24V DC	0.42A	±2%	150 mVp-p	84%	



20W Single Output Industrial DIN Rail Power Supply

Cat. No.	Output V DC	A	Tol. %	Ripple & Noise	Efficiency	NOTES
PS-S2005	5V DC	3A	±2%	80 mVp-p	76%	
PS-S2012	12V DC	1.67A	±1%	120 mVp-p	80%	
PS-S2015	15V DC	1.34A	±1%	120 mVp-p	81%	
PS-S2024	24V DC	1A	±1%	150 mVp-p	84%	



40W Single Output Industrial DIN Rail Power Supply

Cat. No.	Output V DC	A	Tol. %	Ripple & Noise	Efficiency	NOTES
PS-S4005	5V DC	6A	±2%	80 mVp-p	78%	
PS-S4012	12V DC	3.33A	±1%	120 mVp-p	86%	
PS-S4024	24V DC	1.7A	±1%	150 mVp-p	88%	
PS-S4048	48V DC	0.83A	±1%	200 mVp-p	88%	



60W Single Output Industrial DIN Rail Power Supply

Cat. No.	Output V DC	A	Tol. %	Ripple & Noise	Efficiency	NOTES
PS-S6005	5V DC	10A	±2%	80 mVp-p	78%	
PS-S6012	12V DC	5A	±1%	120 mVp-p	86%	
PS-S6024	24V DC	2.5A	±1%	150 mVp-p	88%	
PS-S6048	48V DC	1.25A	±1%	200 mVp-p	87%	

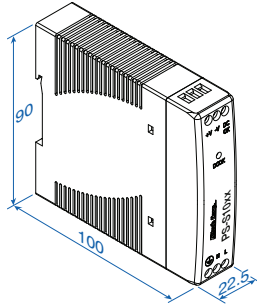


100W Single Output Industrial DIN Rail Power Supply

Cat. No.	Output V DC	A	Tol. %	Ripple & Noise	Efficiency	NOTES
PS-S10012	12V DC	7.5A	±1%	120 mVp-p	85%	
PS-S10024	24V DC	4A	±1%	150 mVp-p	86%	
PS-S10048	48V DC	2A	±1%	200 mVp-p	88%	

SPECIFICATIONS

PS-S10 Series



Terminal Pin. No Assign. (TB1)

Pin No.	Assignment
1	FG ⊕
2	AC/N
3	AC/L

Terminal Pin. No Assign. (TB2)

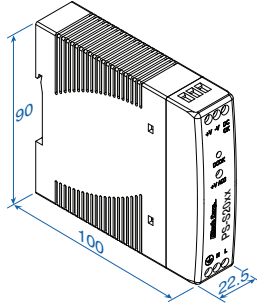
Pin No.	Assignment
4	DC OUTPUT +V
5	DC OUTPUT -V
6	DC OK SIGNAL

Universal Input: 85-264V AC, 120-370V DC full range;
0.33A @ 110V AC; 0.21A @ 230V AC

Connection: Input - 2 poles, Output - 2 poles, single screw terminal
Size (WxHxD): 22.5x90x100mm (0.89x3.54x3.94 inches)

Packaging: 1/box; 0.37lbs / 0.17Kg

PS-S20 Series



Terminal Pin. No Assign. (TB1)

Pin No.	Assignment
1	FG ⊕
2	AC/N
3	AC/L

Terminal Pin. No Assign. (TB2)

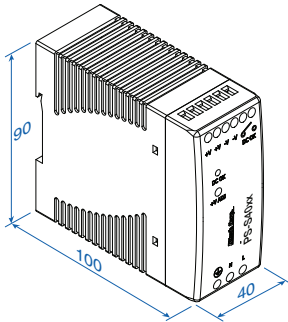
Pin No.	Assignment
4	DC OUTPUT +V
5	DC OUTPUT -V
6	DC OK SIGNAL

Universal Input: 85-264V AC, 120-370V DC full range;
0.55A @ 110V AC; 0.35A @ 230V AC

Connection: Input - 2 poles, Output - 2 poles, single screw terminal
Size (WxHxD): 22.5x90x100mm (0.89x3.54x3.94 inches)

Packaging: 1/box; 0.42lbs / 0.19Kg

PS-S40 Series



Terminal Pin. No Assign. (TB1)

Pin No.	Assignment
1	FG ⊕
2	AC/N
3	AC/L

Terminal Pin. No Assign. (TB2)

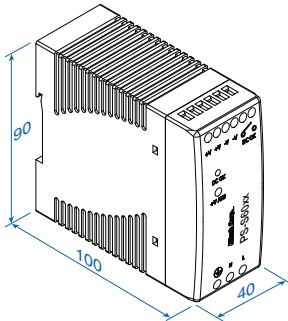
Pin No.	Assignment
1/2	DC OUTPUT +V
3/4	DC OUTPUT -V
5/6	DC OK Relay Contact

Universal Input: 85-264V AC, 120-370V DC full range;
1.1A @ 115V AC, 0.7A @ 370V AC

Connection: Input - 2 poles, Output - 2 poles, double screw terminal
Size (WxHxD): 40x90x100mm (1.57x3.54x3.94 inches)

Packaging: 1/box; 0.66lbs / 0.3Kg

PS-S60 Series



Terminal Pin. No Assign. (TB1)

Pin No.	Assignment
1	FG ⊕
2	AC/N
3	AC/L

Terminal Pin. No Assign. (TB2)

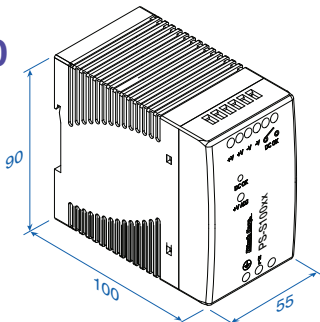
Pin No.	Assignment
1/2	DC OUTPUT +V
3/4	DC OUTPUT -V
5/6	DC OK Relay Contact

Universal Input: 85-264V AC, 120-370V DC full range;
1.8A @ 115V AC, 1A @ 370V AC

Connection: Input - 2 poles, Output - 2 poles, double screw terminal
Size (WxHxD): 40x90x100mm (1.57x3.54x3.94 inches)

Packaging: 1/box; 0.73lbs / 0.33Kg

PS-S100 Series



Terminal Pin. No Assign. (TB1)

Pin No.	Assignment
1	FG ⊕
2	AC/N
3	AC/L

Terminal Pin. No Assign. (TB2)

Pin No.	Assignment
1/2	DC OUTPUT +V
3/4	DC OUTPUT -V
5/6	DC OK Relay Contact

Universal Input: 85-264V AC, 120-370V DC full range;
1.3A @ 115V AC, 0.8A @ 230V AC

Connection: Input - 2 poles, Output - 2 poles, double screw terminal
Size (WxHxD): 55x90x100mm (2.17x3.54x3.94 inches)

Packaging: 1/box; 0.93lbs / 0.42Kg



PS-S10 Series

Specifications



Features:

- Universal AC input / full range
- Protections: Short Circuit / Overload / Overvoltage
- Cooling by free air convection
- DIN rail mountable
- Built in DC OK active signal
- LED indicator for power on
- No load power consumption < 0.75W
- 100% full load burn-in test
- 3 year warranty

OUTPUT

Cat. No.	PS-S1005	PS-S1012	PS-S1015	PS-S1024
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DC VOLTAGE	5V	12V	15V	24V
RATED CURRENT	2A	0.84A	0.67A	0.42A
CURRENT RANGE	0~2A	0~0.84A	0~0.67A	0~0.42A
RATED POWER	10W	10W	10W	10W
RIPPLE & NOISE (max)	80mVp-p	120mVp-p	120mVp-p	150mVp-p
VOLTAGE TOLERANCE	±5.0%	±3.0%	±3.0%	±2.0%
LINE REGULATION	±1.0%	±1.0%	±1.0%	±1.0%
LOAD REGULATION	±5.0%	±3.0%	±3.0%	±2.0%
SETUP, RISE TIME	500ms, 30ms/230VAC; 1000ms, 30ms/115VAC at full load			
HOLD UP TIME (Typ.)	120ms/230VAC; 25ms/115VAC at full load			

Ripple & noise are measured at 20MHz of bandwidth by using a 12 twisted pair-wire terminated with a 0.1µF & 47µF parallel capacitor
Tolerance: includes set up tolerance, line regulation and load regulation.
Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.

INPUT

VOLTAGE RANGE	85~264VAC; 120~370VDC			
FREQUENCY RANGE	47~63Hz			
EFFICIENCY (Typ.)	77%	81%	81%	84%
AC CURRENT (max.)	0.33A/115VAC; 0.21A/230VAC			
INRUSH CURRENT (Typ.)	COLD START: 35A/115VAC; 70A/230VAC			
LEAKAGE CURRENT	<1mA/ 240VAC			

PROTECTION

OVERLOAD PROTECTION	Above 105% rated output power Protection type: Hiccup mode, recovers automatically after fault condition is removed			
OVERVOLTAGE PROTECTION	5.75~6.75V	13.8~16.2V	17.25~20.25V	27.6~32.4V
OVER TEMPERATURE PROTECTION	Protection type: Shut down overvoltage, re-power on to recover Power supply shut down at 70°C constant current limiting / output voltage goes to 0; re-power on to recover			
DC OK AKTIV SIGNAL (max.)	3.75~6V (50mA)	9~13.5V (40mA)	11.5~16.5V (40mA)	18~27V (20mA)

ENVIRONMENT

WORKING TEMP.	-20 ~ +70°C (Refer to output load derating curve)
WORKING HUMIDITY	20 ~ 90% RH non-condensing
STORAGE TEMP. / HUMIDITY	-40 ~ +85°C; 10 ~ 95% RH
TEMP. COEFFICIENT	±0.03% °C (0 ~ 50°C)
VIBRATION	Component: 10 ~ 500Hz, 2G 10min. / 1cycle, 60 min. each long X,Y, Z axes
MOUNTING	Compliance to IEC60068-2-6

SAFETY & EMC

SAFETY STANDARDS	UL508 EN60950-1 compliant
WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG: 1.5KVAC O/P-FG: 0.5KVAC
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms/500VDC
EMI CONDUCTION & RADIATION	Compliance to EN55011 EN55022 (CISPR22) EN61204-3 Class B
HARMONIC CURRENT	Compliance to EN61000-3-2,-3
EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; EN55024; EN61000-6-1;EN61204-3; light industry level; criteria A
	The power supply is considered a component which will installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.

OTHERS

MTBF	584K hrs min. MIL-HDBK-217K (25°C)
DIMENSION	22.5x90x100mm (WxHxD)
PACKING	0.17Kg; 72pcs / 13.2Kg / 0.91CUFT

All parameters NOT specially mentioned are measured at 230V AC input, rated load and 25°C of ambient temperature

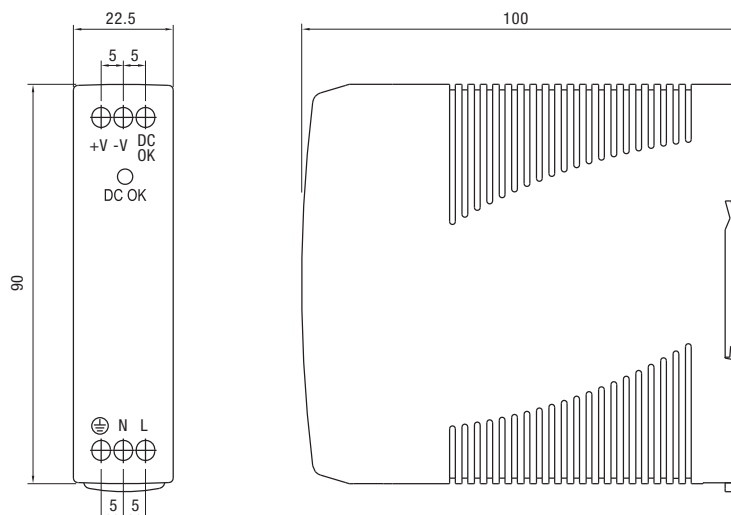
Mechanical Specification

Terminal Pin. No Assign. (TB1)

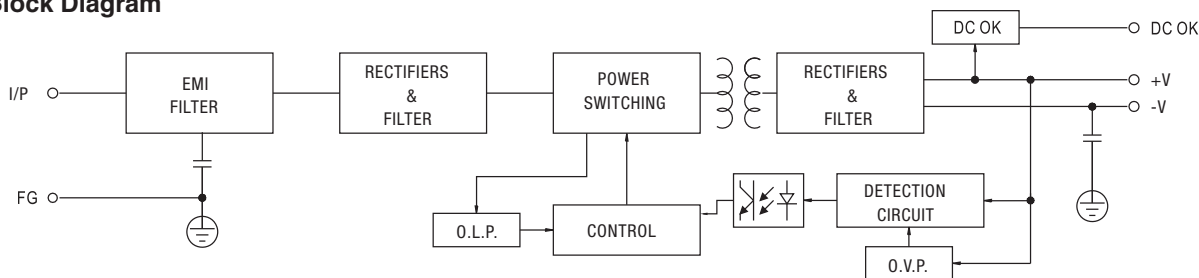
Pin No.	Assignment
1	FG ⊕
2	AC/N
3	AC/L

Terminal Pin. No Assign. (TB2)

Pin No.	Assignment
4	DC OUTPUT +V
5	DC OUTPUT -V
6	DC OK SIGNAL

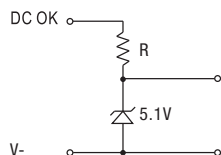


Block Diagram



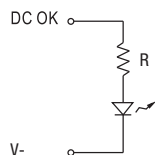
Application of DC OK Signal

(a) 5V signal



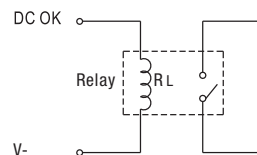
Model	R
5V	≧ 200Ω
12V	≧ 1.5KΩ
15V	≧ 2KΩ
24V	≧ 3.9KΩ

(b) LED



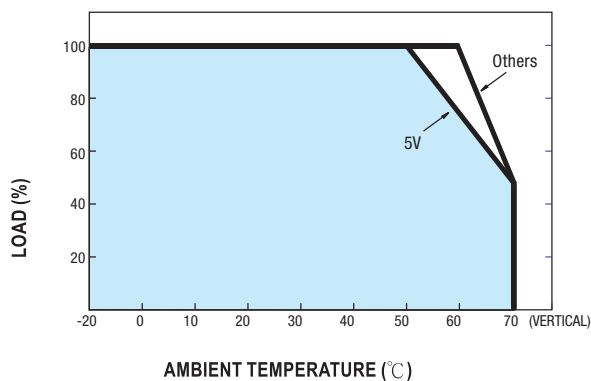
Model	R
5V	≧ 1KΩ
12V	≧ 2.4KΩ
15V	≧ 3KΩ
24V	≧ 4.7KΩ

(c) Relay

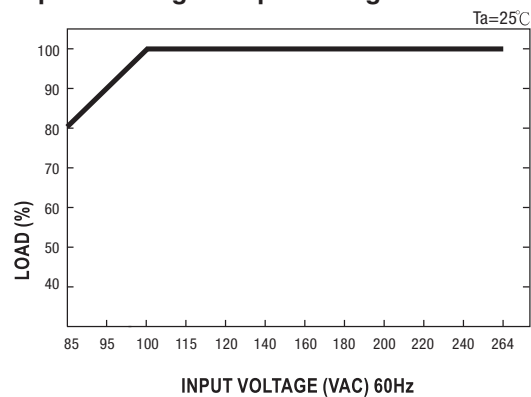


Model	RL
5V	≧ 120Ω
12V	≧ 700Ω
15V	≧ 700Ω
24V	≧ 1.2KΩ

Derating Curve



Output Derating VS Input Voltage





PS-S20 Series Specifications



Features:

- Universal AC input / full range
- Protections: Short Circuit / Overload / Overvoltage
- Cooling by free air convection
- DIN rail mountable
- Built in DC OK active signal
- LED indicator for power on
- No load power consumption < 0.75W
- 100% full load burn-in test
- 3 year warranty

OUTPUT

Cat. No.	PS-S2005	PS-S2012	PS-S2015	PS-S2024
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DC VOLTAGE	5V	12V	15V	24V
RATED CURRENT	3A	1.67A	1.34A	1A
CURRENT RANGE	0~3A	0~1.67A	0~1.34A	0~1A
RATED POWER	15W	20W	20W	24W
RIPPLE & NOISE (max)	80mVp-p	120mVp-p	120mVp-p	150mVp-p
<small>Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µF & 47µF parallel capacitor</small>				
VOLTAGE ADJ. RANGE	4.75 ~ 5.5V	10.8 ~ 13.2V	13.5 ~ 16.5V	21.6 ~ 26.4V
VOLTAGE TOLERANCE	±2.0%	±1.0%	±1.0%	±1.0%
<small>Tolerance: includes set up tolerance, line regulation and load regulation.</small>				
LINE REGULATION	±1.0%	±1.0%	±1.0%	±1.0%
LOAD REGULATION	±1.0%	±1.0%	±1.0%	±1.0%
SETUP, RISE TIME	500ms, 30ms/230VAC; 1000ms, 30ms/115VAC at full load			
<small>Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.</small>				
HOLD UP TIME (Typ.)	50ms/230VAC; 20ms/115VAC at full load			

INPUT

VOLTAGE RANGE	85~264VAC	120~370VDC		
FREQUENCY RANGE	47~63Hz			
EFFICIENCY (Typ.)	76%	80%	81%	84%
AC CURRENT (max.)	0.55A/115VAC; 0.35A/230VAC			
INRUSH CURRENT (Typ.)	COLD START: 20A/115VAC; 40A/230VAC			
LEAKAGE CURRENT	≤1mA/ 240VAC			

PROTECTION

OVERLOAD PROTECTION	105% ~ 160% rated output power <small>Protection type: Constant current limiting, recovers automatically after fault condition is removed</small>			
OVERVOLTAGE PROTECTION	5.75~6.75V	13.8~16.2V	17.25~20.25V	27.6~32.4V
<small>Protection type: Shut down overvoltage, re-power on to recover</small>				
OVER TEMPERATURE PROTECTION	Power supply shut down at 70°C constant current limiting / output voltage goes to 0; re-power on to recover			
DC OK AKTIV SIGNAL (max.)	3.75~6V (50mA)	9~13.5V (40mA)	11.5~16.5V (40mA)	18~27V (20mA)

ENVIRONMENT

WORKING TEMP.	-20 ~ +70°C (Refer to output load derating curve)
WORKING HUMIDITY	20 ~ 90% RH non-condensing
STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH
TEMP. COEFFICIENT	±0.03% °C (0 ~ 50°C)
VIBRATION	Component: 10 ~ 500Hz, 2G 10min. / 1cycle, 60 min. each long X,Y, Z axes
MOUNTING	Compliance to IEC60068-2-6

SAFETY & EMC

SAFETY STANDARDS	UL508 EN60950-1 compliant
WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG: 1.5KVAC O/P-FG: 0.5KVAC
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms/500VDC
EMI CONDUCTION & RADIATION	Compliance to EN55011 EN55022 (CISPR22) EN61204-3 Class B
HARMONIC CURRENT	Compliance to EN61000-3-2,-3
EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; EN55024; ENV50204; EN61000-6-1;EN61204-3; light industry level; criteria A
<small>The power supply is considered a component which will installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.</small>	

OTHERS

MTBF	236.9K hrs min. MIL-HDBK-217K (25°C)
DIMENSION	22.5x90x100mm (WxHxD)
PACKING	0.19Kg; 72pcs / 14.7Kg / 0.91CUFT

All parameters NOT specially mentioned are measured at 230V AC input, rated load and 25°C of ambient temperature

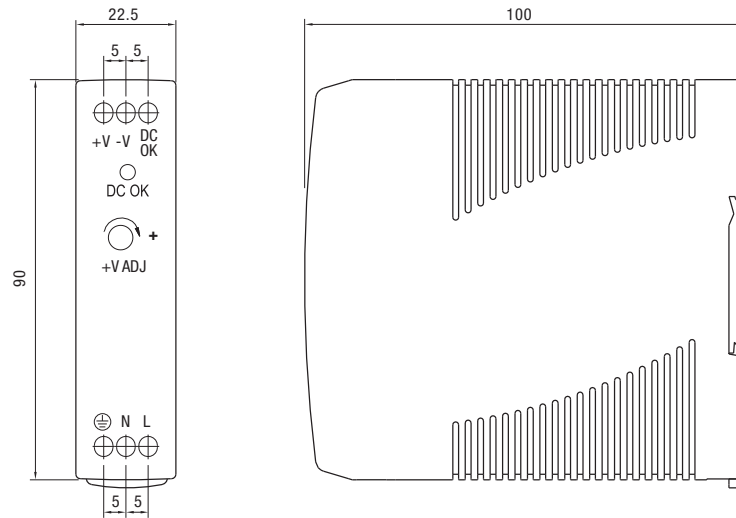
Mechanical Specification

Terminal Pin. No Assign. (TB1)

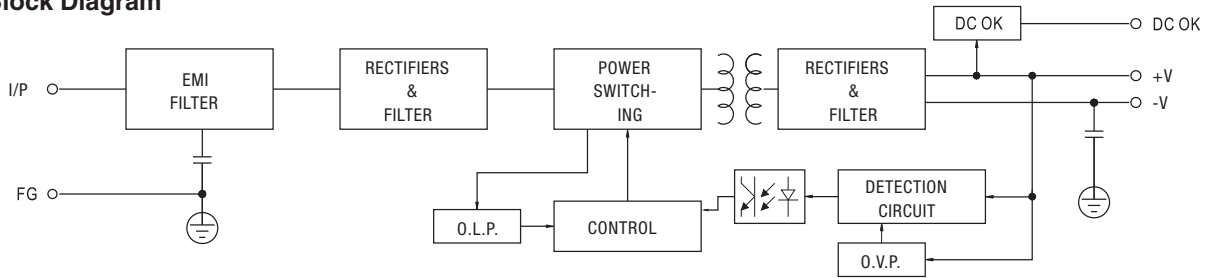
Pin No.	Assignment
1	FG ⊕
2	AC/N
3	AC/L

Terminal Pin. No Assign. (TB2)

Pin No.	Assignment
4	DC OUTPUT +V
5	DC OUTPUT -V
6	DC OK SIGNAL

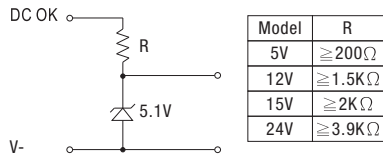


Block Diagram

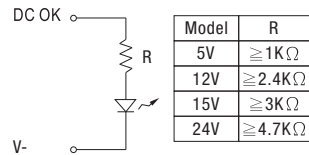


Application of DC OK Signal

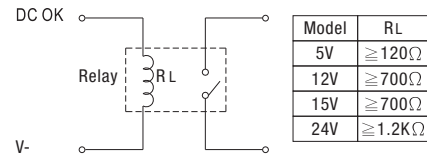
(a) 5V signal



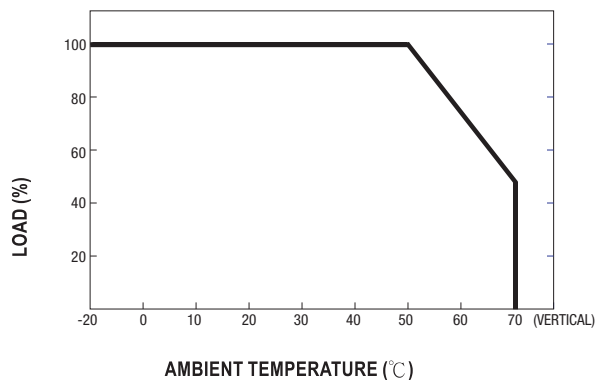
(b) LED



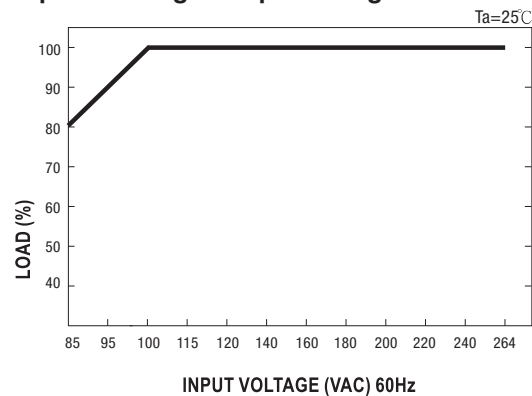
(c) Relay



Derating Curve



Output Derating VS Input Voltage



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.



PS-S40 Series

Specifications



Features:

- Universal AC input/full range
- Protections: Short Circuit / Overload / Overvoltage
- Cooling by free air convection
- DIN rail mountable
- LED indicator for power on DC OK relay contact
- No load power consumption < 0.75W
- 100% full load burn-in test
- 3 year warranty

OUTPUT

Cat. No.	PS-S4005	PS-S4012	PS-S4024	PS-S4048
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DC VOLTAGE	5V	12V	24V	48V
RATED CURRENT	6A	3.33A	1.7A	0.83A
CURRENT RANGE	0~6A	0~3.33A	0~1.7A	0~0.83A
RATED POWER	30W	40W	40.8W	39.8W
RIPPLE & NOISE (max)	80mVp-p	120mVp-p	150mVp-p	200mVp-p
Ripple & noise are measured at 20MHz of bandwidth by using a 12 twisted pair-wire terminated with a 0.1µF & 47µF parallel capacitor				
VOLTAGE ADJ. RANGE	5 ~ 6V	12 ~ 15V	24 ~ 30V	48 ~ 56V
VOLTAGE TOLERANCE	±2.0%	±1.0%	±1.0%	±1.0%
Tolerance: includes set up tolerance, line regulation and load regulation.				
LINE REGULATION	±1.0%	±1.0%	±1.0%	±1.0%
LOAD REGULATION	±1.0%	±1.0%	±1.0%	±1.0%
SETUP, RISE TIME	500ms, 30ms/230VAC; 500ms, 30ms/115VAC at full load			
Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.				
HOLD UP TIME (Typ.)	50ms/230VAC; 20ms/115VAC at full load			

INPUT

VOLTAGE RANGE	85~264VAC	120~370VDC		
FREQUENCY RANGE	47~63Hz			
EFFICIENCY (Typ.)	78%	86%	88%	88%
AC CURRENT (max)	1.1A/115VAC; 0.7A/230VAC			
INRUSH CURRENT (Typ.)	COLD START: 30A/115VAC; 60A/230VAC			
LEAKAGE CURRENT	≤1mA/ 240VAC			

PROTECTION

OVERLOAD PROTECTION	105% ~ 150% rated output power Protection type: Constant current limiting, recovers automatically after fault condition is removed			
OVERVOLTAGE PROTECTION	6.25~7.25V	15.6~18V	31.2~36V	57.6~64.8V
Protection type: Shut down overvoltage, re-power on to recover				
OVER TEMPERATURE PROTECTION	Power supply shut down at 70°C constant current limiting / output voltage goes to 0; re-power on to recover			
DC OK AKTIV SIGNAL (max.)	Relay contact rating (max.): 30V/ 1A resistive			

ENVIRONMENT

WORKING TEMP.	-20 ~ +70°C (Refer to output load derating curve)			
WORKING HUMIDITY	20 ~ 90% RH non-condensing			
STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH			
TEMP. COEFFICIENT	±0.03% °C (0 ~ 50°C)			
VIBRATION	Component: 10 ~ 500Hz, 2G 10min. / 1cycle, 60 min. each long X,Y, Z axes			
MOUNTING	Compliance to IEC60068-2-6			

SAFETY & EMC

SAFETY STANDARDS	UL508 EN60950-1 compliant			
WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG: 1.5KVAC O/P-FG: 0.5KVAC			
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: ≥100M Ohms/500VDC (25°C; 70% RH)			
EMI CONDUCTION & RADIATION	Compliance to EN55011 EN55022 (CISPR22) EN61204-3 Class B			
HARMONIC CURRENT	Compliance to EN61000-3-2,-3			
EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; EN55024; ENV50204 ; EN61000-6-2; EN61204-3; light industry level; criteria A			
The power supply is considered a component which will installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.				

OTHERS

MTBF	301.7K hrs min. MIL-HDBK-217K (25°C)			
DIMENSION	40x90x100mm (WxHxD)			
PACKING	0.3Kg; 42pcs / 13.6 Kg / 0.82CUFT			
All parameters NOT specially mentioned are measured at 230V AC input, rated load and 25°C of ambient temperature.				

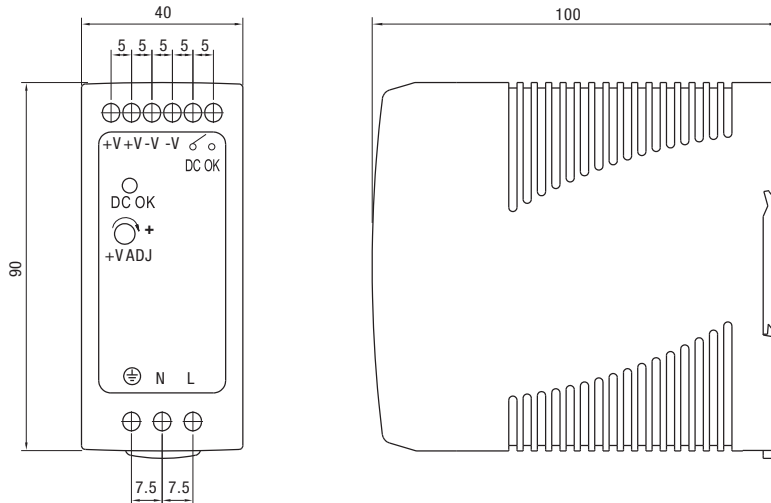
Mechanical Specification

Terminal Pin. No Assign. (TB1)

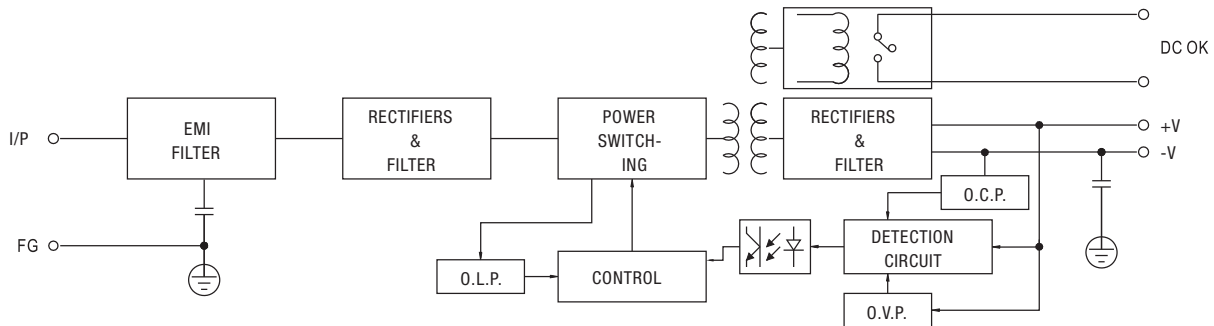
Pin No.	Assignment
1	FG ⊕
2	AC/N
3	AC/L

Terminal Pin. No Assign. (TB2)

Pin No.	Assignment
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V
5,6	DC OK RELAY CONTACT



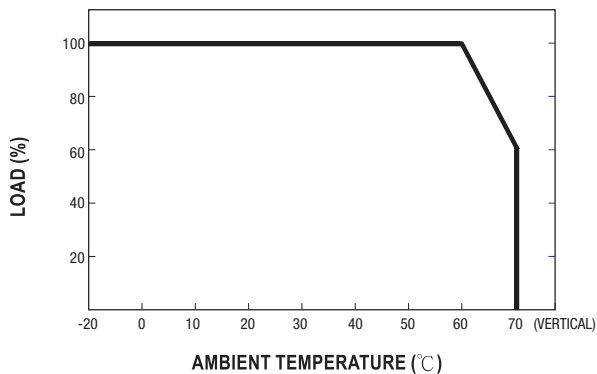
Block Diagram



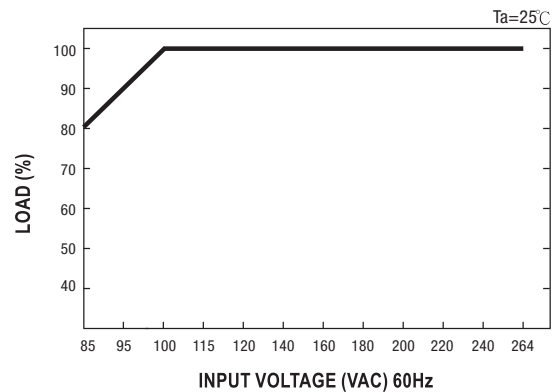
DC OK Relay Contact

Contact Close	When the output voltage reaches the adjusted output voltage.
Contact Open	When the output voltage drop more than 90% output voltage.
Contact Ratings (max.)	30V/1A resistive load

Derating Curve



Output Derating VS Input Voltage





PS-S60 Series Specifications



Features:

- Universal AC input/full range
- Protections: Short Circuit / Overload / Overvoltage
- Cooling by free air convection
- DIN rail mountable
- LED indicator for power on
- No load power consumption < 0.75W
- 100% full load burn-in test
- 3 year warranty

OUTPUT

Cat. No.	PS-S6005	PS-S6012	PS-S6024	PS-S6048
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DC VOLTAGE	5V	12V	24V	48V
RATED CURRENT	10A	5A	2.5A	1.25A
CURRENT RANGE	0 ~ 10A	0 ~ 5A	0 ~ 2.5A	0 ~ 1.25A
RATED POWER	50W	60W	60W	60W
RIPPLE & NOISE (max)	80mVp-p	120mVp-p	150mVp-p	200mVp-p
Ripple & noise are measured at 20MHz of bandwidth by using a 12 twisted pair-wire terminated with a 0.1µF & 47µF parallel capacitor				
VOLTAGE ADJ. RANGE	5 ~ 6V	12 ~ 15V	24 ~ 30V	48 ~ 56V
VOLTAGE TOLERANCE	±2.0%	±1.0%	±1.0%	±1.0%
Tolerance: includes set up tolerance, line regulation and load regulation.				
LINE REGULATION	±1.0%	±1.0%	±1.0%	±1.0%
LOAD REGULATION	±1.5%	±1.0%	±1.0%	±1.0%
SETUP, RISE TIME	500ms, 30ms/230VAC; 500ms, 30ms/115VAC at full load			
Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.				
HOLD UP TIME (Typ.)	50ms/230VAC / 20ms/115VAC at full load			

INPUT

VOLTAGE RANGE	85 ~ 264VAC	120 ~ 370VDC		
FREQUENCY RANGE	47~63Hz			
EFFICIENCY (Typ.)	78%	86%	88%	87%
AC CURRENT (max)	1.8A/115VAC; 1A/230VAC			
INRUSH CURRENT (Typ.)	COLD START: 30A/115VAC; 60A/230VAC			
LEAKAGE CURRENT	≤1mA/ 240VAC			

PROTECTION

OVERLOAD PROTECTION	105% ~ 150% rated output power Protection type: Constant current limiting, recovers automatically after fault condition is removed			
OVERVOLTAGE PROTECTION	6.25 ~ 7.25V	15.6 ~ 18V	31.2 ~ 36V	57.6 ~ 64.8V
Protection type: Shut down overvoltage, re-power on to recover				
OVER TEMPERATURE PROTECTION	Power supply shut down at 70°C constant current limiting / output voltage goes to 0; re-power on to recover			
DC OK AKTIV SIGNAL (max.)	Relay contact rating (max.): 30V/1A resistive			

ENVIRONMENT

WORKING TEMP.	-20 ~ +70°C (Refer to output load derating curve)
WORKING HUMIDITY	20 ~ 90% RH non-condensing
STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH
TEMP. COEFFICIENT	±0.03% °C (0 ~ 50°C)
VIBRATION	Component: 10 ~ 500Hz, 2G 10min. / 1cycle, 60 min. each long X,Y, Z axes
MOUNTING	Compliance to IEC60068-2-6

SAFETY & EMC

SAFETY STANDARDS	UL508 EN60950-1 compliant
WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG: 1.5KVAC O/P-FG: 0.5KVAC
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: ≥100M Ohms/500VDC (25°C; 70% RH)
EMI CONDUCTION & RADIATION	Compliance to EN55011 EN55022 (CISPR22) EN61204-3 Class B
HARMONIC CURRENT	Compliance to EN61000-3-2,-3
EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; EN55024; ENV50204; EN61000-6-2; EN61204-3; light industry level; criteria A The power supply is considered a component which will installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.

OTHERS

MTBF	299.2K hrs min. MIL-HDBK-217K (25°C)
DIMENSION	40x90x100mm (WxHxD)
PACKING	0.33Kg; 42pcs / 14.8Kg / 0.82CUFT

All parameters NOT specially mentioned are measured at 230V AC input, rated load and 25°C of ambient temperature

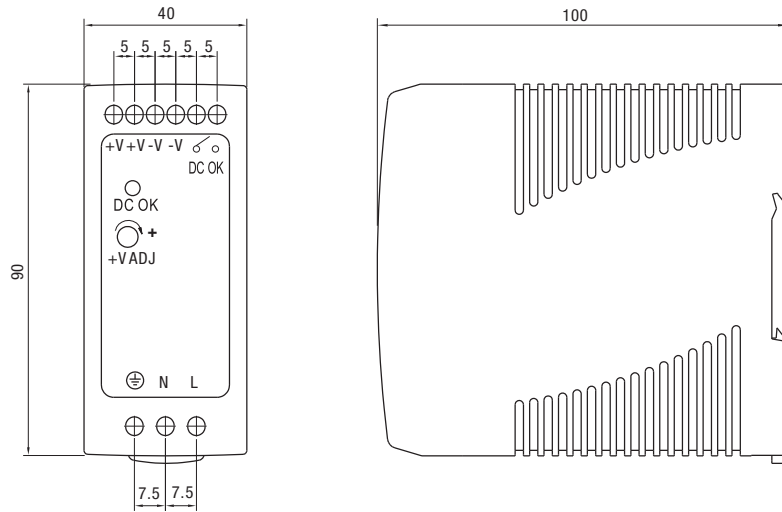
Mechanical Specification

Terminal Pin. No Assign. (TB1)

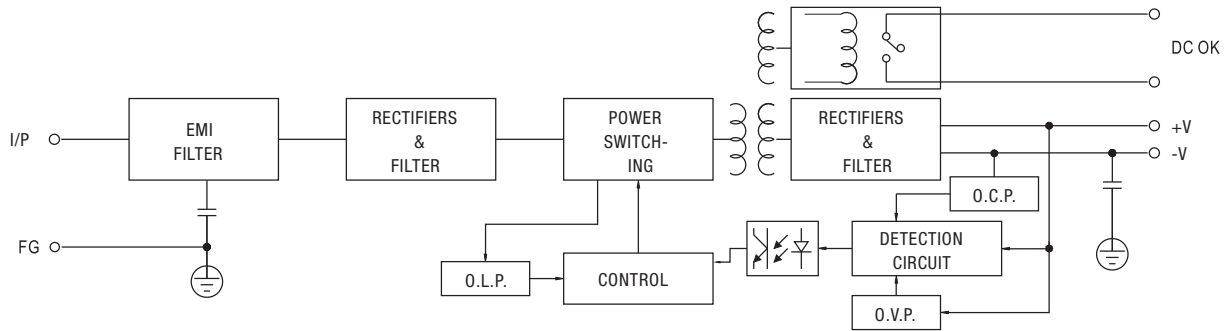
Pin No.	Assignment
1	FG ⊕
2	AC/N
3	AC/L

Terminal Pin. No Assign. (TB2)

Pin No.	Assignment
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V
5,6	DC OK RELAY CONTACT



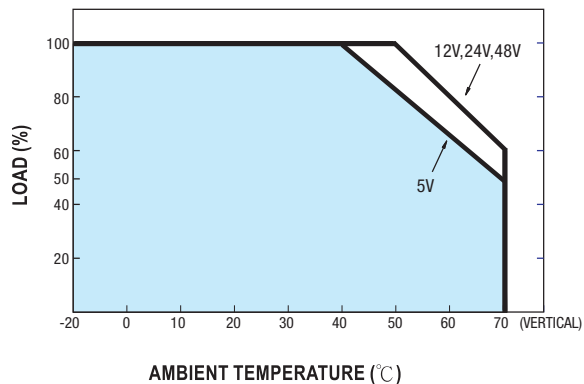
Block Diagram



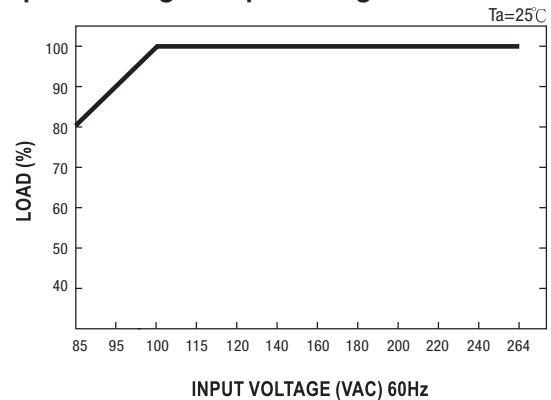
DC OK Relay Contact

Contact Close	When the output voltage reaches the adjusted output voltage.
Contact Open	When the output voltage drop more than 90% output voltage.
Contact Ratings (max.)	30V/1A resistive load

Derating Curve



Output Derating VS Input Voltage





PS-S100 Series Specifications



Features:

- Universal AC input / full range
- Protections: Short Circuit / Overload / Overvoltage / Over temperature
- ZCS/ZVS technology to reduce power dissipation
- Cooling by free air convection
- DIN rail mountable
- DC OK relay contact
- No load power consumption < 1W
- LED indicator for power on
- 100% full load burn-in test
- 3 year warranty

OUTPUT

Cat. No.	PS-S10012	PS-S10024	PS-S10048
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DC VOLTAGE	12V	24V	48V
RATED CURRENT	7.5A	4A	2A
CURRENT RANGE	0 ~ 7.5A	0 ~ 4A	0 ~ 2A
RATED POWER	90W	96W	96W
RIPPLE & NOISE (max)	120mVp-p	150mVp-p	200mVp-p
Ripple & noise are measured at 20MHz of bandwidth by using a 12 twisted pair-wire terminated with a 0.1µF & 47µF parallel capacitor.			
VOLTAGE ADJ. RANGE	12 ~ 15V	24 ~ 30V	48 ~ 56V
VOLTAGE TOLERANCE	±1.0%	±1.0%	±1.0%
Tolerance: includes set up tolerance, line regulation and load regulation.			
LINE REGULATION	±1.0%	±1.0%	±1.0%
LOAD REGULATION	±1.0%	±1.0%	±1.0%
SETUP, RISE TIME	3000ms, 50ms/230VAC; 3000ms, 50ms/115VAC at full load		
Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.			
HOLD UP TIME (Typ.)	50ms/230VAC; 20ms/115VAC at full load		

INPUT

VOLTAGE RANGE	85 ~ 264VAC 120 ~ 370VDC
Derating maybe needed under low input voltages, please check the derating curve for more detail	
FREQUENCY RANGE	47~63Hz
POWER FACTOR (Typ.)	PF ≥ 0.95/230VAC; PF ≥ 0.98/115VAC at full load
EFFICIENCY (Typ.)	85% 86% 88%
AC CURRENT (max)	1.3A/115VAC; 0.8A/230VAC
INRUSH CURRENT (Typ.)	COLD START: 30A/115VAC; 60A/230VAC
LEAKAGE CURRENT	≤1mA/ 240VAC

PROTECTION

OVERLOAD	105% ~ 150% rated output power
Protection type: Constant current limiting, recovers automatically after fault condition is removed	
OVERVOLTAGE	15.6 ~ 18V 31.2 ~ 36V 57.6 ~ 64.8V
Protection type: Shut down overvoltage, re-power on to recover	
OVERTEMPERATURE	90°C ± 10°C (RTH2) detect on heat sink of power transistor
Protection type: Shut down overvoltage, re-power on to recover	
SHORT CIRCUIT PROTECTION	Power supply shut down at 70°C constant current limiting / output voltage goes to 0; re-power on to recover
DC OK AKTIV SIGNAL (max.)	Relay contact rating (max.): 30V/1A resistive

ENVIRONMENT

WORKING TEMP.	-10 ~ +60°C (Refer to output load derating curve)
WORKING HUMIDITY	20 ~ 90% RH non-condensing
STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH
TEMP. COEFFICIENT	±0.03% /°C (0 ~ 50°C)
VIBRATION	Component: 10 ~ 500Hz, 2G 10min. / 1cycle, 60 min. each long X,Y, Z axes
MOUNTING	Compliance to IEC60068-2-6

SAFETY & EMC

SAFETY STANDARDS	UL508 EN60950-1 compliant
WITHSTAND VOLTAGE	I/P-O/P: 3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG: ≥100M Ohms/500VDC/25°C/70% RH
EMI CONDUCTION & RADIATION	Compliance to EN55011 EN55022 (CISPR22) EN61204-3 Class B
HARMONIC CURRENT	Compliance to EN61000-3-2, -3
EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; EN55024; ENV50204; EN61000-6-2; EN61204-3; light industry level; criteria A
The power supply is considered a component which will installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.	

OTHERS

MTBF	346K hrs min. MIL-HDBK-217K (25°C)
DIMENSION	55x90x100mm (WxHxD)
PACKING	0.42Kg; 30pcs / 13.6Kg / 0.82CUFT
All parameters NOT specially mentioned are measured at 230V AC input, rated load and 25°C of ambient temperature.	

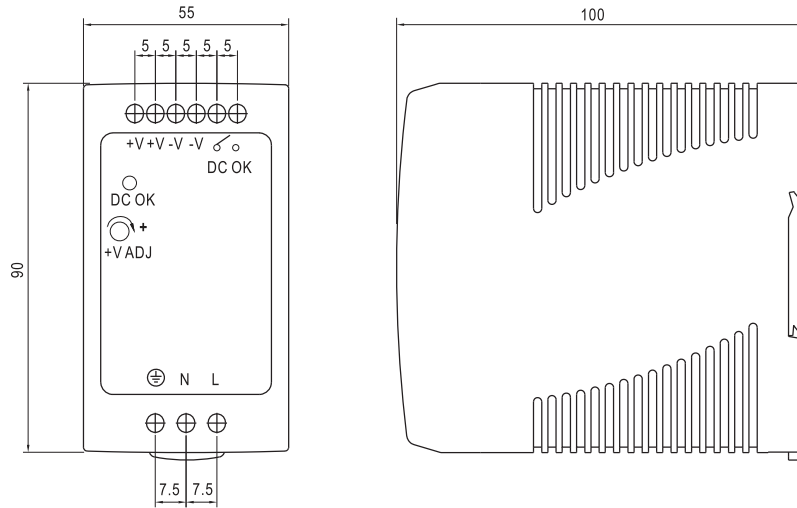
Mechanical Specification

Terminal Pin. No Assign. (TB1)

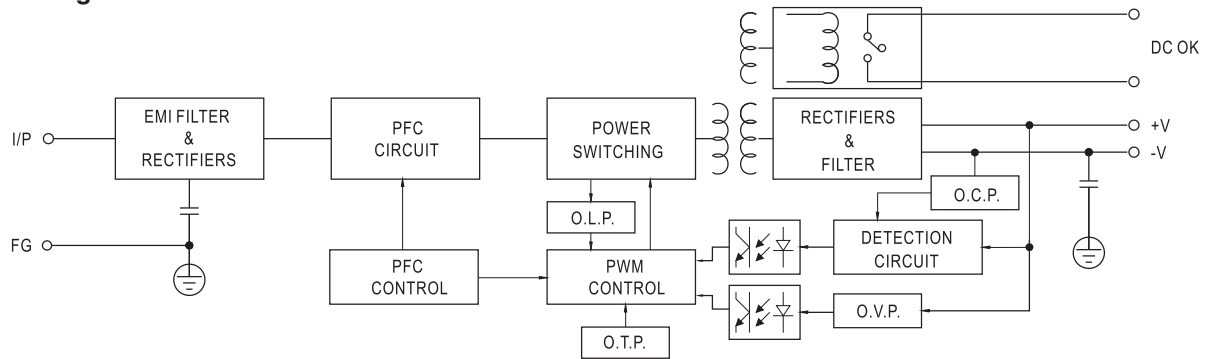
Pin No.	Assignment
1	FG ⊕
2	AC/N
3	AC/L

Terminal Pin. No Assign. (TB2)

Pin No.	Assignment
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V
5,6	DC OK RELAY CONTACT



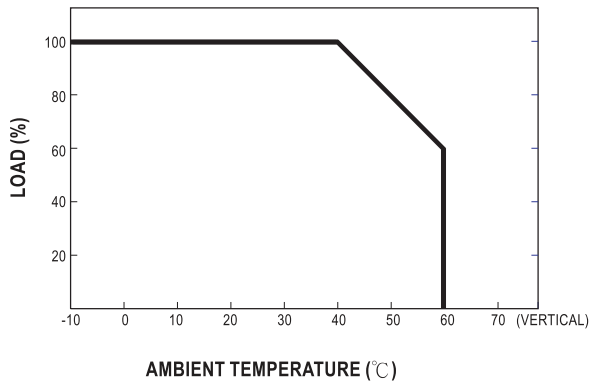
Block Diagram



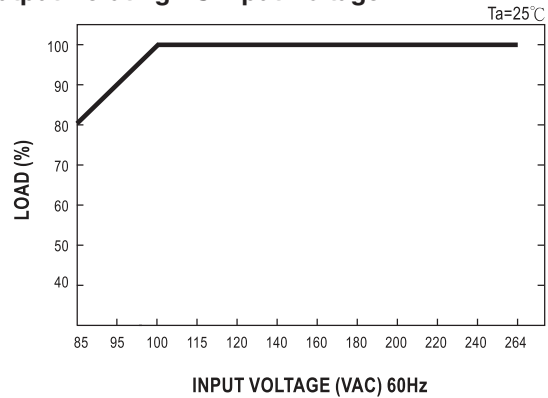
DC OK Relay Contact

Contact Close	When the output voltage reaches the adjusted output voltage.
Contact Open	When the output voltage drop below 90% output voltage.
Contact Ratings (max.)	30V/1A resistive load

Derating Curve



Output Derating VS Input Voltage



Note: All dimensions are in millimeters, to convert to inches multiply by 0.03937.