



Industrial Power Supplies Range

Introducing the latest family of Industrial Power Supplies from IMO



We have the Power

A power supply unit (PSU) is an electrical device that converts an incoming AC or DC electrical supply, into the correct voltage and power needed for industrial equipment. IMOs range of UL Approved single and three phase industrial power supplies have all been engineered to deliver reliable, high quality DC power to a control panel or automation system with the introduction of a range of compact switching power supply with universal AC and DC voltage inputs, short circuit protection, and a range of output DC voltage options.

These power supplies operate at high efficiencies, making them an exceptionally reliable power source for control panels and components such as, Programmable Logic Controllers (PLC), sensors, relays, contactors, timers, temperature controllers, process controllers and HMIs, all of which are available from IMO and all benefit from our 3-year warranty.



SPS Series - 12W to 150W

Our new SPS series of single phase UL approved power supplies offers a step/modular solution that is ideal for use within a consumer unit, for domestic and industrial applications including building automation applications.

The entire series offers Class II isolation, protecting the user from electrical shock without the need for earthing (LPS certified).

BPS Series - 15W to 480W

The BPS series of single phase UR approved industrial power supply provides a slimline solution for when space on the DIN Rail is limited, and offers an alternative to the LPS range of PSUs.

LPS Series - 10W to 960W

Our new LPS series of single and three phase UL approved industrial power supply offers the largest range encompassing both plastic and metal cased PSUs, making them ideal for virtually every industrial application.

Featuring DC OK Relay on selected models, the LPS series offers the widest range of voltage outputs including 5V, 12V, 24V and 48V. All models up to 100W are supplied in slimline fanless plastic cases, whereas the models from 150W upwards are supplied in fanless metal cases. Additionally, the metal cased LPS PSUs offer Power Factor Correction for improved efficiency as well as a reduction in power demand, which not only reduces running costs, but allows for more load. Three phase models can also accept bi-phase power input and the 960W version offers current sharing to provide more load current to your application.

HPS Series - 120W to 480W

The HPS High Peak Power range features DC OK Relay across the entire range, and have been designed with higher peak performance of 150% in mind for more demanding applications that require greater power at start-up (fulfilling transient energy demands), removing the requirement to spend more money on PSUs with a higher rating. All HPS models are UL approved with the 480W version offering current sharing.

REDMOD Series - 20W

The REDMOD series has been designed for redundancy operation within 24V applications and offers both N+1 and 1+1 redundancy. Providing higher peak current and 2 in-built channels, as well as DC OK signal and an alarm relay contact, the REDMOD can be used with another power supply to improve overall reliability for your application.

SPS, LPS & HPS Options & Ordering Information

PLEASE NOTE: The feasibility of a code number does not mean the effective availability of a product.

SPS - 1 - 015 - 5DC			
Series		Output Voltage V	
SPS Modular PSUs	SPS	5DC	5V DC
BPS Slimline PSUs	BPS	12DC	12V DC
LPS Standard PSUs	LPS	24DC	24V DC
HPS High Performance PSUs	HPS	48DC	48V DC
Phase		Output Power W	
Single Phase	1	010	10W
Three Phase (LPS Series only)	3	012	12W
		015	15W
		024	24W
		030	30W
		040	40W
		060	60W
		070	70W
		090	90W
		092	92W
		100	100W
		120	120W
		150	150W
		180	180W
		240	240W
		480	480W
		960	960W

Output Power (W) Availability	
✓	Available in SPS Series
✓	Available in BPS Series*
✓	Available in LPS (Single Phase) Series
✓	Available in LPS (Three Phase) Series
✓	Available in HPS Series

* For BPS Series PSUs under 100W, please remove first "0". eg. BPS-1-15-24DC

Power Supply - Quick Feature Guide

Part Number	Case Material	Over Temperature Protection	DC OK Relay	Built-In PFC	Class II	Pass LPS	Peak Power (3 secs.)	Approval	Bi-Phase
LPS-1-010-24DC	Plastic	NO	YES	NO	YES	YES	NO	cULus / cURus	NO
LPS-1-024-24DC	Plastic	NO	YES	NO	YES	YES	NO	cULus / cURus	NO
LPS-1-030-5DC	Plastic	NO	YES	NO	YES	YES	NO	cULus / cURus	NO
LPS-1-040-12DC	Plastic	NO	YES	NO	YES	YES	NO	cULus / cURus	NO
LPS-1-040-24DC	Plastic	NO	YES	NO	YES	YES	NO	cULus / cURus	NO
LPS-1-060-12DC	Plastic	NO	YES	NO	YES	YES	NO	cULus / cURus	NO
LPS-1-060-24DC	Plastic	NO	YES	NO	YES	YES	NO	cULus / cURus	NO
LPS-1-090-12DC	Plastic	NO	YES	NO	NO	YES	NO	cULus / cURus	NO
LPS-1-120-12DC	Metal	YES	NO	NO	NO	NO	NO	cULus / cURus	NO
LPS-1-120-24DC	Metal	YES	NO	NO	NO	NO	NO	cULus / cURus	NO
LPS-1-120-48DC	Metal	YES	NO	NO	NO	NO	NO	cULus / cURus	NO
LPS-1-240-24DC	Metal	YES	NO	YES	NO	NO	NO	cULus / cURus	NO
LPS-1-240-48DC	Metal	YES	NO	YES	NO	NO	NO	cULus / cURus	NO
LPS-1-480-24DC	Metal	YES	YES	YES	NO	NO	NO	cULus / cURus	NO
LPS-3-240-24DC	Metal	YES	YES	YES	NO	NO	NO	cULus / cURus	YES
LPS-3-480-24DC	Metal	YES	YES	YES	NO	NO	NO	cULus / cURus	YES
LPS-3-960-24DC	Metal	YES	YES	YES	NO	NO	NO	cULus / cURus*	YES
ALL SPS PSUs	Plastic	NO	NO	NO	YES**	YES	NO	cULus / cURus	NO
ALL HPS PSUs	Metal	YES	YES	YES	NO	NO	YES	cULus / cURus	NO
ALL BPS PSUs	See p.8-9	YES	NO	NO	NO	NO	NO	cURus	NO

* Pending approval

** Except SPS-1-150-24DC

GLOSSARY:

Over Temperature Protection	Unit shuts down in over temperature situation / auto recovery once unit cools to within operating threshold.
DC OK Relay	Local LED indication and potential free contact for signalling remote devices that the PSU is on, and the DC output is ok.
Built-In PFC	Power Factor Correction: Improved efficiency and reduction in power demand, hence a reduction in the load on the switching gear and cables, reduced costs to the consumer.
Class II	Equipment in which protection against electric shock does not rely on basic insulation only, rather additional safety precautions, such as double insulation or reinforced insulation are provided, ensuring no reliance on either protective earth or installation conditions.
Pass LPS	When an electronic circuit is powered by a limited power source (LPS), its output current and power are under guided limitation and the risk of fire can be reduced significantly.
Peak Power	Can withstand peak power demand for 3 seconds (refer to HPS Series peak power loading curves for more information).
Approval	Indicates international approval standard - see each PSU Series for specific approval.
Bi-Phase	Three phase PSU units can accept bi-phase power input (refer to derating graphs for more information).

SPS Series

Single Phase 12W-150W AC-DC DIN Rail Power Supplies

Key Features

- Class II Limited Power Source
- Universal input 90-264VAC / 127-370VDC
- Class II Isolation
- 100% full load burn-in test
- Modular design
- IP20 rated protection



Technical Specification

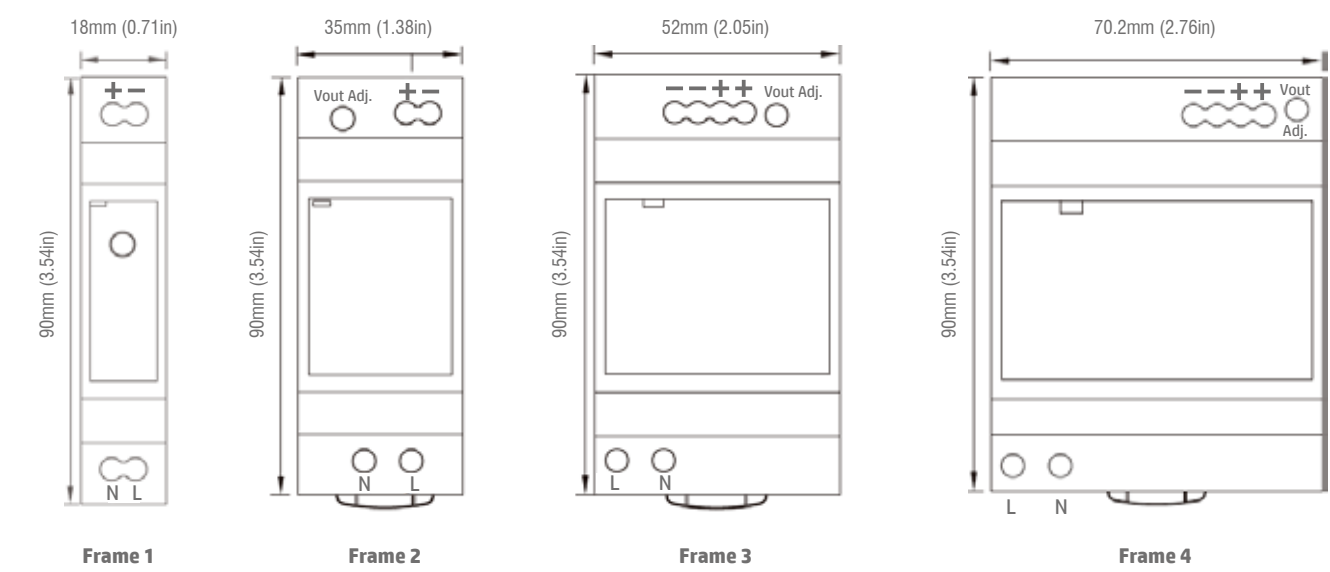
Model	SPS-1-012-5DC		SPS-1-015-12DC		SPS-1-015-24DC		SPS-1-024-12DC	
Frame Size	1						2	
Input Voltage	85-264VAC or 120-370VDC							
Output Wattage	12W		15W		15W		24W	
Output Voltage	5VDC		12VDC		24VDC		12VDC	
Output Current	2.4A		1.25A		0.63A		2A	
Efficiency	82%		88%		89%		88%	
General Specification								
Approval	cURus - Class 2							
Isolation Voltage	3000VAC / 4242VDC							
Isolation Resistance	100MΩ @ 500VDC							
Ambient Temperature	-20 to +70°C							
Derating	(50 to 70°C) 2.5%/°C							
Storage Temperature	-40 to +85°C							
Relative Humidity	20 to 90% RH							
Cooling	Free air convection (Fanless)							
Frame Size & Weight (see overleaf)	Frame 1						Frame 2	
Tightening Torque	0.5Nm							
Screw Type	Combination Screw							
Case Material	Plastic							
Input Specifications								
Rated Input Voltage	85-264VAC or 120-370VDC							
Line Frequency	47 to 63Hz							
Inrush Current (115/230VAC)	25/45A							
Output Specifications								
Output Voltage Accuracy	±1%							
Minimum Load	0%							
Line Regulation	±1%							
Load Regulation	±1%							
Turn On Time	2000ms at full load						500ms at full load	
Voltage Fall Time	80ms							
Voltage Rise Time	80ms							
Hold Up Time (115/230VAC)	30/12ms							
Temperature Coefficient	±0.03%/°C (0-50°C) RH non-condensing							
Ripple & Noise	80mVp-p		120mVp-p		150mVp-p		120mVp-p	
Voltage Trim Range	4.5-5.5VDC		10.8-13.8VDC		21.6-29VDC		10.8-13.8VDC	
DC ON Indicator	Green LED							
Control & Protection								
Rated Overload Protection	110 to 145%						105 to 160%	
Over Voltage Protection	5.75-6.5VDC		14.2-16.2VDC		30-36VDC		15-18VDC	
Output Short Circuit	Hiccup Mode, it will recover automatically after fault condition is removed							
Cable Size Range	0.2-2.5mm² (AWG 24-12) flexible / solid cable							

* Not Class 2



	SPS-1-030-24DC	SPS-1-060-24DC	SPS-1-092-24DC	SPS-1-150-24DC*
	2	3	4	5
	85-264VAC or 120-370VDC			
	30W	60W	92W	150W (230VAC) / 127.4W (115VAC)
	24VDC			
	1.25A	2.5A	3.83A	6.25A (230VAC) / 5.3A (115VAC)
	89%	90%		90.5%
	cURus - Class 2			cURus
	3000VAC / 4242VDC			
	100MΩ @ 500VDC			
	-20 to +70°C			
	(50 to 70°C) 2.5%/°C			
	-40 to +85°C			
	20 to 90% RH			
	Free air convection (Fanless)			
	Frame 2	Frame 3	Frame 4	Frame 5
	0.5Nm			
	Combination Screw			
	Plastic			
	85-264VAC or 120-370VDC			
	47 to 63Hz			
	25/45A	30/60A	35/70A	60A (240VAC)
	±1%			
	0%			
	±1%			
	±1%			
	500ms at full load			
	80ms			
	80ms			
	30/12ms	12/30ms	30ms (100-240VAC)	
	±0.03%/°C (0-50°C) RH non-condensing			
	150mVp-p			
	21.6-29VDC	24-25.5VDC		21.6-29VDC
	Green LED			
	105 to 160%	102 to 110%		105 to 135%
	30-36VDC			
	Hiccup Mode, it will recover automatically after fault condition is removed			
	AWG 24-12 (0.2-2.5mm²) flexible / solid cable			

Dimensions (mm)



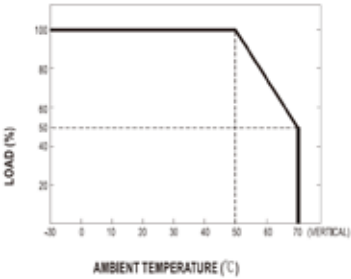
Frame Sizes & Weights

	Frame 1	Frame 2	Frame 3	Frame 4	Frame 5
Height	90mm (3.54in)	90mm (3.54in)	90mm (3.54in)	90mm (3.54in)	90mm (3.54in)
Width	18mm (0.71in)	35mm (1.38in)	52mm (2.05in)	70.2mm (2.76in)	105mm (4.13in)
Depth	58mm (2.28in)	58mm (2.28in)	58mm (2.28in)	58mm (2.28in)	58mm (2.28in)
Weight	78g	120g	190g	270g	320g

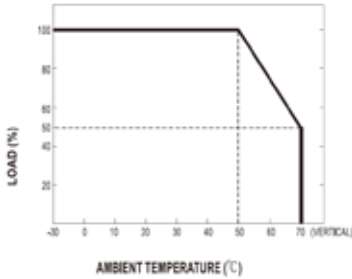
Cable Size Range
2 Solid: 0.2-2.0mm (AWG24-14)
Use copper conductors only

Derating Graphs

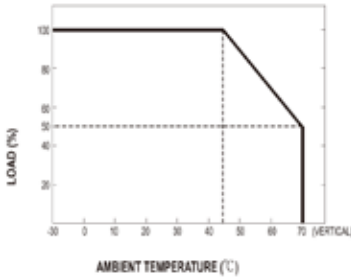
Temperature Derating - Frame 1



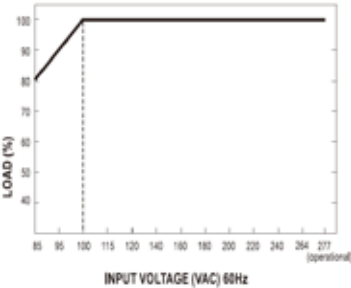
Temperature Derating - Frame 2



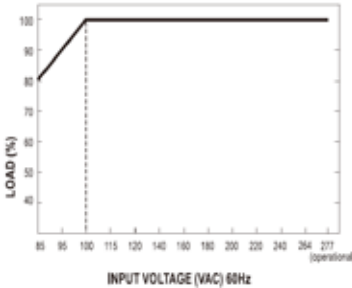
Temperature Derating - Frame 3



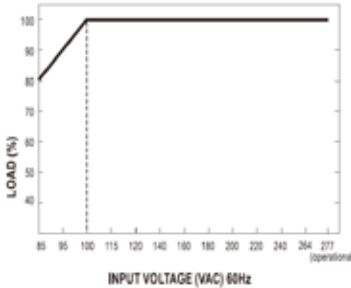
Output Derating - Frame 1

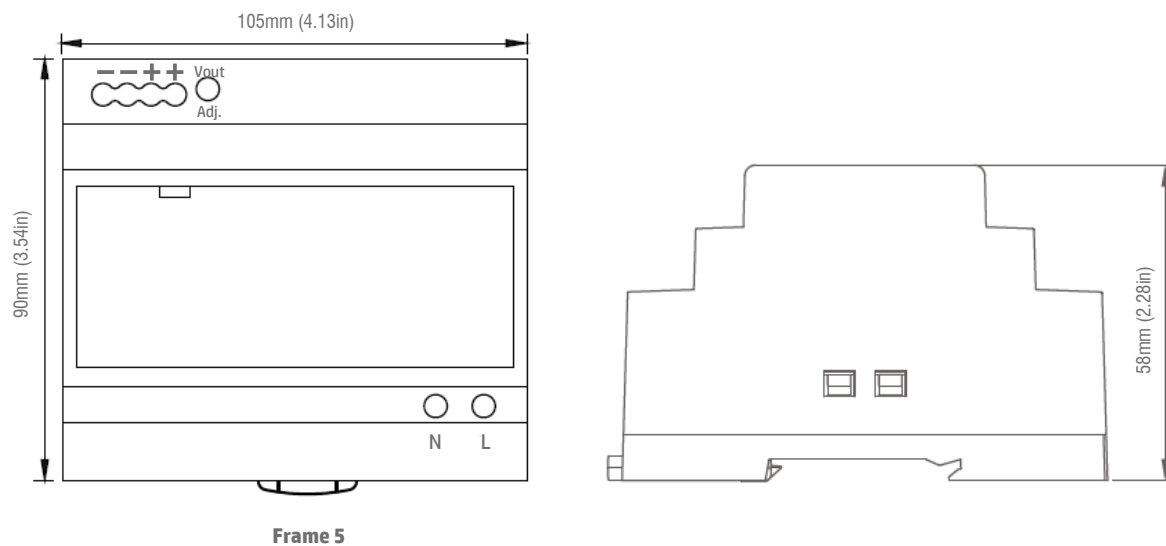


Output Derating - Frame 2



Output Derating - Frame 3

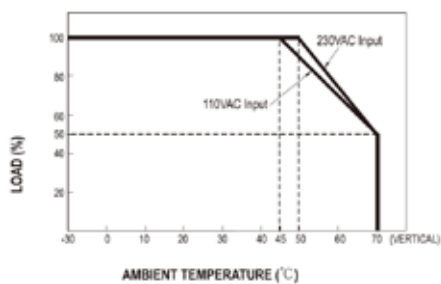




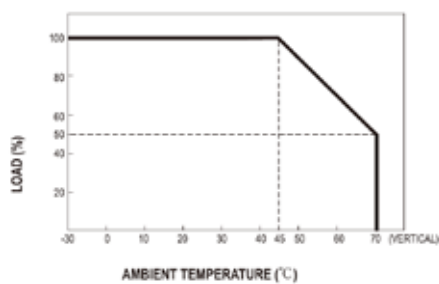
Terminal Assignment

		Description
Output	V+	Positive Output Terminal
	V-	Negative Output Terminal
	Vout Adj.	DC Output Adjustment Trimmer
Input	N	Neutral Input (No Polarity at DC Input)
	L	Phase Input (No Polarity at DC Input)

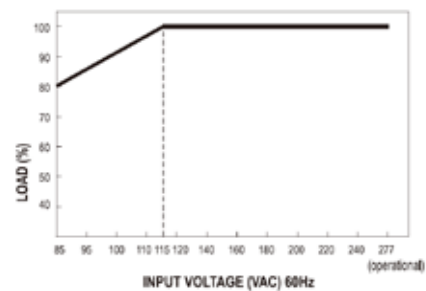
Temperature Derating - Frame 4



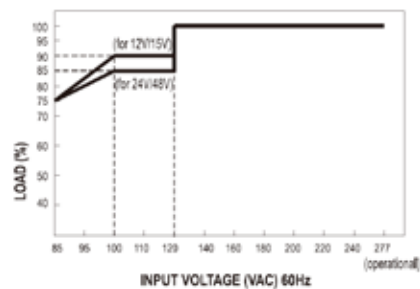
Temperature Derating - Frame 5



Output Derating - Frame 4



Output Derating - Frame 5



BPS Series

Single Phase 15W-480W AC-DC DIN Rail Power Supplies

Key Features

- Universal input 90-264VAC / 120-375VDC
- 12V & 24V DC output models
- High efficiency (up to 90%)
- 100% full load burn-in test
- Short circuit protection
- Parallel connection (back-up)



Technical Specification

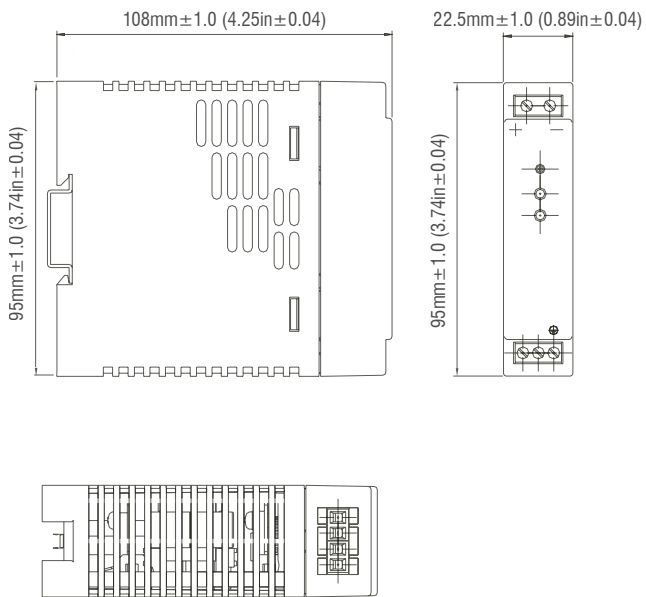
Model	BPS-1-15-24DC	BPS-1-30-24DC	BPS-1-70-24DC	BPS-1-120-24DC	BPS-1-180-24DC	
Output Wattage	15W	30W	70W	120W	180W	
Output Voltage	24VDC					
Output Current	0.65A	1.3A	3A	5A	7.5A	
Efficiency (typ)	83%	87%	86%	85%	90%	
Stand-by Power Consumption	1.7W / 230VAC	1W / 230VAC	4W / 230VAC		7W / 230VAC	
Surge Voltage (L-N)	2kV					
Power Factor	0.98 ≤ / 115VAC, 0.96 ≤ / 230VAC					
General Specification						
Approvals	cURus, CE, CB, FCC					
Isolation Voltage	I/P-O/P: 3kVAC, I/P-FG: 1.5kVAC, O/P-FG: 1.5kVAC				See BPS-1-240-24DC	
Insulation Resistance	100MΩ max. / 500VDC					
Operating Temperature	-25 to +70°C					
Operating Relative Humidity	20 to 95% RH					
Storage Temperature	-40 to +85°C, RH 5 to 95%					
MTBF (Full Load)	min. 200khrs / 220VAC / 25°C					
Cooling	Free air convection (Fanless)					
Tightening Torque	0.5Nm			0.7 - 0.8Nm		
Screw Type	Flat Screw					
Dimensions (mm)	L95 x W22.5 x D108	L95 x W36 x D108	L130 x W33 x D125	L130 x W40 x D125	L130 x W50 x D125	
Weight	200g	250g	650g	800g	950g	
Case Material	Plastic		Metal			
Input Specifications						
Input Voltage Range	90 to 264VAC, 127 to 370VDC					
Input Current (Full Load)	0.28A / 115 VAC, 0.15A / 230VAC	0.65A / 115VAC, 0.35A / 230VAC	1.6A / 115VAC, 0.8A / 230VAC	2.6A / 115VAC, 1.3A / 230VAC	1.8A / 115VAC, 0.9A / 230VAC	
Line Frequency	47 to 63Hz / -					
Inrush Current (Cold Start)	30A / 115VAC, 60A / 230VAC					
Output Specifications						
Output Voltage Accuracy	±1%		±2%			
Output Voltage Adjustment	23.5 to 24.5V		23 to 28V		21 to 28V	
Line Regulation	1%		2%		1%	
Load Regulation	1%		3%		1%	
Turn-On Delay	100ms / 115VAC, full load		560ms / 115VAC, full load		3600ms / 115VAC, full load	
Hold Up Time	20ms / 115VAC					
Temperature Coefficient	± 0.03% / °C (0 to 50° C)					
Ripple & Noise	15mV	46mV	120mV		1%Vo mVp-p	
Indicator DC OK	LED (green)					
Indicator DC Low	LED (red)					
Control & Protection						
Rated Overload Protection	0.9A	2.2A	4A	6.6A	8.3A	
Over Voltage Protection	30V		33V			
Output Short Circuit	Hiccup mode, it will recover automatically after fault condition is removed		Shut off output voltage, the power supply will recover after the power is turned on again		See BPS-1-240-24DC	
Over Temperature Protection	100 ± 10°C					
Safety	Design refer to UL60950-1, EN60950-1					
EMC Standards	EN 55022: 2010 + AC:2011 (CISPR 22:2008) Class B; EN 61000-2-2:2014 (IEC 61000 -3-2:2014); EN 61000-3-3:2013 (IEC61000-3-3:2013); EN55024:2010 (CISPR 24:2010)					



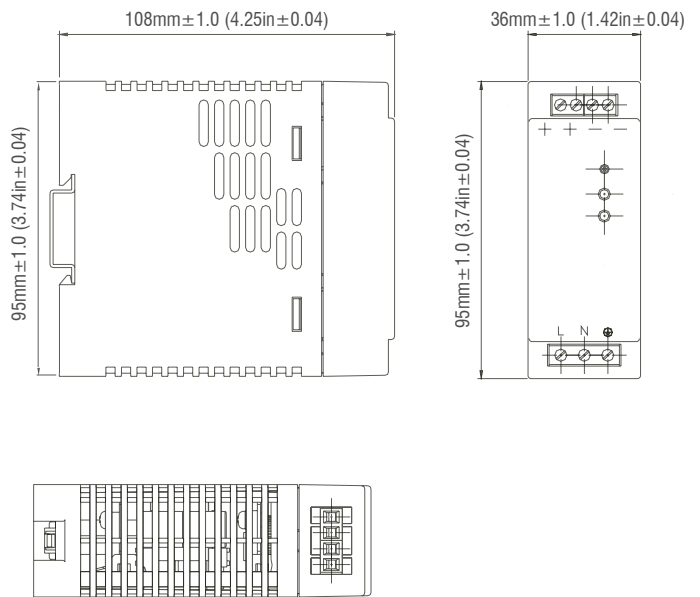
	BPS-1-240-24DC	BPS-1-480-24DC	BPS-1-15-12DC	BPS-1-30-12DC	BPS-1-60-12DC	BPS-1-100-12DC
	240W	480W	15W	30W	60W	100W
	24VDC		12VDC			
	10A	20A	1.2A	2.5A	5A	8A
	90%	94%	80%	83%	84%	82%
	7W / 230VAC	5W / 230VAC	1.7W / 230VAC	1W / 230VAC	4W / 230VAC	
	2kV	2kV				
	0.98 ≤ / 115VAC, 0.96 ≤ / 230VAC	0.99 ≤ / 115VAC, 0.97 ≤ / 230VAC	0.98 ≤ / 115VAC, 0.96 ≤ / 230VAC			
	cURus, CE, CB, FCC					
	I/P-O/P: 3kVAC, I/P-FG: 1.5kVAC, O/P-FG: 500VAC		I/P-O/P: 3000VAC, I/P-FG: 1500VAC, O/P-FG: 1500VAC			
	100MΩ max. / 500VDC					
	-25 to +70°C					
	20 to 95% RH					
	-40 to +85°C, RH 5 to 95%					
	min. 230khrs / 220VAC / 25°C		min. 200khrs / 220VAC / 25°C			
	Free air convection (Fanless)					
	0.7 - 0.8Nm	1.0Nm	0.5Nm			0.7 - 0.8Nm
	Flat Screw					
	L130 x W60 x D125	L130 x W60 x D125	L95 x W22.5 x D108	L95 x W36 x D108	L130 x W33 x D125	L130 x W40 x D125
	1000g	1000g	200g	250g	650g	800g
	Metal		Plastic		Metal	
	90 to 264VAC, 127 to 370VDC					
	2.6A / 115VAC, 1.3A / 230VAC	5.0A / 115VAC, 2.5A / 230VAC	0.28A / 115VAC, 0.15A / 230VAC	0.65A / 115VAC, 0.35A / 230VAC	1.6A / 115VAC, 0.8A / 230VAC	2.6A / 115VAC, 1.3A / 230VAC
	47 to 63Hz / -					
	35A / 115VAC, 65A / 230VAC	40A / 115VAC, 80A / 230VAC	30A / 115VAC, 60A / 230VAC			
	±2%		±1%		±2%	
	22 to 28V	22 to 27V	11.6 to 12.3V		11 to 14V	
	2%	2%	1%		2%	
	3%	3%	1%		3%	
	3600ms / 115VAC, full load		100ms / 115VAC, full load		560ms / 115VAC, full load	
	20ms / 115VAC					
	± 0.03% / °C (0 to 50° C)					
	1%Vo mVp-p		12mV	42mV	100mV	
	LED (green)					
	LED (red)					
	11A	TBC	1.8A	4A	8A	10A
	33V	TBC	18V	16V	20V	
	Hiccup mode, it will recover automatically after fault condition is removed				Shut off output voltage, the power supply will recover after the power is turned on again	
	110 ± 10°C					
	Design refer to UL60950-1, EN60950-1					
	EN 55022: 2010 + AC:2011 (CISPR 22:2008) Class B; EN 61000-2-2:2014 (IEC 61000 -3-2:2014); EN 61000-3-3:2013 (IEC61000-3-3:2013); EN55024:2010 (CISPR 24:2010)					

Dimensions (mm)

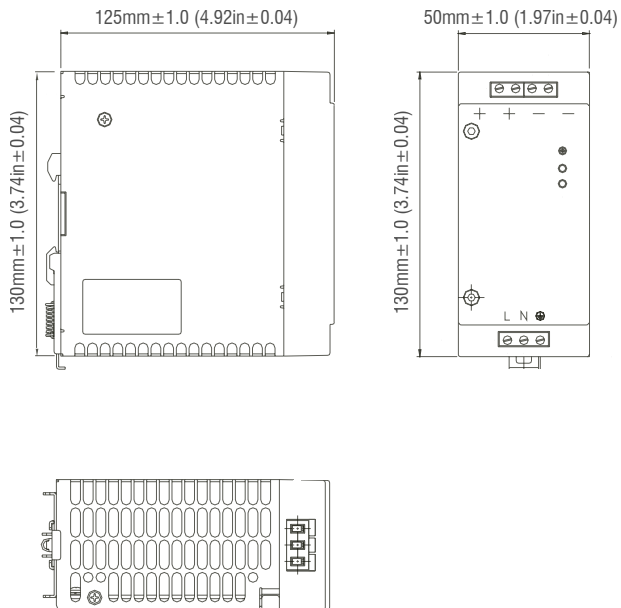
BPS-1-15-12DC & BPS-1-15-24DC



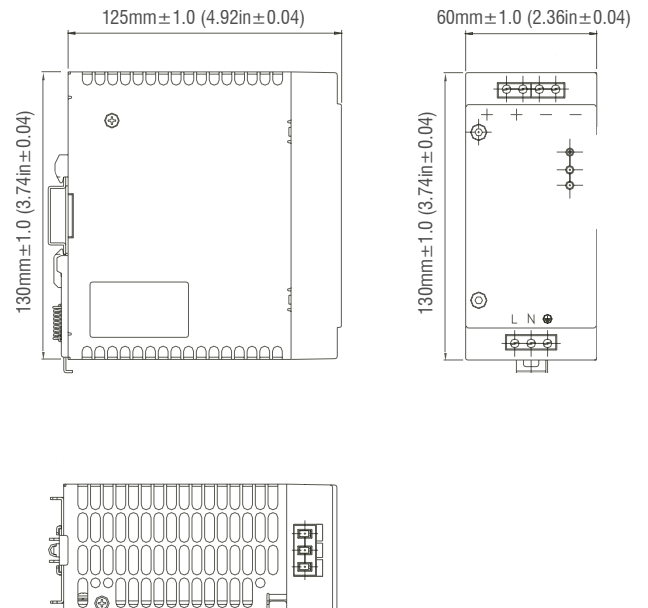
BPS-1-30-12DC & BPS-1-30-24DC



BPS-1-180-24DC

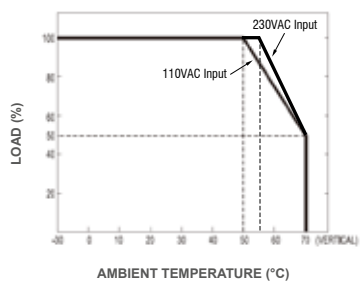


BPS-1-240-24DC & BPS-1-480-24DC

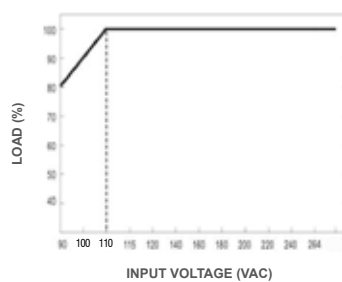


Derating Graphs

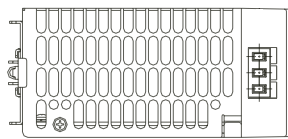
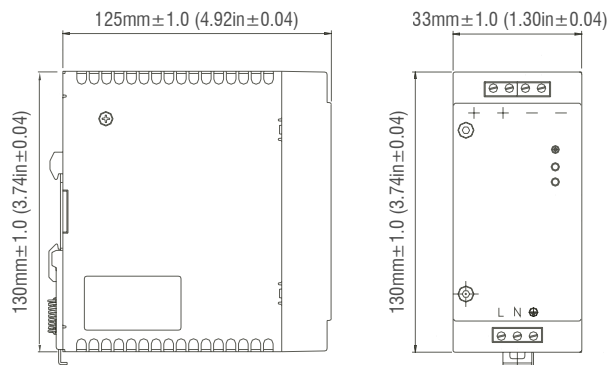
Temperature Derating - All Models



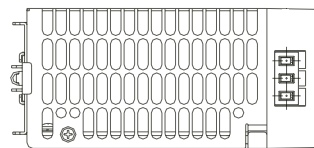
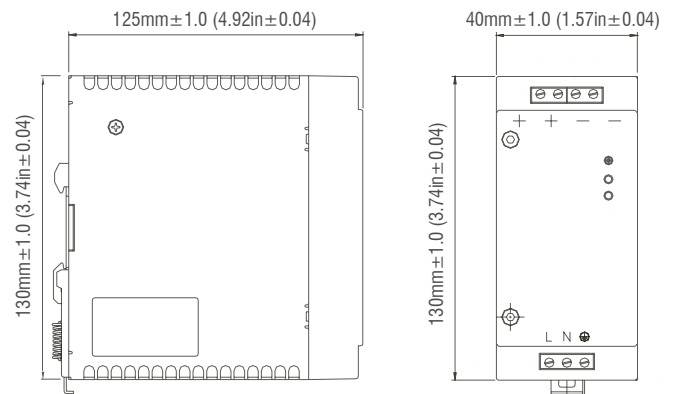
Output Derating - All Models



BPS-1-70-12DC & BPS-1-70-24DC

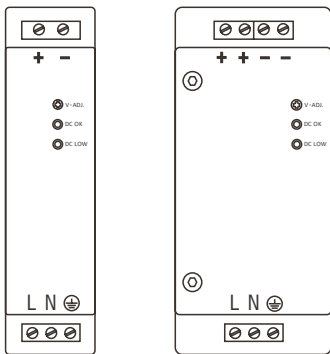


BPS-1-120-12DC & BPS-1-120-24DC



Terminal Assignment

BPS-1-15DC BPS-1-30DC to BPS-1-480DC



Terminal	Assignment
+	DC (+) output terminal
-	DC (-) output terminal
L	AC (L) or DC (+) input terminal
N	AC (N) or DC (-) input terminal
	AC grounding terminal
V-ADJ.	DC output voltage adjustment trimmer
DC OK	DC output OK indication LED (green)
DC LOW	DC output Low indication LED (red)

LPS Series

Single Phase 10W-90W AC-DC DIN Rail Power Supplies

Key Features

- 5, 12 & 24 VDC
- Universal Input: 85-264VAC / 120-370VDC
- High Efficiency
- Short Circuit Protection
- Internal Input Filter
- IP20 Protection Rated
- Class 2



Technical Specification

Model	LPS-1-010-24DC		LPS-1-024-24DC		LPS-1-030-5DC		LPS-1-040-12DC		
Input Voltage	85-264VAC / 120-370VDC								
Output Wattage	10W		24W		30W		40W		
Output Voltage	24VDC		24VDC		5VDC		12VDC		
Output Current	0.42A		1A		6A		3.33A		
Efficiency	84%				78%		86%		
General Specification									
Approval	cURus - Class 2								
Isolation Voltage	3000VAC/4242VDC								
Isolation Resistance	100MΩ @ 500VDC								
Ambient Temperature	-30 to +70°C (refer to derating curve)								
Derating	(50 to 70°C) 2.5%/°C								
Storage Temperature	-40 to +85°C								
Relative Humidity	20 to 95% RH								
Cooling	Free air convection (Fanless)								
Tightening Torque	0.5Nm								
Screw Type	Flat Screw								
Dimensions	92 x 23 x 100mm				92 x 41 x 100mm				
Weight	140g		150g		280g				
Case Material	Plastic								
Input Specifications									
Rated Input Voltage	85-264VAC / 120-370VDC								
Line Frequency	50/60Hz								
Inrush Current (115 / 230VAC)	35 / 70A				30 / 60A				
Output Specifications									
Output Voltage Accuracy	+1%								
Minimum Load	0%								
Line Regulation	±1%								
Load Regulation	±5%								
Turn On Time	500ms								
Voltage Fall Time	150ms								
Voltage Rise Time	30ms								
Hold Up Time (115 / 230VAC)	30 / 30ms								
Ripple & Noise	150mVp-p				80mVp-p		120mVp-p		
Voltage Trim Range	21.6-28.8VDC				4.5-5.75VDC		21.6-28.8VDC		
DC ON	LED (Green)								
DC OK Relay	30V / 1A Resistive Load								
Control & Protection									
Rated Overload Protection	>105%-150%								
Over Voltage Protection	27.6-32.4VDC				6.25-7.25VDC		15.6-18VDC		
Output Short Circuit	Hiccup Mode, it will recover automatically after fault condition is removed								



	LPS-1-040-24DC	LPS-1-060-12DC	LPS-1-060-24DC	LPS-1-090-12DC
	85-264VAC / 120-370VDC			
	40W	60W	60W	90W
	24VDC	12VDC	24VDC	12VDC
	1.7A	5A	2.5A	7.5A
	88%	86%	88%	83%
	cURus - Class 2			
	3000VAC/4242VDC			
	100MΩ @ 500VDC			
	-30 to +70°C (refer to derating curve)			
	(50 to 70°C) 2.5%/°C			
	-40 to +85°C			
	20 to 95% RH			
	Free air convection (Fanless)			
	0.5Nm			
	Flat Screw			
	92 x 41 x 100mm			92 x 55 x 100mm
	280g			400g
	Plastic			
	85-264VAC / 120-370VDC			
	50/60Hz			
	30 / 60A			
	+1%			
	0%			
	±1%	±2%		±1%
	±5%			±1%
	500ms			
	150ms			
	30ms			
	30 / 30ms			
	150mVp-p	120mVp-p	150mVp-p	120mVp-p
	21.6-28.8VDC	10.8-13.8VDC	21.6-28.8VDC	10.8-13.8VDC
	LED (Green)			
	30V / 1A Resistive Load			
	>105%-150%			
	31.2-36VDC	15.6-18V	31.2-36VDC	15.6-18V
	Hiccup Mode, it will recover automatically after fault condition is removed			

LPS Series

Single Phase120W-480W AC-DC DIN Rail Power Supplies

Key Features

- 12, 24 & 48 VDC
- Universal Input: 90-264VAC / 120-375VDC
- High Efficiency
- Short Circuit Protection
- Internal Input Filter
- IP20 Protection Rated



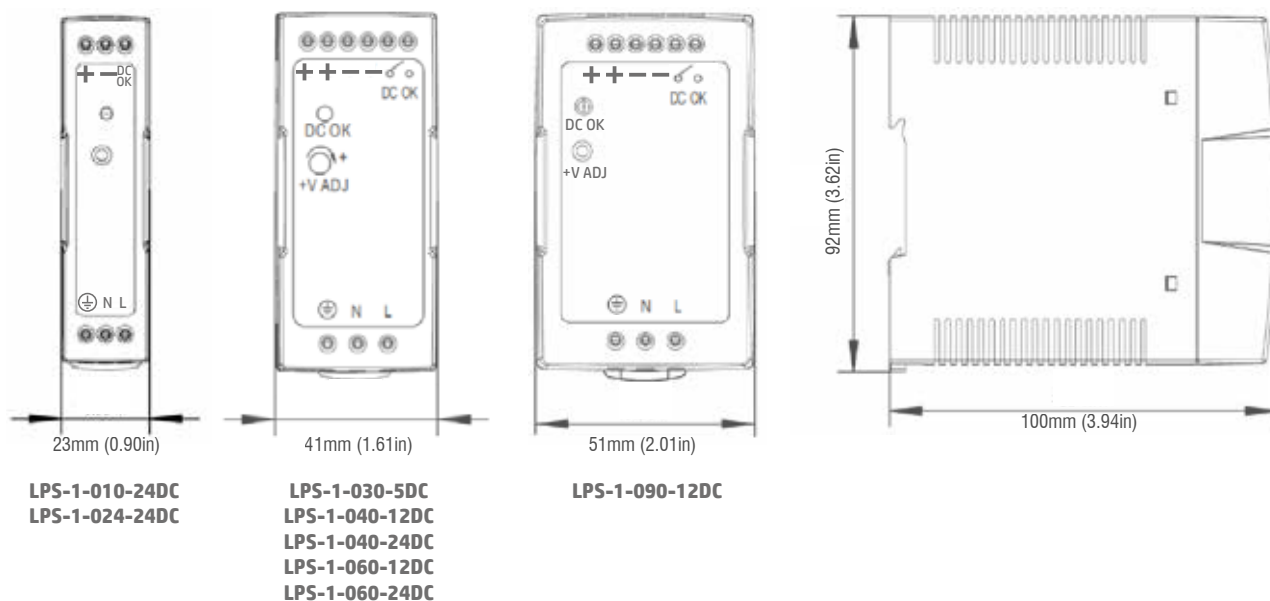
Technical Specification

Model	LPS-1-120-12DC		LPS-1-120-24DC	LPS-1-120-48DC	
Input Voltage	90-264VAC / 127-375VDC				
Output Wattage	120W				
Output Voltage / Power Dissipation	12VDC / 24W		24VDC / 20W		48VDC / 19W
Output Current	10A		5A		2.5A
Efficiency	85.5%		88%		89%
General Specification					
Approval	cURus				
Isolation Voltage	3000VAC/4242VDC				
Isolation Resistance	100MΩ @ 500VDC				
Ambient Temperature	-20 to +70°C				
Derating	(61 to 71°C) 2.5%/°C				
Storage Temperature	-40 to +85°C				
Relative Humidity	10 to 95% RH				
Cooling	Free air convection				
Tightening Torque	0.8Nm				
Screw Type	Flat Screw				
Dimensions	L125 x W40 x D113 (126.5 inc. DIN rail mount) mm				
Weight	600g				
Case Material	Metal				
Input Specifications					
Rated Input Voltage	115 - 230VAC (auto select)				
Input Voltage Range	90-264VAC, 127-375VDC				
Line Frequency	50/60Hz				
Power Factor @ 115VAC	0.55 Typical (0.58 Measured)				
Power Factor @ 230VAC	0.55 Typical (0.58 Measured)				
Inrush Current (115 / 230VAC)	20 / 35A				
Output Specifications					
Output Voltage Accuracy	±1%				
Minimum Load	0%				
Line Regulation	±0.5%				
Load Regulation	±1%				
Turn On Time	1000ms after AC applied to input at full resistive load				
Voltage Fall Time	150ms				
Voltage Rise Time	150ms				
Hold Up Time (115 / 230VAC)	10 / 16ms				
Temperature Coefficient	±0.03%/°C				
Ripple & Noise	120mVp-p				
Voltage Trim Range	11.4 ~ 14.5VDC	22.5 ~ 28.5VDC		45 ~ 55VDC	
DC ON	LED (Green)				
DC OK Relay	n/a	n/a		n/a	
Control & Protection					
Rated Overload Protection	105-130%				
Over Voltage Protection	14-17VDC	29-33VDC		50-65VDC	
Output Short Circuit	Shutdown Output Voltage with Auto Recovery				



LPS-1-240-24DC	LPS-1-240-48DC	LPS-1-480-24DC
	90-264VAC / 120-375VDC	
240W	240W	480W
24VDC / 35W	48VDC / 32W	24VDC / 63W
10A	5A	20A
85.5%	90%	92%
	cURus	
	3000VAC/4242VDC	
	100MΩ @ 500VDC	
	-20 to +70°C	
	(55 to 70°C) 2.5%/°C	
	-40 to +85°C	
	10 to 95% RH	
	Free air convection	
	0.8Nm	1.0Nm
	Flat Screw	
	L125 x W63 x D113.5 (127 inc. DIN rail mount) mm	L125 x W85.5 x D129 (142 inc. DIN rail mount) mm
	1000g	1500g
	Metal	
	115-230VAC	
	90-264VAC, 127-375VDC	
	50/60Hz	
0.6 Typical (0.61 Measured)		0.99 Typical (0.99 Measured)
0.75 Typical (0.77 Measured)		0.97 Typical (0.97 Measured)
	20 / 35A	
	±1%	
	0%	
	±0.5%	
	±1%	
	1000ms after AC applied to input at full resistive load	
	150ms	
	150ms	
10 / 16ms		25 / 30ms
	±0.03%/°C	
	150mVp-p	
22.5-28.5VDC	47-56VDC	22.5-28.5VDC
	LED (Green)	
n/a	n/a	60VDC / 0.3A; 30VDC / 1A; 30VAC / 0.5A
	105-130%	
29-33VDC	56-65VDC	29-33VDC
	Shutdown Output Voltage with Auto Recovery	

Dimensions (mm)



Terminal Assignment

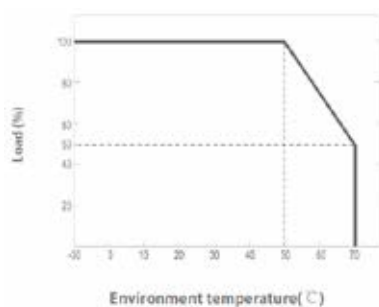
	Terminal	All Models
Input		FG $\oplus$
	N	AC / N or DC-
	L	AC / L or DC+
Output	-V	DC OUTPUT V-
	+V	DC OUTPUT V+

Cable Size Range

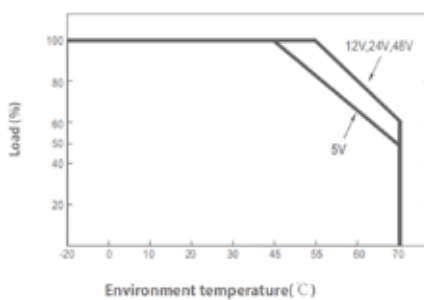
AWG24-10 (0.2 ~ 4mm²) flexible / solid cable,
8 m/m striping cable end recommends
Use copper conductors only, 60 / 75°C

Derating Graphs

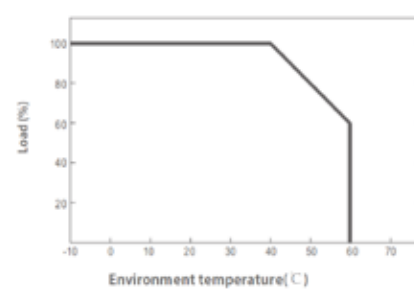
Temperature Derating



LPS-1-010-xxDC to LPS-1-040-xxDC

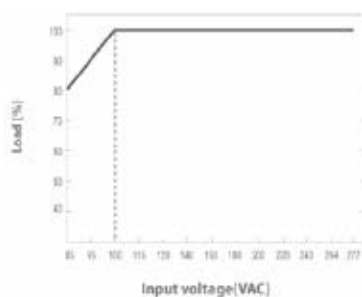


LPS-1-060-xxDC

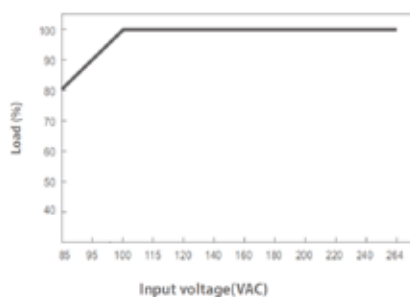


LPS-1-090-xxDC

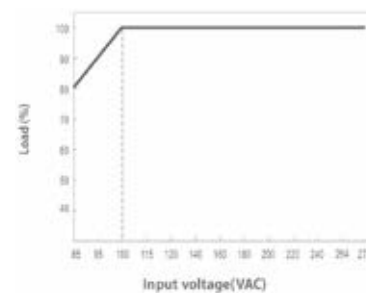
Output Derating



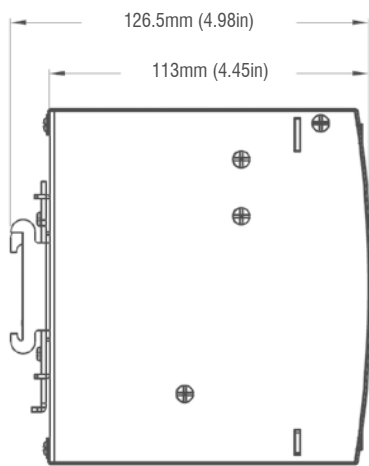
LPS-1-010-xxDC to LPS-1-040-xxDC



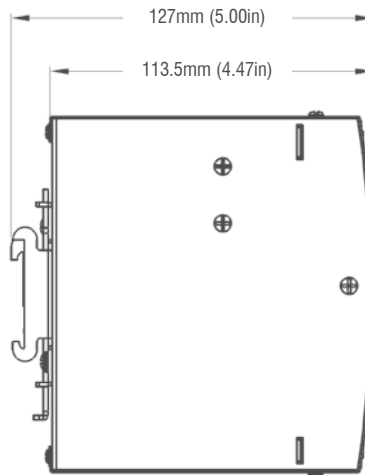
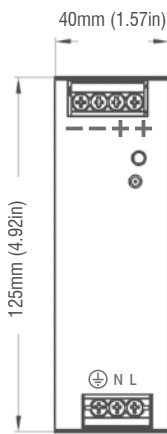
LPS-1-060-xxDC



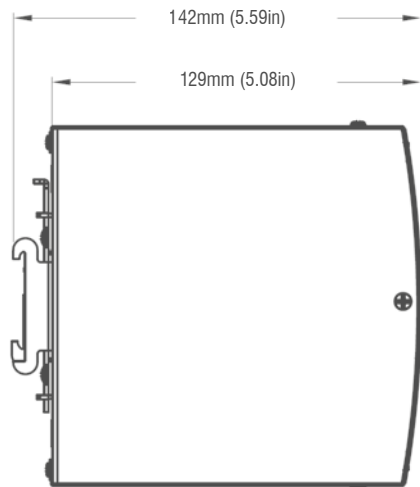
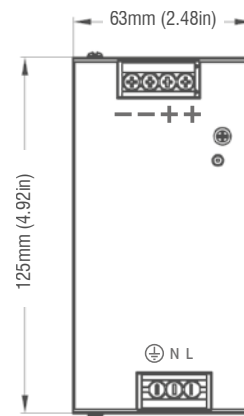
LPS-1-090-xxDC



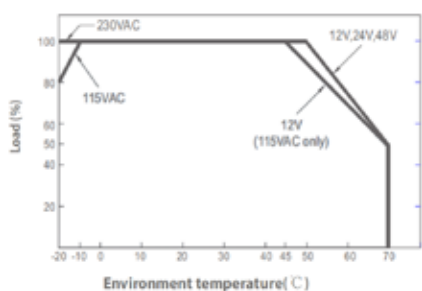
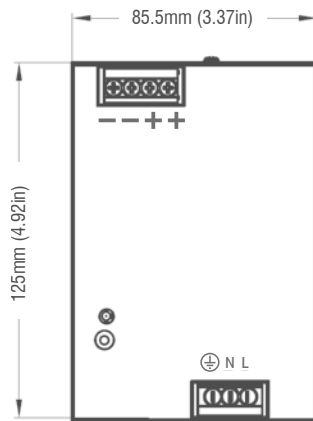
LPS-1-120-xxDC



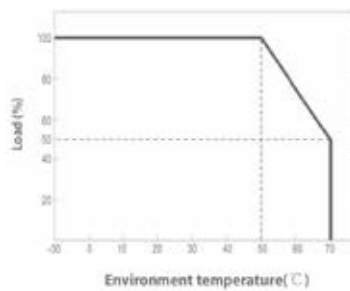
LPS-1-240-xxDC



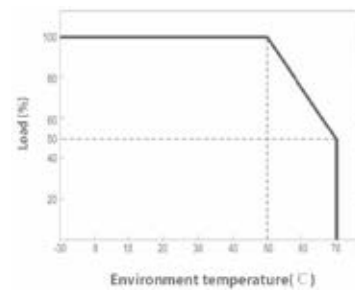
LPS-1-480-24DC



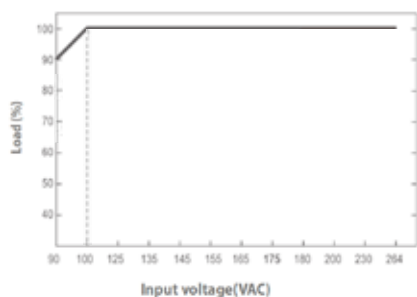
LPS-1-120-xxDC



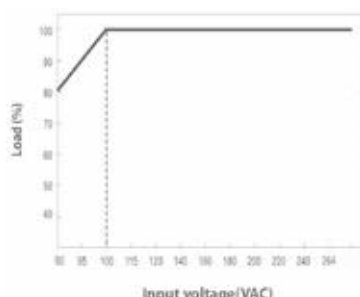
LPS-1-240-xxDC



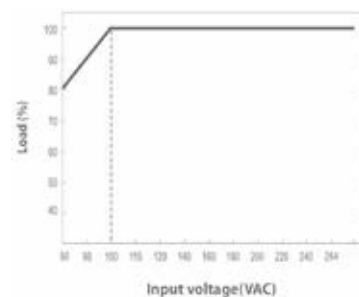
LPS-1-480-xxDC



LPS-1-120-xxDC



LPS-1-240-xxDC



LPS-1-480-xxDC

LPS Series

Three Phase 240W-480W AC-DC DIN Rail Power Supplies

Key Features

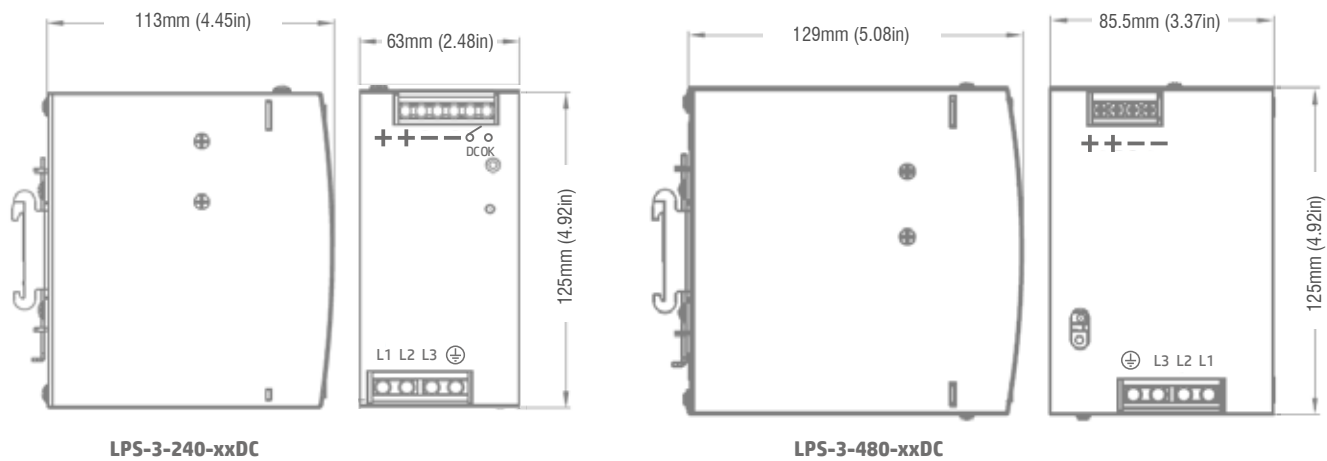
- 24 VDC
- 3 Phase Input: 340-550VAC / 480-780VDC
- Accepts Bi-Phase Input
- High Efficiency
- Short Circuit Protection
- Internal Input Filter
- IP20 Protection Rated



Technical Specification

Model	LPS-3-240-24DC		LPS-3-480-24DC	
Input Voltage	340-550VAC / 480-780VDC			
Output Wattage	240W		480W	
Output Voltage / Power Dissipation	24VDC / 35W		24VDC / 63W	
Output Current	10A		20A	
Efficiency	90%		92%	
General Specification				
Isolation Voltage	3000VAC/4242VDC			
Isolation Resistance	100MΩ @ 500VDC			
Ambient Temperature	-30 to +70°C			
Derating	(60 to 70°C) 2.5%/°C			
Storage Temperature	-40 to +85°C			
Relative Humidity	10 to 95% RH			
Cooling	Free air convection (Fanless)			
Tightening Torque	1.0Nm			
Screw Type	Flat Screw			
Dimensions	L125 x W63 x D113 (126.5 inc. DIN rail mount) mm		L124 x W85 x D129 (142.5 inc. DIN rail mount) mm	
Weight	1000g		1510g	
Case Material	Metal			
Input Specifications				
Input Voltage Range	340-550VAC, 480-780VDC			
Line Frequency	50/60Hz			
Power Factor @ 400VAC	0.53 Typical			
Power Factor @ 500VAC	0.52 Typical			
Inrush Current (400VAC)	Cold Start 50A			
Output Specifications				
Output Voltage Accuracy	±1%			
Minimum Load	0%			
Line Regulation	±0.5%			
Load Regulation	±1%			
Turn On Time	1000ms after AC applied to input at full resistive load			
Voltage Fall Time	150ms			
Voltage Rise Time	150ms			
Hold Up Time (400VAC)	20ms			
Temperature Coefficient	±0.03%/°C			
Ripple & Noise	100mV			
Voltage Trim Range	22.5-28.5VDC			
DC ON	LED (Green)			
DC OK Relay	60VDC / 0.3A; 30VDC / 1A; 30VAC / 0.5A			
Control & Protection				
Rated Overload Protection	105-130%			
Over Voltage Protection	30-36VDC			
Output Short Circuit	Hiccup mode, it will recover automatically after fault condition is removed		Shutdown Output Voltage with Auto Recovery	

Dimensions (mm)



Terminal Assignment

	Terminal	LPS-3-240-xxDC	LPS-3-480-xxDC
Input	1	AC / L1	PE (⊕)
	2	AC / L2 or DC-	AC / L3
	3	AC / L3 or DC+	AC / L2
	4	FG (⊕)	AC / L1
Output	1, 2	DC OUTPUT V+	DC OUTPUT V+
	3, 4	DC OUTPUT V-	DC OUTPUT V-
	5, 6	DC OK Relay Contact	

Cable Size Range
AWG24-10 (0.2 ~ 4mm²) flexible / solid cable,
8 m/m striping cable end recommends
Use copper conductors only, 60 / 75°C

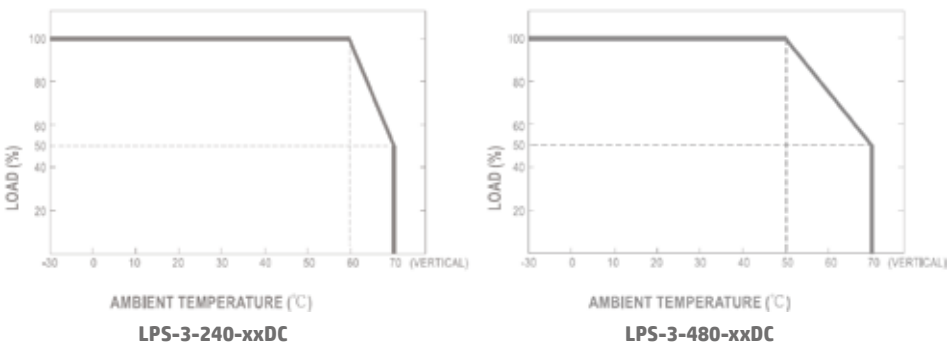
DC OK Relay Contact (optional for LPS-3-480)

Contact Close	PSU on / DC OK
Contact Open	PSU off / DC Fail
Contact Ratings (max.)	60VDC / 0.3A, 30VDC / 1A, 30VAC / 0.5A resistive load

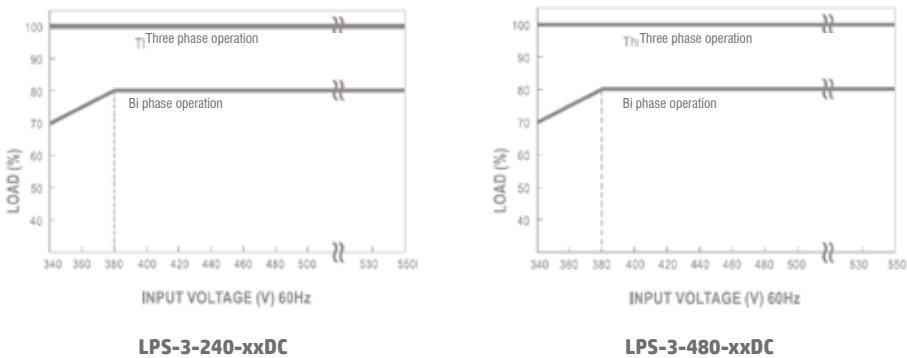


Derating Graphs

Temperature Derating



Output Derating



LPS Series

Three Phase 960W AC-DC DIN Rail Power Supplies

Key Features

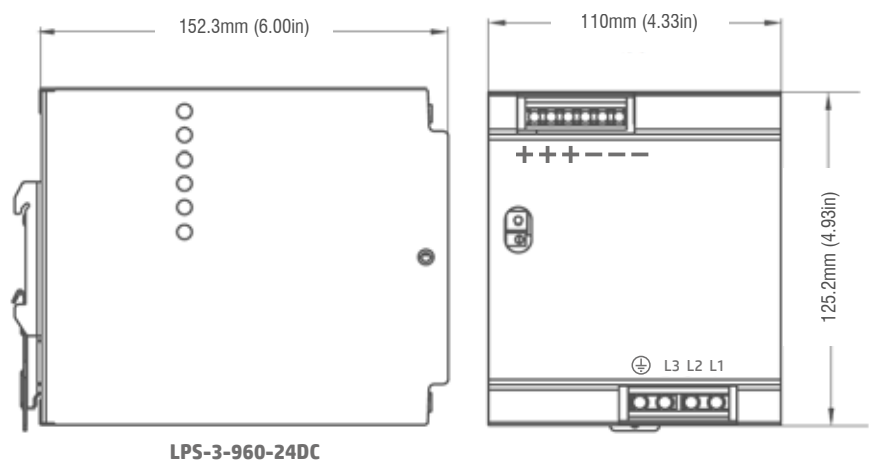
- 24 VDC
- 3 Phase Input: 340-550VAC / 480-780VDC
- Accepts Bi-Phase Input
- High Efficiency
- Short Circuit Protection
- Internal Input Filter
- IP20 Protection Rated



Technical Specification

Model	LPS-3-960-24DC
Input Voltage	340-550VAC / 480-780VDC
Output Wattage	960W
Output Voltage / Power Dissipation	24VDC / 35W
Output Current	40A
Efficiency	94%
General Specification	
Isolation Voltage	3000VAC/4242VDC
Isolation Resistance	100MΩ @ 500VDC
Ambient Temperature	-30 to +70°C
Derating	(60 to 70°C) 2.5%/°C
Storage Temperature	-40 to +85°C
Relative Humidity	10 to 95% RH
Cooling	Free air convection (Fanless)
Tightening Torque	1.0Nm
Screw Type	Flat Screw
Dimensions	L125.2 x W110 x D152.3 (165.3 inc. DIN rail mount) mm
Weight	2470g
Case Material	Metal
Input Specifications	
Input Voltage Range	340-550VAC, 480-780VDC
Line Frequency	50/60Hz
Power Factor @ 400VAC	0.88 Typical
Power Factor @ 500VAC	0.86 Typical
Inrush Current (400VAC)	Cold Start 60A
Output Specifications	
Output Voltage Accuracy	±1%
Minimum Load	0%
Line Regulation	±0.5%
Load Regulation	±1%
Turn On Time	1000ms after AC applied to input at full resistive load
Voltage Fall Time	150ms
Voltage Rise Time	150ms
Hold Up Time (400VAC)	20ms
Temperature Coefficient	±0.03%/°C
Ripple & Noise	100mV
Voltage Trim Range	22.5-28.5VDC
DC ON	LED (Green)
DC OK Relay	60VDC / 0.3A; 30VDC / 1A; 30VAC / 0.5A
Control & Protection	
Rated Overload Protection	105-130%
Over Voltage Protection	29-33VDC
Output Short Circuit	Shutdown Output Voltage with Auto Recovery

Dimensions (mm)



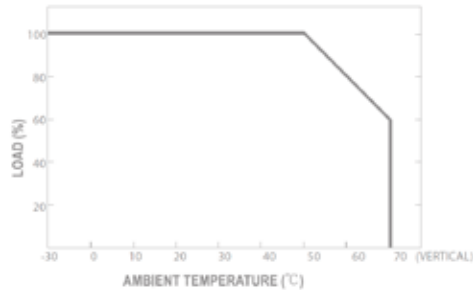
Terminal Assignment

	Terminal	LPS-3-960-24DC
Input	1	FG (⊕)
	2	AC / L3
	3	AC / L2
	4	AC/L1
Output	1, 2, 3	DC OUTPUT V+
	4, 5, 6	DC OUTPUT V-

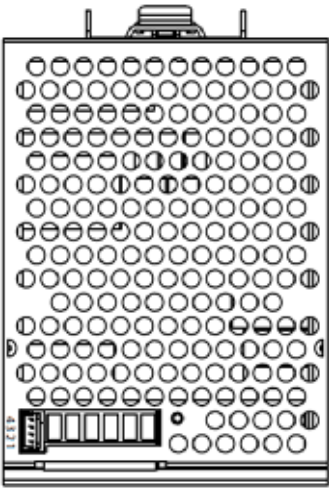
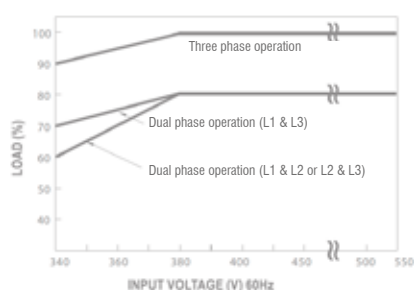
Connector Size Range AWG24-10 (0.2 ~ 4mm²)
flexible / solid cable, 8 m/m striping cable end recommends
Use copper conductors only, 60 / 75°C

Derating Graphs

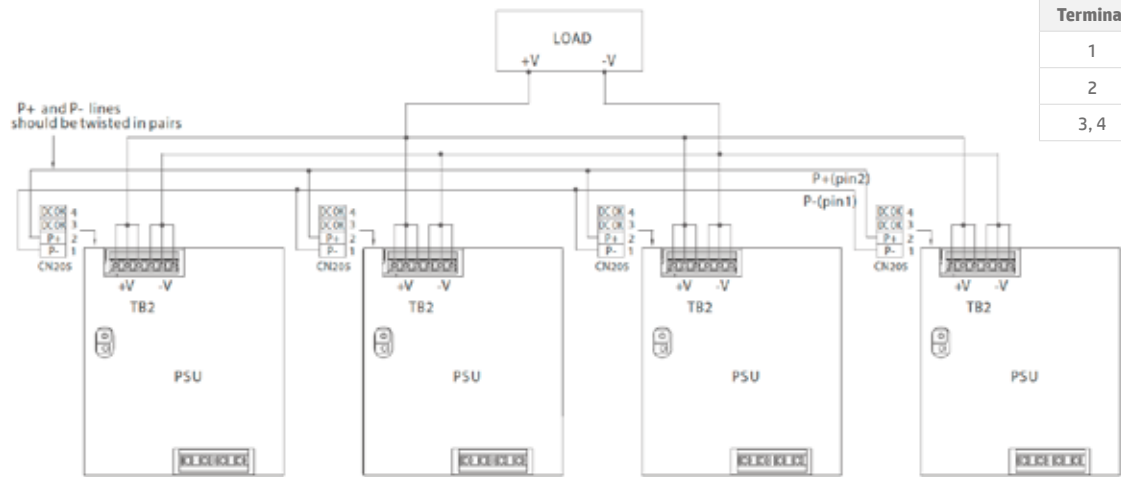
Temperature Derating



Output Derating



Current Sharing



DC Contact for Current Share

Terminal	Description
1	P- (Current Share)
2	P+ (Current Share)
3, 4	DC OK Relay Contact

HPS Series **Peak Performance**

120W-480W AC-DC DIN Rail Power Supplies

Key Features

- 12, 24 & 48 VDC
- Universal Input: 90-264VAC / 120-375VDC
- High Efficiency
- Short Circuit Protection
- Internal Input Filter
- IP20 Protection Rated



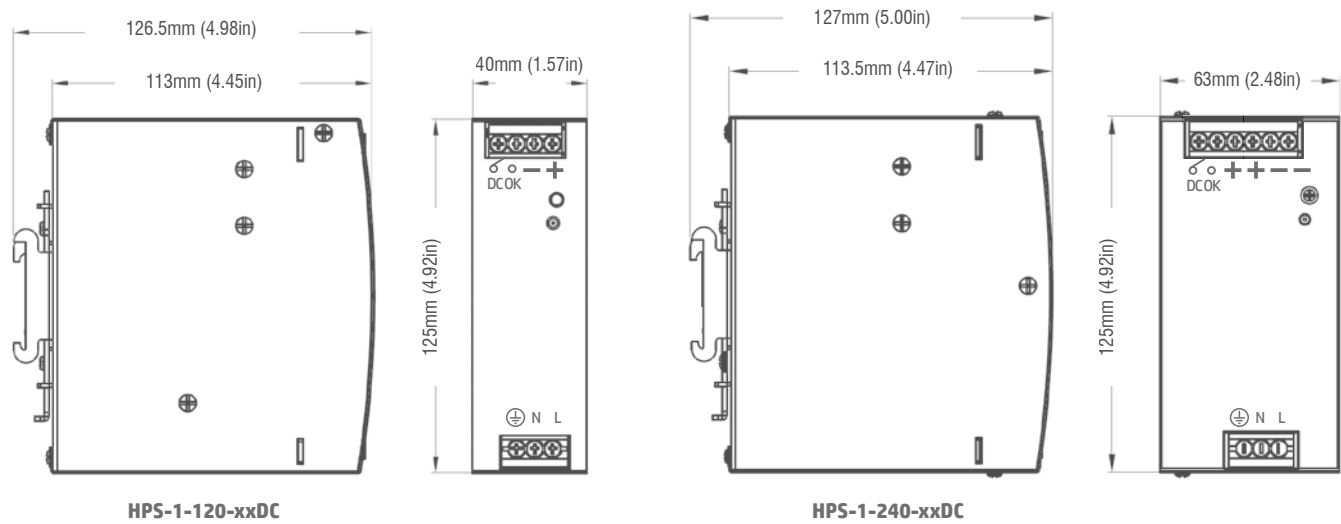
Technical Specification

Model	HPS-1-120-12DC	HPS-1-120-24DC	HPS-1-120-48DC	
Input Voltage	90-264VAC / 127-375VDC			
Output Wattage	120W			
Peak Output Wattage	180W (for 3 secs)			
Output Voltage / Power Dissipation	12VDC / 24W	24VDC / 20W	48VDC / 19W	
Output Current	10A	5A	2.5A	
Efficiency	89%	91%	91%	
General Specification				
Approval	cURus			
Isolation Voltage	3000VAC/4242VDC			
Isolation Resistance	100MΩ @ 500VDC			
Ambient Temperature	-25 to +70°C			
Derating	(61 to 71°C) 2.5%/°C			
Storage Temperature	-40 to +85°C			
Relative Humidity	10 to 95% RH			
Cooling	Free air convection (Fanless)			
Tightening Torque	0.8Nm			
Screw Type	Flat Screw			
Dimensions	L125 x W40 x D113 (126.5 inc. DIN rail mount) mm			
Weight	600g			
Case Material	Metal			
Input Specifications				
Rated Input Voltage	115 - 230VAC (auto select)			
Input Voltage Range	90-264VAC, 127-375VDC			
Line Frequency	50/60Hz			
Power Factor @ 115VAC	0.96 Typical (0.58 Measured)			
Power Factor @ 230VAC	0.93 Typical (0.75 Measured)			
Inrush Current (115 / 230VAC)	35 / 70A			
Output Specifications				
Output Voltage Accuracy	±1%			
Minimum Load	0%			
Line Regulation	±0.5%			
Load Regulation	±1%			
Turn On Time	1000ms after AC applied to input at full resistive load			
Voltage Fall Time	150ms			
Voltage Rise Time	150ms			
Hold Up Time (115 / 230VAC)	10 / 16ms			
Temperature Coefficient	±0.03%/°C			
Ripple & Noise	120mVp-p			
Voltage Trim Range	11.4 ~ 14.5VDC	22.5 ~ 28.5VDC	45 ~ 55VDC	
DC ON	LED (Green)			
DC OK Relay	30V / 1A Resistive Load			
Control & Protection				
Rated Overload Protection	110-150%			
Over Voltage Protection	14-17VDC	29-33VDC	50-65VDC	
Output Short Circuit	Hiccup Mode	Shutdown Output Voltage with Auto Recovery		



HPS-1-240-24DC	HPS-1-240-48DC	HPS-1-480-24DC
90-264VAC / 120-375VDC		
240W	240W	480W (Current share up to 3840W [7+1] paralleling)
360W (for 3 secs)		720W (for 3 secs)
24VDC / 35W	48VDC / 32W	24VDC / 63W
10A	5A	20A
85.5%	90%	92%
cURus		
3000VAC/4242VDC		
100MΩ @ 500VDC		
-20 to +70°C		
(55 to 70°C) 2.5%/°C		
-40 to +85°C		
10 to 95% RH		
Free air convection		
0.8Nm		1.0Nm
Flat Screw		
L125 x W63 x D113.5 (127 inc. DIN rail mount) mm		L125 x W85.5 x D129 (142 inc. DIN rail mount) mm
1000g		1500g
Metal		
115-230VAC (auto select)		
90-264VAC, 127-375VDC		
50/60Hz		
0.6 Typical (0.61 Measured)		0.99 Typical (0.99 Measured)
0.75 Typical (0.77 Measured)		0.97 Typical (0.97 Measured)
20 / 35A		
±1%		
0%		
±0.5%		
±1%		
1000ms after AC applied to input at full resistive load		
150ms		
150ms		
10 / 16ms		25 / 30ms
±0.03%/°C		
150mVp-p		
22.5-28.5VDC	47-56VDC	22.5-28.5VDC
LED (Green)		
30V / 1A Resistive Load		
105-130%		
29-33VDC	56-65VDC	29-33VDC
Shutdown Output Voltage with Auto Recovery		

Dimensions (mm)



Terminal Assignment

Input		Output		Output (HPS-1-480-24DC)	
Terminal	Description	Terminal	Description	Terminal	Description
	Earth	DC OK	Relay Contact	DC OK	Relay Contact
N	AC Neutral or DC-	-	DC OUTPUT V-	-	DC OUTPUT V-
L	AC Live or DC+	+	DC OUTPUT V+	+	DC OUTPUT V+
				P+	Current Share*
				P-	Current Share*

Connector Size Range
AWG24-10 (0.2 ~ 4mm²) flexible / solid cable,
8 m/m stripping cable end recommends
Use copper conductors only, 60 / 75°C

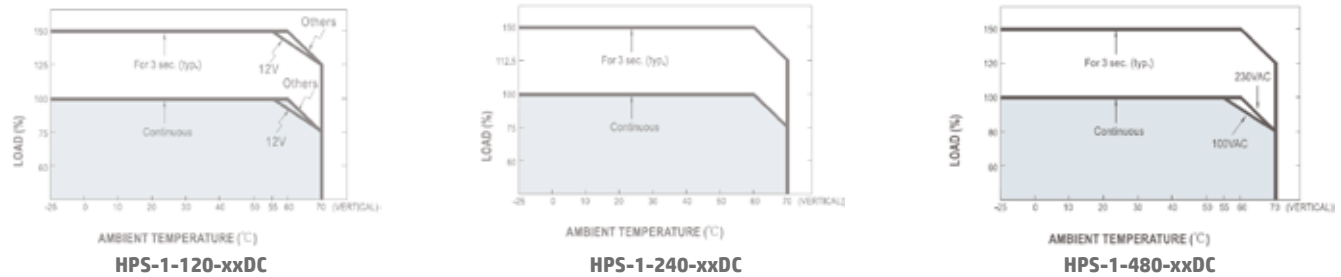
* Current Share up to 3840W (7+1) built-in paralleling.

DC OK Relay Contact

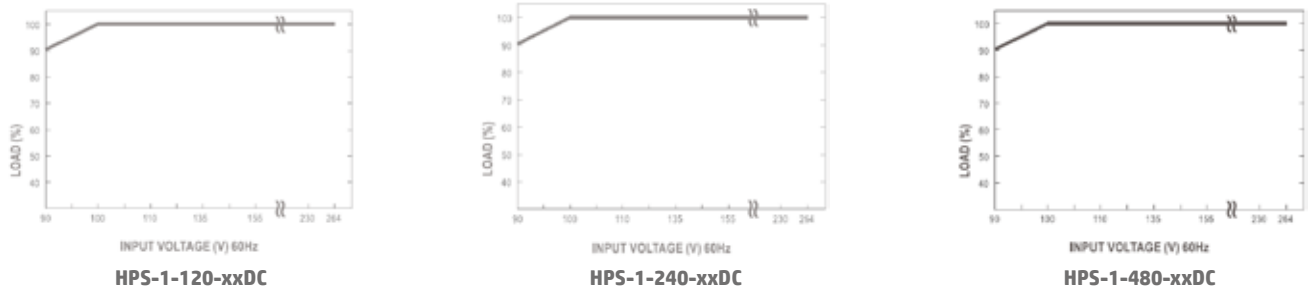
Contact Close	PSU turns on / DC OK
Contact Open	PSU turns off / DC Fail
Contact Ratings (max.)	30V / 1A resistive load

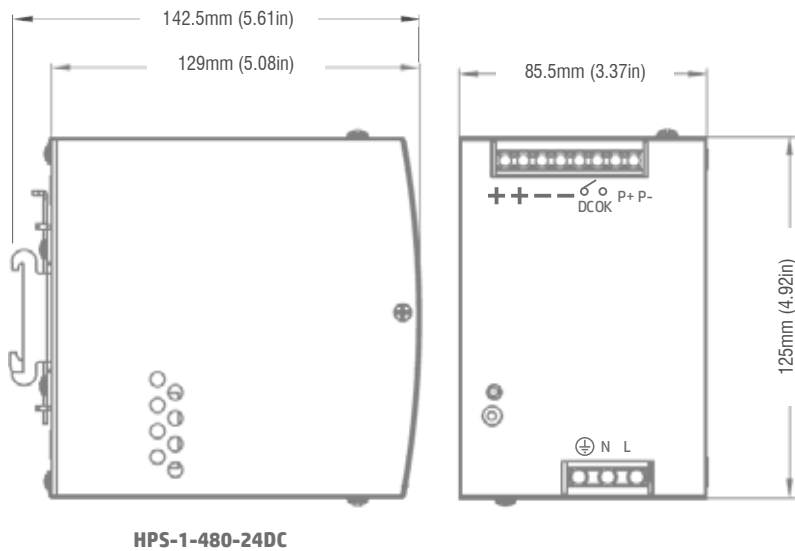
Derating Graphs

Temperature Derating

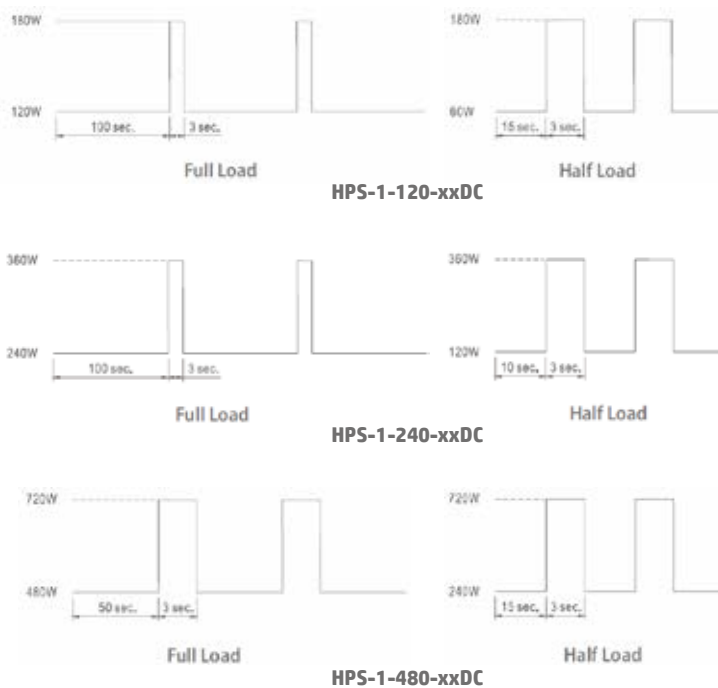


Output Derating

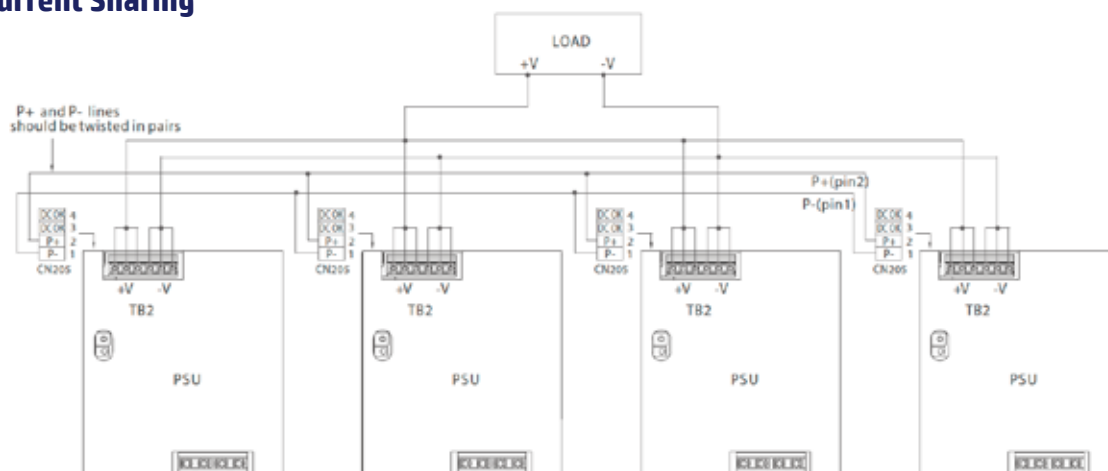




Peak Loading



Current Sharing



REDMOD20

Redundant Power Supply Module

Key Features

- Suitable for redundant operation of 24V system
- Max. 20 Amps
- Relay ready contacts
- Decoupling diodes
- LED input alarm indicator
- 2 inputs
- IP20 Protection Rated



Technical Specification

Model	REDMOD20
Input Specifications	
Rated Input Voltage	19-29VDC
Number of Inputs	2
Rated Input Current	20A continuous
Output Specifications	
Output Voltage Drop	0.25V
Output Current	20A
Max. Output Current	30A for 5 seconds
Reverse Voltage (max.)	30V
DC ON Indicator	Green LED input OK
General Specifications	
Isolation Voltage	100VDC
Isolation Resistance	100MΩ @ 500VDC
Ambient Temperature	-40 to +80°C
Storage Temperature	-40 to +85°C
Relative Humidity	5 to 95% RH
Cooling	Free air convection
MTBF	792,000 hrs
Tightening Torque	0.5Nm
Screw Type	Flat Screw
Dimensions	(H)125 x (W)32 x (D)100 mm
Weight	500g
Case Material	Metal
Pollution Degree	2
Control & Protection	
Power Rdy (OK)	When input is >20V (±5%) or <30V (±5%)
Power Rdy (Fail)	When input is <20V (±5%) or >30V (±5%)
Contact Rating @ 30VDC	1.0A
Approvals & Standards	CE

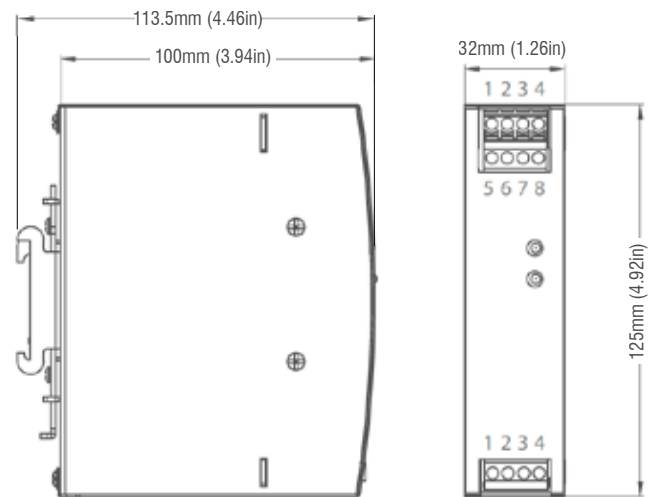
Terminal Assignment

Input		Output	
Terminal	Description	Terminal	Description
1	DC input +Vin1	1, 2	Alarm1 DC OK
2	DC input - Vin1	3, 4	Alarm2 DC OK
3	DC input +Vin2	5, 6	FG
4	DC input - Vin2	7	DC output +Vout
		8	DC output - Vout

DC OK Relay Contact

Contact Close (DC OK)	PSU turns on
Contact Open (DC Fail)	PSU turns off
Contact Ratings (max.)	30V / 1A resistive load

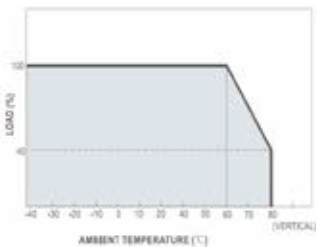
Dimensions (mm)



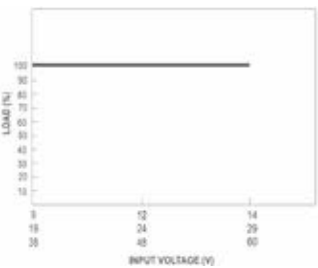
Cable Size Range
AWG24-10 (0.2 ~ 4mm²) flexible / solid cable,
8 m/m striping cable end recommends
Use copper conductors only, 60 / 75°C

Derating Graphs

Temperature Derating

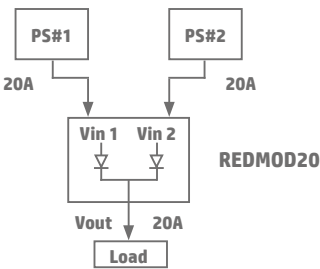


Output Derating

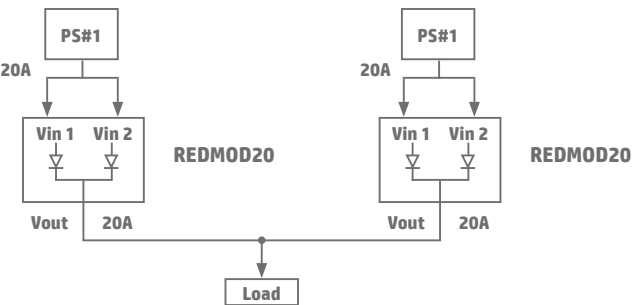


Typical Application Notes

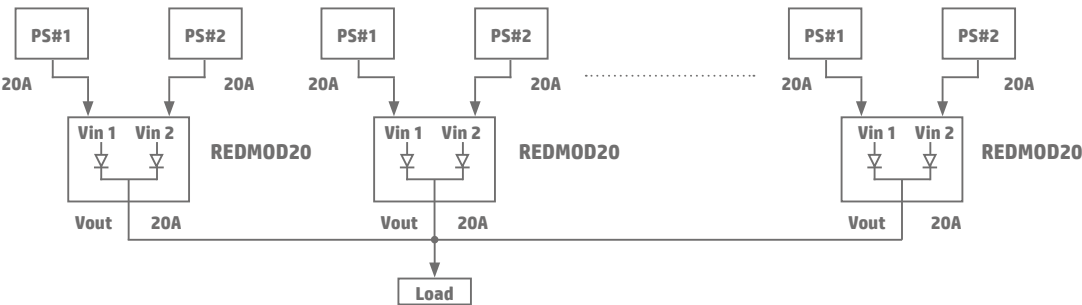
1) 1+1 Redundancy: Using 1 or more AC-DC power supply as the redundant unit



2) Single Use: Connecting only one AC-DC power supply to one REDMOD20 to reduce the stress of the diodes and hence increase the reliability



3) 1+N Redundancy: Using more AC-DC power supplies as the redundant units to increase the reliability



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