

Features

- Ultra High Efficiency (Up to 92%)
- Active Power Factor Correction (0.99 Typical)
- Constant Current Output
- Lightning Protection
- All-Round Protection: SCP, OTP, OVP
- Waterproof (IP67)
- Comply With UL8750 & EN61347 Safety Regulations (pending)



Description

The PLEC-100SxxxST Series operate from a 90 ~ 305 Vac input range. These units will provide up to a 4.2A of output current and a maximum output voltage of 286 V for 100 W maximum output power. They are designed to be highly efficient and highly reliable. The standard features include lightning protection, over voltage protection, short circuit protection, and over temperature protection.

Models

Output Current	Input Voltage	Max. Output Voltage	Max. Output Power	Typical Efficiency (1)	Power Factor		Model Number (2)
					110Vac	220Vac	
350 mA	90 ~ 305 Vac	286 Vdc	100 W	92.0%	0.99	0.96	PLEC-100S035ST
450 mA	90 ~ 305 Vac	222 Vdc	100 W	92.0%	0.99	0.96	PLEC-100S045ST
700 mA	90 ~ 305 Vac	143 Vdc	100 W	91.0%	0.99	0.96	PLEC-100S070ST
1050 mA	90 ~ 305 Vac	95 Vdc	100 W	91.0%	0.99	0.96	PLEC-100S105ST
1400 mA	90 ~ 305 Vac	72 Vdc	100 W	91.0%	0.99	0.96	PLEC-100S140ST
1750 mA	90 ~ 305 Vac	57 Vdc	100 W	91.0%	0.99	0.96	PLEC-100S175ST
2100 mA	90 ~ 305 Vac	48 Vdc	100 W	91.0%	0.99	0.96	PLEC-100S210ST
2450 mA	90 ~ 305 Vac	41 Vdc	100 W	91.0%	0.99	0.96	PLEC-100S245ST
2800 mA	90 ~ 305 Vac	36 Vdc	100 W	90.5%	0.99	0.96	PLEC-100S280ST
3150 mA	90 ~ 305 Vac	32 Vdc	100 W	90.5%	0.99	0.96	PLEC-100S315ST
3570 mA	90 ~ 305 Vac	28 Vdc	100 W	90.5%	0.99	0.96	PLEC-100S357ST
4200 mA	90 ~ 305 Vac	24 Vdc	100 W	90.5%	0.99	0.96	PLEC-100S420ST

Notes: (1) Measured at full load and 220 Vac input.

(2) A suffix –xxx may be added to denote variations or modifications to the base product, where x can be any alphanumeric character or blank.

Specifications are subject to changes without notice.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 V	-	305 V	
Input Frequency	47 Hz	-	63 Hz	
Input AC Current	-	-	1.3 A	Measured at full load and 100 Vac input.
	-	-	0.6 A	Measured at full load and 220 Vac input.
Inrush current	-	-	65 A	At 230Vac input 25°C Cold start

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Range				
$I_o = 350 \text{ mA}$	332 mA	350 mA	368 mA	
$I_o = 450 \text{ mA}$	427 mA	450 mA	473 mA	
$I_o = 700 \text{ mA}$	665 mA	700 mA	735 mA	
$I_o = 1050 \text{ mA}$	997 mA	1050 mA	1102 mA	
$I_o = 1400 \text{ mA}$	1330 mA	1400 mA	1470 mA	
$I_o = 1750 \text{ mA}$	1662 mA	1750 mA	1837 mA	
$I_o = 2100 \text{ mA}$	1995 mA	2100 mA	2205 mA	
$I_o = 2450 \text{ mA}$	2327 mA	2450 mA	2572 mA	
$I_o = 2800 \text{ mA}$	2660 mA	2800 mA	2940 mA	
$I_o = 3150 \text{ mA}$	2992 mA	3150 mA	3307 mA	
$I_o = 3570 \text{ mA}$	3391 mA	3570 mA	3748 mA	
$I_o = 4200 \text{ mA}$	3990 mA	4200 mA	4410 mA	
Output Voltage Range				
$I_o = 350 \text{ mA}$	172 V	-	286 V	
$I_o = 450 \text{ mA}$	132 V	-	222 V	
$I_o = 700 \text{ mA}$	86 V	-	143 V	
$I_o = 1050 \text{ mA}$	57 V	-	95 V	
$I_o = 1400 \text{ mA}$	43 V	-	71 V	
$I_o = 1750 \text{ mA}$	34 V	-	57 V	
$I_o = 2100 \text{ mA}$	29 V	-	48 V	
$I_o = 2450 \text{ mA}$	25 V	-	41 V	
$I_o = 2800 \text{ mA}$	22 V	-	36 V	
$I_o = 3150 \text{ mA}$	19 V	-	32 V	
$I_o = 3570 \text{ mA}$	17 V	-	28 V	
$I_o = 4200 \text{ mA}$	14 V	-	24 V	
Ripple and Noise (pk-pk)	-	-	3% V_o	Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1 uF ceramic capacitor and a 10 uF electrolytic capacitor.
Line Regulation	-	-	1%	
Load Regulation	-	-	3%	
Turn-on Delay Time	-	-	3 S	
Output Overshoot / Undershoot	-	-	10%	When power on or off.

Note: All specifications are typical at 25 °C unless otherwise stated.

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Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Voltage Protection				Latch mode. The power supply shall return to normal operation only after the power is turn-on again.
$I_o = 350 \text{ mA}$	343 V	372 V	401 V	
$I_o = 450 \text{ mA}$	266 V	289 V	311 V	
$I_o = 700 \text{ mA}$	171 V	186 V	200 V	
$I_o = 1050 \text{ mA}$	114 V	124 V	133 V	
$I_o = 1400 \text{ mA}$	86 V	94 V	101 V	
$I_o = 1750 \text{ mA}$	68 V	74 V	80 V	
$I_o = 2100 \text{ mA}$	57 V	63 V	67 V	
$I_o = 2450 \text{ mA}$	49 V	53 V	58 V	
$I_o = 2800 \text{ mA}$	43 V	47 V	51 V	
$I_o = 3150 \text{ mA}$	38 V	42 V	45 V	
$I_o = 3570 \text{ mA}$	33 V	36 V	40 V	
$I_o = 4200 \text{ mA}$	28 V	31 V	34 V	
Over Temperature Protection	-	110 °C	-	Maximum temperature of components inside the case.
Short Circuit Protection	No damage shall occur when any output operating in a short circuit condition. The power supply shall be self-recovery when the fault condition is removed.			

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency				Measured at full load and 110 Vac input.
$I_o = 350 \text{ mA}$	89.0%	90.0%	-	
$I_o = 450 \text{ mA}$	89.0%	90.0%	-	
$I_o = 700 \text{ mA}$	88.0%	89.0%	-	
$I_o = 1050 \text{ mA}$	88.0%	89.0%	-	
$I_o = 1400 \text{ mA}$	88.0%	89.0%	-	
$I_o = 1750 \text{ mA}$	88.0%	89.0%	-	
$I_o = 2100 \text{ mA}$	88.0%	89.0%	-	
$I_o = 2450 \text{ mA}$	88.0%	89.0%	-	
$I_o = 2800 \text{ mA}$	87.5%	88.5%	-	
$I_o = 3150 \text{ mA}$	87.5%	88.5%	-	
$I_o = 3570 \text{ mA}$	87.5%	88.5%	-	
$I_o = 4200 \text{ mA}$	87.5%	88.5%	-	
Efficiency				Measured at full load and 220 Vac input.
$I_o = 350 \text{ mA}$	91.0%	92.0%	-	
$I_o = 450 \text{ mA}$	91.0%	92.0%	-	
$I_o = 700 \text{ mA}$	90.0%	91.0%	-	
$I_o = 1050 \text{ mA}$	90.0%	91.0%	-	
$I_o = 1400 \text{ mA}$	90.0%	91.0%	-	
$I_o = 1750 \text{ mA}$	90.0%	91.0%	-	
$I_o = 2100 \text{ mA}$	90.0%	91.0%	-	
$I_o = 2450 \text{ mA}$	90.0%	91.0%	-	
$I_o = 2800 \text{ mA}$	89.5%	90.5%	-	
$I_o = 3150 \text{ mA}$	89.5%	90.5%	-	
$I_o = 3570 \text{ mA}$	89.5%	90.5%	-	
$I_o = 4200 \text{ mA}$	89.5%	90.5%	-	
MTBF	350,000 hours			At 110 Vac input, full load and 25°C ambient temperature (MIL-HDBK-217F)
Life Time	100,000 hours			At 25°C ambient temperature.
Dimensions				
Inches (L x W x H)	7.64 x 2.66 x 1.46			
Millimeters (L x W x H)	194 x 67.5 x 37			
Net Weight	-	1000 g	-	

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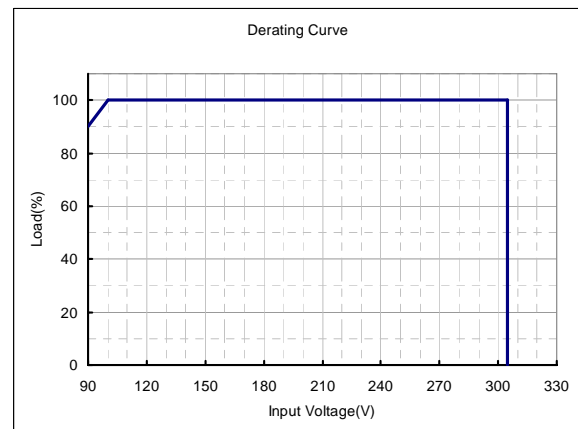
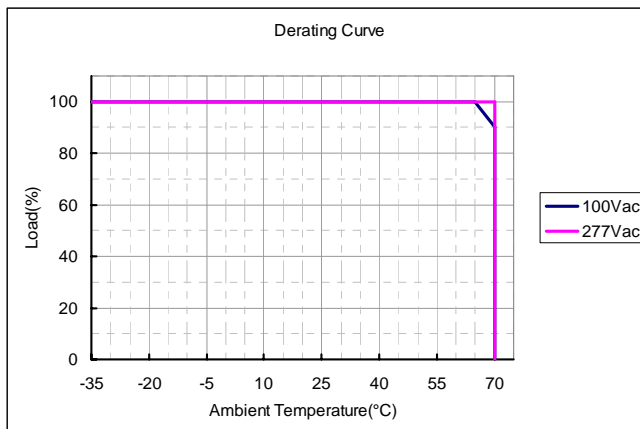
Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-35 °C	-	+70 °C	Humidity: 10% RH to 100% RH
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 100% RH

Safety & EMC Compliance

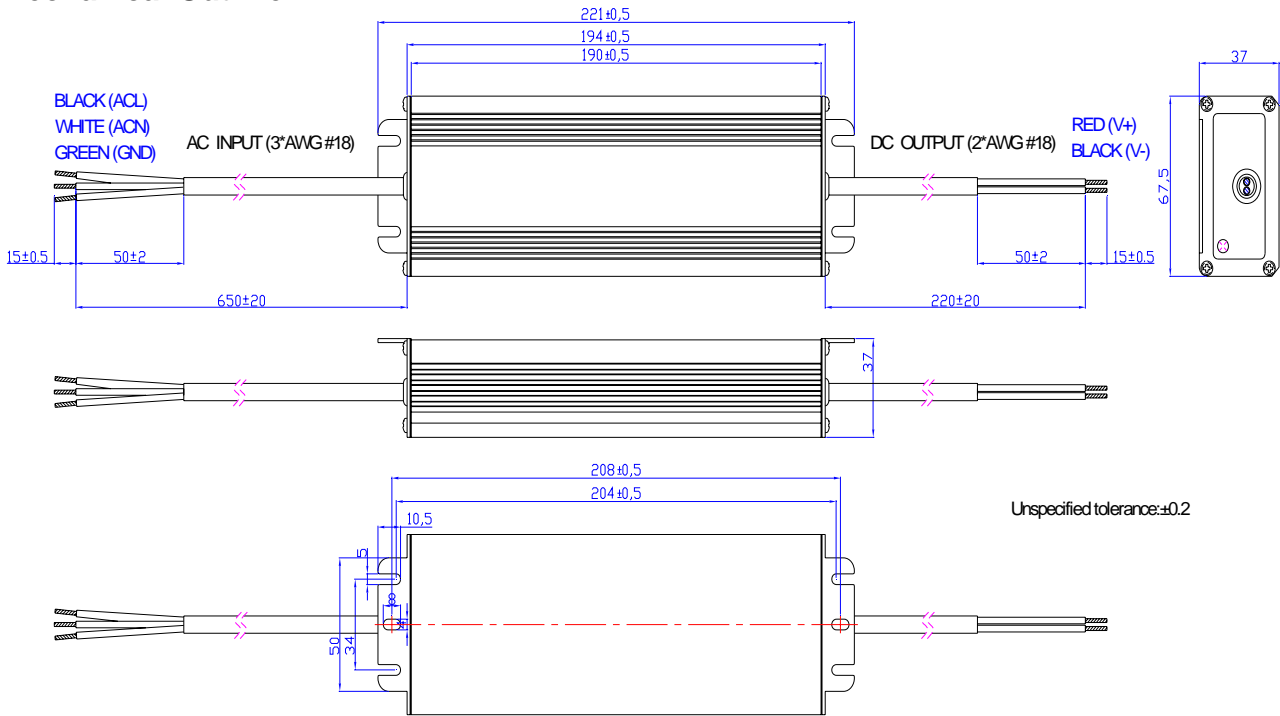
Safety Category	Country	Standard
CUL	USA & Canada	UL8750 Compliance to UL1310 Class2 UL1012 UL935, CAN/CSA-C22.2 No. 0, CSA-C22.2 No. 107.1, CSA-C22.2 No. 250.0
CE	Europe	EN 61347-1, EN61347-2-13
EMI Standards		Notes
EN 55015		Conducted emission Test & Radiated emission Test with 6 dB margin
EMS Standards		Notes
EN 61000-3-2		Harmonic current emissions
EN 61000-3-3		Voltage fluctuations & flicker
EN 61000-4-2		Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge
EN 61000-4-3		Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4		Electrical Fast Transient / Burst-EFT
EN 61000-4-5		Surge Immunity Test: AC Power Line: line to line 2 kV, line to earth 4 kV
EN 61000-4-6		Conducted Radio Frequency Disturbances Test-CS
EN 61000-4-8		Power Frequency Magnetic Field Test
EN 61000-4-11		Voltage Dips
EN 61547		Electromagnetic Immunity Requirements Applies To Lighting Equipment

Derating Curve



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Mechanical Outline



RoHS Compliance

Our products comply with the European Directive 2002/95/EC, calling for the elimination of lead and other hazardous substances from electronic products.