Features

- Leading Edge and Trailing Edge AC Dimmable
- Constant Current Output
- High Efficiency (Up to 85%)
- Active Power Factor Correction (Up to 0.95)
- All-Around Protection: OTP, OLP, SCP and No Load Protection
- EN61347 Safety Standards Approved

Description

The *LHC-028SxxxRSP* series operates from a 176 ~ 264 Vac input range. They are designed to be highly efficient and reliable. Features include dimming control with leading edge and trailing edge, open lamp, short circuit and no load protections.

Model List

Output Current	Input Voltage Range	Output Voltage Range	Max. Output Power	Efficiency (1)	Power Factor (1)	Model Number
350 mA	176 ~ 264 Vac	40-80Vdc	28 W	85%	0.95	LHC-028S035RSP
500 mA	176 ~ 264 Vac	28-56 Vdc	28 W	85%	0.95	LHC-028S050RSP
700 mA	176 ~ 264 Vac	20-40 Vdc	28 W	84%	0.95	LHC-028S070RSP
1050 mA	176 ~ 264 Vac	13-26 Vdc	28W	83%	0.95	LHC-028S105RSP

Notes: (1) Measured in 220 Vac input with full conduction angle at full load.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	176 V	-	264 V	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.5 mA	At 220Vac, 50Hz input.
Input AC Current	-	-	0.2 A	Measured at full load and 220 Vac input.
Inrush Current	-	-	25 A	At 220Vac input Ta=25℃ cold start, duration =10us

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%	-	5%	Full load condition
Startup Overshoot Current	-	-	10%	Full load condition
Line Regulation	-	-	2%	Input voltage from 200Vac to 264Vac
	-	-	20%	Input voltage from 176Vac to 200Vac
Load Regulation	-	-	5%	/
Turn-on Delay Time	-	0.6 s	1.0 s	Measured at 220Vac input.
Dimming Range	10%Io	-	100%Io	

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

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Protection Functions

Parameter	Min.	Typ.	Max.	Notes
No Load Voltage	Vomax	110% Vomax	120% Vomax	Vomax is the maximum operation output voltage
Over Temperature Protection	-	100℃	-	
Short Circuit Protection	Latch mode. The power supply shall return to normal operation only after the short is removed and the power is recycled.			

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency				Measured at full load and 220 Vac input with full conduction angle.
I_O = 350 mA	84%	85%	-	
I_O = 500 mA	84%	85%	-	
I_O = 700 mA	83%	84%	-	
I_O = 1050 mA	82%	83%	-	
Power Factor				Measured at maximum output voltage and 220 Vac input with full conduction angle.
I_O = 350 mA	0.93	0.95	-	
I_O = 500 mA	0.93	0.95	-	
I_O = 700 mA	0.93	0.95	-	
I_O = 1050 mA	0.93	0.95	-	
No Load Power Dissipation	-	-	3 W	
MTBF	200,000 Hours	-	-	Measured at 220Vac input, 80%load and 25℃ ambient temperature (MIL-HDBK-217F)
Life Time	-	51,900 Hours	-	Measured at 220Vac input, 80%load Case temperature=60℃ @ Tc point. See the life vs. Tc curve for the details
Case temperature	-	-	90 ℃	
Dimensions Inches (L × W × H) Millimeters (L × W × H)	3.74 × 2.76 × 1.26 95 × 70 × 32			
Net Weight		210 g		

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

Environmental Specifications

Parameter	Min.	Typ.	Max.	Notes
Operating Temperature	-10℃	-	+70 ℃	Humidity: 10% RH to 100% RH. See Derating Curve for more details
Storage Temperature	-20 ℃	-	+85 ℃	Humidity: 5% RH to 100% RH

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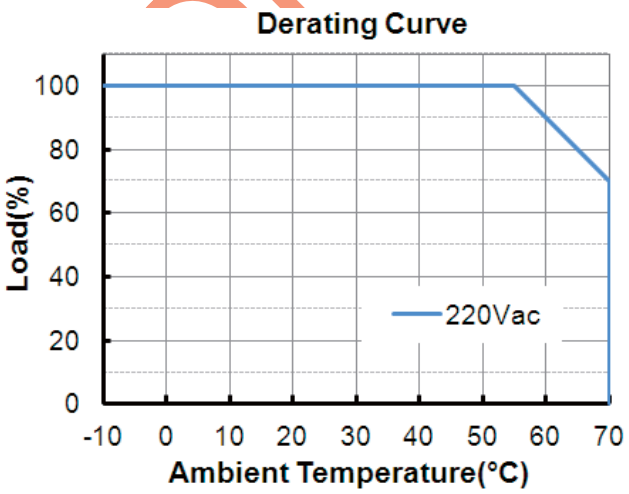
Safety & EMC Compliance

Safety Category	Standard
CE	EN 61347-1, EN61347-2-13
EMI Standards	**Notes**
EN55015/CISPR15	Conducted Emission Test & Radiated Emission Test with 6 dB margin
EN 61000-3-2	Harmonic Current Emissions Class C
EN 61000-3-3	Voltage Fluctuations & Flicker
EMS Standards	**Notes**
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge Level 3, Criteria A
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS Level 3, Criteria A
EN 61000-4-4	Electrical Fast Transient / Burst-EFT Level 3, Criteria A
EN 61000-4-5	Surge Immunity Test: AC Power Line: Line to Line 1 kV
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS Level 3, Criteria A
EN 61000-4-8	Power Frequency Magnetic Field Test 3A/m , Criteria A
EN 61000-4-11	Voltage Dips Criteria B
EN 61547	Electromagnetic Immunity Requirements Applies to Lighting Equipment

Derating Curve



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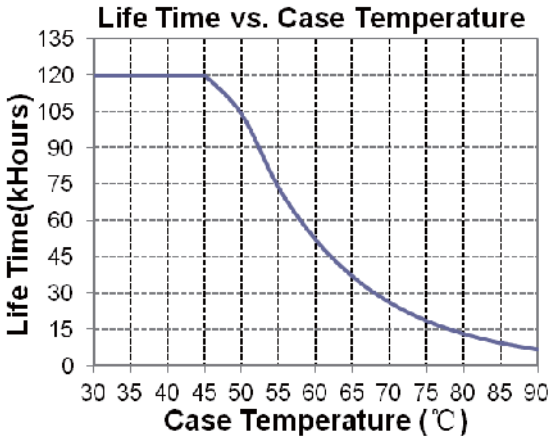
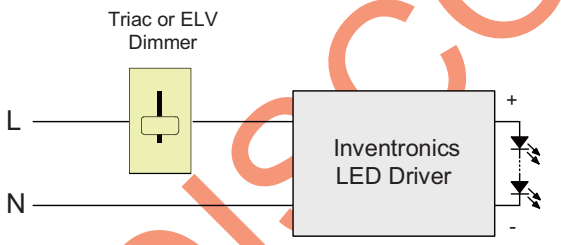
Life Time vs. Case Temperature Curve

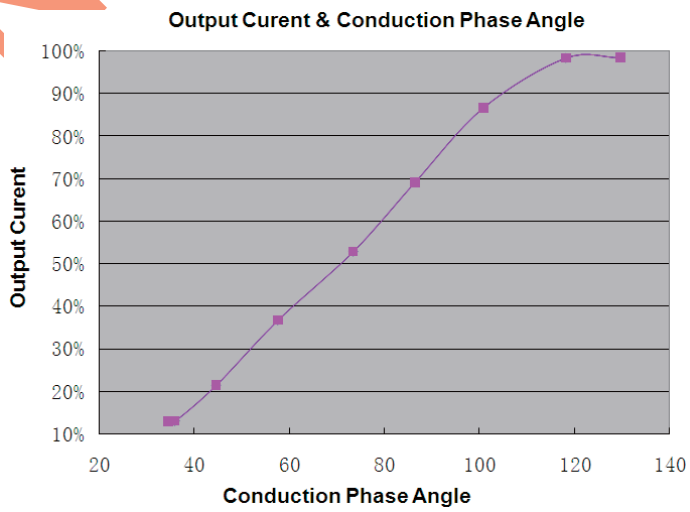


Dimmer Recommendation

Manufacturer	Type	Applicable Voltage	Power Rating	Notes
Hongyan	KT250	230Vac	250W	
Flexalite	FL6300	230Vac	630W	
Opus	852.390	230Vac	400W	
Bush-Jaeger	2250U	230Vac	600W	

TRIAC Dimming Control





Implementation: Dimming with Triac or ELV Dimmer

Parameter	Min.	Typ.	Max.	Notes
Dimming Range	10%Io	-	100%Io	Measured at 220 Vac input.
Conduction Angle	30°	-	180°	Measured at 220 Vac input.

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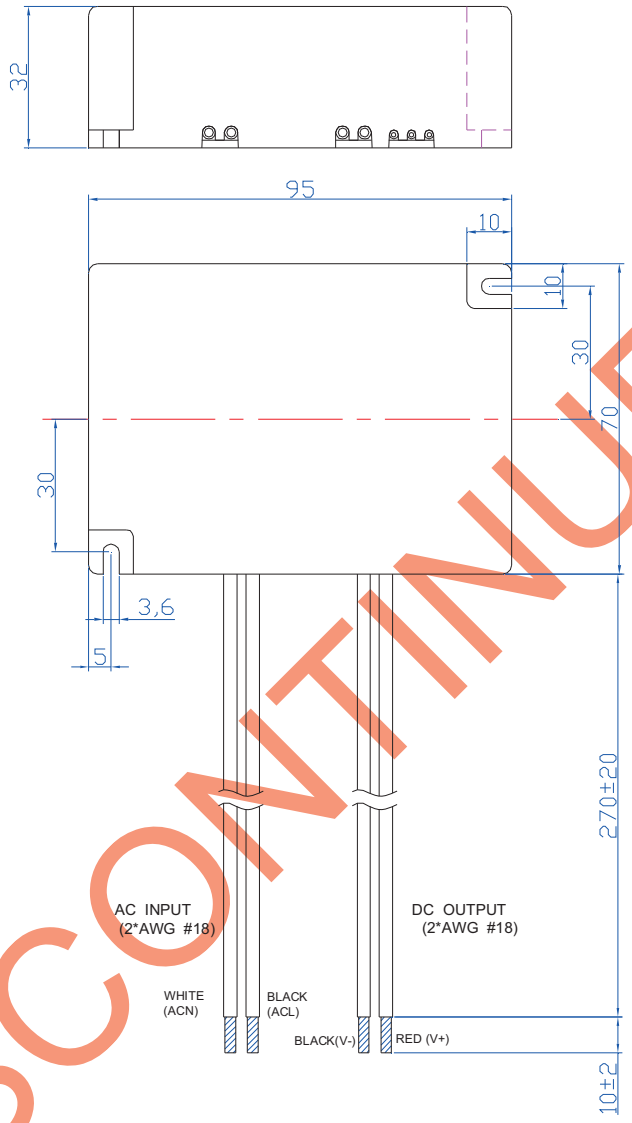
Mechanical Outline



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RoHS Compliance

Our products comply with the European Directive 2011/65/EC, calling for the elimination of lead and other hazardous substances from electronic products.

Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2012-02-01	A	Datasheets Released	/	/
2012-07-17	B	Max Case Temperature	/	Updated
2013-06-09	C	Life time and life time curve	/	Updated

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