Features

- Flicker-free
- Full power at Wide Output Current Range (Constant power)
- Adjustable Output Current (AOC) with Potentiometer
- Non-dimming control
- Input Surge Protection: DM 4kV, CM 6kV
- High Reliability & Long Lifetime: 116,000 hrs. at 70°C Case Temperature
- Suitable for Built-in Use and Class I Luminaires
- IP54 and UL Dry / Damp Location
- Class 2 & SELV Output
- 5 Year Warranty

Description

The *LUR-040SxxxST* is a 40W, constant-power, IP54, AOC LED driver that operates from 90-305Vac input with excellent power factor. Created for many lighting applications including explosion-proof, low bay, etc. The high efficiency of these drivers enables them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, output over voltage, short circuit, and over temperature.

Models

Adjustable Output Current Range	Full-Power Current Range(1)	Default Output Current	Input Voltage Range(2)	Output Voltage Range	Max. Output Power	Typical Efficiency (3)	Typical Power Factor		Model Number (4)
							120Vac	220Vac	
700-1050 mA	700-1050 mA	1050 mA	90~305 Vac 127~250 Vdc	34 ~ 54 Vdc	40 W	87.0%	0.99	0.96	LUR-040S105ST
1000-1500mA	1000-1500 mA	1400 mA	90~305 Vac 127~250 Vdc	24 ~ 40 Vdc	40 W	87.5%	0.99	0.96	LUR-040S150ST

Notes: (1) Output current range with constant power at 40W.
(2) Certified input voltage range: UL, FCC 100-277Vac; otherwise 100-240Vac.
(3) Measured at 100% load and 220Vac input (see below "General Specifications" for details).
(4) Class 2 & SELV output.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input AC Voltage	90 Vac	-	305 Vac	
Input DC Voltage	127 Vdc	-	250 Vdc	
Input Frequency	47 Hz	-	63 Hz	

Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Leakage Current	-	-	0.75 MIU	UL8750; 277Vac/ 60Hz
	-	-	0.70 mA	IEC60598-1; 240Vac/ 60Hz
Input AC Current	-	-	046 A	Measured at 100% load and 120 Vac input.
	-	-	0.24 A	Measured at 100% load and 220 Vac input.
Inrush Current(I^2t)	-	-	0.68 A^2s	At 220Vac input, 25℃ cold start, duration= 370 μs, 10%Ipk-10%Ipk. See Inrush Current Waveform for the details.
Power Factor	0.90	-	-	At 100-277Vac, 50-60Hz, 75%load
THD	-	-	20%	
THD	-	-	10%	At 120-240Vac,50-60Hz, 75%load

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%Ioset	-	5%Ioset	At 100% load condition
Output Current Setting(Ioset) Range LUR-040S105ST LUR-040S150ST	 700 mA 1000 mA	 - -	 1050 mA 1500 mA	
Output Current Setting Range with Constant Power LUR-040S105ST LUR-040S150ST	 700 mA 1000 mA	 - -	 1050 mA 1500 mA	
Total Output Current Ripple (pk-pk)	-	5%Iomax	10%Iomax	At 100% load condition
Output Current Ripple at < 200 Hz (pk-pk)	-	2%Iomax	-	At 100% load condition. Only this component of ripple is associated with
Startup Overshoot Current	-	-	10%Iomax	At 100% load condition.
No Load Output Voltage LUR-040S105ST LUR-040S150ST	 - -	 - -	 60V 60V	
Line Regulation	-	-	±1.0%	Measured at 100% load
Load Regulation	-	-	±5.0%	
Turn-on Delay Time	-	-	0.5 s	Measured at 120-277Vac input, 75%load
Temperature Coefficient of Iomax	-	0.06%/°C	-	Case temperature = 0°C~Tc max

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 120 Vac input: LUR-040S105ST Io=700 mA Io=1050 mA LUR-040S150ST Io=1000 mA Io=1500 mA	 83.0% 83.0% 83.0% 82.5%	 85.0% 85.0% 85.0% 84.5%	 - - - -	Measured at 100% load and steady-state temperature in 25°C ambient.
Efficiency at 220 Vac input: LUR-040S105ST Io=700 mA Io=1050 mA LUR-040S150ST Io=1000 mA Io=1500 mA	 85.0% 85.0% 85.5% 85.0%	 87.0% 87.0% 87.5% 87.0%	 - - - -	Measured at 100% load and steady-state temperature in 25°C ambient.
Efficiency at 277 Vac input: LUR-040S105ST Io=700 mA Io=1050 mA LUR-040S150ST Io=1000 mA Io=1500 mA	 85.5% 85.5% 86.0% 85.5%	 87.5% 87.5% 88.0% 87.5%	 - - - -	Measured at 100% load and steady-state temperature in 25°C ambient.
MTBF	-	434,000 Hours	-	Measured at 220Vac input, 80%load and 25°C ambient temperature (MIL-HDBK-217F)
Lifetime	-	116,000 Hours	-	Measured at 120Vac input, 80%load and 70°C case temperature; See lifetime vs. Tc curve for the details.
Operating Case Temperature for Safety Tc_s	-40 °C	-	+85 °C	
Operating Case Temperature for Warranty Tc_w	-40 °C	-	+75 °C	Case temperature for 5 years warranty. Humidity: 10% RH to 90% RH;
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 95% RH.
Dimensions Inches (ø × H) Millimeters (ø × H)	 Φ3.54 x 1.81 Φ90 x 46			
Net Weight	-	415 g	-	

Safety &EMC Compliance

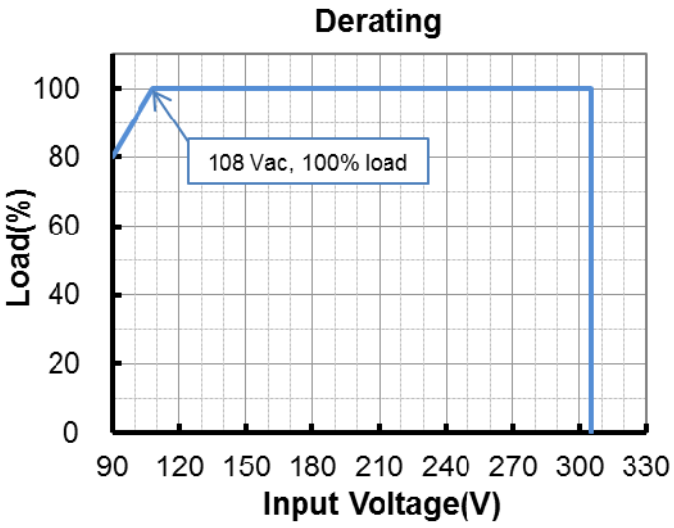
Safety Category	Standard
UL/CUL	UL 8750, UL 1310, CAN/CSA-C22.2 No. 250.13, CAN/CSA-C22.2 No. 223-M91
CE	EN 61347-1, EN 61347-2-13
CB	IEC 61347-1, IEC 61347-2-13
CCC	GB 19510.1, GB 19510.14
KS	KS C 7655

Safety &EMC Compliance (Continued)

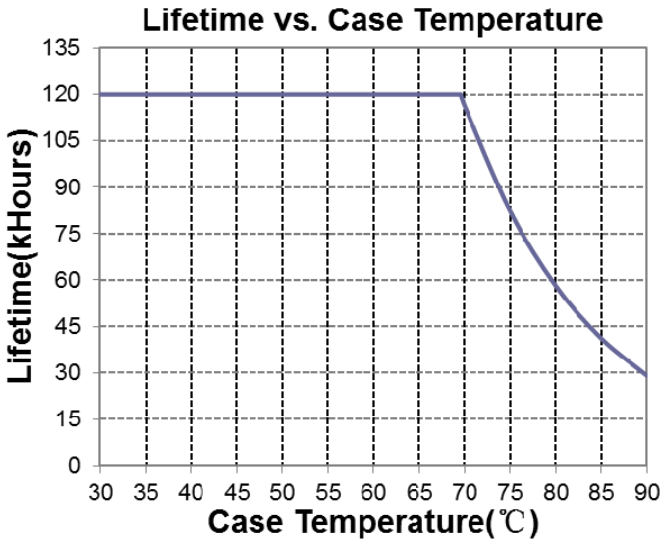
EMI Standards	Notes
EN 55015/GB 17743(1)	Conducted emission Test & Radiated emission Test
EN 61000-3-2/GB 17625.1	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
FCC Part 15(1)	ANSI C63.4 Class B
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: [1] this device may not cause harmful interference, and [2] this device must accept any interference received, including interference that may cause undesired operation.
EMS Standards	**Notes**
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 4 kV, line to earth 6 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

Note: (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

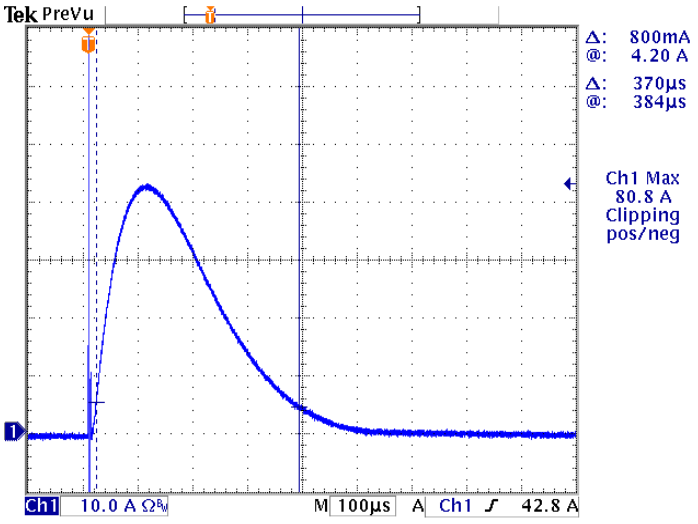
Derating



Lifetime vs. Case Temperature



Inrush Current Waveform



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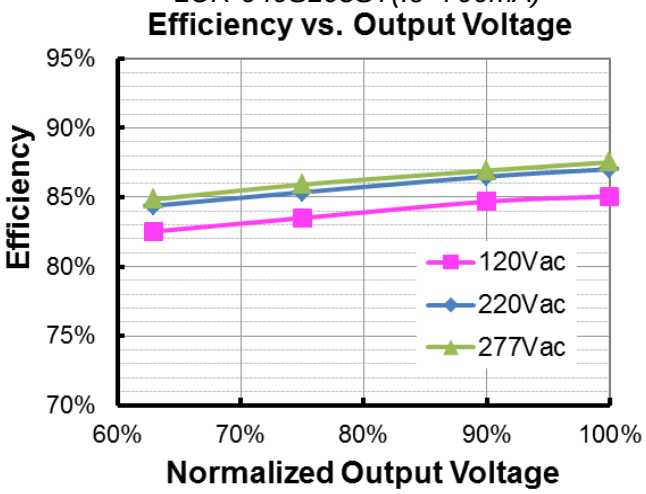
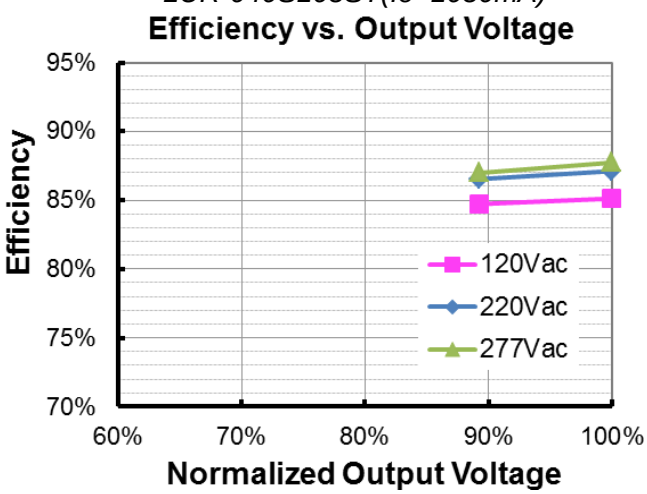
Efficiency vs. Load

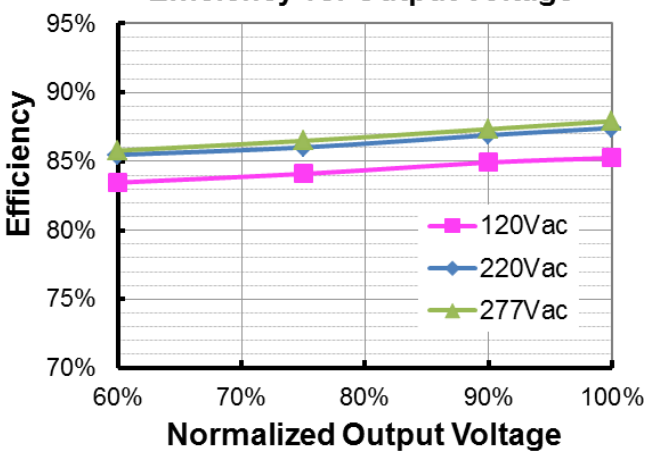
LUR-040S105ST(Io=700mA)



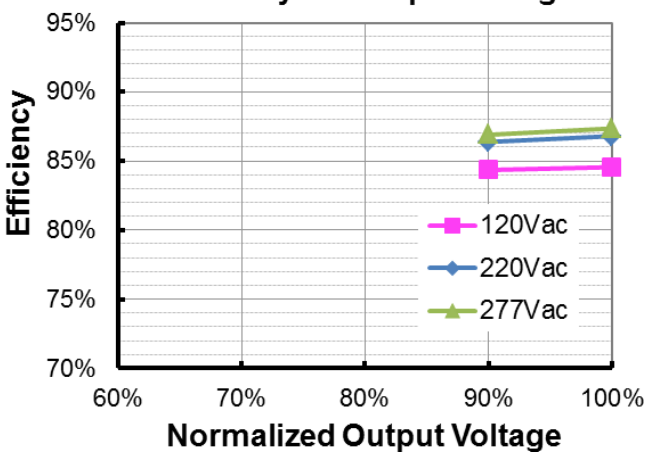
LUR-040S105ST(Io=1050mA)



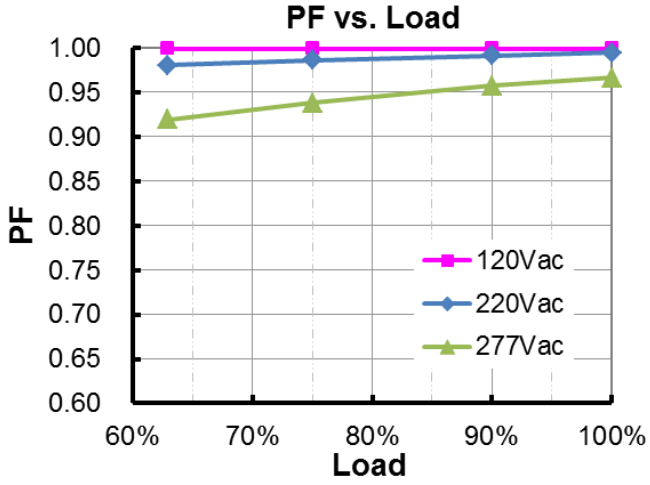
LUR-040S150ST(Io=1100mA)



LUR-040S150ST(Io=1500mA)



Power Factor



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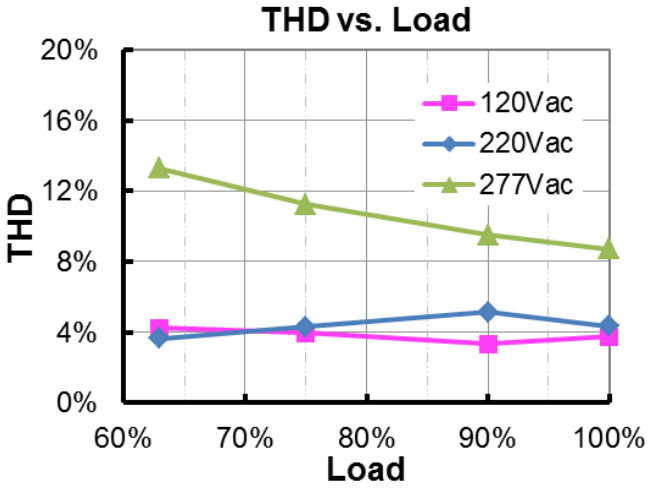
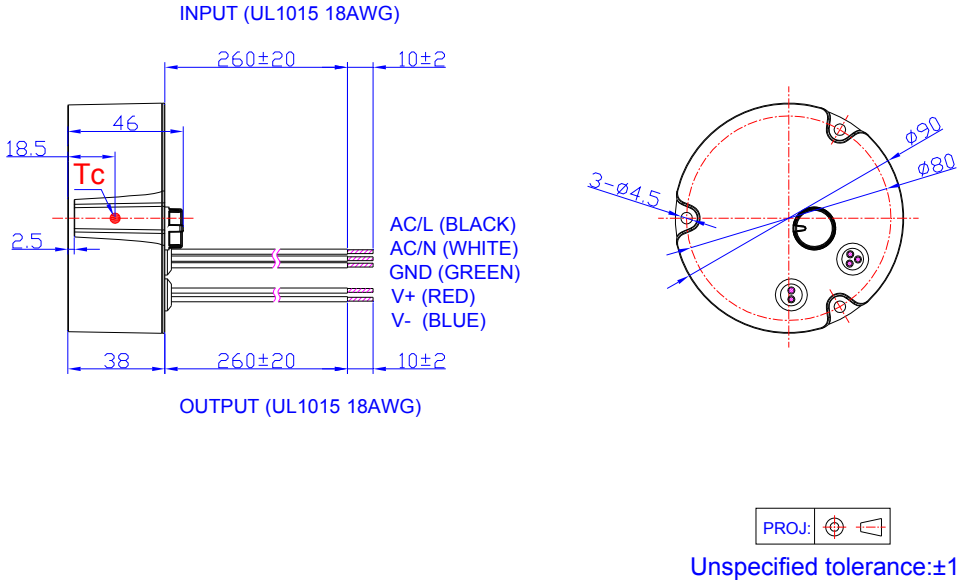
Total Harmonic Distortion



Protection Functions

Parameter	Notes
Over Voltage Protection	Limits output voltage at no load and in case the normal voltage limit fails.
Short Circuit Protection	Auto Recovery. 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.
Over Temperature Protection	Decreases output current. Returning to normal after over temperature is removed.

Mechanical Outline



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RoHS Compliance

Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU, calling for the elimination of lead and other hazardous substances from electronic products.

Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2020-10-16	A	Datasheet Release	/	/

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