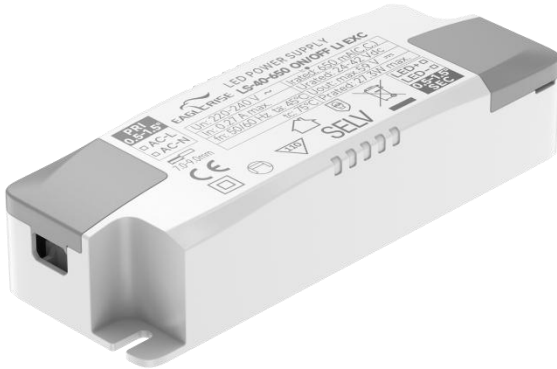


40W Constant Current power supply



■ Approve

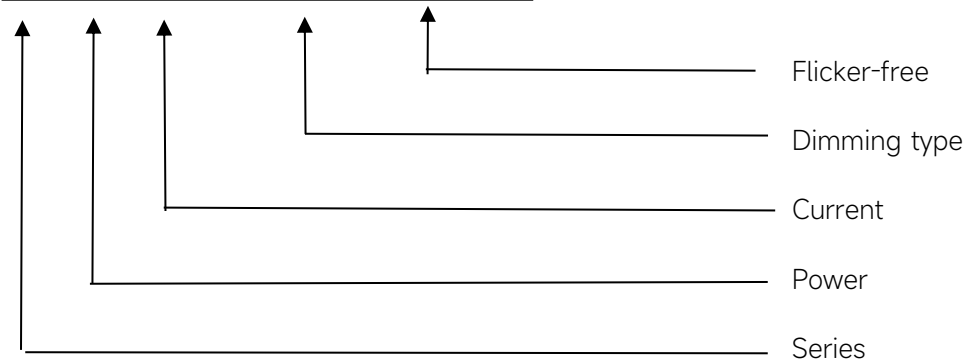


◆ Description

LS-40-XXX ON/OFF LI EXC is a 40W constant current LED driver with 600 to 1050mA output current and a forward voltage range from 24 to 42Vdc. With its compact dimensions from 116 x 41 x 26 mm. It is easy to integrate in LED panel and Ceiling lights. To ensure trouble-free operation, protection is provided against output short circuit, over load, over voltage, over temperature and open circuit.

◆ Model code

LS-40-XXX ON/OFF LI EXC



Features

- For luminaires of protection Class II, SELV, Independent
- Input Voltage 220-240VAC
- Protections: OLP/OVP/SCP/OTP
- Power Factor: ≥ 0.95
- Efficiency: $> 88\%$
- 5 years warranty

Applications

- LED Panel
- Ceiling Light

◆ Specification

Output	Constant Current	600	650	700	...	1050
	Voltage Range	24-42V			...	24-38.5
	Unload voltage Max.	59VDC				
	Current Accuracy	±5%				
	Output HF current ripple(≥)	±5%				
	Output LF current ripple(≤)	±5%				
	SVM	≤0.4@Full Load				
	Pst	≤1@Full Load				
	Efficiency(Typ.)	>88%@Full Load,230VAC				
Input	Rated input voltage	220-240VAC				
	Range of input voltage	198-264VAC				
	Frequency(Hz)	50/60 Hz				
	Power Factor	≥0.95@Full Load, 230VAC				
	Input Current max	0.27A MAX.@Full Load, 220-240VAC				
	Start-up time	< 0.5S				
	Unload Power Consumption	≤0.5W				
	THD	<10%@Full load				
Protection	Over Voltage Protection	59VDC YES/Auto Resume				
	Over Load Protection	YES/Auto Resume				
	Short circuit Protection	YES/Auto Resume				
capability	Surge capability (L-N)	1KV				
	Surge capability	NA				
Environment	Operating Temperature	-20°C~+45°C				
	Humidity	20%-90%RH				
	Tc (Max)	75°C				
	Storage Temperature	-20°C...+60°C				
	Life time	> 30000h@Tc=75°C				
	Noise	≤25dB(A)@20cm				
Dimming	Three-level Dimming	100%-50%-12%(with memory function)				
Surface	Dimension	116x41x26(LXWXH)mm				
	material	PC				
Standards	Safety	GB19510. 1, GB19510. 14;IEC61347- 1, IEC61347-2- 13;AS/NZS 61347- 1				
	EMC	GB/T17743, GB17625. 1;EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN55015, EN61000-3-2, EN61000-3-3, EN61547,EN 62493;EN61000-4-5;EN61000-4-2,3,4,5,6,8,11, EN61547				
	Energy Efficiency	Erp2.0 EU 2019/2020				

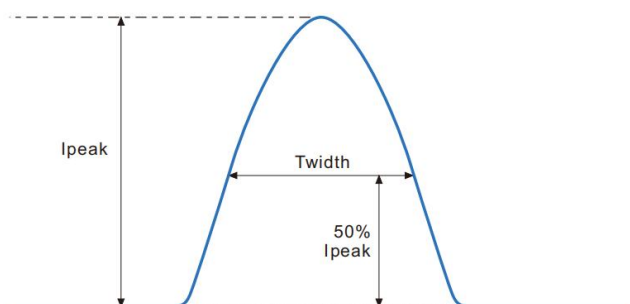
	RoHS	RoHS (2011/65/EU) (EU)2015/863
Note	<p>1.All parameters not specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature.</p> <p>2.Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47 uF parallel capacitor.</p> <p>3.The over-temperature protection of the product is provided by the IC.</p> <p>4.All Eaglerise power supply are complied with EMI regulations. Since they are belong to component and will be installed inside system enclosure. When they are integrated into a system, the EMI characteristics of the system must be re-verified again.</p>	

◆ Model list

Number	Model number	Output			
		Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)
1	LS-40-600 ON/OFF LI EXC	600	24-42	59	25.2
2	LS-40-650 ON/OFF LI EXC	650			27.3
3	LS-40-700 ON/OFF LI EXC	700			29.4
4	LS-40-750 ON/OFF LI EXC	750			31.5
5	LS-40-800 ON/OFF LI EXC	800			33.6
6	LS-40-850 ON/OFF LI EXC	850			35.7
7	LS-40-900 ON/OFF LI EXC	900			37.8
8	LS-40-950 ON/OFF LI EXC	950			39.9
9	LS-40-1000 ON/OFF LI EXC	1000	24-40		40
10	LS-40-1050 ON/OFF LI EXC	1050	24-38.5		40.4

◆ Inrush Current

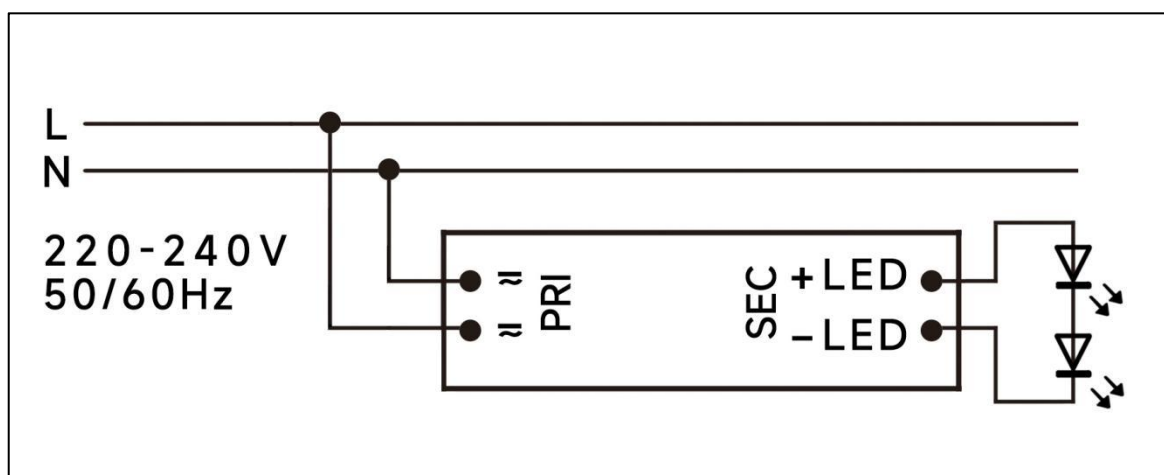
I_{peak}	Twidth	B10	B16	B20	C10	C16	C20
19.5A	180μs	23pcs	27pcs	46pcs	29pcs	47pcs	59pcs



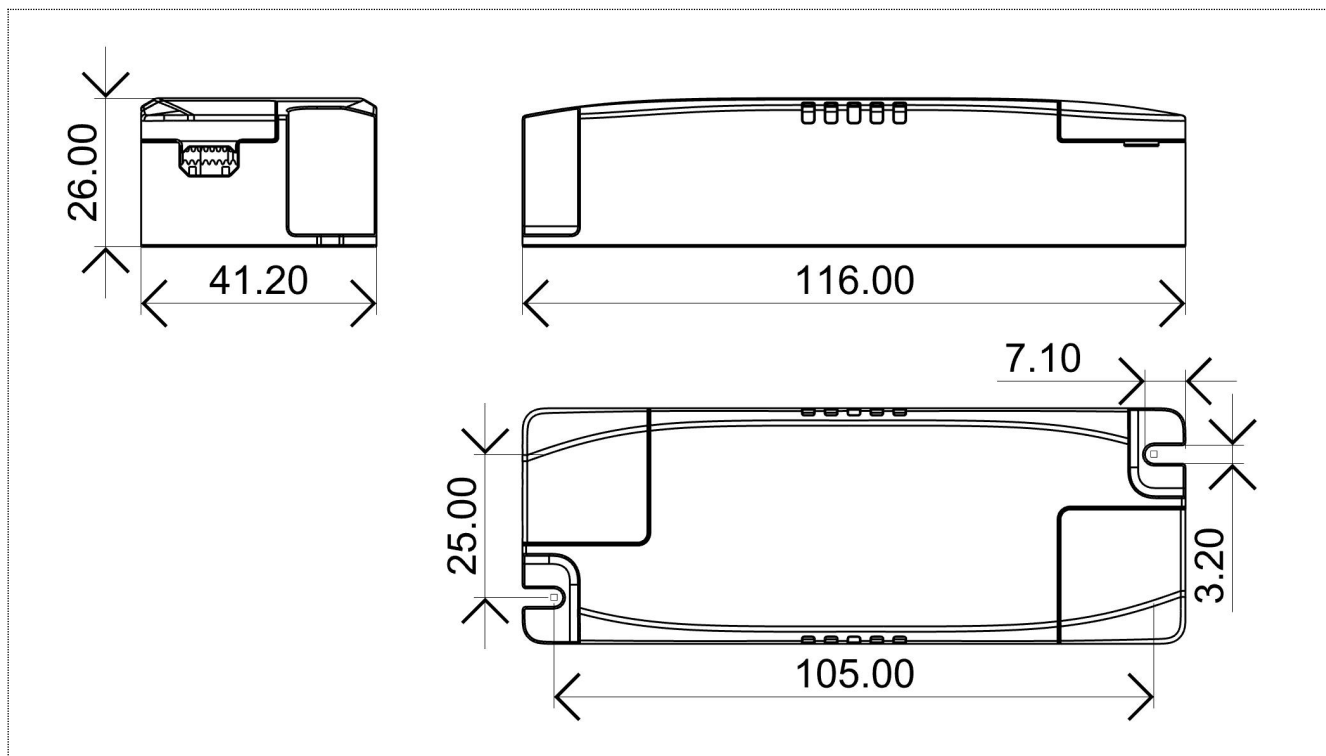
Remarks:

- 1.The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.
- 2.Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.

◆ Wiring diagram



◆ 2D diagram



◆ Wiring & Connections

Specification item		Value (Unit)
Input	Input wire cross-section	0.5...1.5 mm ²
	Input wire gauge.	16...20 AWG
	Input wire strip length	7...9mm
Output	Output wire cross-section	0.5...1.5 mm ²
	Output wire gauge.	16...20 AWG
	Output wire strip length	7...9mm

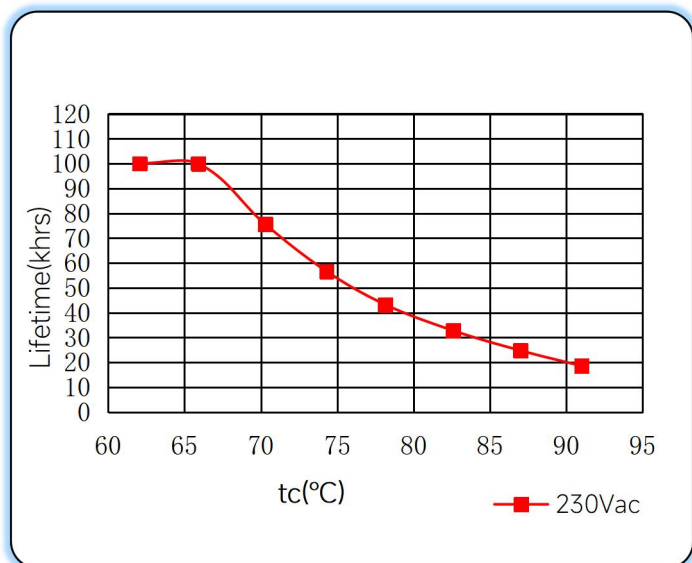
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

◆ Packaging

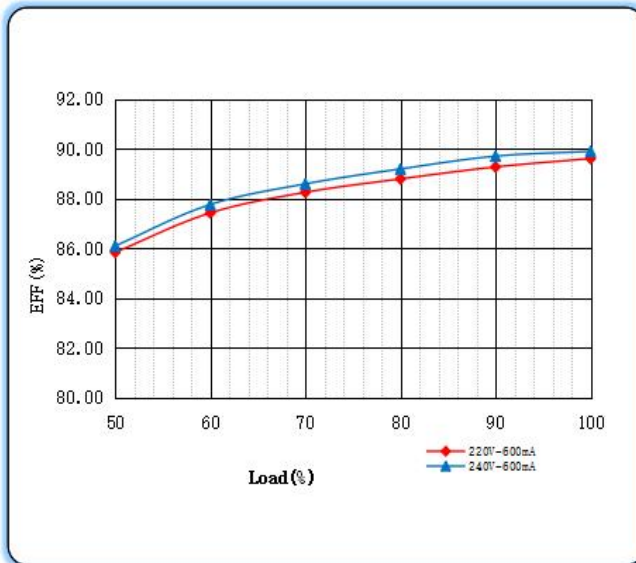
Model	Product Dimensions(mm)	weight/piece	Outer carton dimension(mm)	Quantity/carton	Net weight/carton(Kg)	Gross weight/carton(Kg)
LS-40-XXX ON/OFF LI EXC	116x41x26mm	0.085	370X275X215mm	126	10.7	11.3

◆ Curve for LS-40-XXX ON/OFF LI EXC, $I_o=1050\text{mA}$

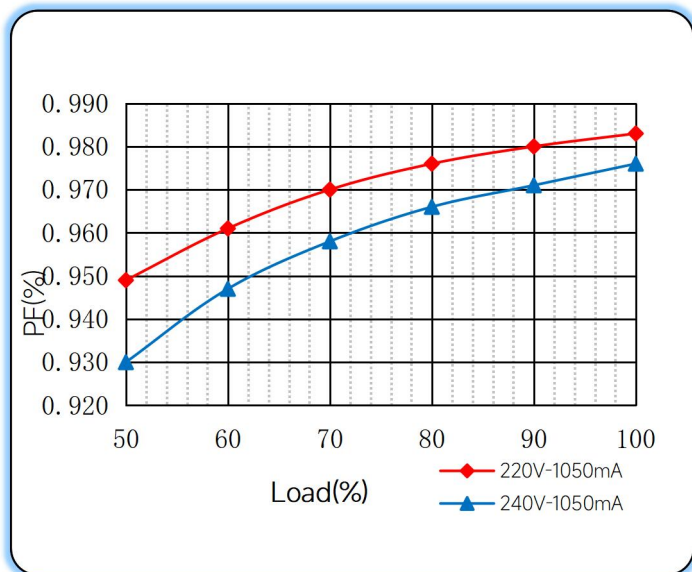
Lifetime vs. Ambient Temperature Curve



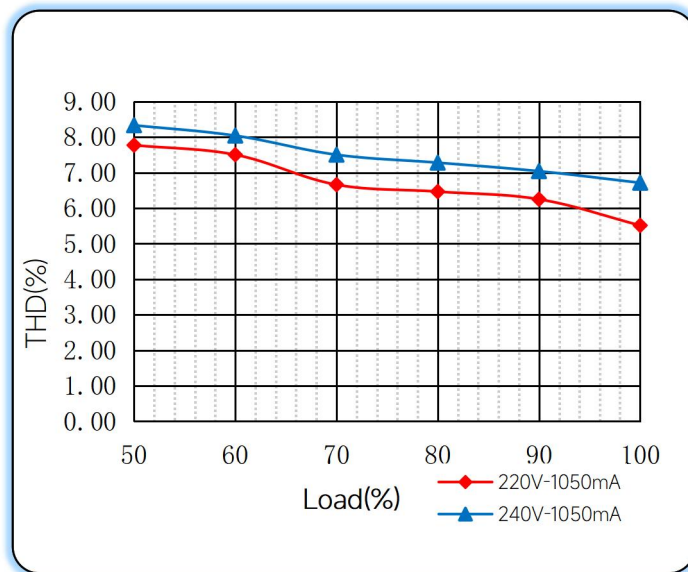
Efficiency vs. Load



Power Factor Characteristics

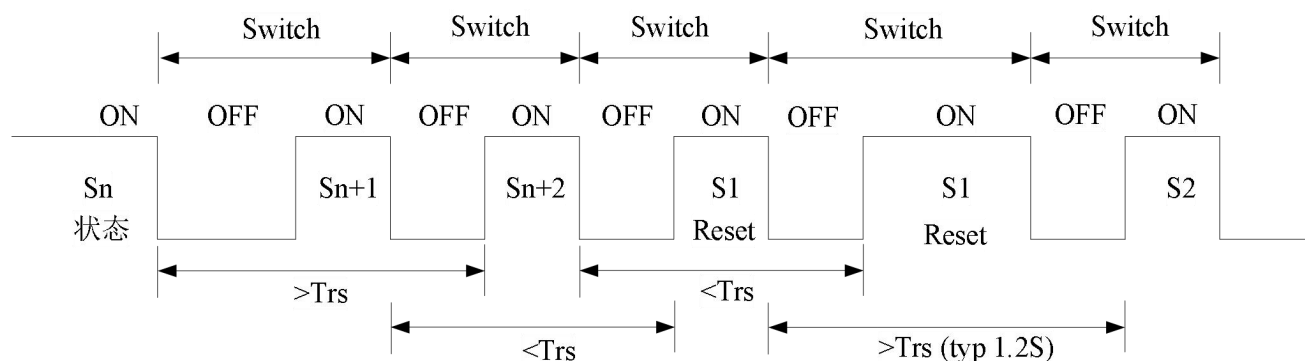


THD vs. Load



◆ Operation

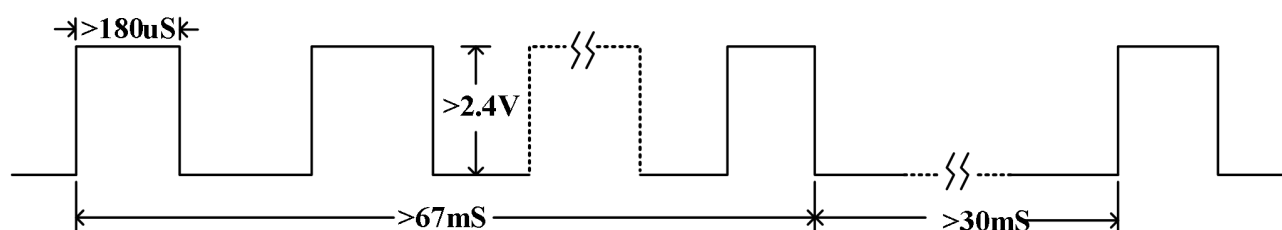
Reset Mode— Power off and on twice within 1 second to reset.



If shutdown takes $\sim 6.4s$ or a reset ("OFF \rightarrow ON \rightarrow OFF") is executed in $\sim 1.2s$, a sync issue might arise.

However, given the $\pm 5\%$ time tolerance, the risk window is minimal, and the occurrence probability is negligible.

Signal Detection Requirements



The S4165M determines power ON/OFF states by detecting pulse signals or high/low levels through the CLK pin. The pulse signal must meet the following requirements:

- Pulse width: $>180\mu s$
- Pulse amplitude: $>2.4V$ (AC signals detectable; for design margin, $>4V$ recommended).

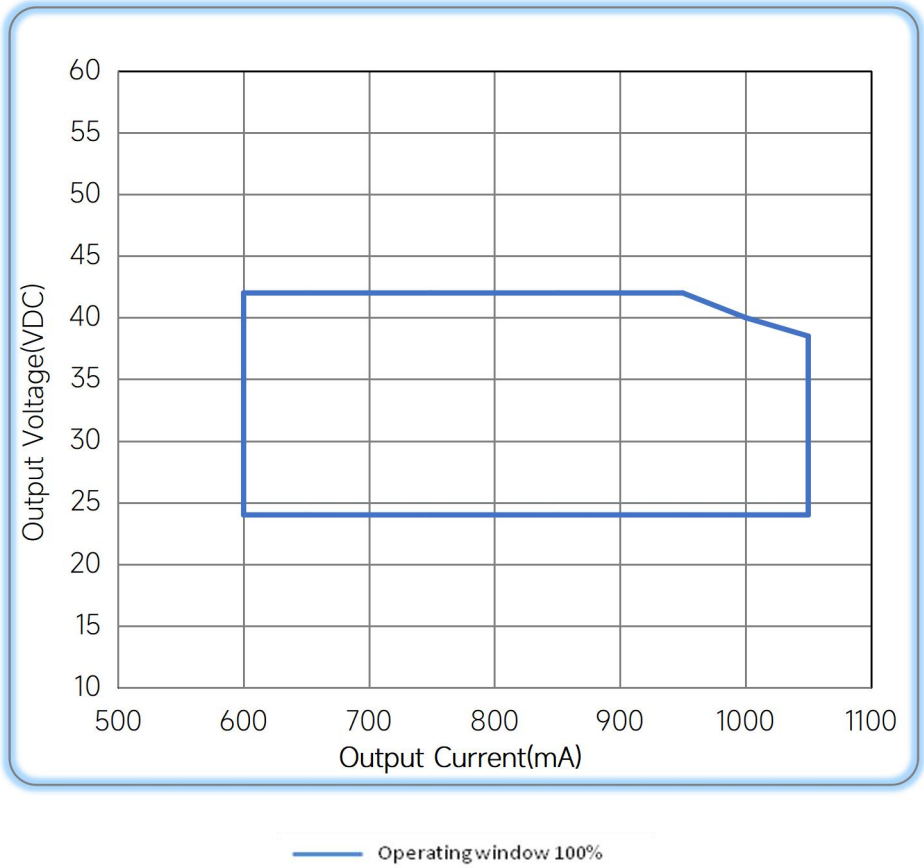
To suppress noise interference, the IC incorporates:

- Power-on delay $T_{d(on)}$: 67ms (typ. at room temp) to confirm ON state.
- Power-off delay $T_{d(off)}$: 30ms (typ. at room temp) to confirm OFF state.

State transition logic:

- Shutdown: Triggered only after detecting a valid CLK signal for >67ms.
- Power-on: Activated after >30ms of no valid CLK signal detection.

◆ Operating window



◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2024/11/12
Tc (Max)	80℃	75℃	B	2025/06/06

Remark:The final interpretation of the contents of the specification belongs to Eaglerise Electric & Electronic (China) Co., Ltd

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EAGLERISE



Manual