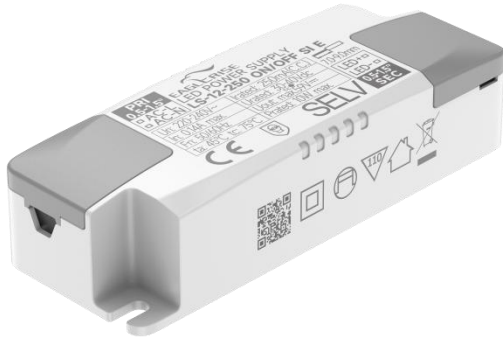


12W Constant Current power supply



Features

- For luminaires of protection Class II, SELV, Independent
- Input Voltage 220-240VAC
- Protections: OLP/OVP/OCP/OTP
- Power Factor: 0.6
- Efficiency: >83%
- 5 years warranty

Applications

- LED Panel
- Ceiling Light

■ Approve

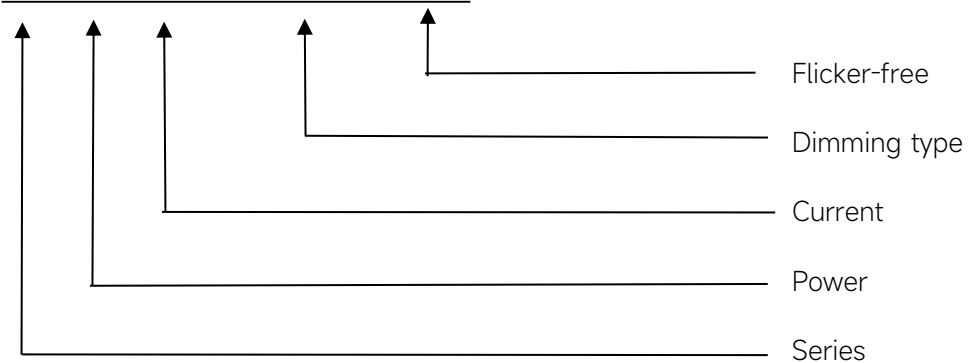


◆ Description

LS-12-XXX ON/OFF SI E is a 12W constant current LED driver with 250 to 350mA output current and a forward voltage range from 30 to 40Vdc. With its compact dimensions from 92 x 36 x 25 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 and open circuit.

◆ Model code

LS-12-XXX ON/OFF SI E



◆ Specification

	Constant Current	250	280	300	350
Output	Voltage Range	30-40V			
	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.)	>83%@Full Load,230VAC			
Input	Rated input voltage	220-240VAC			
	Range of input voltage	198-264VAC			
	Frequency(Hz)	50/60 Hz			
	Power Factor(Typ.)	0.6@Full Load, 230VAC			
	Input Current max	0.14A MAX.@Full Load, 220-240VAC			
	Start-up time	< 0.5S			
	Unload Power Consumption	≤0.5W			
Protection	Over Load Protection	103-120%			
		YES/Auto Resume			
	Over Voltage Protection	59VDC			
		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	92x36x25(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			

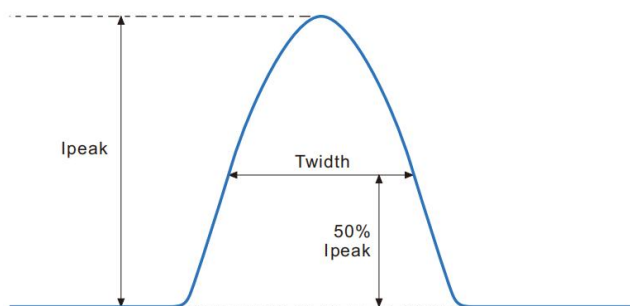
	RoHS	RoHS (2011/65/EU) (EU)2015/863
Note	1.All parameters not specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature. 2.Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47 uF parallel capacitor. 3.The over-temperature protection of the product is provided by the IC. 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.	

◆ Model list

Number	Model number	Output			
		Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)
1	LS-12-250 ON/OFF SI E	250	30-40	59	10
2	LS-12-280 ON/OFF SI E	280			11.2
3	LS-12-300 ON/OFF SI E	300			12
4	LS-12-350 ON/OFF SI E	350			14

◆ Inrush Current

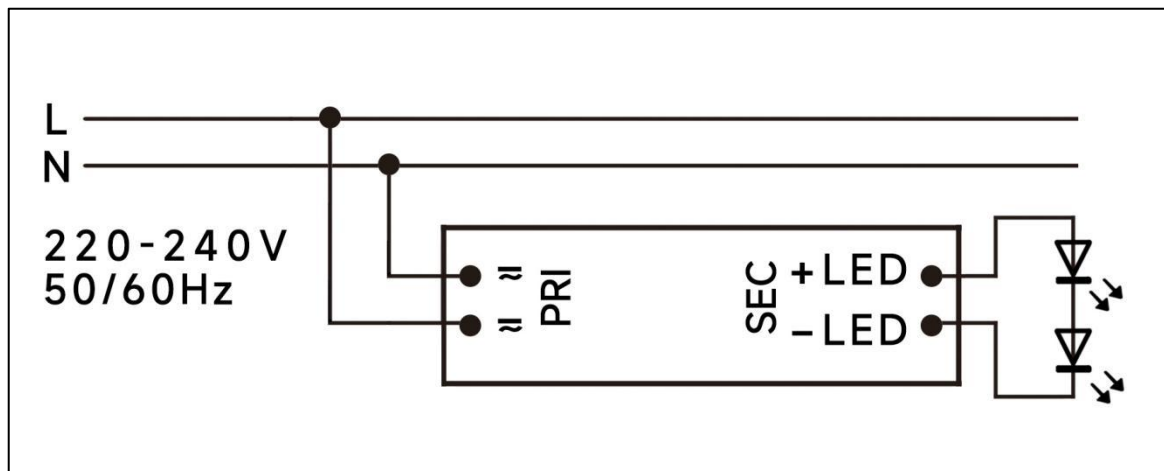
I _{peak}	T _{width}	B10	B16	B20	C10	C16	C20
8.12A	96μs	57pcs	91pcs	114pcs	57pcs	91pcs	114pcs



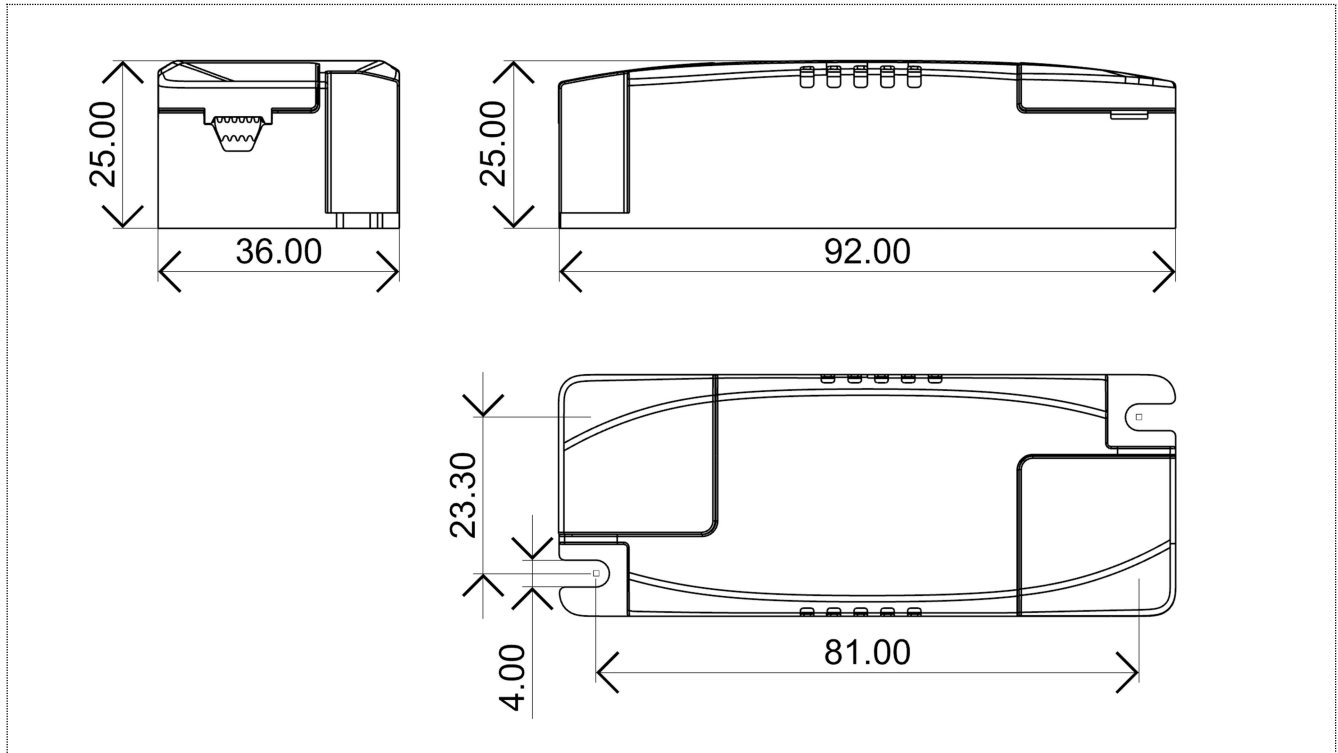
Remarks:

- 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

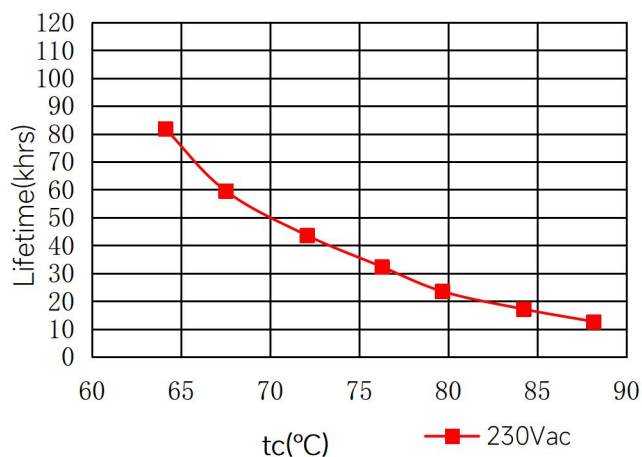
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

◆ Packaging

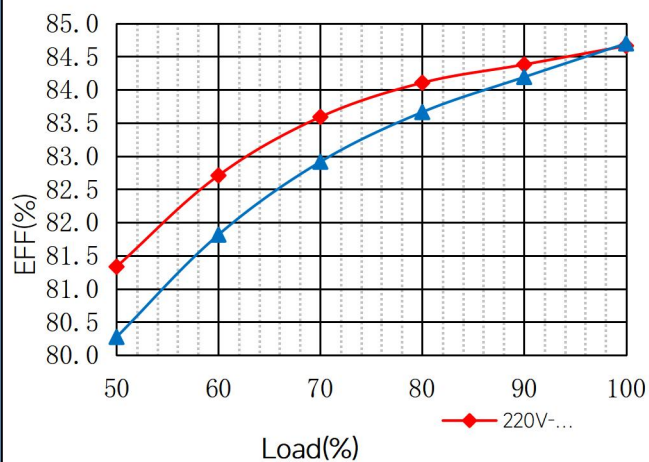
Model	Product Dimensions(mm)	weight/piece	Outer carton dimension(mm)	Quantity/carton	Net weight/carton(Kg)	Gross weight/carton(Kg)
LS-12-XXX ON/OFF SI E	92x36x25	0.04	370X275X215	180	7.2	7.87

◆ Curve for LS-12-XXX ON/OFF SI E, $I_o=350\text{mA}$

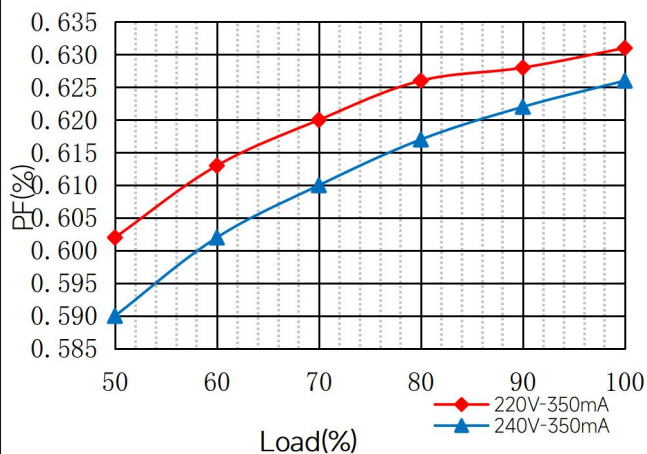
Lifetime vs. Ambient Temperature Curve



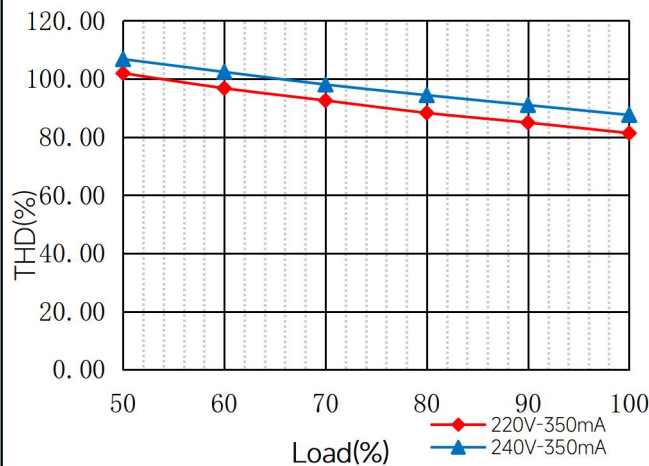
Efficiency vs. Load



Power Factor Characteristics

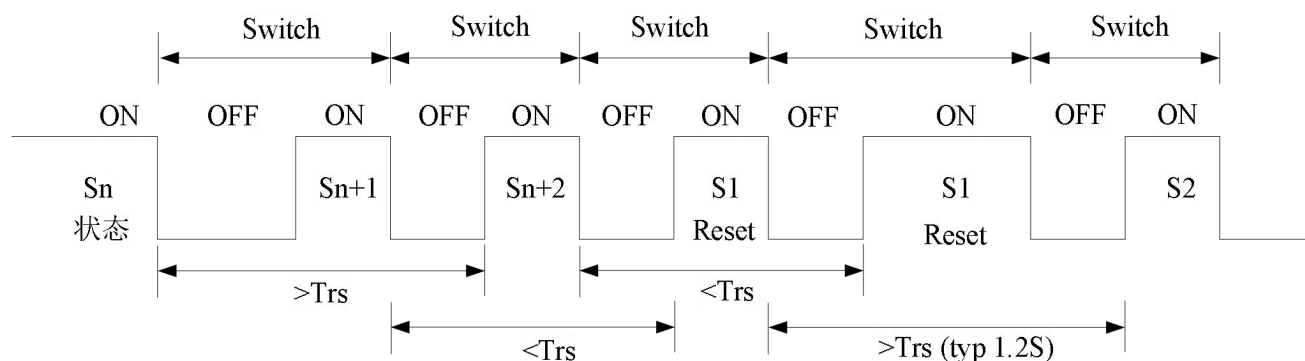


THD vs. Load



◆ Operation

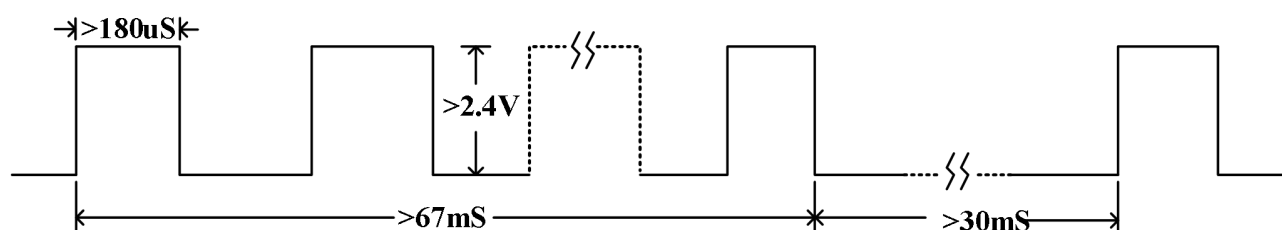
Reset Mode— Power off and on twice within 1 second to reset.



If shutdown takes $\sim 6.4s$ or a reset ("OFF→ON→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).

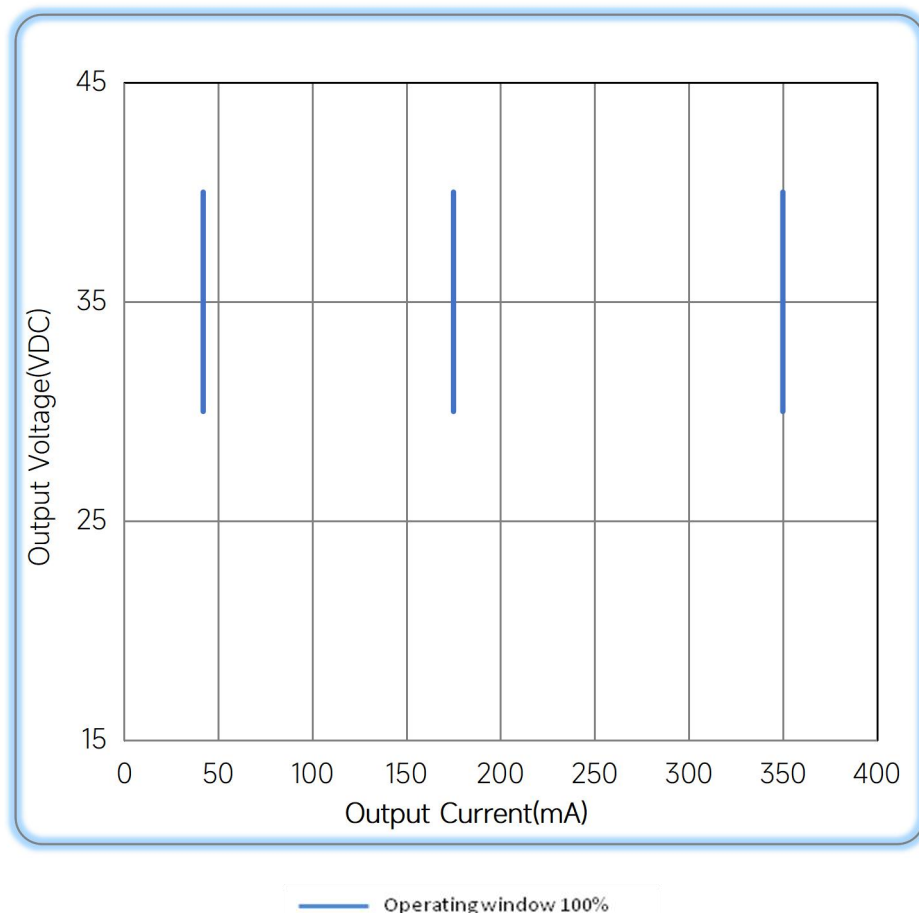
To suppress noise interference, the IC incorporates:

- 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
Noise	≤20dB(A)@10cm	≤25dB(A)@20cm	B	2025/05/16
Power Factor(Typ.)	0.5@Full Load, 230VAC	0.6@Full Load, 230VAC	C	2025/09/18

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

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EAGLERISE



Manual