

The logo for DONE, featuring the word "DONE" in a bold, teal, sans-serif font. The letter "D" is stylized with a white circular element on its left side. The logo is contained within a white rounded square with a thin teal border.

# SBS SERIES LED DRIVERS

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**DL-60Z-B58A-SBS Spec. V1.0**

## Features

- Input voltage: 100-277V ~ 50/60 Hz
- High efficiency up to 89%
- Constant current output control mode
- Adjustable output current by potentiometer
- Low output current ripple,Max.10%
- Class I design with metal shell, protection grade: IP65
- High surge protection: 4KV line-line(DM), 6KV line/line-earth(CM)
- All-Around Protection: IUVP,OVP,SCP,OTP
- Lifetime design : 5 years



## Applications

- Explosion-proof lighting
- Industrial lighting

## Model list



Model NO.	Input voltage	Output power	Output voltage	Output current	Default current	Eff.	THD	PF
DL-60Z-B58A-SBS	100-277Vac	60W	26-58Vdc	0.85-1.50A	1.05A	89%	10%	0.94

- Note :**
1. Test conditions of the parameters: Ta=25°C, 230Vac input, full load operation for 30 minutes;
  2. When the input is less than 70Vac±10Vac,the output is automatically turned off. please refer to “The Output Power Vs. Input Voltage” curve chart for details.

## Input characteristics

Parameter	Min	Typ.	Max	Note
Rated input voltage	100Vac	230Vac	277Vac	
Input voltage range	90Vac	-	305Vac	
Rated frequency	47Hz	50/60Hz	63Hz	
Leakage Current	-	-	0.70mA	IEC 60598-1; 240Vac/60Hz
Power factor	0.94	0.97	-	100-240Vac,70%~100% load
	0.90	0.92	-	277Vac,80%~100% load
T.H.D.	-	-	10%	100-240Vac,60%~100% load
	-	-	20%	277Vac,80%~100% load
Input current	-	-	0.75A	100Vac, cold start (25°C)
Inrush current	-	-	50A	230Vac, cold start (25°C)

## Output characteristic

Parameter	Min	Typ.	Max	Note
Efficiency@100Vac	86.0%	87.0%	-	full load
Efficiency@230Vac	88.0%	89.0%	-	full load
Output voltage range	26Vdc	-	58Vdc	
Open Circuit Voltage	-	-	65Vdc	
Adj. Output current range	0.85A	1.05A	1.50A	Adj. by external potentiometer
Accuracy of output current	-5%	-	+5%	
Output Current Ripple(PK-AV)	-	5%	10%	full load
Start-up Current Overshoot	-	-	10%	full load
Line regulation	-3%	-	+3%	full load
Load regulation	-3%	-	+3%	
Starting time	-	-	1.0s	Full load@100-277Vac

**Note:** The output current range is limited by the input and output voltage, please refer to "I-V WORKING AREA" for details.

## Protection

Function	Function instructions
Input under-voltage protection	Self-recovery type,when the input voltage is below 90Vac, the output is automatically turned Off , and the driver will restart when the input voltage returns to normal.
Output short circuit protection	Hiccup mode: recovers automatically after fault condition is removed
Over temperature protection	Self-recovery type : when the housing temperature is greater than 90°C,the output power decreases with the casing temperature increasing.
Output over-voltage protection	Self-recovery type, automatically recovered after abnormal conditions are removed

**Note:** Unless otherwise specified, all parameters should be measured at the condition of 230Vac (50Hz) input ,with rated load ,and ambient temperature of 25°C.

## Environmental

categories	Parameter
Working temperature	-40°C ~ +55°C @100-277Vac (refer to "Lifetime vs. Tcase ")
Working humidity	20%~ 95% RH, non-condensing
Storage temperature humidity	-40°C~ +80°C, 10%~ 95% RH
Resistant to vibration	10Hz ~ 500Hz, 5G 12 min/cycle, X, Y, Z axis 72 min each
MTBF	200Khrs min. MIL-HDBK-217F(Ta=25°C,230Vac,80% load, )
Lifetime	50khrs, 230Vac,100% load,Tc=75°C

## Safety

Safety Categories	Area	Standards	Approved
CCC	China	GB 19510.1, GB 19510.14	
CE	Europe	EN 61347-1, EN 61347-2-13	√
ENEC		EN 62384	√
CB	CB member state	IEC 61347-1, IEC 61347-2-13	√
SAA	Australia	AS/NZS 61347.1, AS/NZS 61347.2.13	
UL	USA	UL 8750	
CUL	Canada	CSA C22.2 No.250.13	
EAC	Russia	ГОСТ 61347-1-2019 ГОСТ IEC 61347-2-13-2013 ГОСТ CISPR 15-2014 ГОСТ IEC 61547-2013	√
BIS	India	IS 15885(PART 2/SEC 13)	

## EMC

EMI/EMS Categories	Area	Standards	Approved
CCC	China	GB/T 17743, GB 17625.1	
CE	Europe	EN IEC 55015 EN 61547 EN IEC 61000-3-2 EN 61000-3-3 EN 61000-4-5	√
FCC	USA	FCC Part 15 Subpart B	

## RoHS

Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU.

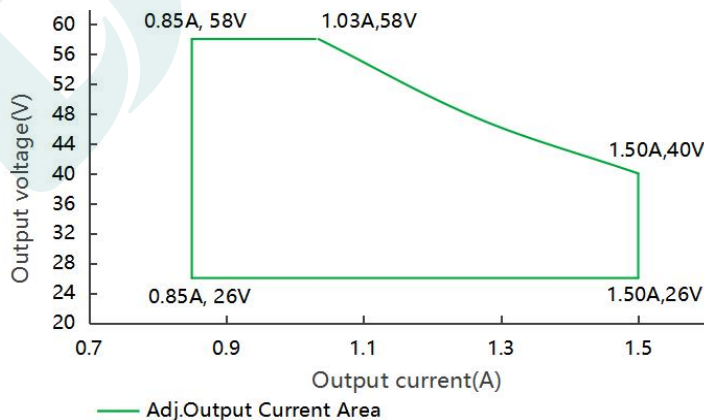
## Safety Test Items:

Safety Test Item	UL	CE/CB/ENEC	CCC	Insulation Requirements
Input-Case/Ground	-	1554Vac	-	Basic insulation, 1min< 5mA
Input-Output	-	3108Vac	-	Reinforced insulation, 1min< 5mA
Output-Case/Ground	-	1554Vac	-	Basic insulation, 1min< 5mA
Insulation Resistance		≥10MΩ		Input-Dim, Test voltage:500Vdc
Ground Resistance	-	≤0.5Ω	-	25A/1min; Ta=25°C±10°C

**Note:** The driver is considered as a component that will be operated with the final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.

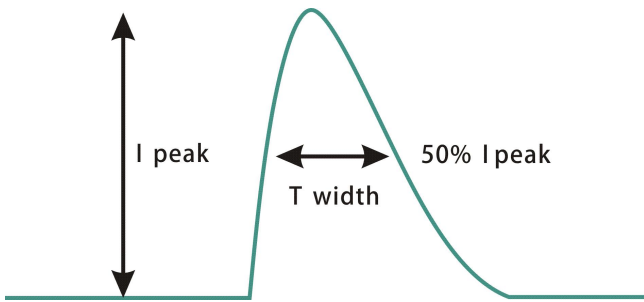
## I-V Working area

Output Voltage vs. Output Current



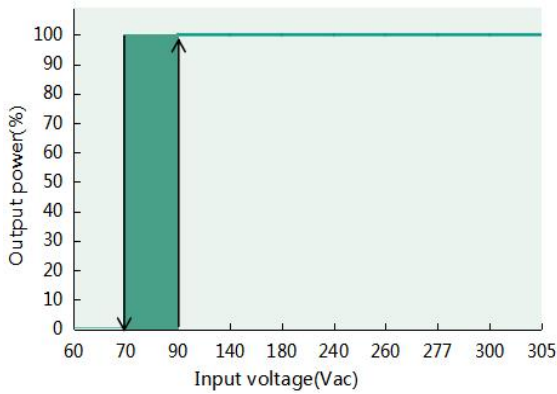
Load	Output									
	26V	28V	32V	36V	40V	44V	48V	52V	56V	58V
Output Voltage	26V	28V	32V	36V	40V	44V	48V	52V	56V	58V
Output Current	1.5A	1.5A	1.5A	1.5A	1.5A	1.36A	1.25	1.15A	1.07A	1.03A
Po_MAX	39W	42W	45W	54W	60.0W	60W	60W	60W	60W	60W

### Inrush Current

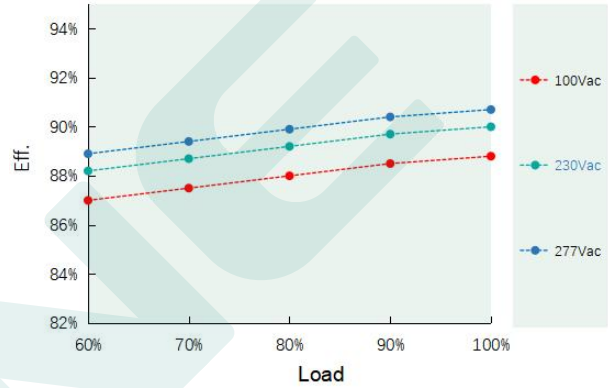


t Voltage	Ipeak	T ( @50%Ipeak )
100Vac	25A	276uS
230Vac	50A	276uS
277Vac	55A	276uS

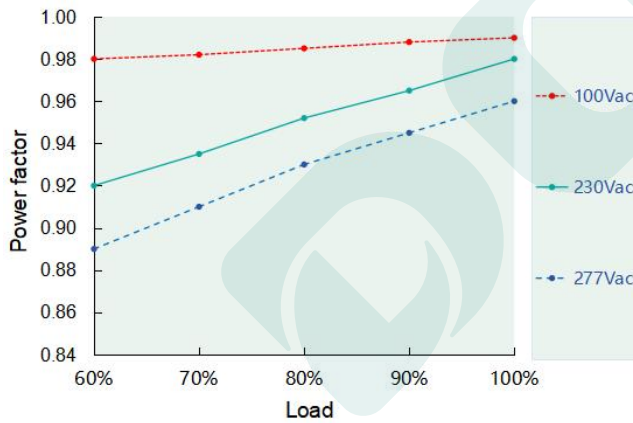
Output power Vs. Input voltage



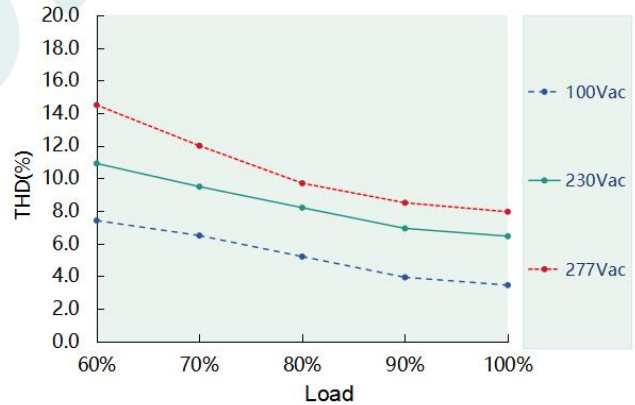
Eff. Vs. Load



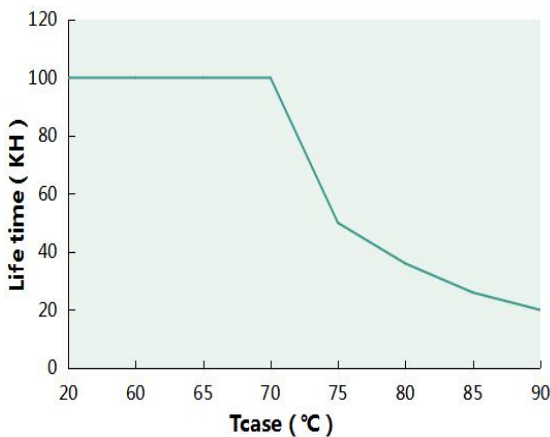
Power factor Vs. Load



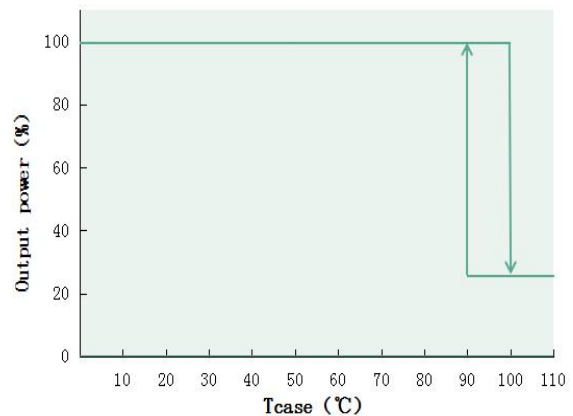
THD Vs. Load



Lifetime Vs. Tcase



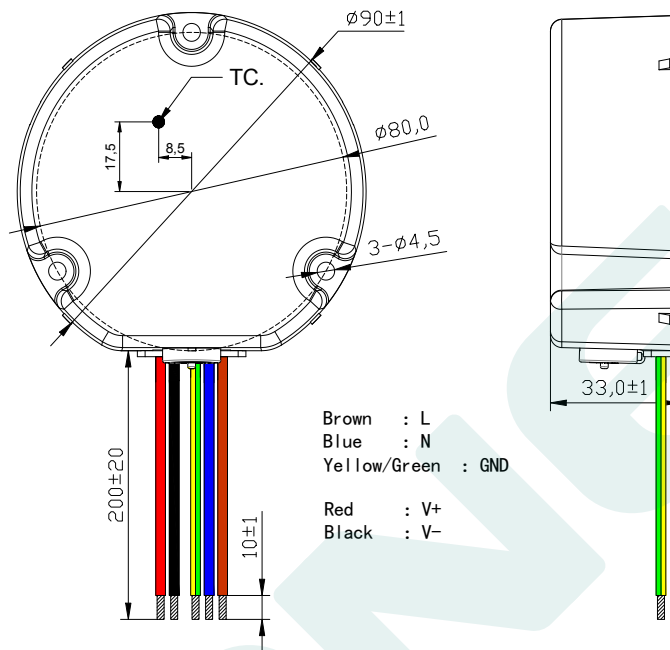
Output power Vs. Tcase



## Mechanical Specification

Size ( mm )       $\varnothing 90 \times H33 \text{mm}$

General product dimension drawing

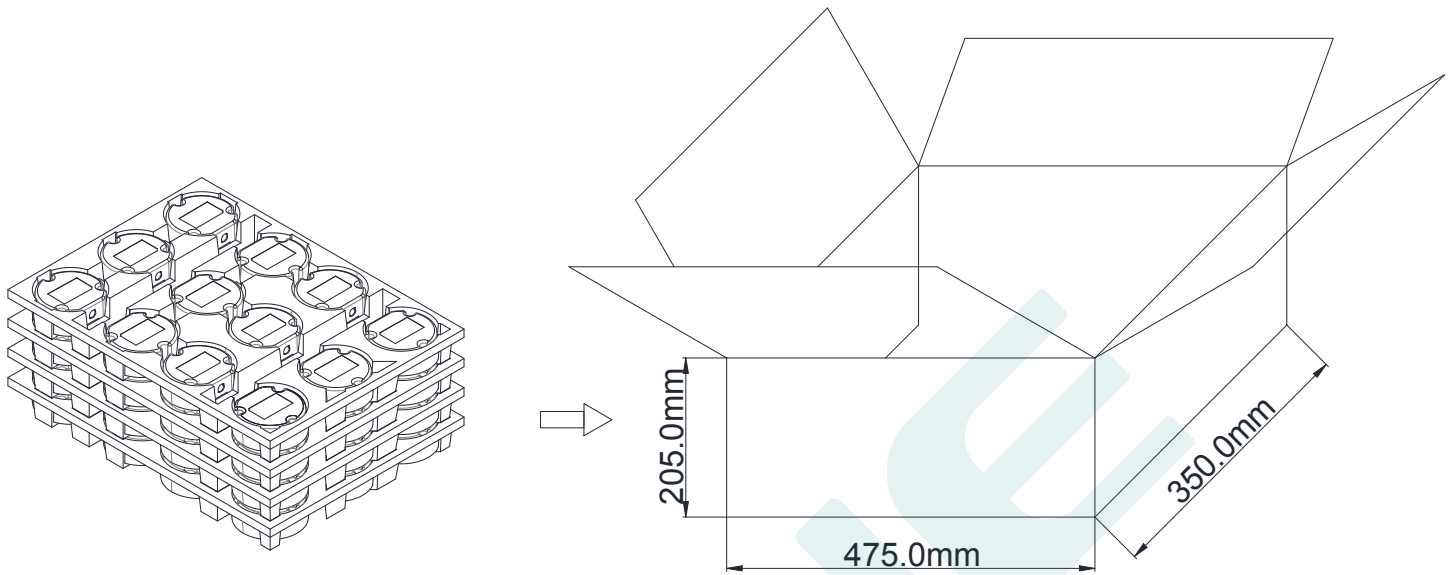


## Weight

Weight      410 g

## Packaging

Packaging ( mm ) L475\*W350\*H205



Note: One Carton 4 layers and 12 pcs each layer, total 48pcs/carton.

**Note:**

1. According to the certificate obtained by the LED DRIVER, the LED DRIVER with the English label is sold in Europe, America and India.
2. The LED DRIVER with Chinese label is only used for China market.

### Version

DATE	DESCRIPTION	REV.	CHECK
2025.10.13	Initial version.	V1.0	

### MANUFACTRUER

EDIT	CHECK	APPROVE