



SPECIFICATIONS

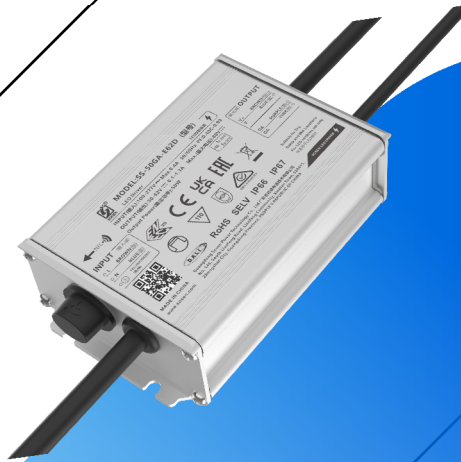
SS-50GA-E Series NFC DRIVER with DALI-2

Model: SS-50GA-E*

Power: 50W

Rev.: V00

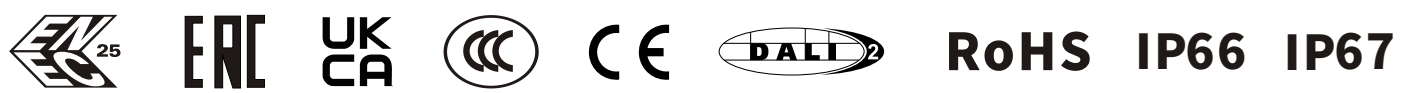
Release date: 2026-01-13



SS-50GA-E Series NFC Driver with DALI-2

Features

- Efficiency up to 90%
- Output current adjustment method:
NFC programming
- Isolated dimming: DALI-2
- DALI-2 Certified (Part 251, 252, 253)
- TIM ELA CLO
- Dim-to-Off with Standby Power≤0.5W
- Integrated Power Monitoring
- Suitable for Luminaires with Protection Class I and II
- Protections: SCP/OTP/OVP/OPP
- Surge protection: CM: 10kV, DM: 6kV
- IP66/IP67
- Warranty: 5 years



Description

The SS-50GA-E*D(E) series products are 50W NFC-programmable DALI-2 waterproof constant current drivers. This series is specifically designed for smart lighting, featuring high efficiency, a wide output range, a compact housing design, and excellent heat dissipation, significantly enhancing product reliability.

Applications:
Street lights, tunnel lights, industrial lights, high-mast lights, stadium lights.

Model List

Model	AC Input Range	Max. Pout	Vout Range	Recommended Voltage	Iout	Default Current	THD (Typ.)	PF (Typ.)	Eff. (Typ.)	Max.Tc
SS-50GA-E62*	100-305Vac	50W	30-62V	38-62V	0.1-1.3A	1.05A	8%	0.97	89%	90°C
SS-50GA-E100*	100-305Vac	50W	50-100V	62-100V	0.1-0.8A	0.7A	8%	0.97	89.5%	90°C

Note:

1.Default Tested:220Vac,fullload, Ta 25°C.

2.The performance of the LED Driver can be guaranteed within the full power Vo range.The voltage lower than full power Vo range, it is need to test the performance with the LED module.

SS-50GA-E Series NFC Driver with DALI-2

“*” Means Additional Function

“*”	DALI(suffix:D)	NFC	Class I	Class II	Remark
D	✓	✓	✓		
DE	✓	✓		✓	

Input Characteristics

Parameter	Min.	Typ.	Max.	Remark
AC Input Range	100Vac	220-240Vac	305Vac	Reference Derating Curve
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			0.4A	220Vac, Full load
Max Input Power			65W	220Vac, Full load
Max Inrush Current(220Vac)			66A	Cold start
Standby Power			0.5W	220Vac/50Hz, Dim-to-off
Power Factor	0.95	0.97		220Vac/50Hz, Full load
	0.90			220-277Vac,70%-100% load
THD		8%	10%	220Vac/50Hz, Full load
			20%	220-277Vac,70%-100% load

SS-50GA-E Series NFC Driver with DALI-2

Output Characteristics(SS-50GA-E62*)

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	30V		62V	Power derated @30-38V
Rated O/P Voltage	38V		62V	Po=Vo*Io=50W, Full load
Rated O/P Current	0.8A		1.3A	1.3A for 38V,0.8A for 62V
Adj. O/P Current (AOC) Range	0.1A		1.3A	
No Load Voltage			80V	
Efficiency @220Vac	87.0%	89.0%		Output 62V/0.8A,Test after burn-in
Efficiency @277Vac	87.5%	89.5%		Output 62V/0.8A,Test after burn-in
O/P Current Tolerance	-5%		+5%	Full load
O/P Current Ripple(PK-AV)		5%	10%	Full load
Start-up Current Overshoot			10%	Full load
Start-up Time			0.8S	220Vac,Full load
Line Regulation	-2%		+2%	Full load
Load Regulation	-5%		+5%	
Temperature Coefficient		0.05%/°C		Tc:0°C~90°C
OTP	90°C	100°C	110°C	Drop current when OTP, and it can be automatically restored after the abnormality is removed.
Short Circuit Protection				Driver will not be damaged

SS-50GA-E Series NFC Driver with DALI-2

Output Characteristics(SS-50GA-E100*)

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	50V		100V	Power derated @50-62V
Rated O/P Voltage	62V		100V	$P_o = V_o \cdot I_o = 50W$, Full load
Rated O/P Current	0.5A		0.8A	0.8A for 66V, 0.5A for 100V
Adj. O/P Current (AOC) Range	0.1A		0.8A	
No Load Voltage			120V	
Efficiency @220Vac	87.5%	89.5%		Output 100V/0.5A Test after burn-in
Efficiency @277Vac	88.0%	90.0%		Output 100V/0.5A, Test after burn-in
O/P Current Tolerance	-5%		+5%	Full load
O/P Current Ripple(PK-AV)		5%	10%	Full load
Start-up Current Overshoot			10%	Full load
Start-up Time			0.8S	220Vac, Full load
Line Regulation	-2%		+2%	Full load
Load Regulation	-5%		+5%	
Temperature Coefficient		0.05%/°C		$T_c: 0^{\circ}C \sim 90^{\circ}C$
OTP	90°C	100°C	110°C	Drop current when OTP, and it can be automatically restored after the abnormality is removed.
Short Circuit Protection				Driver will not be damaged

SS-50GA-E Series NFC Driver with DALI-2

Other Characteristics

Parameter		Min.	Typ.	Max.	Remark
DALI-2	DA, DA High Level	9.5V	16V	22.5V	
	DA, DA Low Level	-6.5V	0V	6.5V	
	DA, DA Current	0mA		2mA	
Timing Curve(Optional)		By programming			Set by program.
Lifetime(Tc≤80°C)		≥50,000 hours			80% load.
MTBF		201,000 hours			220Vac,Full load, Ta=25°C (MIL-HDBK-217F)
Protection class		IP66/IP67			
Tc		90°C			
Warranty		5 years			Tc 80°C
Net Weight		405g			
Dimension		105mm*66mm*31.5mm			LxWxH

NOTE: All the parameters above are tested Ta 25°C and LED load, unless specified.

SS-50GA-E Series NFC Driver with DALI-2

Environmental Requirements

Parameter	Min.	Typ.	Max.	Remark
Operating Temperature(Tcase)	-40°C	25°C	+90°C	
Storage Temperature	-40°C	25°C	+90°C	
Operation Humidity	10%RH		90%RH	
Storage Humidity	5%RH		95%RH	
Altitude	-65m		4000m	

Safety and EMI/EMS Standards

Certification	Standard	Status	Remark
ENEC	EN 61347-1;EN 61347-2-13	✓	
UKCA	EN 61347-1;EN 61347-2-13;EN 62493 BS EN 61347-1;BS EN 61347-2-13 BS EN 62493	✓	
EAC	EN 61347-2-13 EN 61347-1 TP TC 004/2011;TP TC 020/2011	✓	
CCC	GB 19510.14	✓	
CE	EN 61347-2-13;EN 61347-1	✓	

Certification	Standard	Status
DALI-2	IEC62386-101,102 & 207	✓

Note: DALI Parts:101,102,207,251,252,253.

EMI/EMS	Criterion	Remark
Conduction Emission	EN55015:2013+A1:2015 GB/T 17743	
Radiation Emission	EN55015:2013+A1:2015 GB/T 17743	
Harmonic Current Emissions	IEC/EN 61000-3-2;GB/T 17625.1	Class C
Surge	IEC/EN 61000-4-5	DM: 6kV,CM: 8kV,Criterion B
	EN 61547	DM: 6kV,CM: 10kV,Criterion B

Note: DE models, to ensure surge protection performance, the casing must be reliably grounded.

SS-50GA-E Series NFC Driver with DALI-2

Safety Test Items

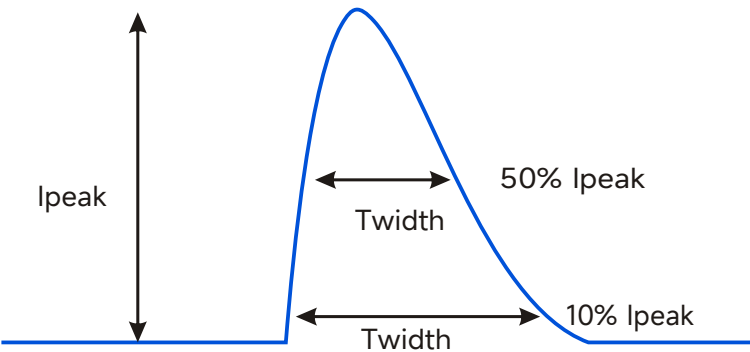
Safety Test Items	Technical Indicators				Remark
Models	D Models		DE Models		
Insulation Requirements	ENEC Insulation Requirements	CCC Insulation Requirements	ENEC Insulation Requirements	CCC Insulation Requirements	
Input-Output	4U+2000Vac	4U+2000Vac	4U+2000Vac	4U+2000Vac	
Input-Case	2U+1000Vac	2U+1000Vac	4U+2000Vac	4U+2000Vac	
Input-Dim	2U+1000Vac	2U+1000Vac	2U+1000Vac	2U+1000Vac	Basic insulation
Dim-Case	500Vac				Basic insulation
Insulation Resistance	$\geq 10\text{M}\Omega$				Test voltage:500Vdc
Ground Resistance	$\leq 0.1\Omega$				25A/1min
Leakage Current	$\leq 0.75\text{mA}$				277Vac

Note:

1. The power supply complies with the relevant EMC standards. The power supply, as part of the terminal equipment system, needs to be combined with the whole system to reconfirm EMC.
2. During voltage withstand test, please short-circuit between L/N, short-circuit between positive/negative output line, and short-circuit between positive/negative dimmer line and auxiliary power supply.

Performance Curves

Input Inrush Current

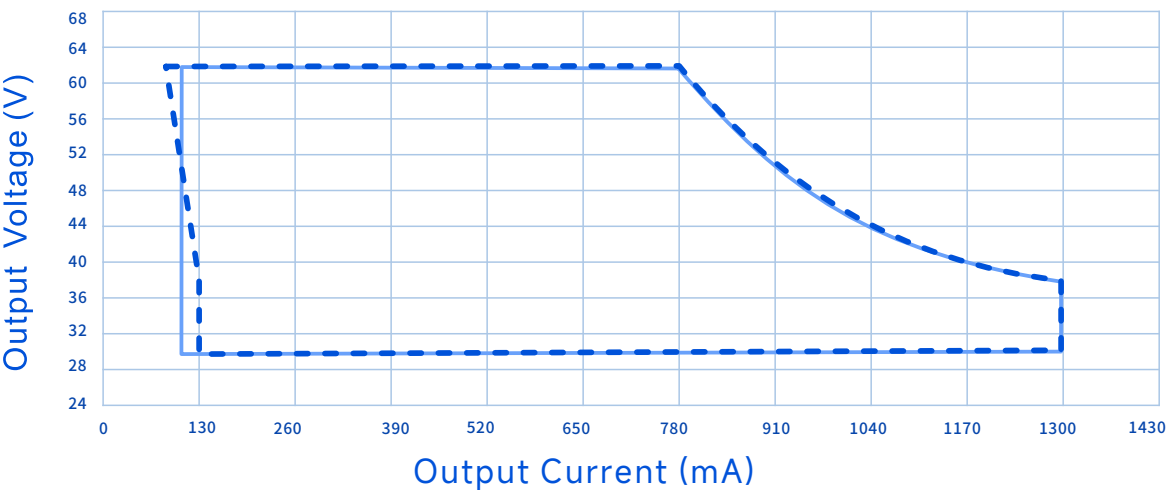


Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
220Vac	66A	330uS	100uS

SS-50GA-E Series NFC Driver with DALI-2

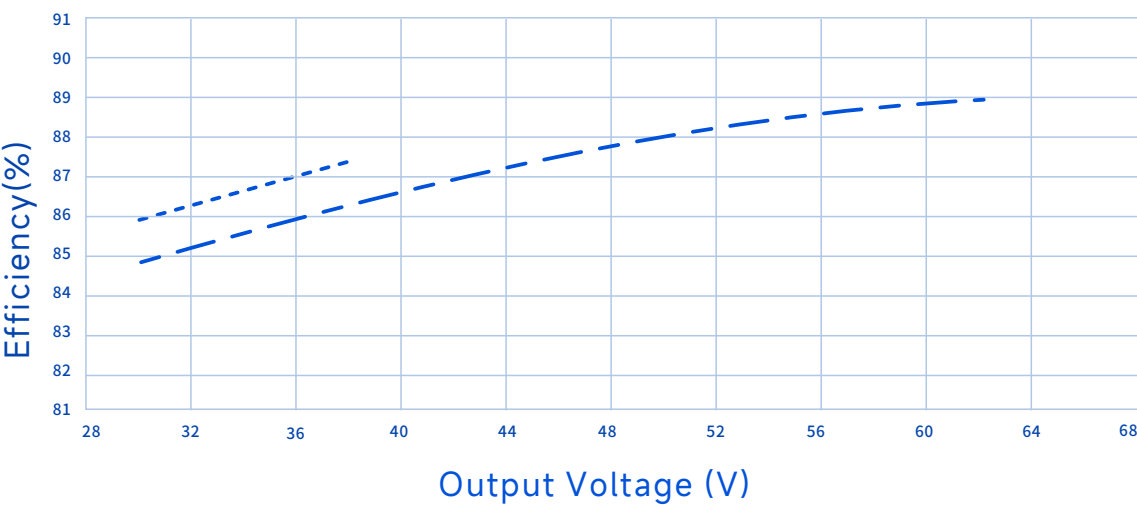
Performance Curves (SS-50GA-E62*)

Output Voltage Vs. Output Current(Dim/AOC Window)



----- Dimming Window ————— AOC Window

Efficiency Vs. Output Voltage(Vin=220Vac)

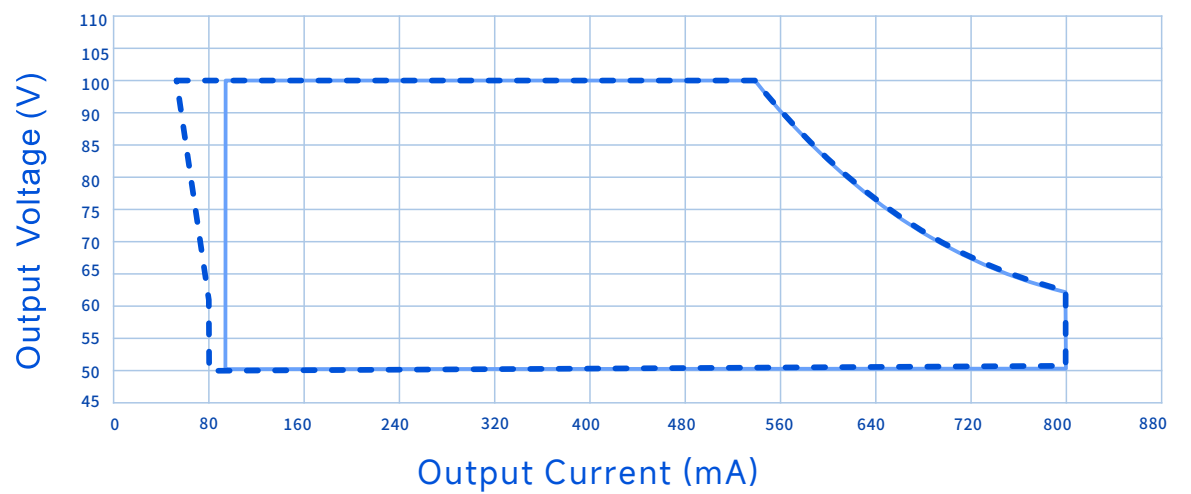


----- Io=1300mA - . - . - Io=800mA

SS-50GA-E Series NFC Driver with DALI-2

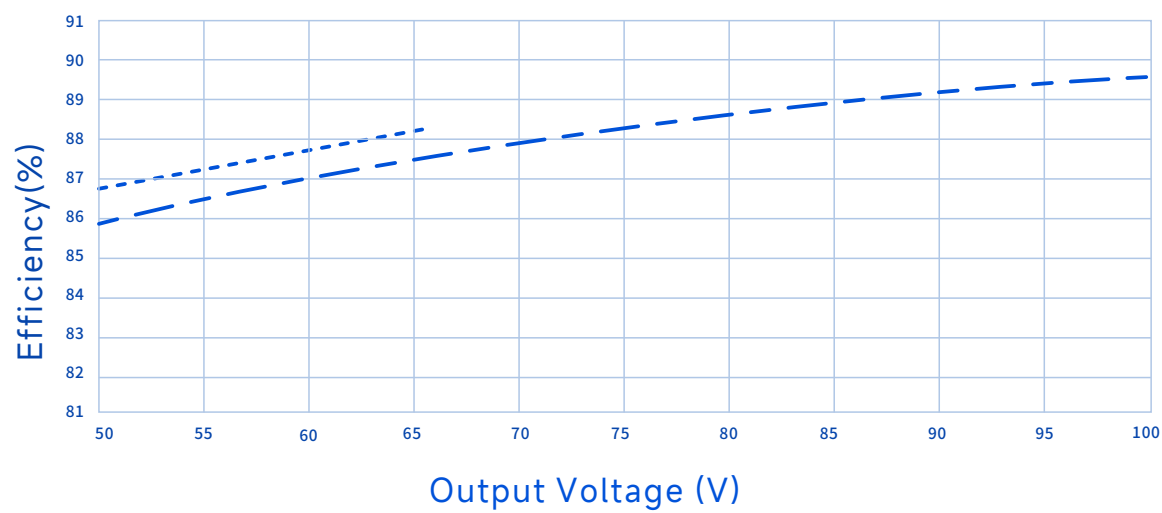
Performance Curves (SS-50GA-E100*)

Output Voltage Vs. Output Current(Dim/AOC Window)



----- Dimming Window ————— AOC Window

Efficiency Vs. Output Voltage(Vin=220Vac)

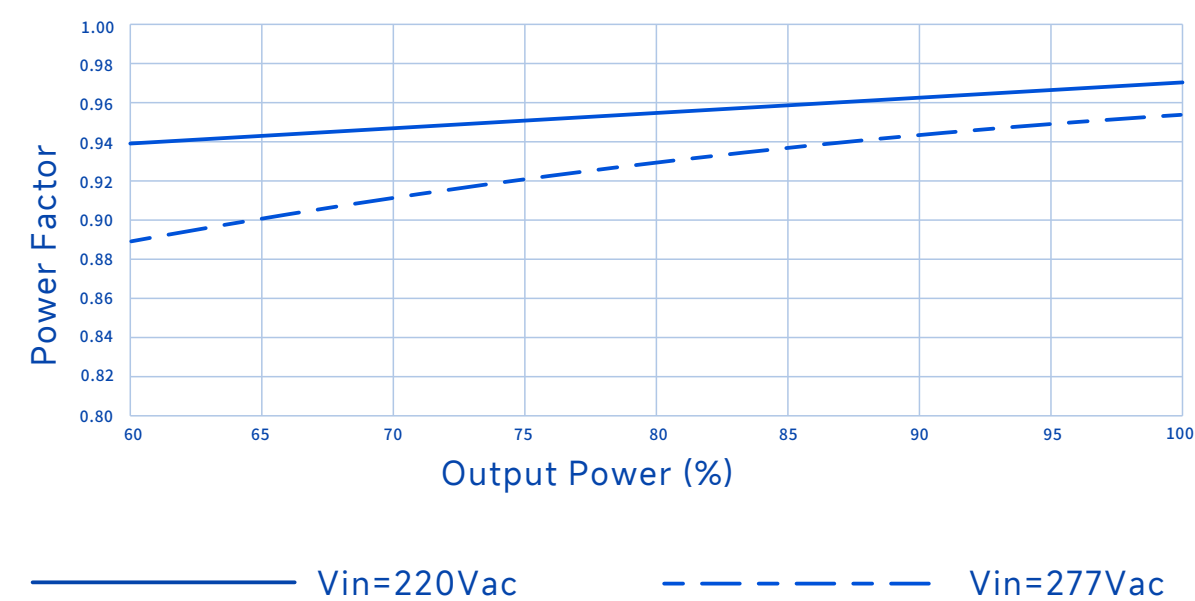


----- Io=800mA - . - . - Io=500mA

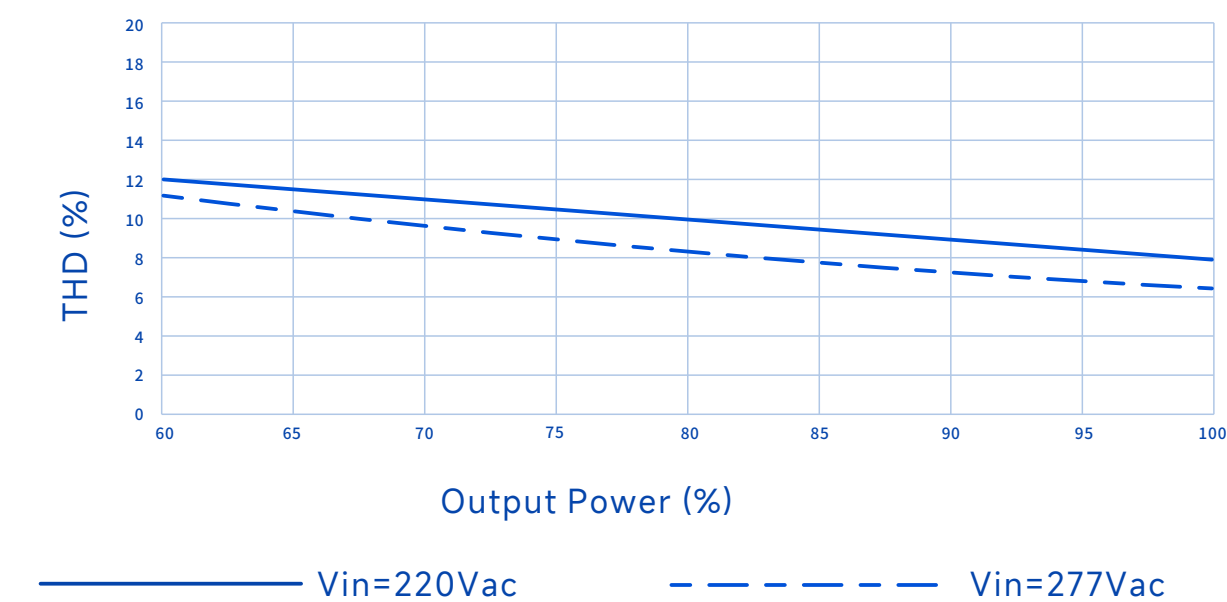
SS-50GA-E Series NFC Driver with DALI-2

Performance Curves

Power Factor Vs. Output Power



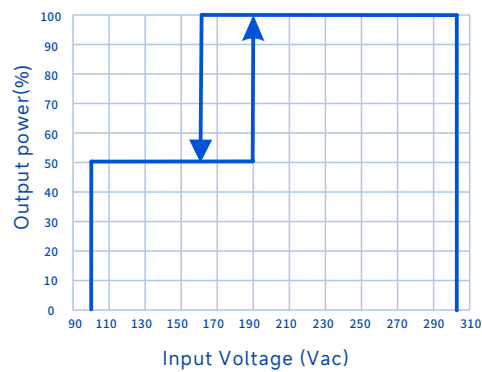
THD Vs. Output Power



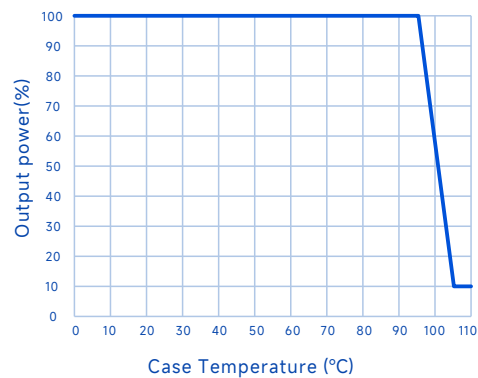
SS-50GA-E Series NFC Driver with DALI-2

Performance Curves

Output Power Vs. Input Voltage

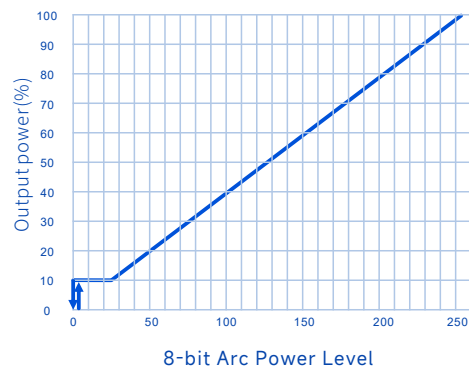


Output Power Vs. Case Temperature

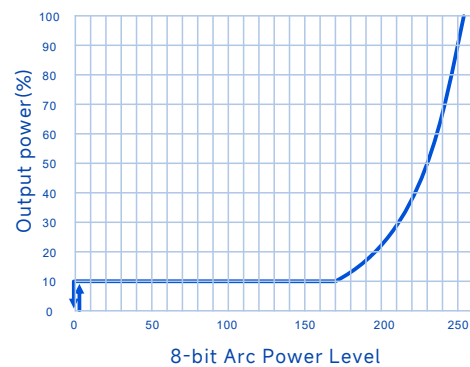


Output Power Vs. Dimming

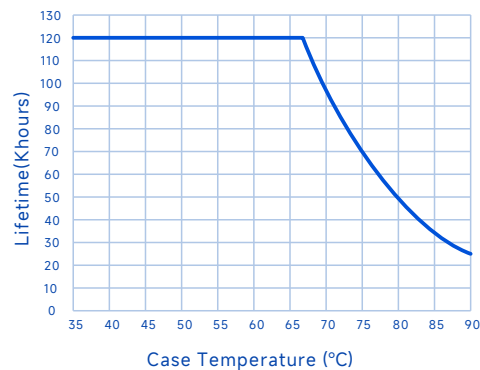
Linear Dimming Curve



Logarithmic Dimming Curve



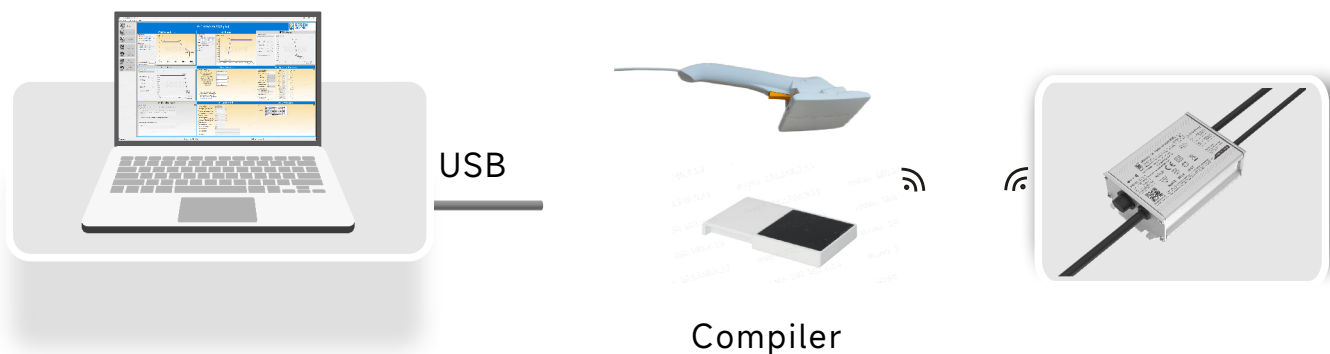
Lifetime Vs. Case Temperature



SS-50GA-E Series NFC Driver with DALI-2

Programming connection diagram

1. The driver no need to be powered on during NFC programming.
2. The driver must be powered on during USB programming through DALI dimming wire.
3. For specific operating instructions, please refer to the "SosenProgrammer - Help > Quick Operation Guide."



SS-50GA-E Series NFC Driver with DALI-2

Mechanical Characteristic

Wire gauge (D models)

INPUT

ACL

ACN



LED DRIVER

OUTPUT

V+

V-

DALI

DA

DA

AC Input Cable(Exposed Length 450±10mm):

EU model: H05RN-F,3*1.0mm², O.D:7.3mm,Brown:L, Blue:N,Yellow/Green:

DC Output Cable(Exposed Length 250±10mm):

EU model: H05RN-F,2*0.75mm², O.D:6.4mm, Brown:V+, Blue:V-

DIM Cable(Exposed Length 220±10mm):

UL model: STYLE 21996,2*22AWG , O.D: 4.9mm Purple DA, Pink: DA

Wire gauge (DE models)

INPUT

ACL

ACN


(Optional)

LED DRIVER

OUTPUT

V+

V-

DALI

DA

DA

AC Input Cable(Exposed Length 450±10mm):

EU model: H05RN-F,2*1.0mm², O.D:7.0mm, Brown:L, Blue:N

EU model: H05RN-F,3*1.0mm², O.D:7.3mm,Brown:L, Blue:N, Black:   (Optional)

DC Output Cable(Exposed Length 250±10mm):

EU model: H05RN-F,2*0.75mm², O.D:6.4mm, Brown:V+, Blue:V-

DIM Cable(Exposed Length 220±10mm):

UL model: STYLE 21996,2*22AWG , O.D: 4.9mm Purple DA, Pink: DA

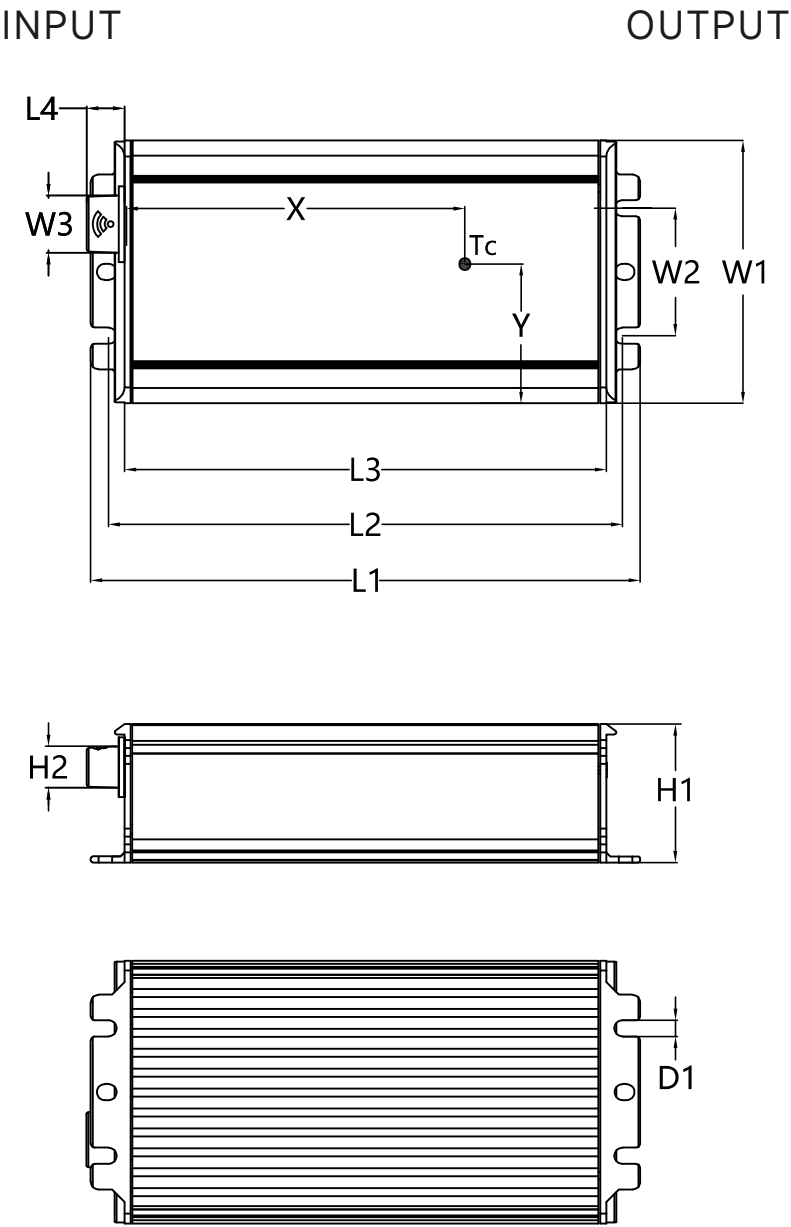
NOTE:
AC Input Cable,DC O/P Cable,DIM/AUX Power/Programming Cable:Peeled length of cable:43±5mm,
Tinned length of wire:10±2mm

SS-50GA-E Series NFC Driver with DALI-2

Outline and mounting dimensions

Name Description	Standard Code	mm(In.)
Overall Length	L1	105(4.13)
Mounting Hole Length	L2	100.1(3.94)
Case Length	L3	92(3.62)
Antenna cap Length	L4	10.5(0.41)
Case Width	W1	66(2.6)
Mounting Hole width	W2	32(1.26)
Antenna cap width	W3	14.4(0.56)
Case Height	H1	31.5(1.46)
Antenna cap Height	H2	10.3(0.4)
Screw hole width	D1	4.1(0.16)
TC Point Position	X	57(2.24)
TC Point Position	Y	40(1.57)

Note
Please follow the "LED Driver User Manual" obtained from SOSEN's official website for assembly.



SS-50GA-E Series NFC Driver with DALI-2



Assembly Tips

When the dimmer line is not in use, please seal the connector of the dimmer line with insulating sleeve.

Package

- Outside carton dimension: L×W×H =495mm×385mm×162mm;
- 28PCS/Carton;
- Net weight/Piece: 0.405kg;Gross weight/Carton: 12.5kg;
- Please refer to the product name, model number, manufacturer identification, QC PASS, manufacturing date on the package.

Transportation

Packaging is designed suitable for transportation by trucks, vessels and flights. The products should be avoided direct sunlight and rain, loaded/unloaded with caution.

Storage

The product storage meets the standard of the GB 3873 83.
Products should be rechecked if stored for over 1 year before assembly.

RoHS

Products comply with RoHS Directive (2011/65/EU) and amendment 2015/863/EU.

Revision History

Version	Description of Update	Updated Date	Remark
V00	Original Release	2026/01/13	