SOSEN

SPECIFICATIONS

60W NFC Driver with DALI-2 and D4i

Model: 60PA-H120F

Power:60W

Rev.: V01

Release date: 2026-09-18



60W NFC Driver with DALI-2 and D4i

Features

- Efficiency up to 92.5%
- NFC programming
- DALI-2 & D4i certification
- Dim-to-off & Standby power≤0.45W
- Surge Protection: CM: 10kV, DM: 6kV
- AUX Power: 24V/125mA Peak Power 6W
- Integrated 16Vdc DALI-2 bus power supply
- Integrated AC power metering with up to ±1% accuracy
- Timing control/End life alert/Constant lumen output/NTC
- Protections: SCP/OTP/OVP/OPP
- Suitable for Class I & II luminaires
- Compatible with Zhaga standards
- Warranty: 8 years
- IP20

Description

The 60PA-H120F is a 60W NFC-programmable LED driver that fully complies with D4i and DALI-2 standards. It is compatible and can connect with various smart lighting systems and controllers, enabling precise lighting control and management. Additionally, it features integrated high-precision AC power metering and can monitor luminaire status and faults, supporting remote management and maintenance. Furthermore, it incorporates multiple protection funcations, providing stable and efficient power supply for LED luminaires.
Application:
Street lights, tunnel lights, sports lights.

Model List

Model	AC Input Range	Max. Pout	Vout Range	Full Power Vo range	Iout Range	Default Output Current	THD (Typ.)	PF (Typ.)	Eff. (Typ.)	Max.Tc
60PA-H120F	165-264Vac	60W	40-120V	57V-120V	0.2-1.05A	0.7A	5%	0.98	92.0%	85°C

Note:
1.Default Tested: at 230Vac, full load, Ta 25°C.
2.The performance of the LED Driver can be guaranteed within the full power Vo range.
if the voltage lower than full power Vo range, need to test the performance with the LED module.

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Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	184Vac		264Vac	
Input AC Voltage Range	165Vac		264Vac	Derating below 184Vac; See derating curve
Input DC Voltage Range	168Vdc		280Vdc	The load needs to be reduced to 80%
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			0.5A	184Vac, Full load
Max Inrush Current(230Vac)			40A	Cold start
Power measurement accuracy	-3%	1%	+3%	230Vac, Full load
Standby Power			0.45W	230Vac/50Hz, Dim to off, Turn off DALI-2 bus power
Power Factor	0.96	0.98		230Vac/50Hz, Full load
	0.90			220-240Vac/50Hz, 40-100% load
THD		5%	10%	230Vac/50Hz, Full load
			20%	220-240Vac/50Hz, 30-100% load

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Output Characteristics

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	40V		120V	Power derated @40-57V
Rated O/P Voltage	57V		120V	Po=Vo*Io=60W, Full load
Rated O/P Current	0.5A		1.05A	1.05A for 57V,0.5A for 120V
Adj. O/P Current (AOC)Range	0.2A		1.05A	Output current can be adjusted by NFC
Dimming Range	0.05A		Ioset	0.2A ≤ Ioset ≤1.05A
No Load Voltage			200V	
Efficiency @230Vac	91.5%	92.0%	92.5%	O/P 120V/0.5A
O/P Current Tolerance	-5%		+5%	230Vac/50Hz at Full load, 25°C
O/P Current Ripple(PK-AV)		5%	10%	Full load
Output Pst^{LM}			1	Full load
Output SVM			0.4	Full load
Start-up Current Overshoot			10%	Full load
Start-up Time			1S	230Vac,Full load,25°C
Line Regulation	-2%		+2%	Full load
Load Regulation	-2%		+2%	
OTP	85°C	90°C	95°C	Drop current when OTP, and it can be automatically restored after the abnormality is removed.
Short Circuit Protection				Driver will not be damaged.

Note: Complies With Parts 101, 102, 150, 207, 250, 251, 252, 253.

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NTC Functions

Parameter		Min.	Typ.	Max.	Remark
External Thermal Protection (NTC)	T1 (Begins derating)		70°C		The value can be set through software, When the temperature of the LED module is ≥ T1, the output current begins derating
	T2 (Stop derating)		90°C		The value can be set through software, when the temperature of the LED module is ≥ T2, the output current stop derating
	T3 (off)		100°C		The value can beset through software, When the temperature of the LED module is ≥ T3, the power is turned off
	Protection Current Setting Range	10%Ioset	20%Ioset	100%Ioset	Default setting is 10%

Note: The recommended NTC is 10K-3950B/3435B,NTC function disabled by defaut.

Other Characteristics

Parameter		Min.	Typ.	Max.	Remark
Aux Power	Rated O/P Voltage	21.6V	24V	26.4V	The reference ground is "DA-/AUX-"
	No Load O/P Voltage			30V	The reference ground is "DA-/AUX-"
	Rated O/P Current			125mA	
	Peak O/P Current			250mA	During a 6ms period, maximum duration of 250mA peak output current 2.2ms, and the average value cannot exceed 125mA.
DALI-2	DA+, DA- High Level	9.5V	16V	22.5V	
	DA+, DA- Low Level	-6.5V	0V	6.5V	
	DA+, DA- Current			2mA	
Integrated DALI-2 Bus Power Supply Voltage		12V	16V	20V	
Integrated DALI-2 Bus Power Supply Current		50mA		60mA	
Life Time(Tc≤75°C)		≥100,000 hours			100% load
MTBF		250,000 hours			230Vac,Full load, Ta=25°C (MIL-HDBK-217F)
IP Grade		IP20			
Tc(Maximum)		85°C			
Warranty		8 years			Tc: 75°C
Net Weight		365g			
Dimension		123mm*79mm*33.8mm			L x W x H

NOTE:
1. All the parameters above are tested Ta 25°C and LED load, unless specified.
2. The DALI-2 bus power supply is enabled by default and can be disabled through the programming interface.

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Environmental Requirements

Parameter	Min.	Typ.	Max.	Remark
Operating Temperature(Tcase)	-40°C	25°C	+85°C	
Storage Temperature	-40°C	25°C	+85°C	
Operation Humidity	10%RH		90%RH	No condensation
Storage Humidity	5%RH		95%RH	No condensation
Altitude	-65m		4000m	

Safety and EMI/EMS Standards

Certification	Standard	Status	Remark
UL	UL8750		
CUL	CAN/CSA C22.2 No.250.13		
ENEC	EN 61347-1 EN 61347-2-13 EN IEC 62384	✓	
RCM	AS/NZS61347.2.13		
CCC	GB/T 19510.1 GB/T 19510.213		
CE	EN 61347-1 EN 61347-2-13	✓	
	EN 301 489-1 EN 301 489-3 EN 300 330 EN 62479/EN 50663/EN 50665/EN 50364	✓	

EMI/EMS	Criterion	Remark
Conduction Emission	EN IEC 55015:2019/A11:2020	
Radiation Emission	EN IEC 55015:2019/A11:2020	
Harmonic Current Emissions	EN IEC 61000-3-2:2019/A1:2021	Class C
Surge	IEC/EN61000-4-5	DM: 6kV,CM: 8kV,Criterion B
	EN61547:2009	DM: 6kV,CM: 10kV,Criterion B
Ring Wave	IEC EN 61000-4-12	DM: 6kV,CM: 6kV,Criterion B

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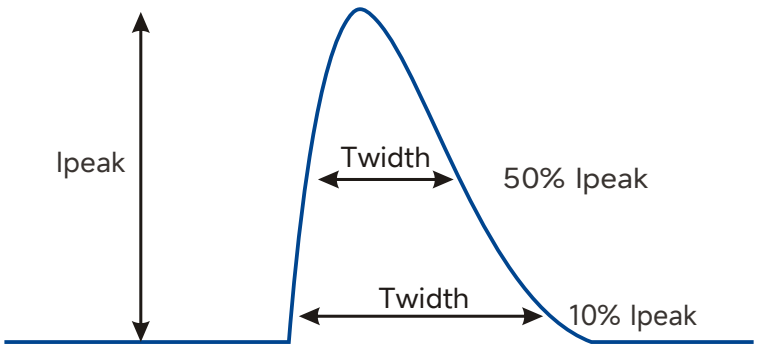
Safety Test Items

Safety Test Items	Technical Indicators	Remark
Insulation Requirements	ENEC Insulation Requirements	
Input to EQUI	4U+2000	Reinforced insulation
Input-Dim	4U+2000	Reinforced insulation
Dim to EQUI	2U+1000	Basic insulation
Insulation Resistance	≥10MΩ	Input-Output,Test voltage:500Vdc
Leakage Current	≤0.7mApk	240Vac

NOTE:
1. SOSEN warrants the LED Driver itself complies with EMC standard. However, LED Driver's EMC should be re-checked when integrated into lighting systems due to unexpected interference of components.
2. Please short (ACL and ACN), (LED+ and LED- and NTC+ and NTC-), (DA+ and DA - and Vaux+)when Hi-pot test.

Performance Curves

Input Inrush Current

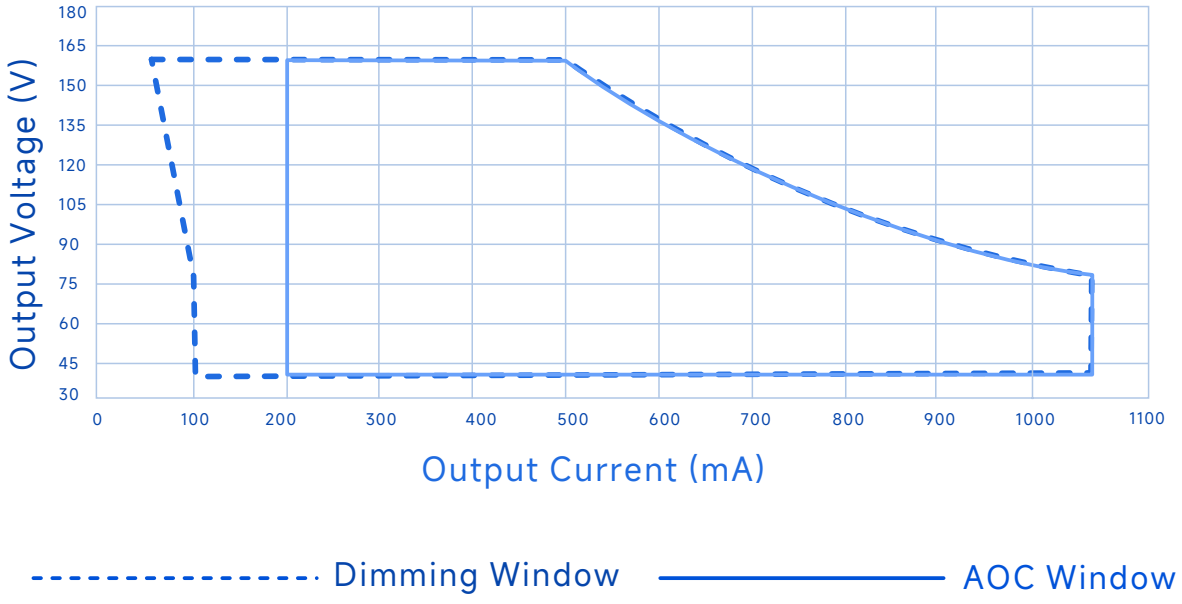


Vin	Ipeak	T(@10% Ipeak)	T(@50% Ipeak)	Configurable LED Driver Quantity/PCS							
				B10A	B16A	B20A	B25A	C10A	C16A	C20A	C25A
230Vac	40A	600us	210us	9	15	19	24	16	25	32	40

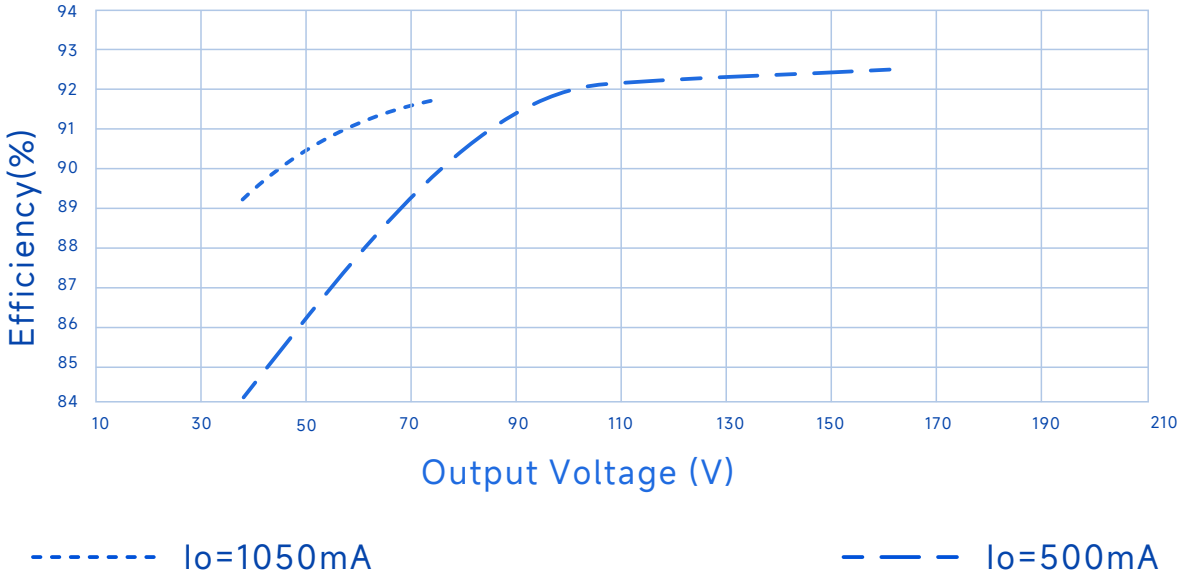
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Performance Curves

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



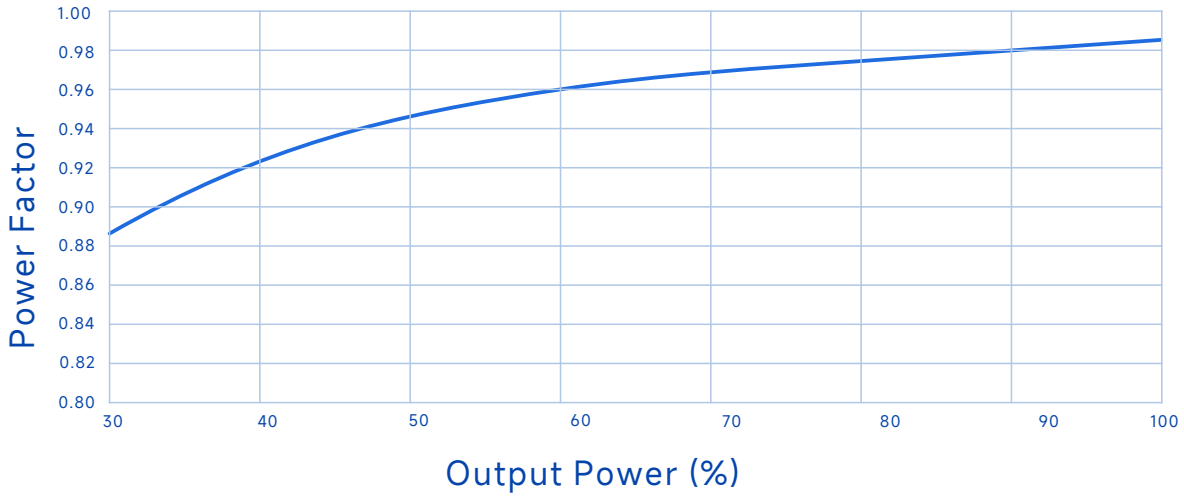
Efficiency Vs. Output Voltage (Vin=230Vac)



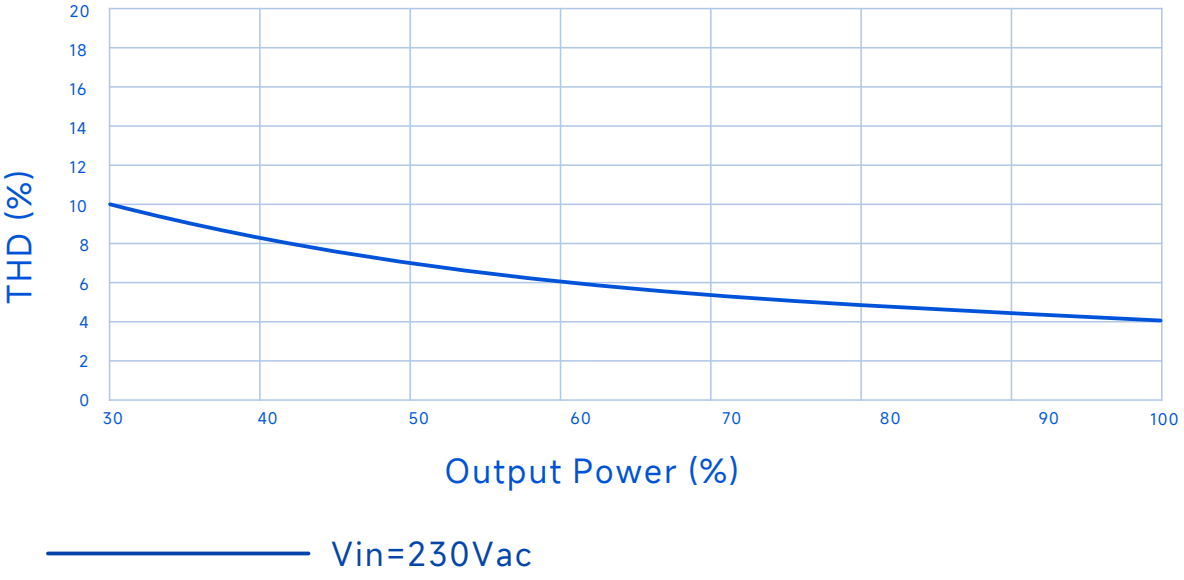
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Performance Curves

Power Factor Vs. Output Power(Vin=230Vac)



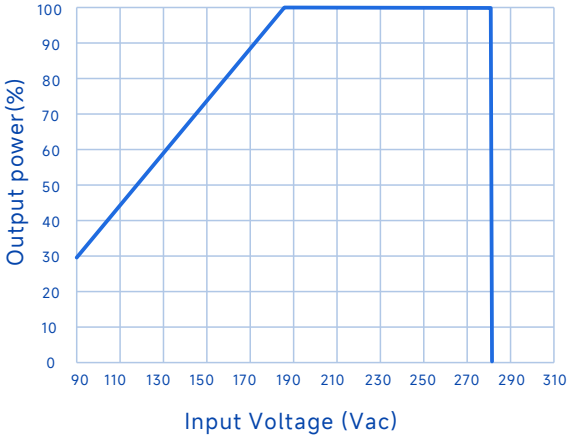
THD Vs. Output Power(Vin=230Vac)



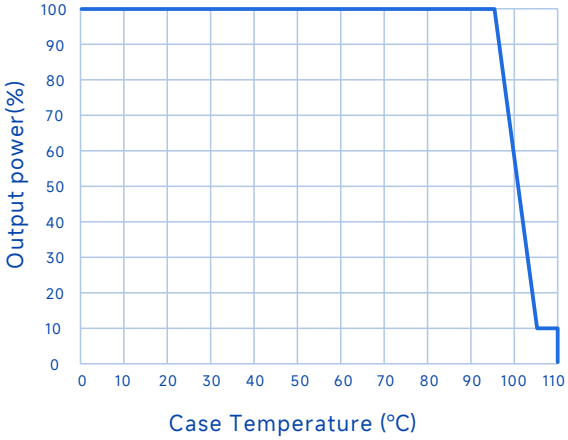
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Performance Curves

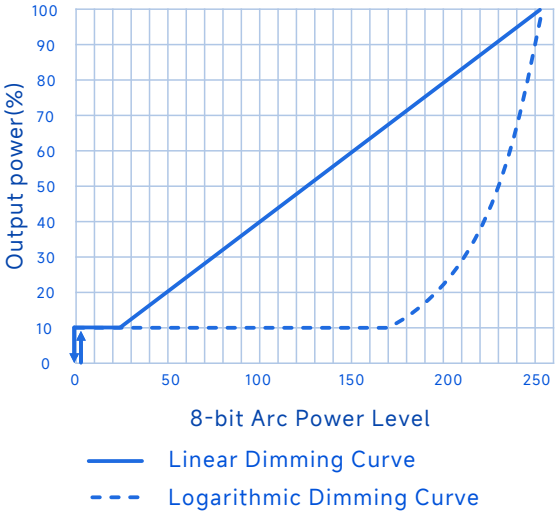
Output Power Vs. Input voltage



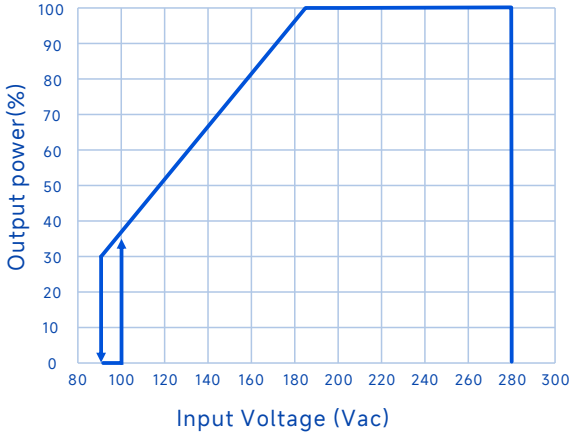
O/P power Vs. Case Temperature



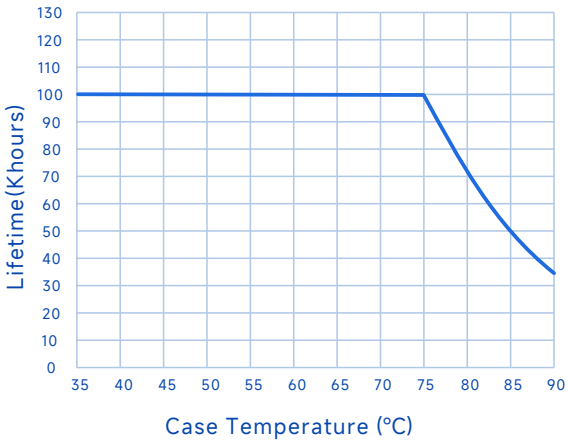
Lifetime Vs. Case Temperature



ACI Dimming Curve



Lifetime Vs. Case Temperature



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Software OTP Function:

Software OTP is an optional feature, OTP can be set through the software page.

Timer Dimming

Automatic conversion between DST and Standard Time.Traditional Timer Dimming, Self-Adapt-Midnight Timer, Self-Adapt-Percentage Timer. The time dimming percentage can be set by setting 8 curves.
Traditional timer: After power-on, it works according to the set timing curve (Increasing fade time allows for slow changes between different dimming levels, preventing sudden changes in brightness and causing dazzle)
Self Adapting-Midnight: Automatically save power-on times and use 2 valid timers to assume that the center point of the dimming curve is local midnight time.
Self Adapting-Percentage: Runs the initially set dimming curve according to an automatically calculated adaptive cycle time.

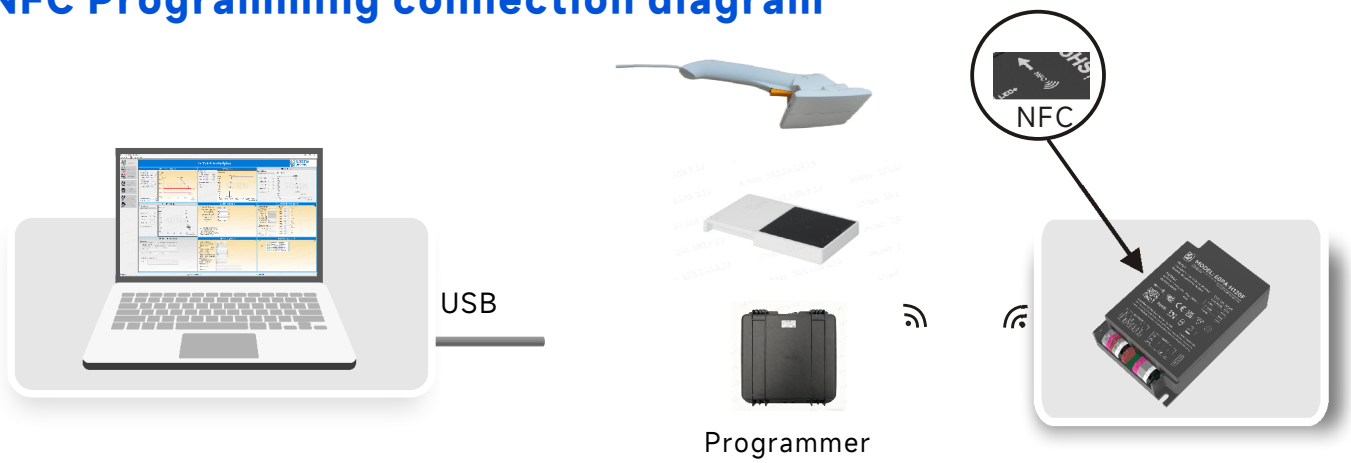
CLO Constant Lumen Output

Light failure compensation function, in the Luminaire life cycle, by gradually increasing the output current, to achieve a constant output of LED luminous flux, the overall luminous effect remains unchanged.

ELA End-of-Life Alert

By presetting a LED driver life time, such as 50KH, after the luminaire has accumulated 50KH of light-up time, every time the luminaire is powered on, it will blink 4 times to remind the user to replace the LED driver.

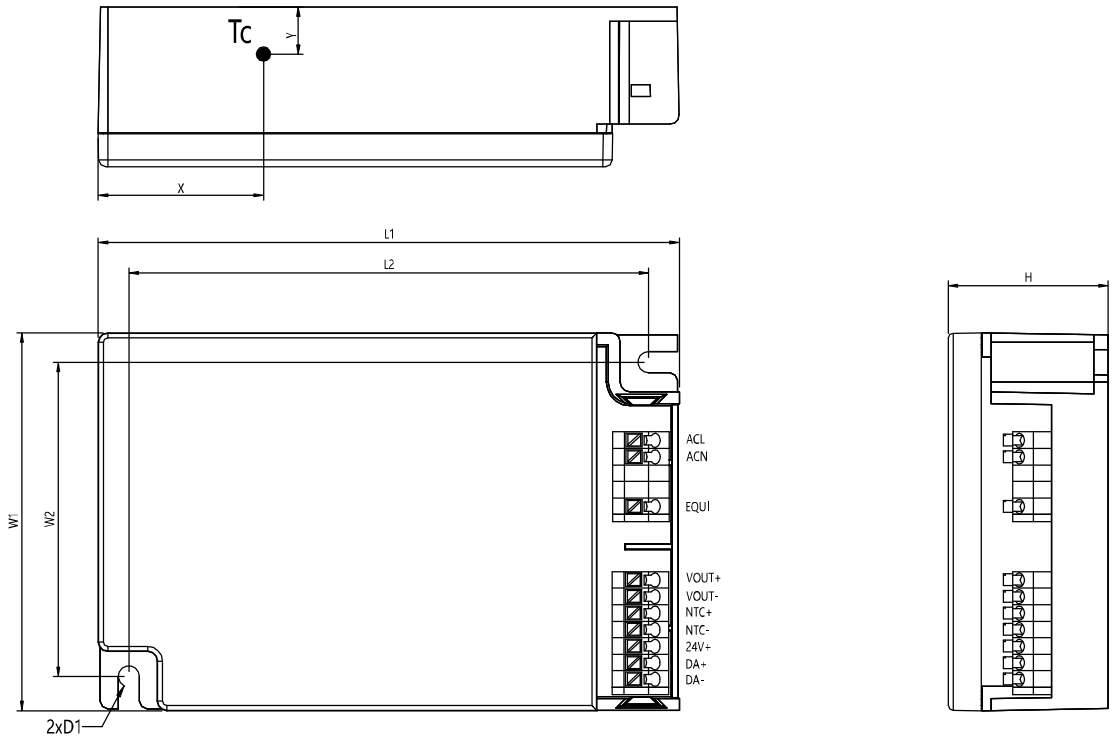
NFC Programming connection diagram



Recommended programming devices compatible with FEIG NFC LED drivers:
1.ID CPR30+ (desktop programmer)
2.ID ISC PRH 101-USB (handheld wired programmer)
3.RF-LRMI002-300/300KIT (high-power bulk programming kit)

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Mechanical Characteristic



Name Description	Standard Code	mm(In.)
Case Length	L1	123(4.84)
Mounting Hole Length	L2	110(4.33)
Case Width	W1	80(3.15)
Mounting Hole Width	W2	66.5(2.62)
Case Height	H	33.8(1.33)
Mounting aperture	D1	4.5(0.18)
TC Point Position	X	35(1.38)
TC Point Position	Y	8(0.31)

AC Input Cable:

0.75-1.5mm²,16-18AWG, Solid/Stranded Wire

Strip length 8.5-9.5mm

DC O/P Cable:

0.2-1.5mm²,16-24AWG, Solid/Stranded Wire

Strip length 8.5-9.5mm

DIM Cable:

0.2-1.5mm²,16-24AWG, Solid/Stranded Wire

Strip length 8.5-9.5mm

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

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Package

Standard Packaging Box:
- External dimensions (in mm): L×W×H =455×280×175;
- 40PCS/Carton;
- Net weight/Piece: 0.365kg;Gross weight/Carton: 14.6kg;

Burner Packaging Box:
- External dimensions (in mm): L×W×H =275×275×110;
- 14PCS/Carton;
- Net weight/Piece: 0.365kg;Gross weight/Carton:5.15kg;
- 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.

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Revision History

Version	Description of Update	Updated Date	Remark
V00	Original Release	2026/06/30	
V01	Update Standby Power	2026/09/18	

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