



### Constant Current Dimming able Driver

**Model: XC15W100-500 DALI NFC**  
**XC23W100-700 DALI NFC**  
**XC44W300-1050 DALI NFC**  
**XC70W350-1400 DALI NFC**



Model	Output Current	Input Current	Input Power	Output Power Range	PF	Efficiency	Output Voltage	No load Voltage
XC15W100-500 DALI NFC	100-500mA	≤0.10A	19W	0.25-15.05W	≥0.95	≥84.5%	2.5-46V	59V
XC23W100-700 DALI NFC	100-700mA	≤0.14A	27W	0.25-23.00W	≥0.95	≥86.5%	2.5-46V	59V
XC44W300-1050 DALI NFC	300-1050mA	≤0.26A	51W	2.70-44.10W	≥0.95	≥89%	9.0-49V	59V
XC70W350-1400 DALI NFC	350-1400mA	≤0.40A	78W	3.50-70.00W	≥0.95	≥89%	10-50V	59V

\* Test result @230V, 50Hz, Full Load. Current setting@1mA-steps(NFC)

### 1. Parameters

Category	Item	Technical Norm
Features	Output Type	Constant Current
	Dimming Type	DALI-2
	Output Features	Isolation
	IP Grade	IP67
	Insulation Class	Class II
Input	Rated Input Voltage	220-240VAC
	Range of Input Voltage	198-264VAC or 180-280VDC
	Frequency	0/50/60Hz
	Input Current	≤0.10A max@15W (230VAC,full load) ≤0.14A max@23W (230VAC,full load) ≤0.26A max@44W (230VAC,full load) ≤0.40A max@70W (230VAC,full load)
	Input Power	≤19W max@15W (230VAC,full load) ≤27W max@23W (230VAC,full load) ≤51W max@44W (230VAC,full load) ≤78W max@70W (230VAC,full load)
	Power Factor	≥0.95 @230VAC ,full load
	THD	≤12% @230VAC ,full load @15W ≤10% @230VAC ,full load @23W,44W,70W
	No-load Power Consumption	≤0.5W Dim to off, 230VAC
Output	Inrush Current	≤15A/50uS @15W,23W (230VAC,full load) ≤20A/50uS @44W,70W (230VAC,full load)
	Output Voltage Range	15W 2.5-46VDC @100-300mA

		2.5-43VDC @301-350mA 2.5-38VDC @351-400mA 2.5-33VDC @401-450mA 2.5-30VDC @451-500mA
	23W	2.5-46VDC @100-500mA 2.5-41VDC @501-550mA 2.5-38VDC @551-600mA 2.5-35VDC @601-650mA 2.5-32VDC @651-700mA
	44W	9.0-49VDC @300-750mA 9.0-45VDC @751-950mA 9.0-42VDC @951-1050mA
	70W	10-50VDC @350-1400mA
	No Load Voltage	59VDC Max.
	Output Current	15W 100-500mA (by NFC setting) 23W 100-700mA (by NFC setting) 44W 300-1050mA (by NFC setting) 70W 350-1400mA (by NFC setting)
	Max. Output Power	15W 15.05W 23W 23.00W 44W 44.10W 70W 70.00W
	Efficiency	15W ≥84.5% (230V full load@max current) 23W ≥86.5% (230V full load@max current) 44W ≥89% (230V full load@max current) 70W ≥89% (230V full load@max current)
	Current ripple(< 120 Hz)	±5% (Imax-Imin) / (Imax+Imin )
	PstLM	≤ 1
	SVM	≤ 0.4
	Current Accuracy	±5%
	Line Regulation	±5%
	Load Regulation	±5%
	Started Delay Time	≤0.9S (230VAC,full load)
Control Method	Secondary PUSH dimming	Secondary PUSH dimming (Max. lead wire length: 20m,same port of DALI )
	PUSH dimming terminal	Max parallel connections qty for Push-dim 15 PCS
	DALI function	DALI dimming (Max. lead wire length: 300m ) Logarithmic or linear dimming curves are available DALI-2 certified incl. Parts 251, 252, 253,CLO
	DALI Dimming range	DALI dimming:1%-100%,Dim to off
	Dimming frequency	/
	Current Interface	Near field communication(NFC)
	Adjustable output current	1mA-steps(NFC)
	Short Circuit Protection	Auto Recovery

Protection	Overload Protection		Auto Recovery (not be hot swap)	
	No-load Protection		Auto Recovery	
	Insulation voltage		3000V/5mA/60S between P-S	
	Insulation resistance		>100M ohm @ 500VDC	
	Leakage current		< 0.7mA, I/P to O/P	
Environment	Ta/ Operation Temperature		-25 ...+50°C	
	Ts/ Storage Temperature		-25 ...+85°C	
	Tc/ Enclosure Temperature		+85°C	
	Humidity		10%.... 90%RH	
	Atmosphere		86- 108KPa	
Construction	Connection Method		Cable	
	Installation		Built-in & Independent	
	PRI Wire preparation		2*∅ 1.00mm <sup>2</sup> / 400mm	
	SEC Wire preparation		2*∅ 0.75mm <sup>2</sup> / 400mm	
	DALI Wire preparation		2*∅ 0.75mm <sup>2</sup> / 400mm	
	Dimension	15W,23W	103*47*26mm (L*W*H)	
		44W	110*52*28.5mm (L*W*H)	
70W		109*69.5*32.5mm (L*W*H)		
Standards	Certification		CE EAC TUV	
	Safety Standards		EN61347-1:2015/A1:2021; EN61347-2-13:2014/A1:2017; EN62384:2006/A1:2009; AS 61347.2.13:2018; AS/NZS61347.1:2016; BS EN61347-1:2015/A1:2021; BS EN61347-2-13:2014/A1:2017	
	EMC Standards		EN55015; EN61000-3-2 Class C; EN61000-3 EN 61547; EN 61000-4-2; EN 61000-4-5	
	RED		EN 300 330 V2.1.1:2017 EN 301 489-1 V2.2.3:2019 EN 301 489-3 V2.3.2:2023 EN 62479:2010 EN 50663:2017	
	Performance		EN62384	
	Surge		L-N:2kV L/N- PE:4kV	
	Others	RoHS		Complied to 2011/65/EU
REACH		EU Regulation(EC)No 1907/2006		
Life Time		70000h @Tc< +85°C		
Warranty		5years		
Noise		<20dB @ 30cm distance, 18dB background		
<b>Remark:</b> 1. All Parameters, if not specified, are measured at 230VAC/50Hz and +25°C ambient temperature. 2. LED Driver is a component of the luminaires, Luminaires and wire layout will affect the EMC, please check the EMC with end products again. 3. During the PUSH-DIM test, the number of parallel connections must be less than 15PCS. 4. Do not install upside down.				

### 2. Connected quantities of different current Breaker

TYPE	Connected quantities of different current Breaker@15W						Input Voltage	Inrush Current	Time
	current (A)	10	13	16	20	25			
	Installation wire diameter	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>	2.5mm <sup>2</sup>	4mm <sup>2</sup>	4mm <sup>2</sup>			
TYPE B	40	52	64	80	100	@230VAC	15	50us	
TYPE C	64	83	102	128	160				
TYPE D	102	133	164	205	256				

TYPE	Connected quantities of different current Breaker@23W						Input Voltage	Inrush Current	Time
	current (A)	10	13	16	20	25			
	Installation wire diameter	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>	2.5mm <sup>2</sup>	4mm <sup>2</sup>	4mm <sup>2</sup>			
TYPE B	40	52	64	80	100	@230VAC	15	50us	
TYPE C	64	83	102	128	160				
TYPE D	102	133	164	205	256				

TYPE	Connected quantities of different current Breaker@44W						Input Voltage	Inrush Current	Time
	current (A)	10	13	16	20	25			
	Installation wire diameter	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>	2.5mm <sup>2</sup>	4mm <sup>2</sup>	4mm <sup>2</sup>			
TYPE B	30	39	48	60	75	@230VAC	20	50us	
TYPE C	48	62	77	96	120				
TYPE D	77	100	123	154	192				

TYPE	Connected quantities of different current Breaker@70W						Input Voltage	Inrush Current	Time
	current (A)	10	13	16	20	25			
	Installation wire diameter	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>	2.5mm <sup>2</sup>	4mm <sup>2</sup>	4mm <sup>2</sup>			
TYPE B	30	39	48	60	75	@230VAC	20	50us	
TYPE C	48	62	77	96	120				
TYPE D	77	100	123	154	192				

### 3. Label

DA+

DA-

- Black

+ Red

N Blue

L Brown

**KGP**  
KGP Electronics GmbH  
Hueckstraße 19  
DE-58511 Lüdenscheid

**ERC**

TUV - applied for

**CE IP67**

•tc:85°C

range= 100-500mA



Urange= 2.5-46VDC

Prated= 15W Max.

Uout= 59VDC Max.


Current Setting by NFC, step 1 mA




**LED Dimmable Driver**  
**XC15W100-500 DALI NFC**  
Constant Current Type for LED only  
**UN= 220-240VAC**  
**IN= 0.10A Max.**  
**fn= 50/60Hz**  
**PF≥0.95**  
**ta:-25...+50°C**

**DA+**  **DA-** 

**- Black** **SEC**  
**+ Red**



**N Blue**  
**L Brown** **PRI~**

  
**KGP Electronics GmbH**  
 Hueckstraße 19  
 DE-58511 Lüdenscheid




   **CE** **IP67**


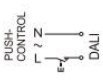
TUV - applied for

**LED Dimmable Driver**  
**XC23W100-700 DALI NFC**  
 Constant Current Type for LED only

 •tc:85°C 


**UN= 220-240VAC** **Irange= 100-700mA**  
**IN= 0.14A Max.** **Urange= 2.5-46VDC**  
**fn= 50/60Hz** **Prated= 23W Max.**  
**PF≥0.95** **Uout= 59VDC Max.**  
**ta:-25...+50°C** **Current Setting by NFC, step 1 mA**




  

**DA+**  **DA-** 

**- Black** **SEC**  
**+ Red**



**N Blue**  
**L Brown** **PRI~**

  
**KGP Electronics GmbH**  
 Hueckstraße 19  
 DE-58511 Lüdenscheid




   **CE** **IP67**



TUV - applied for

**LED Dimmable Driver**  
**XC44W300-1050 DALI NFC**  
 Constant Current Type for LED only

 •tc:85°C 


**UN= 220-240VAC** **Irange= 300-1050mA**  
**IN= 0.26A Max.** **Urange= 9.0-49VDC**  
**fn= 50/60Hz** **Prated= 44W Max.**  
**PF≥0.95** **Uout= 59VDC Max.**  
**ta:-25...+50°C** **Current Setting by NFC, step 1 mA**



  

**DA+**  **DA-** 

**+ Red** **SEC**  
**- Black**




**N Blue**  
**L Brown** **PRI~**

  
**KGP Electronics GmbH**  
 Hueckstraße 19  
 DE-58511 Lüdenscheid

  **CE** **IP67**



TUV - applied for

**LED Dimmable Driver**  
**XC70W350-1400 DALI NFC**  
 Constant Current Type for LED only

**SELV** •tc:85°C

**UN= 220-240VAC** **Irange= 350-1400mA**  
**IN= 0.4A Max.** **Urange= 10-50VDC**  
**fn= 50/60Hz** **Prated= 70W Max.**  
**PF≥0.95** **Uout= 59VDC Max.**  
**ta:-25...+50°C** **Current Setting by NFC, step 1 mA**

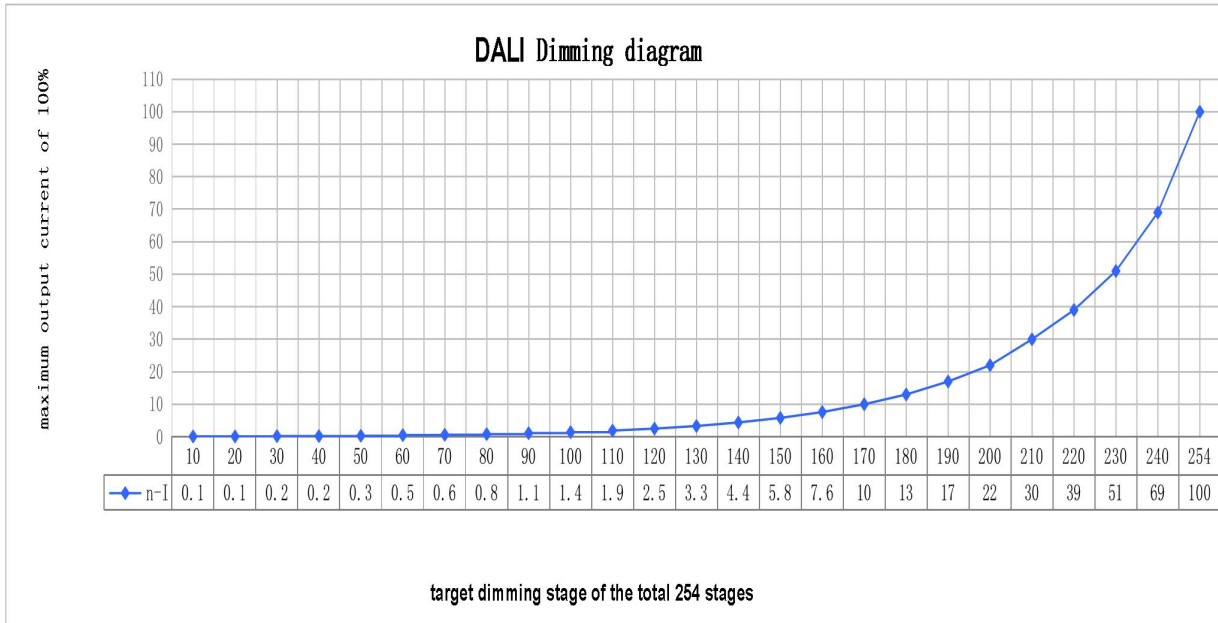
## 4. Dimming curve

Formula for DALI dimming.

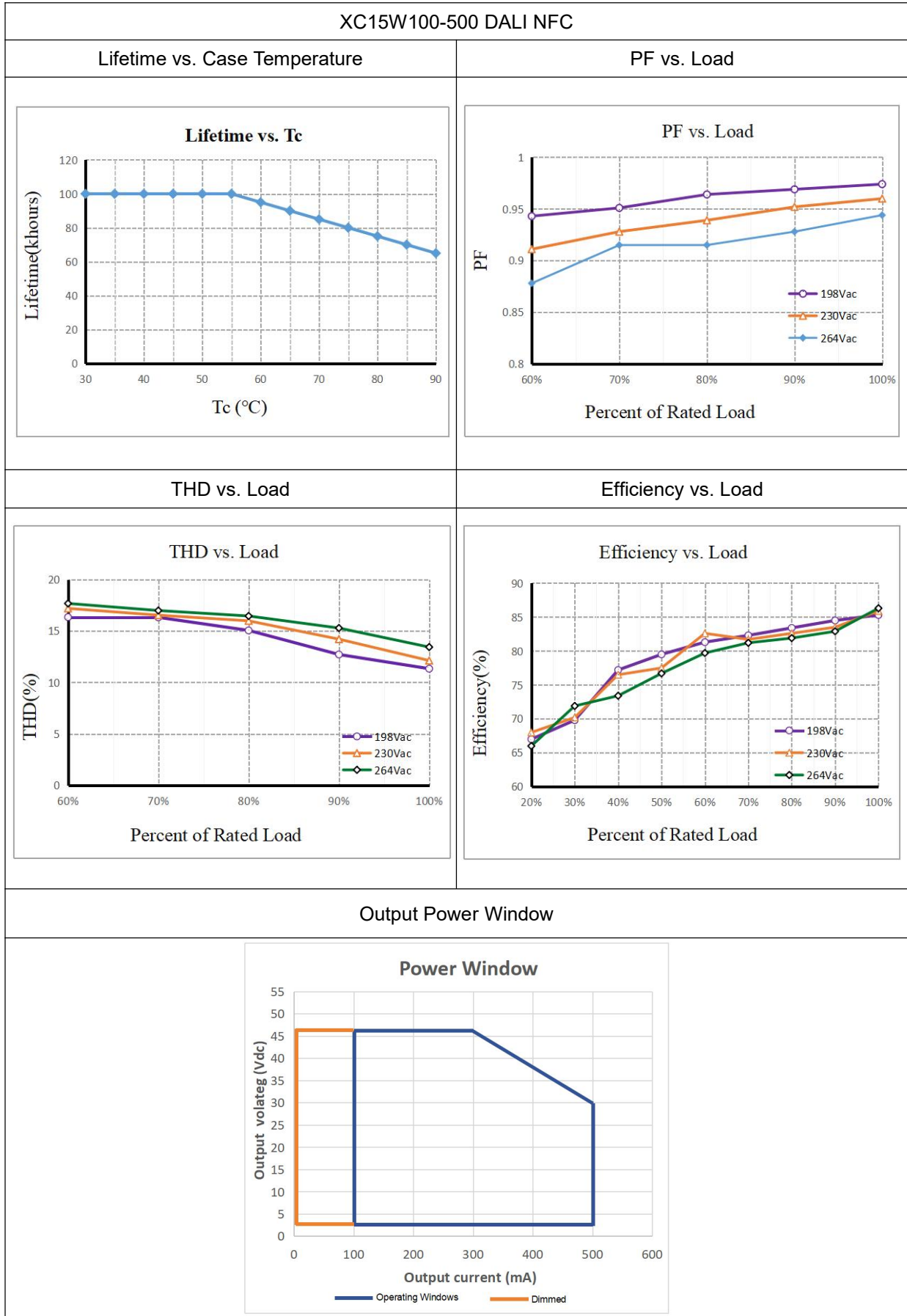
$$X(n) = 10^{\left\{ \left[ \frac{n-1}{253/3} \right] - 1 \right\}}$$

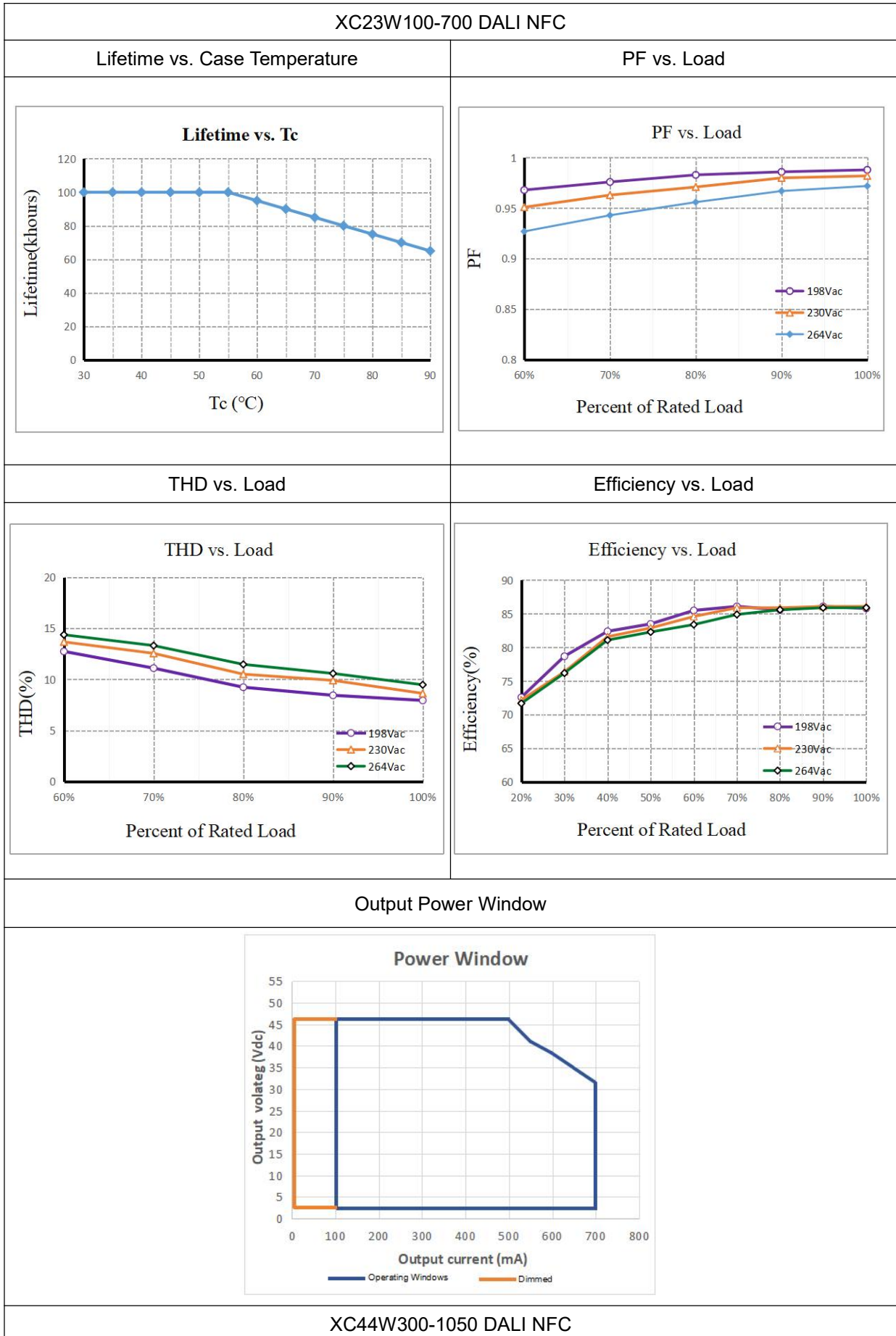
Here, n means the target dimming stage of the total 254 stages.

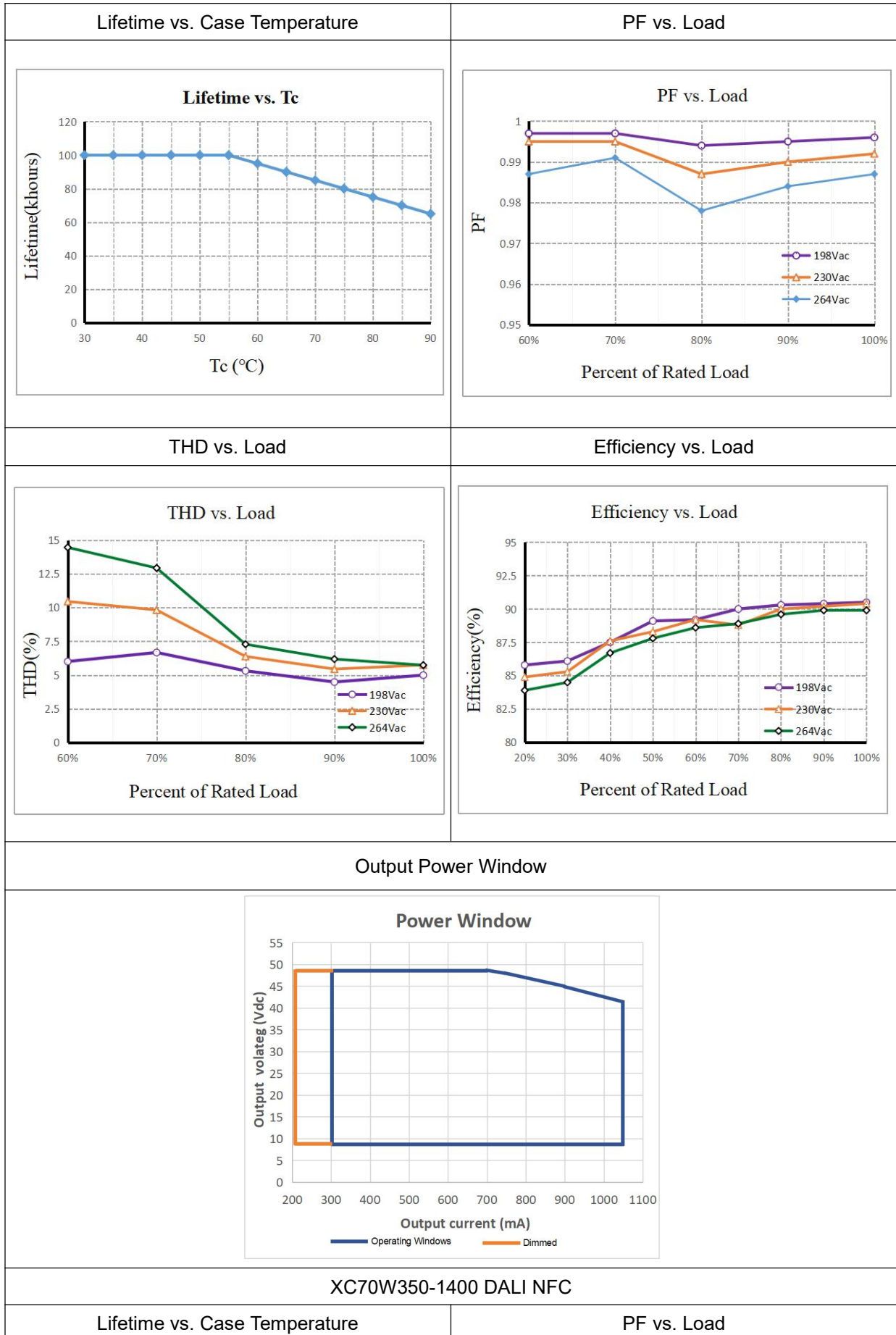
X(n) means the percent of the maximum output current

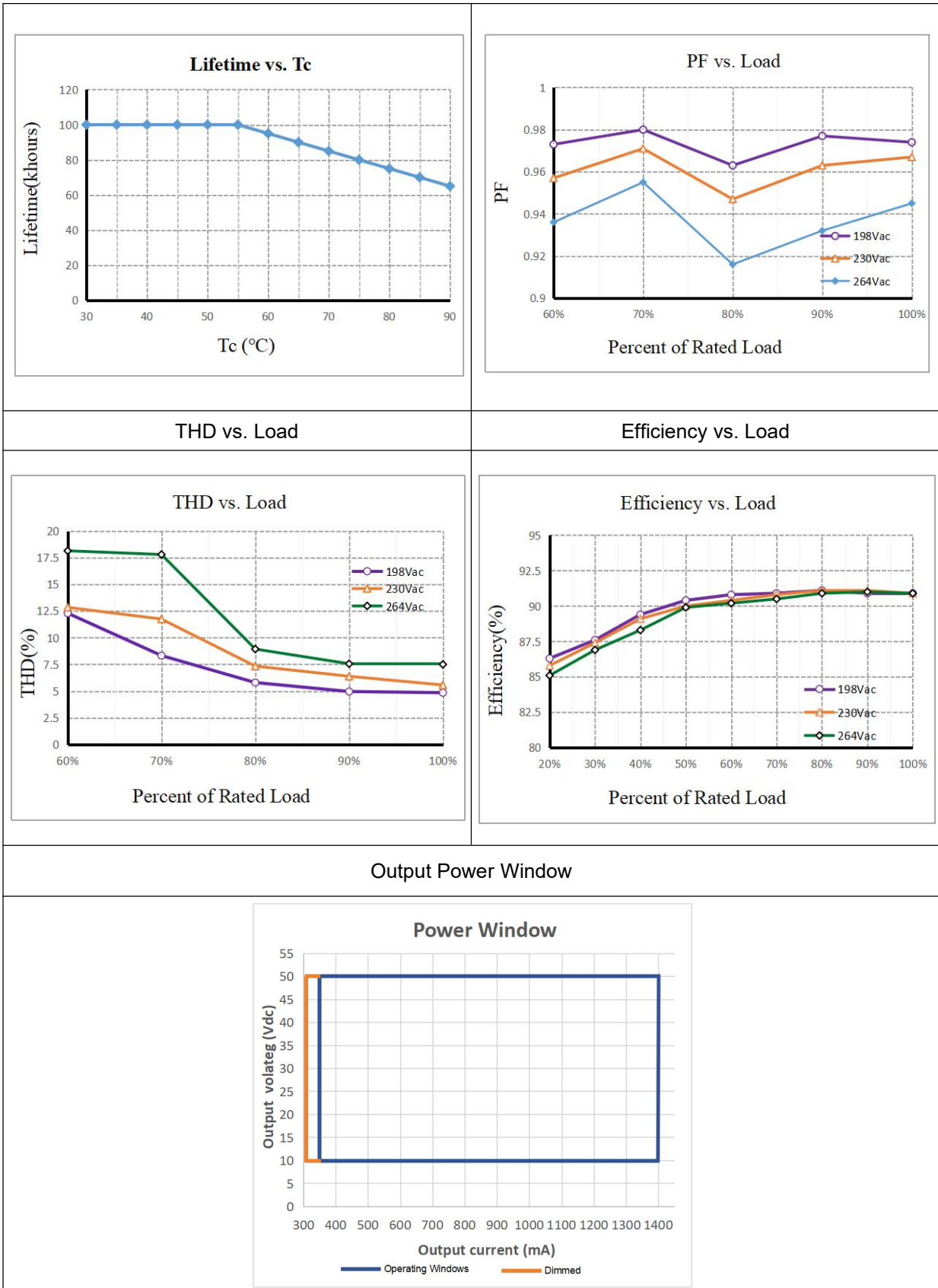


### 5. Electrical values



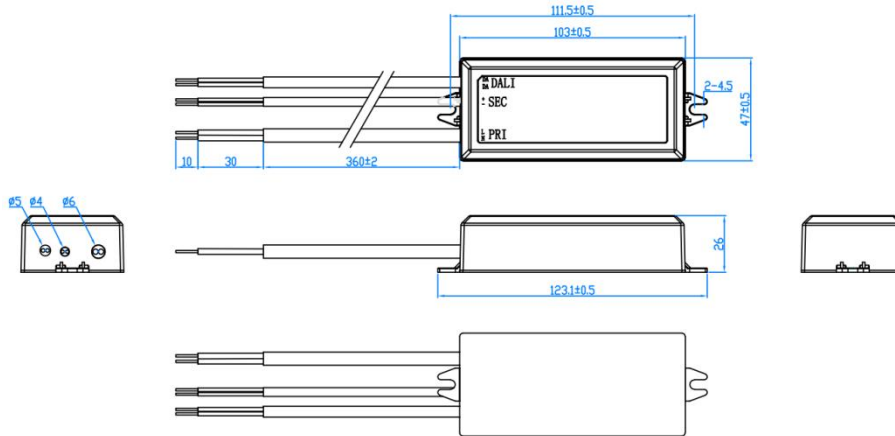




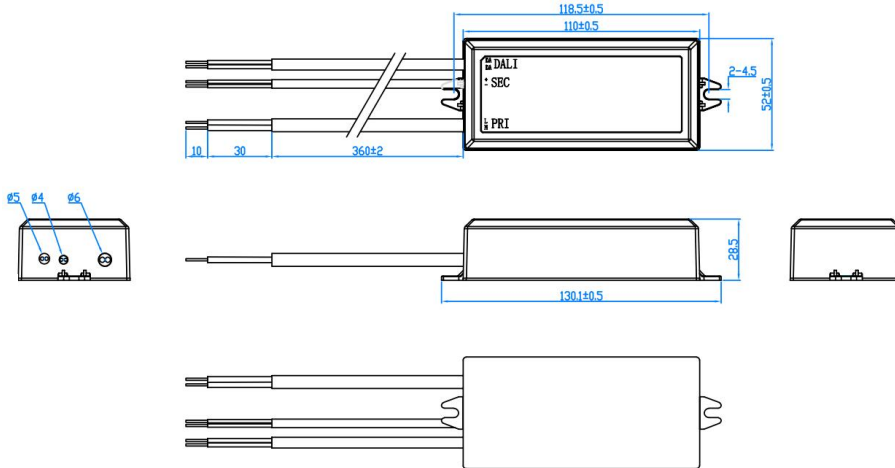


### 6. Dimension (Unit: mm)

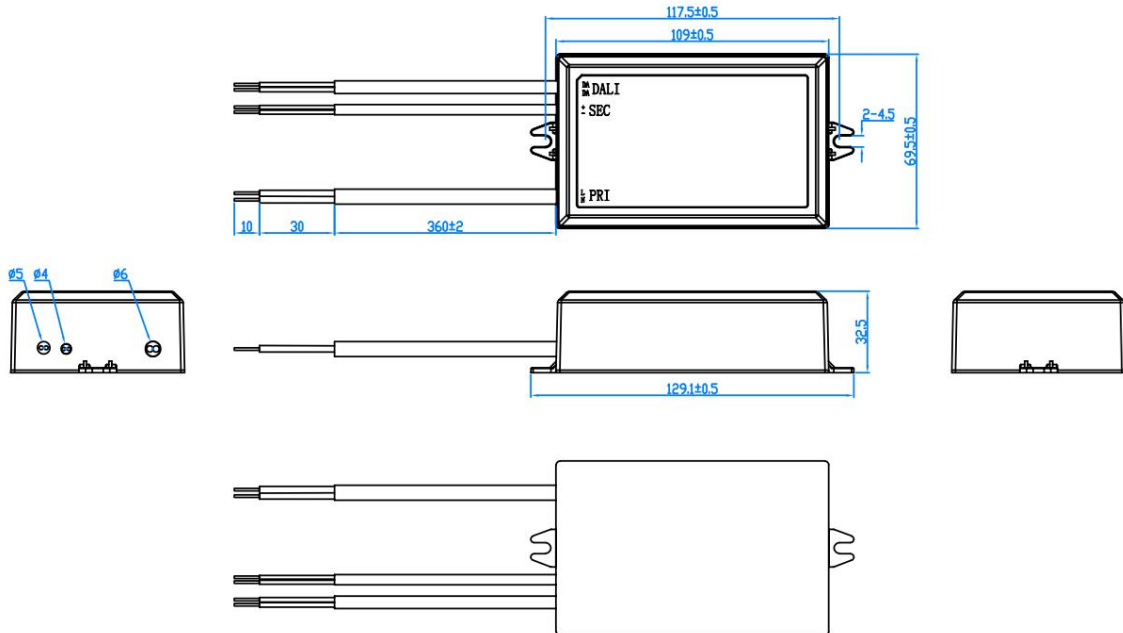
#### XC15W100-500 DALI NFC & XC23W100-700 DALI NFC



#### XC44W300-1050 DALI NFC



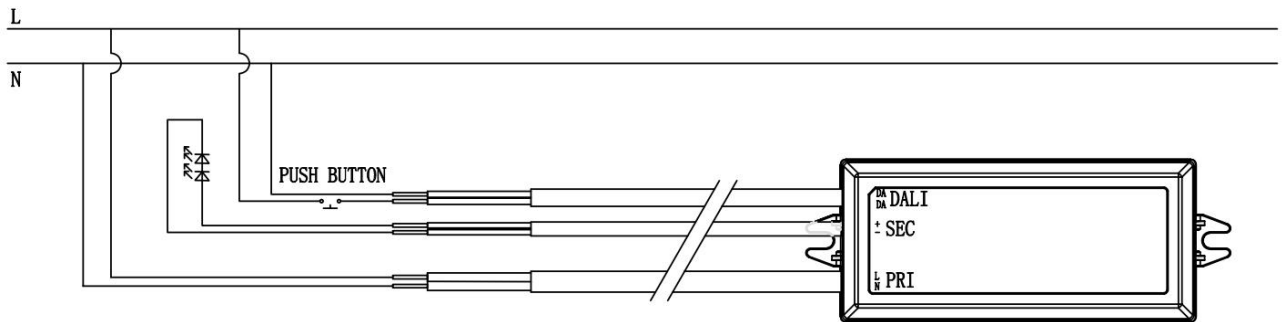
#### XC70W350-1400 DALI NFC



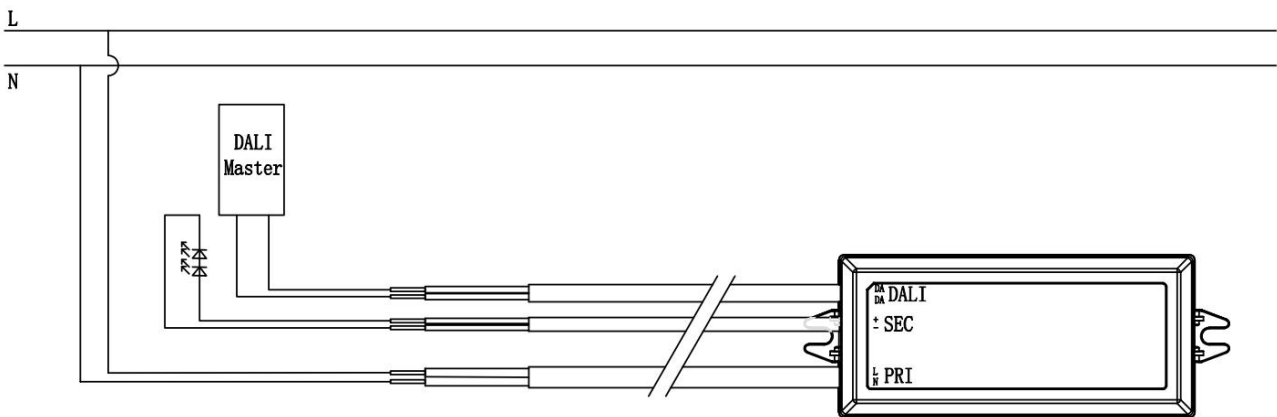
### 7. Wiring Diagram

220-240Vac 50/60 Hz

**Fig. A: Push Dimming**



**Fig. B: DALI Dimming**



1. The factory default brightness is at 100%.
2. Up to 15 drivers can perform the PUSH dimming at the same time when utilizing one common push button.
3. The maximum length of the cable from the push button to the last driver is 200 meters.

### 8. Packing information

Packing way	Model	Carton L*W*H(mm)	Pcs/Carton	Net weight/ Pcs(kg)	Net weight/ Carton(kg)	Gross weight/ Carton(kg)
Industrial	XC15W100-500 NFC	345*310*158	100	0.24	9.5	9.9
	XC23W100-700 NFC	345*310*158	100	0.24	9.5	9.9
	XC44W300-1050 NFC	345*310*158	100	0.30	11.8	12.6
	XC70W350-1400 NFC	440*345*155	80	0.43	12.8	13.4

### 9. Functions

#### 9.1 OEM Identification

The OEM (Original Equipment Manufacturer) can set his own identification number.  
DALI Part 251: Memory bank 1 extension.

#### 9.2 OEM GTIN

The Original Equipment Manufacturer (OEM) can set his own Global Trade Item Number (GTIN).

DALI Part 251: Memory bank 1 extension.

**9.3 Luminaire data**

This function provides the asset management with accurate data about the luminaire.

DALI Part 251: Memory bank 1 extension.

DALI Part 253: Luminaire maintenance data.

**9.4 LED current**

The LED output current must be adapted to the connected LED module.

The value is limited by the current range of the respective device.

The output current of the LED driver can be adjusted in a certain range.

Adjustment is done by KGP Configurator via NFC.

More functions:

Action	Action duration	Function
Short push	<0.6s	Turn on/off
Short push five Times	<3s	Quit Corridor mode
Long push	0.6-3s	Dimming up or down
Long push	10s	Sync all LEDs to be 50% brightness, and the dimming rate is changed to 3S
Long push	20s	Dimming rate is changed to 6S
Long push	>2mins	Enter Corridor mode - LED keep 100% brightness for 2mins.

**9.5 Switch DIM**

Integrated Switch DIM function allows a direct connection of a push button for dimming and switching.

Brief push (< 0.6 s) switches LED driver ON and OFF. The dim level is saved at power-down and restored at power-up. When the push button is held, LED modules are dimmed. After repush the LED modules are dimmed in the opposite direction.

In installations with LED drivers with different dimming levels or opposite dimming directions (e.g. after a system extension), all LED drivers can be synchronized to 50 % dimming level by a 10 s push.

Use of push button with indicator lamp is not permitted.

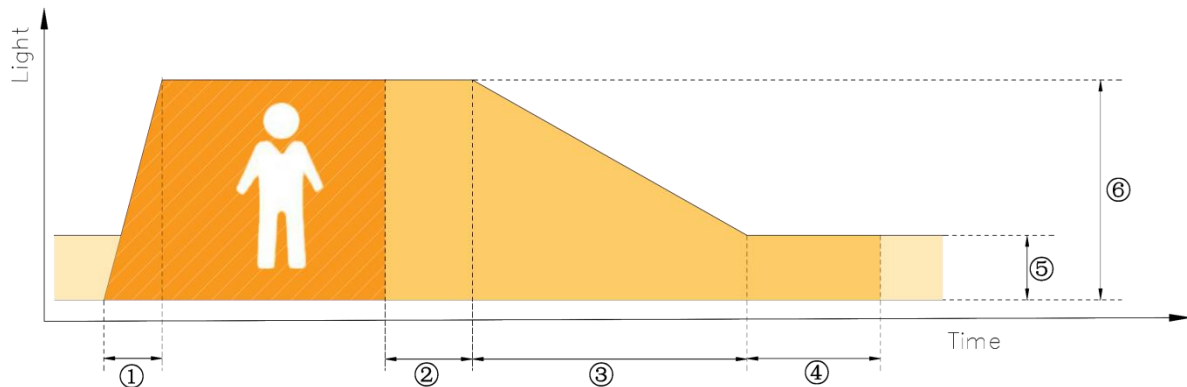
**9.6 Corridor FUNCTION**

With the Corridor FUNCTION and a commercially available motion detector, it is easy to adapt the lighting in one area to its use.

That is, when the area is entered by a person, the lighting dims instantly to the desired brightness and is available in full strength.

After the area is left by the person, the brightness dims slowly to a smaller value or switches off completely.

The individual parameters of the desired profile, such as brightness values or delay times, can be adjusted flexibly and individually.



- ① Fade-in time(1s): the time that starts as soon as the presence of a person is detected. During the fade-in time the luminous intensity is faded up to the presence value.
- ② Run-on time(120s): the time that starts as soon as the presence of a person is no longer detected. If the presence of a person is detected again during the run-on time the run-on time is restarted from zero. If no presence is detected during the run-on time the fade time is started as soon as the run-on time expires.
- ③ Fade time(32s): the time during which the luminous intensity is faded from the presence value to the absence value.
- ④ Switch-off delay (Never Off): the time during which the absence value is held before the lighting is switched off. Depending on the profile selected the switch-off delay may have different values or may not be defined.
- ⑤ Absence value(default: 10 %): the luminous intensity when there is no person present.
- ⑥ Presence value (default: 100 %): the luminous intensity when persons are present.

### 9.7 Constant Light Output (CLO)

With this function the light output of the LED module can be kept equal over the lifetime.

The light output of an LED module reduces over the course of its lifetime.

The Constant Light Output (CLO) function compensates for this natural decline by constantly increasing the output current of the LED driver throughout its lifetime.

CLO shall be achieved by limitation of the LED current at the commissioning of the LED driver and providing a linear interpolation of the current over the time, depending on the data points given by the user.

The user has to insert up to eight pairs of data (time, level).

The output curve is the result of connecting the user data points linear.

Detailed description for CLO see product manual.

The minimal CLO starting point is limited by the smallest output current of the LED driver.

### 9.8 Dimming curve

DALI: The desired dimming behaviour is selected via two different dimming curves (logarithmic or linear).

The default setting of the dimming behaviour is logarithmic.

## 10. Wiring instructions

- All connections must be kept as short as possible to ensure good EMI behaviour
- Mains leads should be kept apart from LED Driver and other leads (ideally 5 – 10 cm distance)
- Advice the maximum length of output wires is 0.5 m
- Secondary switching is not permitted (Except for constant voltage)
- Incorrect wiring can damage LED modules.
- The wiring must be protected against short circuits to earth (sharp edged metals parts, metal cable clips, louver, etc.)
- Hot plug-in is not supported due to residual output voltage of > 0 V up to mains voltage. Danger to life.

- When connecting an LED load, restart the device to activate the LED output.
- This can be done via mains reset or via interface (DALI, DSI, switch DIM).

### **11. Replace LED module**

- Mains off
- Remove LED module
- Wait for 30 seconds
- Connect LED module again
- Hot plug-in or secondary switching of LEDs is not permitted and may cause a very high current to the LEDs

### **12. REVISION HISTORY**

<b>DATE</b>	<b>REV</b>	<b>Modification details</b>
2025-01-10	V1.0	Initial release.