35W DALI + PUSH Dimming power supply

Features

- Class I， Non-Isolated design，Built-in
- Input Voltage 220-240VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor 0.95
- Efficiency ： 92%
- Adjustable Output Current with NFC
- Support DALI-2,Push Dimming
- 5 years warranty

Applications

- Linear light

■**Approve**

CB CE CCC EL
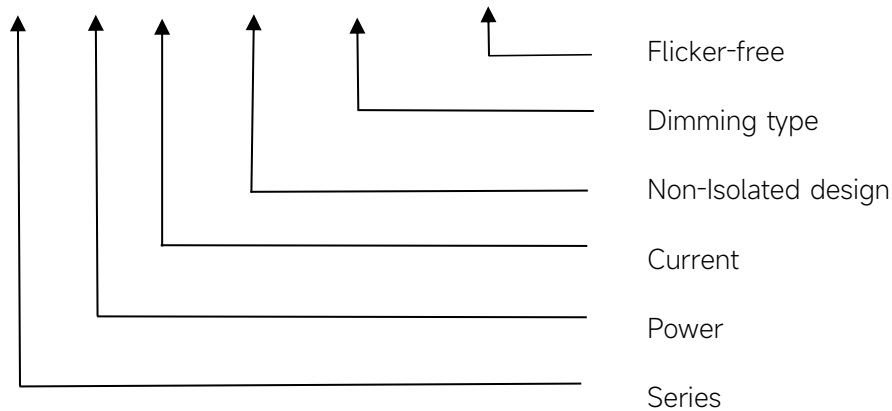DALI 2

◆ Description

FMS-35-350 N-S DALI-2 LN EXC is a 35W constant current LED driver that operates from 198-264Vac input with 80 to 350mA output current and a forward voltage range from 50 to 220Vdc. The output current is adjustable by NFC. With it's compact dimensions from 280 x 30 x 21 mm. It is easy to integrate in linear light products. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

◆ Model code

FMS-35-350 N-S DALI-2 LN EXC

- Flicker-free
- Dimming type
- Non-Isolated design
- Current
- Power
- Series

◆ Specification

Output	Constant Current	80-150mA	...	251-300mA	301-350mA
	Voltage Range	50-220	...	50-116	50-100
	Uout Max.	<250V RMS			
	Current Accuracy	±5%			
	Output LF current ripple(≤120Hz)	±3%			
	SVM	≤0.4@Full Load			
	P_{st}	≤1@Full Load			
	Efficiency(Typ.)	92%@120-200mA			
	EOFI	15%			
Input	Rated input voltage	220-240V			
	Range of input voltage	198-264VAC			
	Maximum voltage	300VAC@1 h maximum,unit might not operate in this abnormal condition			
	Rated input voltage(DC)	176-280VDC			
	Frequency(Hz)	0/50/60 Hz			
	Displacement factor	≥0.9			
	Power Factor	>0.95@Full Load,230V			
	Input Current	0.23A max.			
	Start-up time	＜0.8S			
	Switch over time(AC/DC mode)	＜0.4S			
	No Load Power	≤0.3W			
	Standby Power	≤0.3W			
	Network standby power	≤0.3W			
	THD (Typ.)	10%@Full Load,230V			
Dimming	Dimming	YES			
	Dimming mode	DALI-2（IEC 62386-101,102,207,251,252,253）& Push Dimming (Corridor Function)			
	Dimming depth	2.5mA@80-250mA，1%@250-350mA			
	Dimming current range	1 ~100%			
Protection	Over Load Protection	103-120%			
		YES/Latch off			
	Over Voltage Protection	<250V RMS			
		YES/Latch off			
	Short circuit Protection	YES/Latch off			
	Over Temperature Protection	YES/Auto Resume			
Capability	Surge capability (L-N)	1KV			
	Surge capability (L/N-Ground)	2KV			
Environment	Operating Temperature	-25℃~+60℃			
	Humidity	20%-90%RH			

|	Tc	85℃
	Storage Temperature	-25℃~+60℃
	Lifetime	>50000h,@Tc=75℃
	Noise	≤25dB(A)@20cm
Surface	Dimension	280 x 30 x 21(LXWXH)mm
	material	metal case
Standards	Safety	GB19510. 1, GB19510. 14;IEC61347- 1, IEC61347-2- 13;AS/NZS 61347- 1, AS/NZS 61347-2- 13;AS 61347.2.13;EN62384;
	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
DALI	EN 62386-101 (DALI-2) EN 62386-102 (DALI-2) EN 62386-207 (DALI-2,including part251,252,253)	
Note	1.All parameters NOT specially mentioned are measured at 230VAC input , full load and 25℃ of ambient temperature. 2.Ripple & Noise are measured at 20MHz of bandwidth. 3.The DC input for this product is only used for emergency lighting and applies to functional and safety requirements，EMC is not considered. 4.Switch and dimmer are not recommended to connect between this product output and luminaries. 5.DALI protocol comprises 16 groups and 64 addresses.Up to 32 drivers can perform the PUSH dimming at the same time when utilizing one push button. 6.EL compatible with IEC 61347-2-13 Annex J, compatible with EN 60598-2-22 emergency lighting fixtures, compatible with EN 50172 central battery system applications. 7.Prohibition of electrically charged operation. 8.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.	

◆ **Parameter**

Number	Output			
	Current (mA)	Voltage (VDC)	Uout Max (VDC)	Power (W)
*1	80-150mA	50-220VDC		33
2	151-200mA..	50-175VDC		35
3	201-250mA	50-140VDC	250	35
4	251-300mA	50-116VDC		35
5	301-350mA	50-100VDC		35

* Factory default

◆ Inrush Current

I peak	T width	B10	B16	B20	C10	C16	C20
23A	168μs	21pcs	34pcs	42pcs	34pcs	55pcs	69pcs
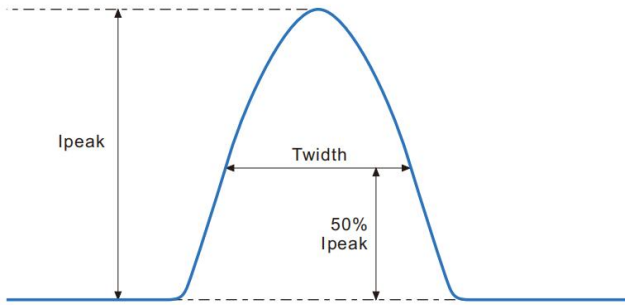
Remarks:

1.The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.

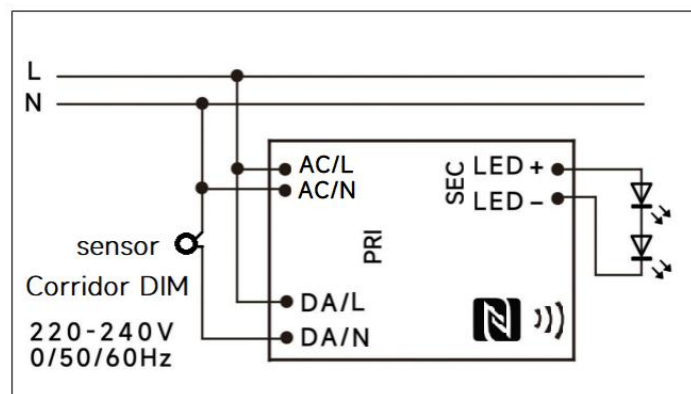2.Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.
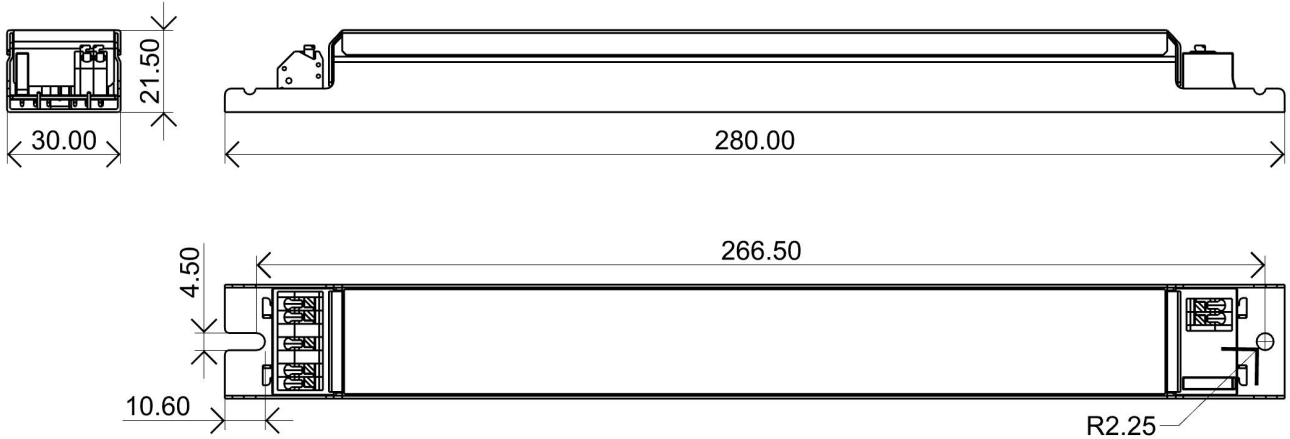
◆ Wiring diagram
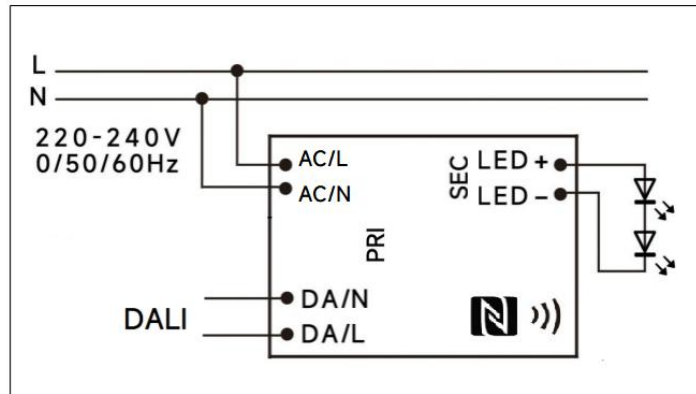
DALI dimming application
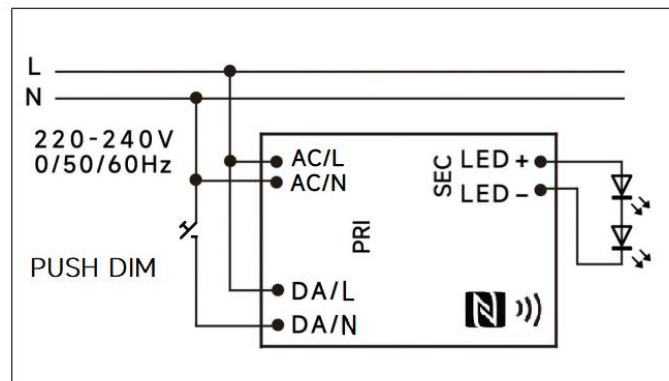
PushDIM dimming application

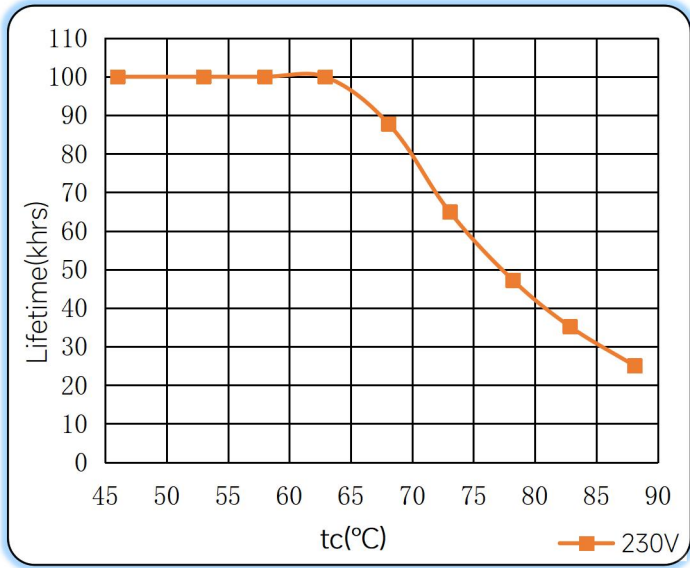Corridor DIM dimming application

◆ 2D diagram

◆ Wiring & Connections

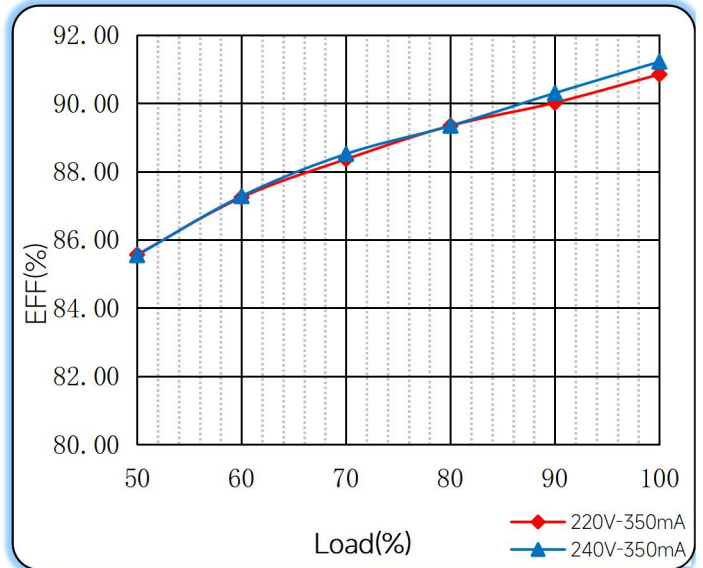|	Specification item	Value （Unit ）
Input	Input wire cross-section	0.5...1.5 mm² （With A side caps: 0.75...1.5 mm²)
	Input wire gauge.	16...20 AWG （With A side caps: 16...22 AWG ）
	Input wire strip length	7...9mm
Output	Output wire cross-section	0.5...1.5 mm²
	Output wire gauge.	16...20 AWG
	Output wire strip length	7...9mm

Note:Solid wire is risky to use on an angled terminal.Stranded wire is recommended for this kind of use.
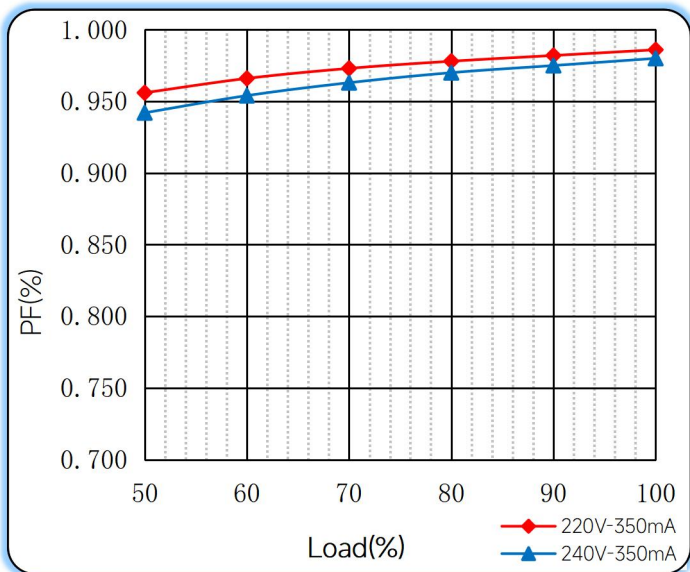
◆ Curve for FMS-35-350 N-S DALI-2 LN EXC，Io=350mA
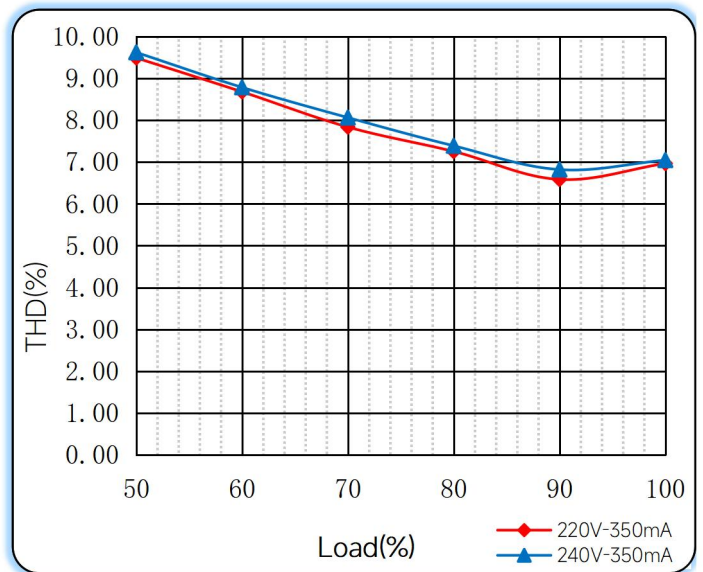
Lifetime vs. Temperature Curve

Efficiency vs. Load


Power Factor Characteristics

THD vs. Load

Stock code：002922

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◆ Push dimming operation

| Action	Action duration	Function
Short push	<0.5s	Turn on/off
Short push twice	<0.5s	LED on：Save current brightness level LED off： Delete saved level and turn on at 100% brightness
Short push five times	<3s	Quit Corridor mode
Long push	0.5-14s	Dimming up or down
Long push	15s-2mins	Sync all LEDs to be 100% brightness
Long push	>2mins	Enter Corridor mode - LED keep 100% brightness for 2mins. Then brightness will turn to be 10% within 32s if no action during 2mins 100% brightness.

Note:

1.The factory default brightness is at 100%.

2.Up to 30 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.

◆ Corridor mode
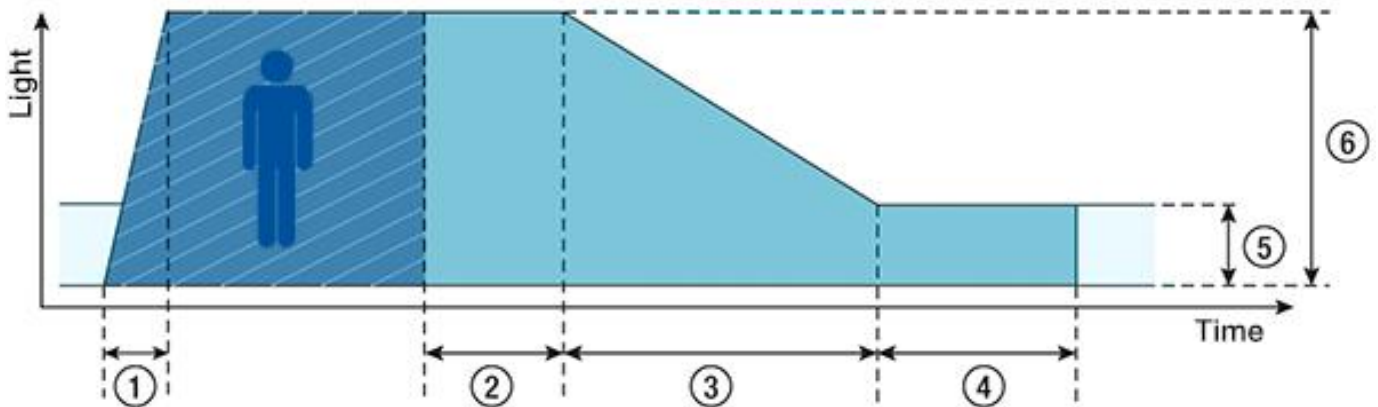
- ◆ **①Fade-in time(0.5s):** the time that starts as soon as the presence of a person is detected. During the fade-in time the luminous intensity is faded up to the presence value.

- ◆ **②Run-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.

- ◆ **③Fade time(32s):** the time during which the luminous intensity is faded from the presence value to the absence value.

- ◆ **④Switch-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.

- ◆ **⑤Absence value(default: 10 %):** the luminous intensity when there is no person present.

- ◆ **⑥Presence value (default: 100 %):** the luminous intensity when persons are present.

◆ Operating window

Operating window 100%
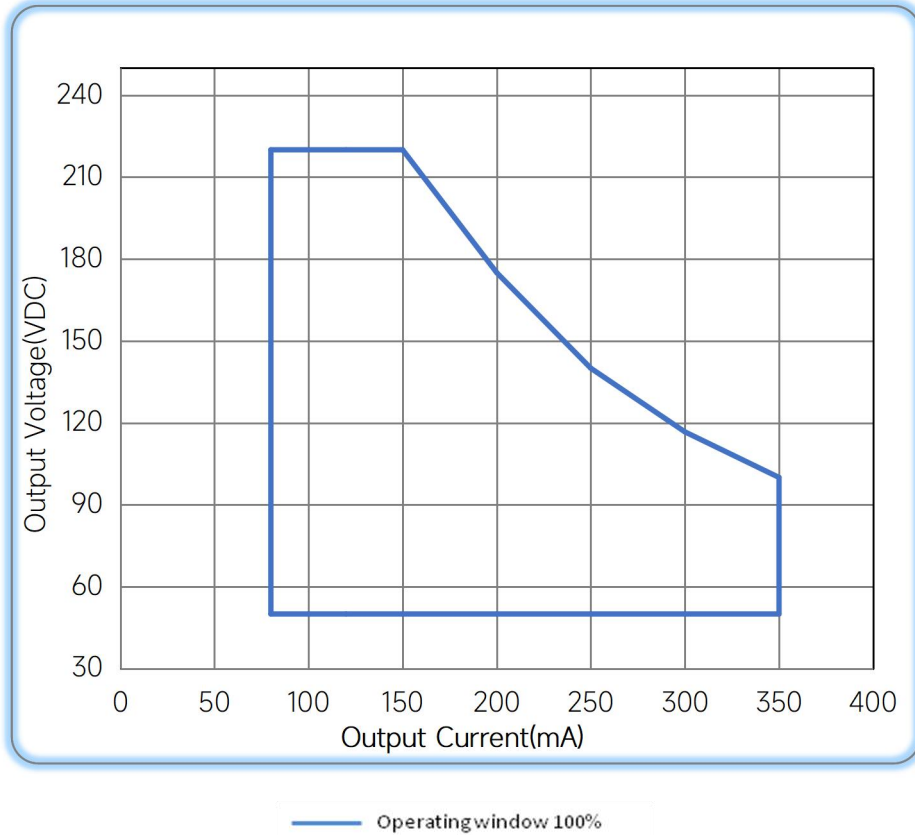
◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2024/08/15
Efficiency(Typ.)	92%@Full Load,230V	92%@120-200mA	B	2024/12/27

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

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EAGLERISE   Manual