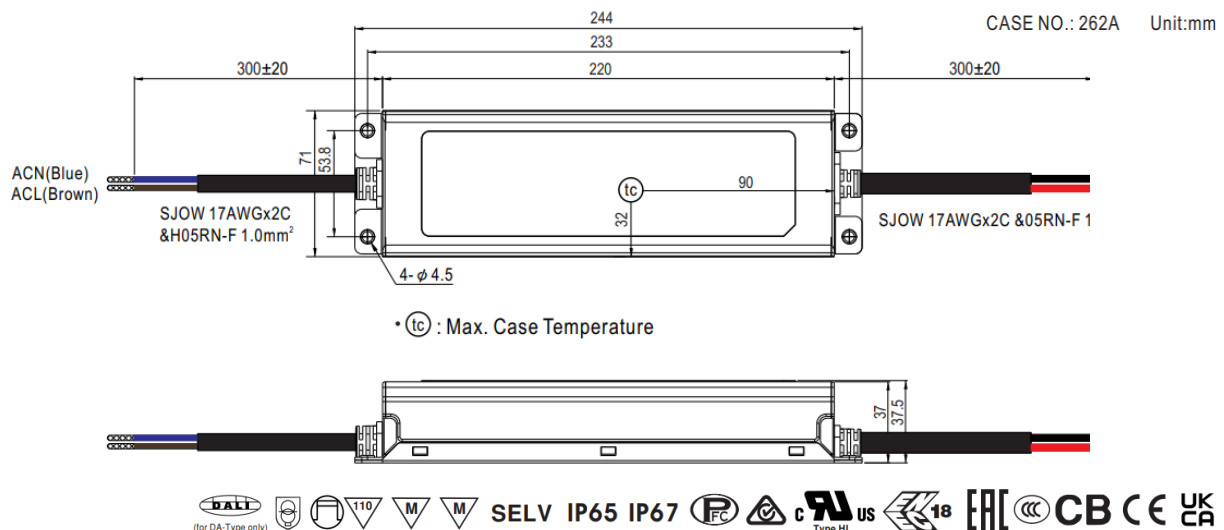


8 380 67 24 242 - IP67 LED power supply

Product Features

- Constant voltage + constant current mode output
- Metal housing design with functional ground
- Build-in active PFC function
- No load/ Standby power consumption <0,5W
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming(dim-to-off); smart timer dimming; DALI
- typical lifetime >50 000 hours
- 5 years warranty

1. Dimension



2. Description

- ELG-240 series is a 240W AC/DC LED driver featuring the dual mode constant voltage and constant current output. ELG-240 operates from 100 ~ 305VAC and offers models with different rated voltage ranging between 24V and 54V. Thanks to the high efficiency up to 93%, with the fanless design, the entire series is able to operate for -40°C~+90°C case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. ELG-240 is equipped with various function options, such as dimming methodologies, so to provide the optimal design flexibility for LED lighting system.

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3. Specifications:

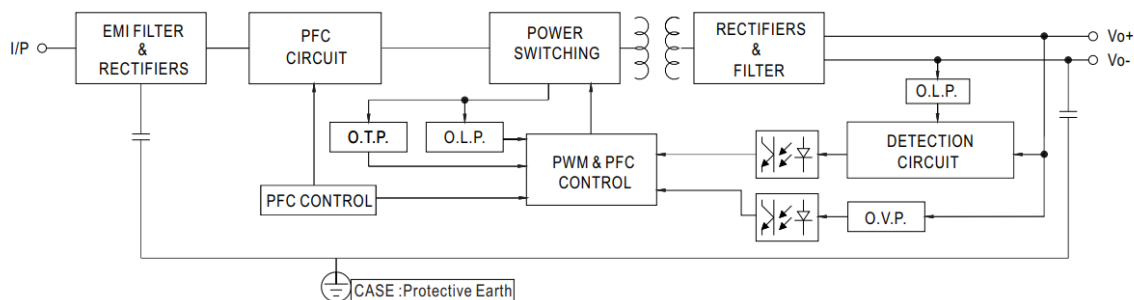
	Parameter	Value
Output	DC voltage	24,0VDC
	constant current region Note.1	12V~24V
	Rated current	10A
	Rated power	200~305VAC => 240W 100~180VAC => 180W
	Efficiency (typ.)	92%
	Ripple & noise (max.) Note.2	200mVp-p
	Voltage ADJ. Range	22,4~25,6V
	Current ADJ Range	5~10A
	Voltage Tolerance Note.3	±2,0%
	Line regulation	±0,5%
	Load regulation	±0,5%
	Setup, rise time Note.4	500ms, 100ms / 230VAC 1000ms, 100ms /115VAC
	Hold up time (typ.)	10ms/230VAC 10ms/115VAC
Input	Voltage range Note.5	100~305VAC 142~431VDC
	Frequency range	47~63Hz
	AC current	2,2A/115VAC 1,5A/230VAC 1,2A/277VAC
	Power Factor (typ.)	PF≥0.97/115VAC, PF≥0.95/230VAC, PF≥0.92/277VAC@full load
	Total Harmonic Distortion	THD< 20% (@ load≥50% / 115VAC,230VAC; @ load≥75% / 277VAC)
	Max. No. of PSUs on 16A circuit breaker	4 units (circuit breaker of type B) / 6 units (circuit breaker of type C) at 230VAC
	Inrush current (max.)	Cold start 60A(twidth=510µs measured at 50% Ipeak) at 230VAC; Per NEMA 410
	Leakage current	<0,75mA / 277VAC
Protection	Over current	95 ~ 108% Constant current limiting, recovers autom. after condition is removed
	Over Voltage	27~34V Shut down output voltage, re-power on to recover
	Short circuit	Hiccup mode, recovers automatically after fault condition is removed
	Over Temperature	Shut down output voltage, re-power on to recover
Environment	Working temp.	Tcase= -40 ~ +90°C
	Working humidity	20 ~ 95% RH non-condensing
	Storage temp., humidity	-40 ~ +90°C , 10 ~ 95% RH
	temp. coefficient	±0.03% / °C (0 ~ 60°C)
	vibration	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Zaxes
Safety & EMC	safety standards	UL8750(type"HL"),CSA C22.2 No. 250.13-12:IEC/BS EN/EN/AS/NZS 61347-1,IEC/BS EN/EN/AS/NZS 61347-2-13 independent, BS EN/EN62384; EAC TP TC 004; BIS IS15885; GB19510.14,GB19510.1;IP65 or IP67; KC61347-1,KC61347-2-13 approved
	DALI standards	Compliance to IEC62386-101,102,(207 by request) for DA type only
	withstand voltage	I/P-O/P:3,75KVAC I/P-FG:2KVAC O/P-FG:1,5KVAC
	isolation resistance	I/P-O/P,I/P-FG,O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH
	EMC emission	Compliance to BS EN/EN55015,BS EN/EN61000-3-2 Class C (@load≥50%) ; BS EN/EN61000-3-3; GB17625.1,GB17743;EAC TP TC 020; KC KN15,KN61547
	EMS immunity	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11; BS EN/EN61547, light industry level (surge immunity Line-Earth 6KV, Line-Line 4KV);EAC TP TC 02; KC KN15,KN61547
Note	1. Please refer to "DRIVING METHODS OF LED MODULE" 2. Ripple and noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0,1uf & 47uf parallel capacitor. 3. Tolerance: includes set up tolerance, line regulation and load regulation. 4. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time. 5. De-rating may be needed under low input voltages. Please refer to "STATIC CHARACTERISTIC" sections for details. 6. The model certified for CCC(GB19510.14, GB17743 and GB17625.1) is an optional model.	

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4. Block diagram:

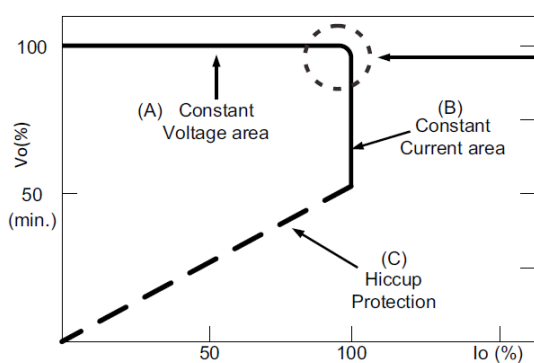
PFC fosc : 50~120KHz
PWM fosc : 60~130KHz



5. More information:

Driving methods of LED module

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.



In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

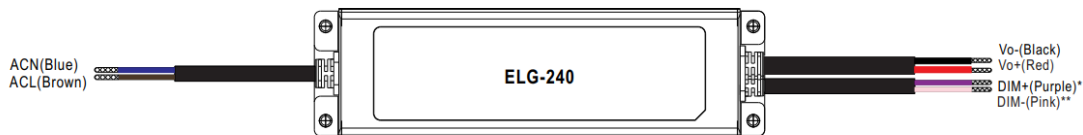
Should there be any compatibility issues, please contact MEAN WELL.

Typical output current normalized by rated current (%)

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Dimming operation

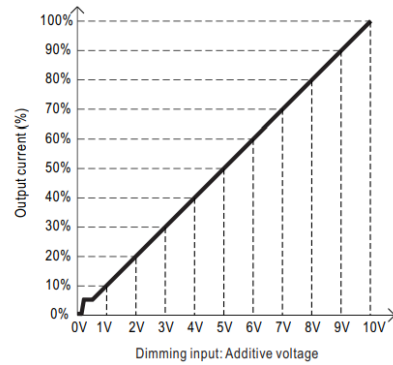
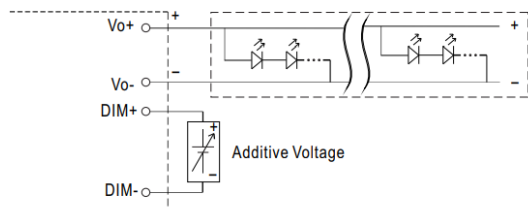


※ 3 in 1 dimming function (for B/AB-Type)

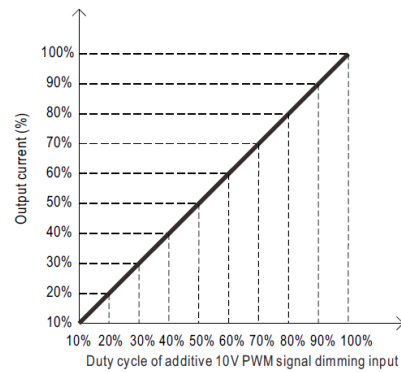
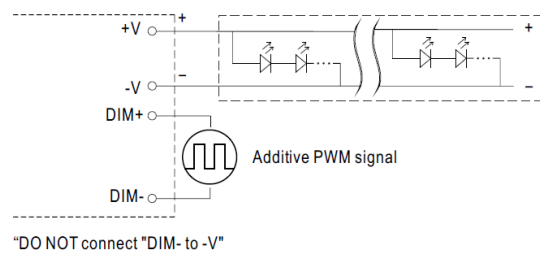
- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-:
0 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100 μ A (typ.)

* DIM+ for B/AB-Type
DA+ for DA-Type
PROG+ for D2-Type
* DIM- for B/AB-Type
DA- for DA-Type
PROG- for D2-Type

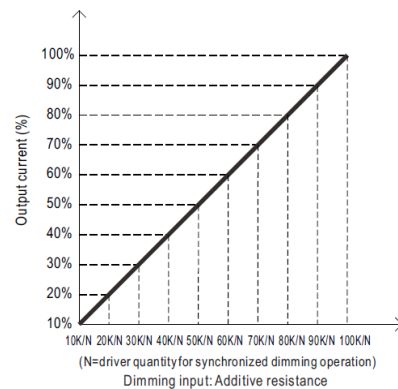
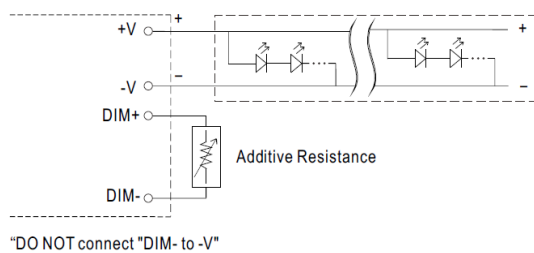
◎ Applying additive 0 ~ 10VDC



◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



◎ Applying additive resistance:



Note : 1. Min. dimming level is about 8% and the output current is not defined when 0% < I_{out} < 8%.
2. The output current could drop down to 0% when dimming input is about 0k Ω or 0Vdc, or 10V PWM signal with 0% duty cycle.

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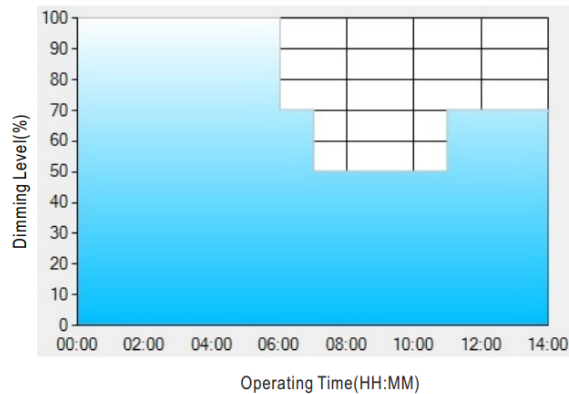
※ **DALI Interface (primary side; for DA-Type)**

- Apply DALI signal between DA+ and DA-.
- DALI protocol comprises 16 groups and 64 addresses.
- First step is fixed at 8% of output.

※ **Smart timer dimming function (for Dxx-Type by User definition)**

MEAN WELL Smart timer dimming primarily provides the adaptive proportion dimming profile for the output constant current level to perform up to 14 consecutive hours. 3 dimming profiles hereunder are defined accounting for the most frequently seen applications. If other options may be needed, please contact MEAN WELL for details.

Ex : ☉ D01-Type: the profile recommended for residential lighting



Set up for D01-Type in Smart timer dimming software program:

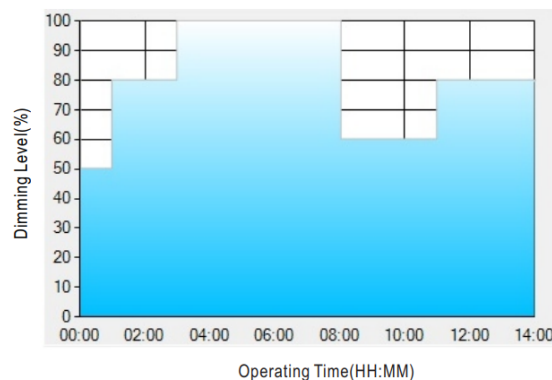
	T1	T2	T3	T4
TIME**	06:00	07:00	11:00	---
LEVEL**	100%	70%	50%	70%

** : TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a residential lighting application adopts D01-Type, when turning on the power supply at 6:00pm, for instance:

- [1] The power supply will switch to the constant current level at 100% starting from 6:00pm.
 - [2] The power supply will switch to the constant current level at 70% in turn, starting from 0:00am, which is 06:00 after the power supply turns on.
 - [3] The power supply will switch to the constant current level at 50% in turn, starting from 1:00am, which is 07:00 after the power supply turns on.
 - [4] The power supply will switch to the constant current level at 70% in turn, starting from 5:00am, which is 11:00 after the power supply turns on.
- The constant current level remains till 8:00am, which is 14:00 after the power supply turns on.

Ex : ☉ D02-Type: the profile recommended for street lighting



Set up for D02-Type in Smart timer dimming software program:

	T1	T2	T3	T4	T5
TIME**	01:00	03:00	8:00	11:00	---
LEVEL**	50%	80%	100%	60%	80%

** : TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

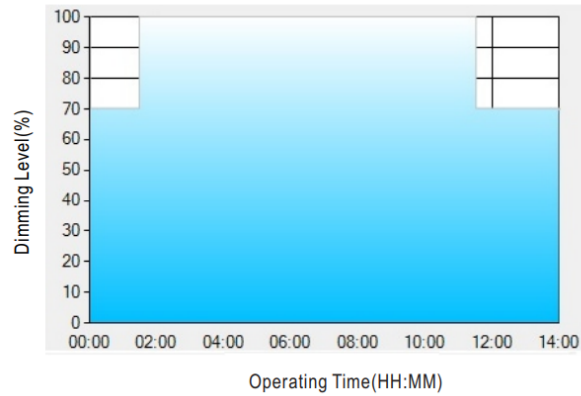
Example: If a street lighting application adopts D02-Type, when turning on the power supply at 5:00pm, for instance:

- [1] The power supply will switch to the constant current level at 50% starting from 5:00pm.
- [2] The power supply will switch to the constant current level at 80% in turn, starting from 6:00pm, which is 01:00 after the power supply turns on.
- [3] The power supply will switch to the constant current level at 100% in turn, starting from 8:00pm, which is 03:00 after the power supply turns on.
- [4] The power supply will switch to the constant current level at 60% in turn, starting from 1:00am, which is 08:00 after the power supply turns on.
- [5] The power supply will switch to the constant current level at 80% in turn, starting from 4:00am, which is 11:00 after the power supply turns on. The constant current level remains till 6:30am, which is 14:00 after the power supply turns on.

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Ex: ☉ D03-Type: the profile recommended for tunnel lighting



Set up for D03-Type in Smart timer dimming software program:

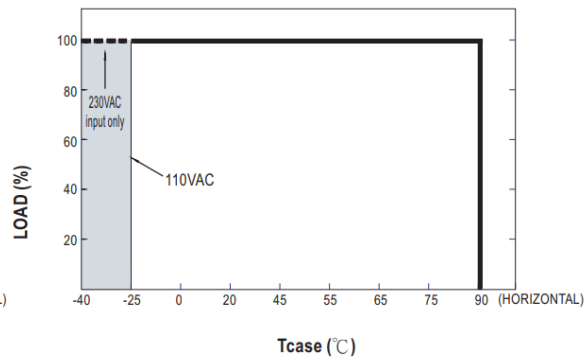
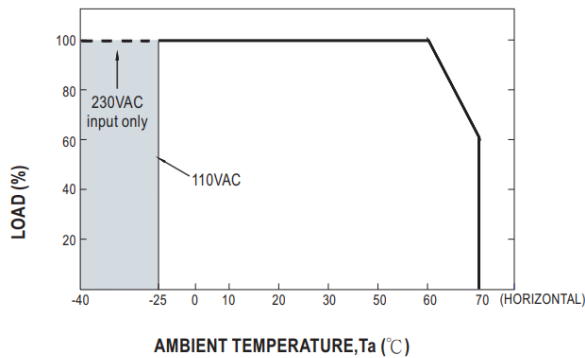
	T1	T2	T3
TIME**	01:30	11:00	---
LEVEL**	70%	100%	70%

** : TIME matches Operating Time in the diagram whereas LEVEL matches Dimming Level.

Example: If a tunnel lighting application adopts D03-Type, when turning on the power supply at 4:30pm, for instance:

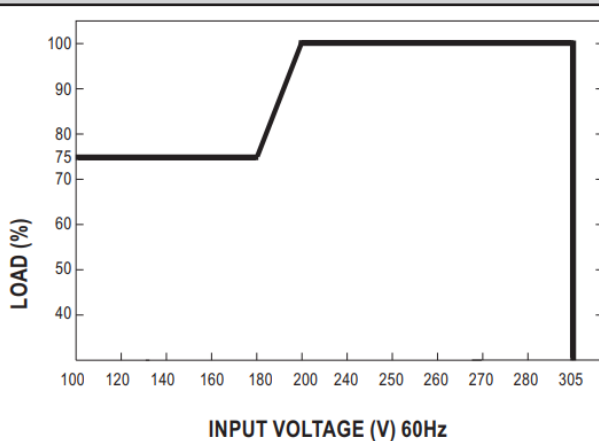
- [1] The power supply will switch to the constant current level at 70% starting from 4:30pm.
 - [2] The power supply will switch to the constant current level at 100% in turn, starting from 6:00pm, which is 01:30 after the power supply turns on.
 - [3] The power supply will switch to the constant current level at 70% in turn, starting from 5:00am, which is 11:00 after the power supply turns on.
- The constant current level remains till 6:30am, which is 14:00 after the power supply turns on.

Output Load vs Temperature



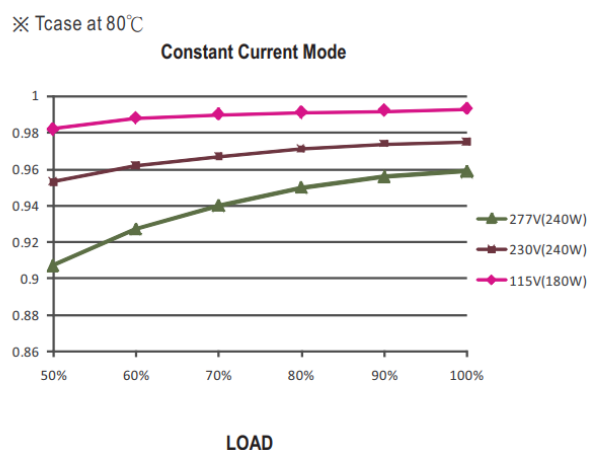
☉ If ELG-240 operates in Constant Current mode with the rated current, the maximum workable Ta is 60°C.

Static characteristics



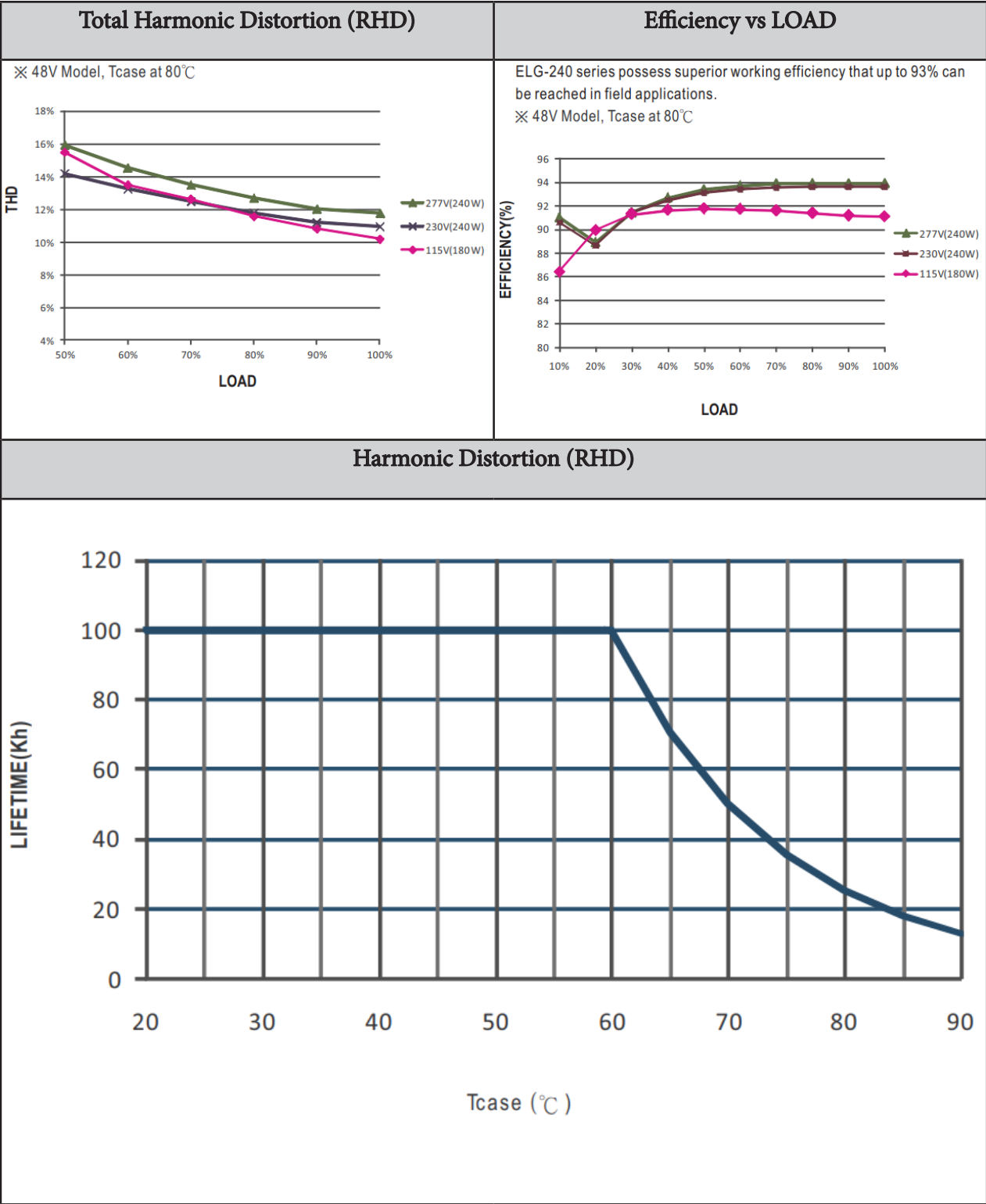
※ De-rating is needed under low input voltage.

Power factor(PF) characteristics



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