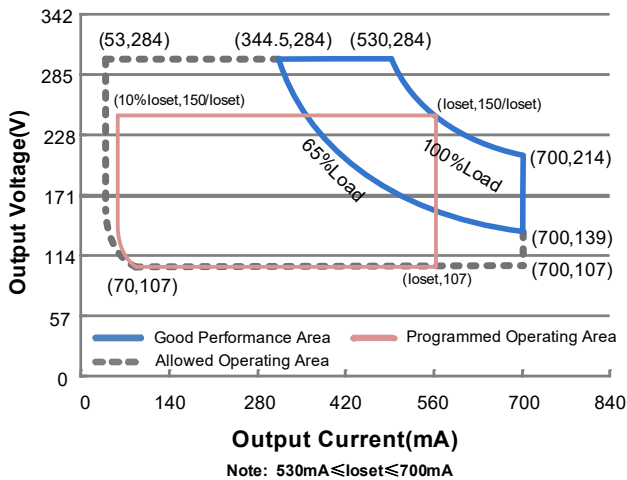


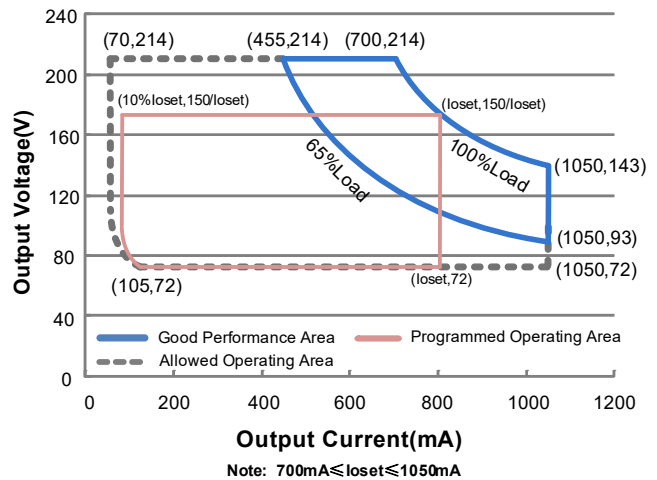


## I-V Operation Area

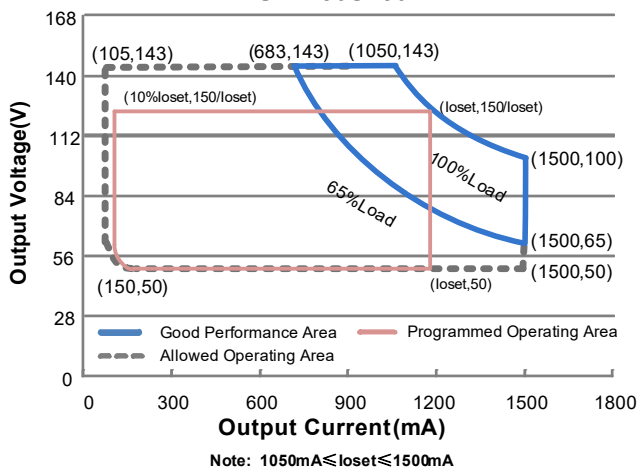
**EUM-150S070Dx**



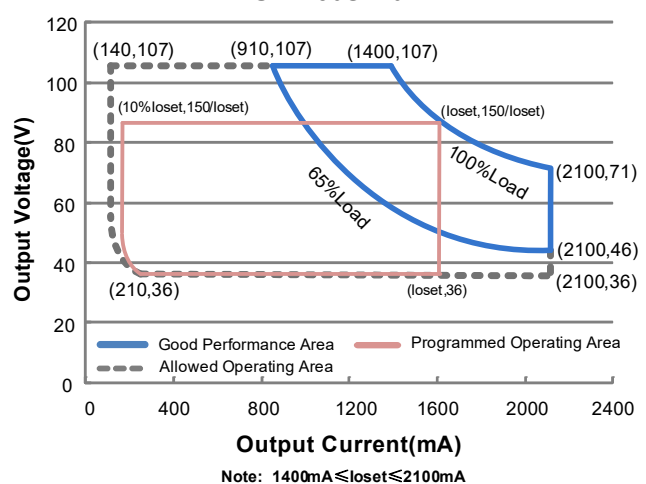
**EUM-150S105Dx**



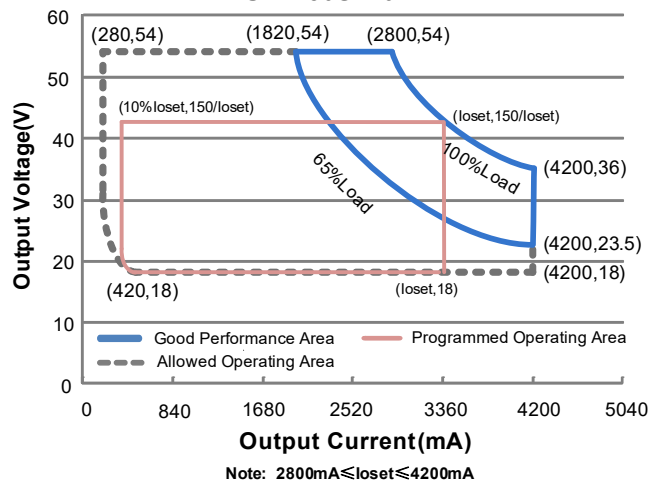
**EUM-150S150Dx**



**EUM-150S210Dx**



**EUM-150S420Dx**





## Output Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Load Regulation	-	-	± 1.5%	
Turn-on Delay Time	-	-	0.5 s	Measured at 120-277Vac input, 65%-100% Load
Temperature Coefficient of I <sub>o</sub> set	-	0.03%/°C	-	Case temperature = 0°C ~T <sub>c</sub> max

## General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 120 Vac input: EUM-150S070Dx				Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.)
I <sub>o</sub> = 530 mA	89.0%	91.0%	-	
I <sub>o</sub> = 700 mA	90.0%	92.0%	-	
EUM-150S105Dx				
I <sub>o</sub> = 700 mA	88.5%	90.5%	-	
I <sub>o</sub> =1050 mA	89.0%	91.0%	-	
EUM-150S150Dx				
I <sub>o</sub> =1050 mA	89.0%	91.0%	-	
I <sub>o</sub> =1500 mA	89.5%	91.5%	-	
EUM-150S210Dx				
I <sub>o</sub> =1400 mA	87.5%	89.5%	-	
I <sub>o</sub> =2100 mA	88.0%	90.0%	-	
EUM-150S420Dx				
I <sub>o</sub> =2800 mA	87.0%	89.0%	-	
I <sub>o</sub> =4200 mA	86.5%	88.5%	-	
Efficiency at 220 Vac input: EUM-150S070Dx				Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.)
I <sub>o</sub> = 530 mA	91.0%	93.0%	-	
I <sub>o</sub> = 700 mA	91.5%	93.5%	-	
EUM-150S105Dx				
I <sub>o</sub> = 700 mA	90.5%	92.5%	-	
I <sub>o</sub> =1050 mA	91.0%	93.0%	-	
EUM-150S150Dx				
I <sub>o</sub> =1050 mA	91.0%	93.0%	-	
I <sub>o</sub> =1500 mA	91.5%	93.5%	-	
EUM-150S210Dx				
I <sub>o</sub> =1400 mA	89.5%	91.5%	-	
I <sub>o</sub> =2100 mA	90.0%	92.0%	-	
EUM-150S420Dx				
I <sub>o</sub> =2800 mA	89.5%	91.5%	-	
I <sub>o</sub> =4200 mA	89.0%	91.0%	-	

## General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 277 Vac input: EUM-150S070Dx I <sub>o</sub> = 530 mA I <sub>o</sub> = 700 mA EUM-150S105Dx I <sub>o</sub> = 700 mA I <sub>o</sub> =1050 mA EUM-150S150Dx I <sub>o</sub> =1050 mA I <sub>o</sub> =1500 mA EUM-150S210Dx I <sub>o</sub> =1400 mA I <sub>o</sub> =2100 mA EUM-150S420Dx I <sub>o</sub> =2800 mA I <sub>o</sub> =4200 mA	91.5% 92.0% 91.0% 91.5% 91.5% 91.5% 90.0% 90.0% 89.5% 89.0%	93.5% 94.0% 93.0% 93.5% 93.5% 93.5% 92.0% 92.0% 91.5% 91.0%	- - - - - - - - - -	Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.)
MTBF	-	333,000 Hours	-	Measured at 220Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Lifetime	-	106,000 Hours	-	Measured at 220Vac input, 80%Load and 70°C case temperature; See lifetime vs. Tc curve for the details
Operating Case Temperature for Safety T <sub>c_s</sub>	-40°C	-	+90°C	
Operating Case Temperature for Warranty T <sub>c_w</sub>	-40°C	-	+80°C	Case temperature for 5 years warranty Humidity: 10% RH to 95% RH;
Storage Temperature	-40°C	-	+85°C	Humidity: 5%RH to 95%RH
Dimensions Inches (L × W × H) Millimeters (L × W × H)		6.34 × 2.36 × 1.44 161 × 60 × 36.5		With mounting ear 7.01 × 2.36 × 1.44 178 × 60 × 36.5
Net Weight	-	735 g	-	

## Dimming Specifications

Parameter	Min.	Typ.	Max.	Notes	
Absolute Maximum Voltage on the V <sub>dim</sub> (+) Pin	-20 V	-	20 V		
Source Current on V <sub>dim</sub> (+)Pin	200 μA	300 μA	450 μA	V <sub>dim</sub> (+) = 0 V	
Dimming Output Range	EUM-150S070Dx EUM-150S105Dx EUM-150S150Dx EUM-150S210Dx EUM-150S420Dx	10%I <sub>o</sub> set	-	I <sub>o</sub> set	530 mA ≤ I <sub>o</sub> set ≤ 700 mA 700 mA ≤ I <sub>o</sub> set ≤ 1050 mA 1050 mA ≤ I <sub>o</sub> set ≤ 1500 mA 1400 mA ≤ I <sub>o</sub> set ≤ 2100 mA 2800 mA ≤ I <sub>o</sub> set ≤ 4200 mA
	EUM-150S070Dx EUM-150S105Dx EUM-150S150Dx EUM-150S210Dx EUM-150S420Dx	53 mA 70 mA 105 mA 140 mA 280 mA	-	I <sub>o</sub> set	53 mA ≤ I <sub>o</sub> set ≤ 530mA 70 mA ≤ I <sub>o</sub> set < 700 mA 105 mA ≤ I <sub>o</sub> set < 1050 mA 140 mA ≤ I <sub>o</sub> set < 1400 mA 280 mA ≤ I <sub>o</sub> set < 2800 mA
Recommended Dimming Range for 1-5V	0.25 V	-	4.75 V	Dimming mode set to 1-5V in PC interface.	
Recommended Dimming Range for 1-10V	1 V	-	9 V	Default 1-10V dimming mode with positive logic.	

## Dimming Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
PWM_in High Level	-	10V	-	
PWM_in Low Level	-	0V	-	
PWM_in Frequency Range	200 Hz	-	2 KHz	
PWM_in Duty Cycle	0%	-	100%	

## Safety & EMC Compliance

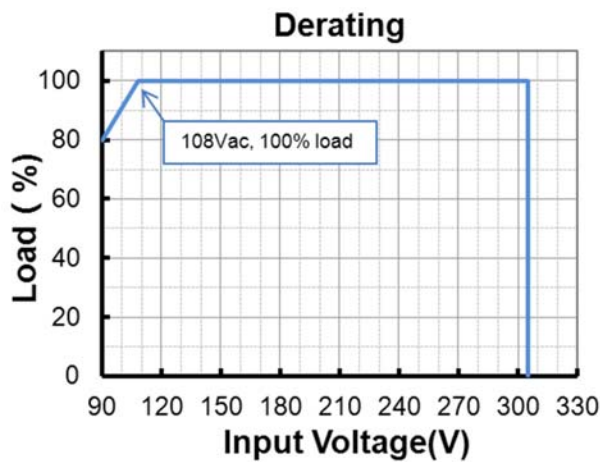
Safety Category	Standard
UL/CUL	UL8750,CAN/CSA-C22.2 No. 250.13
ENEC & CE	EN 61347-1, EN 61347-2-13
CB	IEC 61347-1, IEC 61347-2-13
CCC	GB 19510.1, GB 19510.14
PSE	J 61347-1, J 61347-2-13
KS	KS C 7655
BIS	IS 15885(Part2/Sec13)
EAC	ГОСТ Р МЭК 61347-1, ГОСТ IEC 61347-2-13
NOM	NOM-058-SCFI
EMI Standards	Notes
EN 55015/GB 17743/KN 15 <sup>(1)</sup>	Conducted emission Test & Radiated emission Test
EN 61000-3-2/GB 17625.1	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
FCC Part 15 <sup>(1)</sup>	ANSI C63.4 Class B This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: [1] this device may not cause harmful interference, and [2] this device must accept any interference received, including interference that may cause undesired Operation.
EMS Standards	Notes
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient / Burst-EFT
EN 61000-4-5	Surge Immunity Test: AC Power Line: Differential Mode 6 kV, Common Mode 10 kV
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN 61000-4-8	Power Frequency Magnetic Field Test

## Safety & EMC Compliance (Continued)

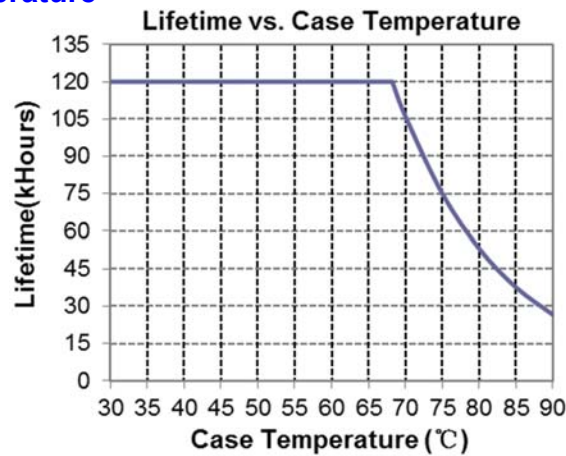
EMS Standards	Notes
EN 61000-4-11	Voltage Dips
EN 61547	Electromagnetic Immunity Requirements Applies To Lighting Equipment

**Note:** (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

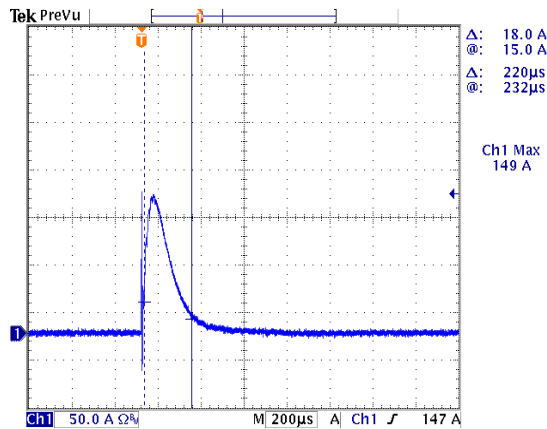
## Derating



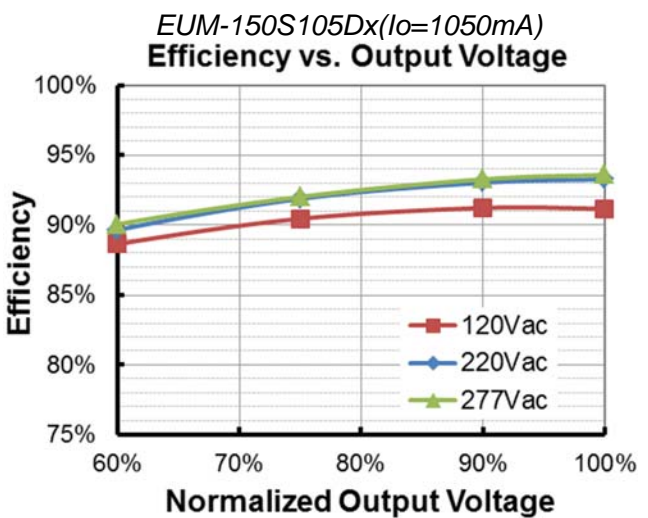
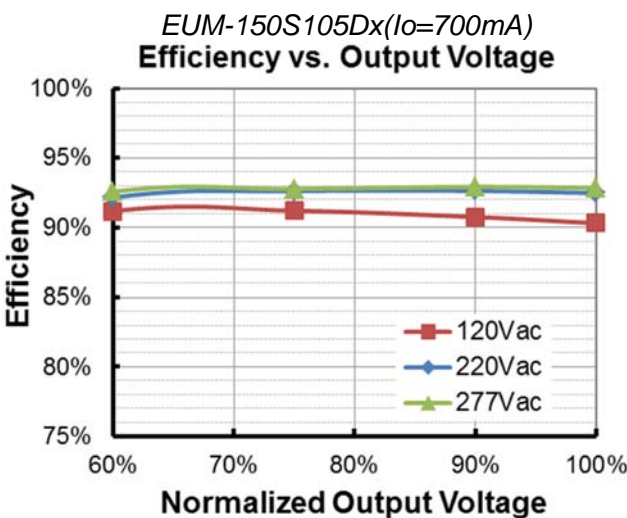
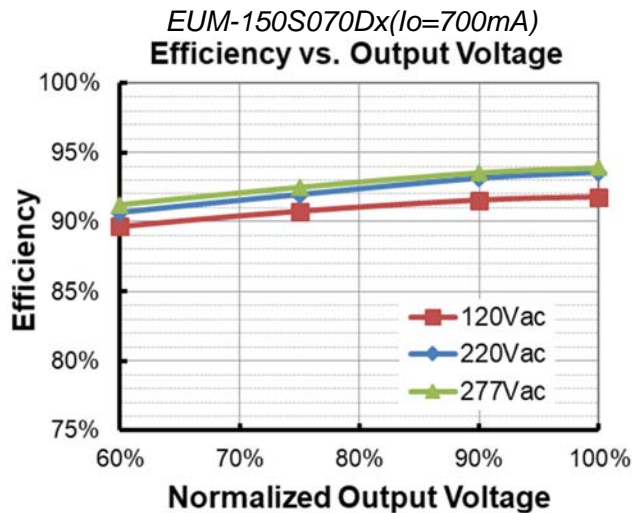
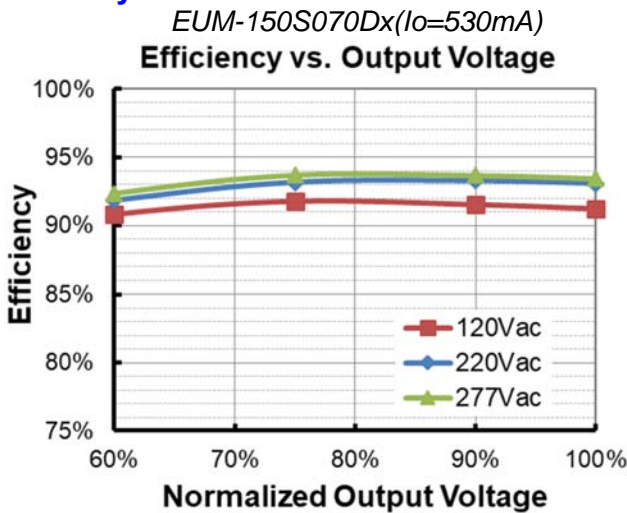
## Lifetime vs. Case Temperature



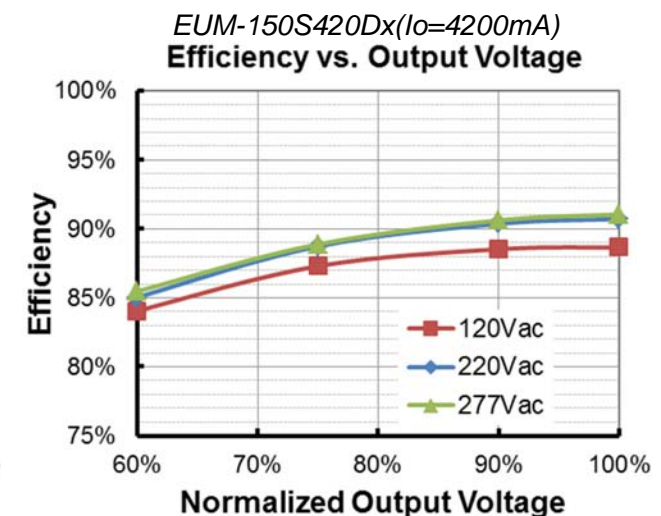
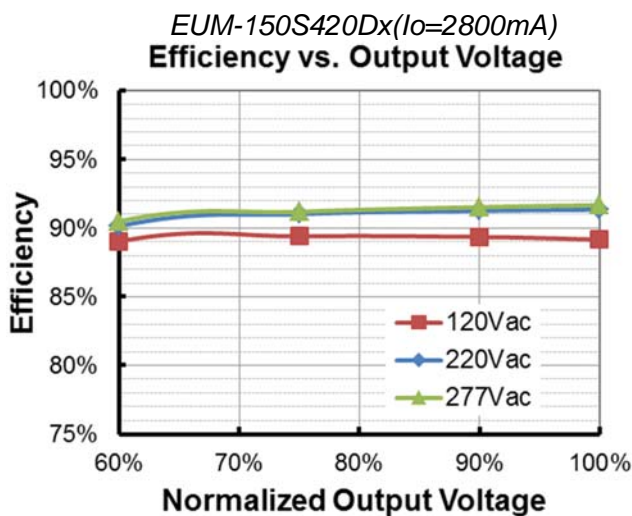
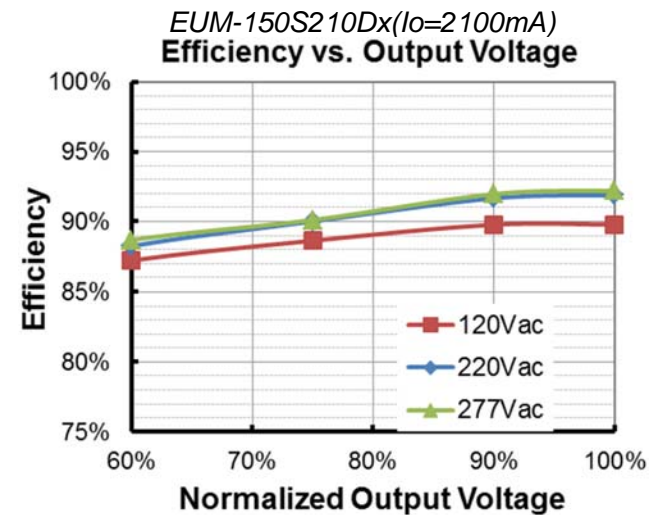
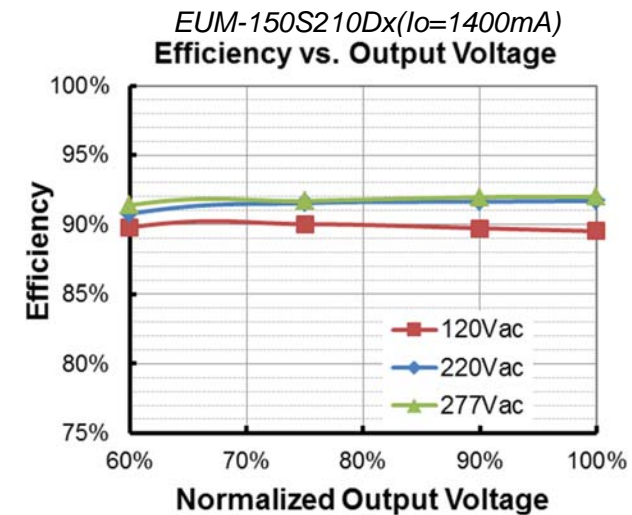
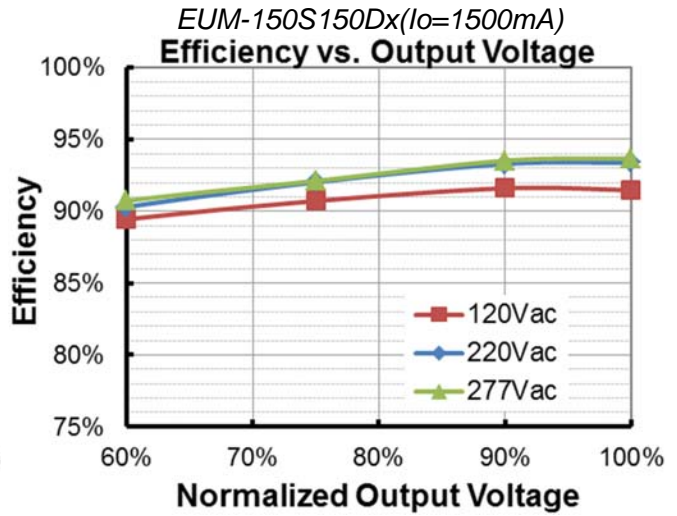
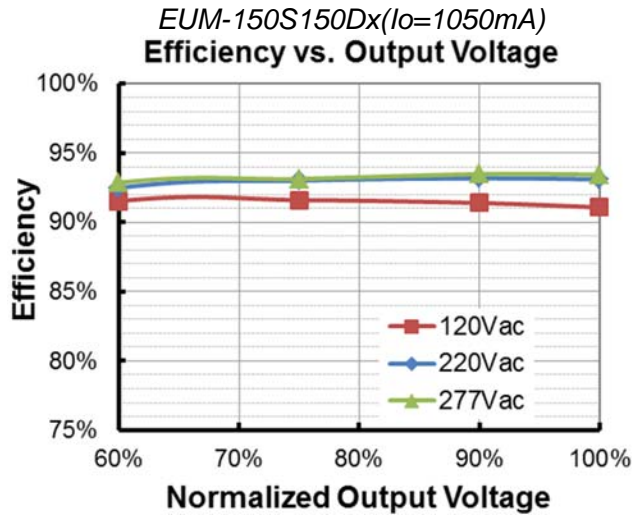
## Inrush Current Waveform



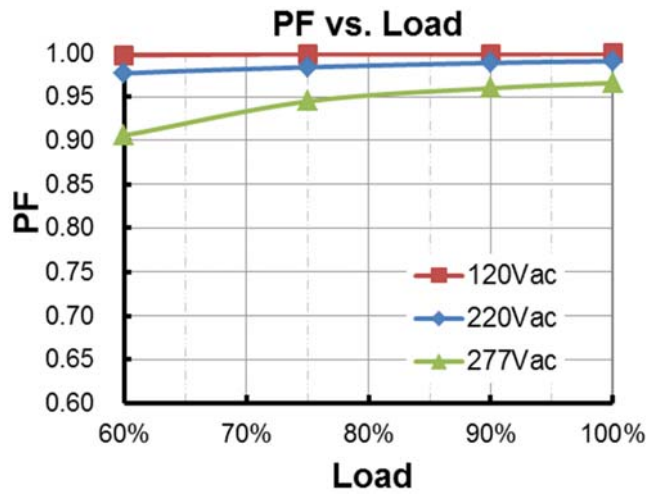
## Efficiency vs. Load



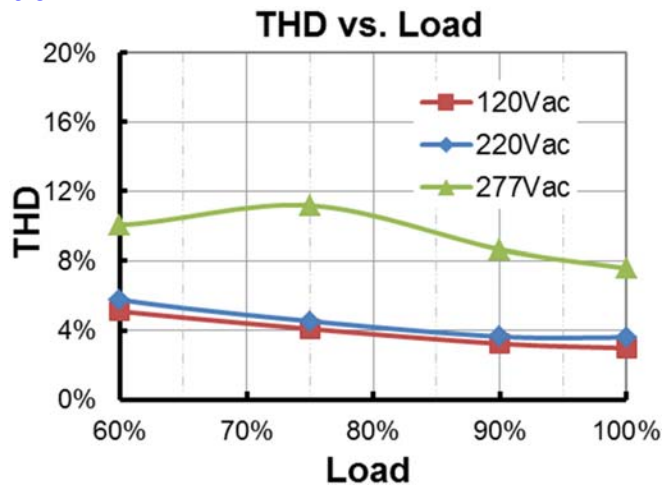




## Power Factor



## Total Harmonic Distortion



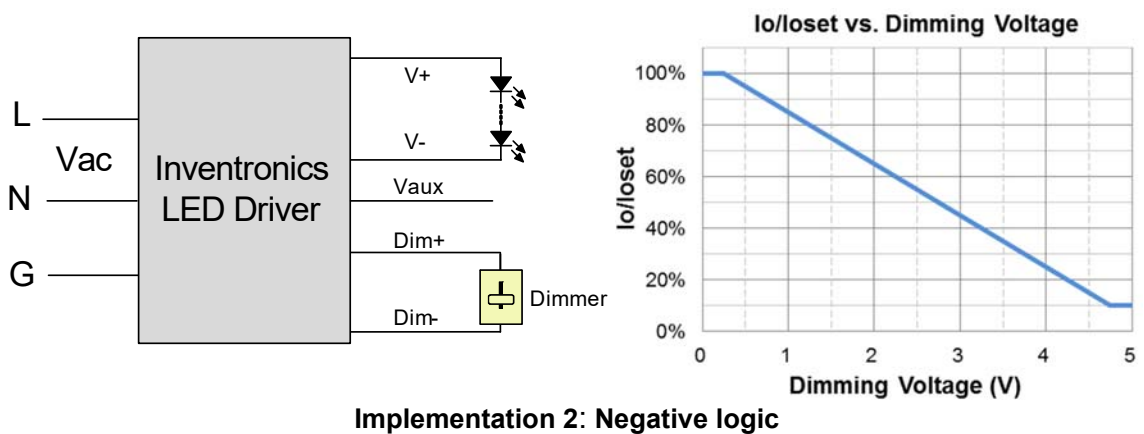
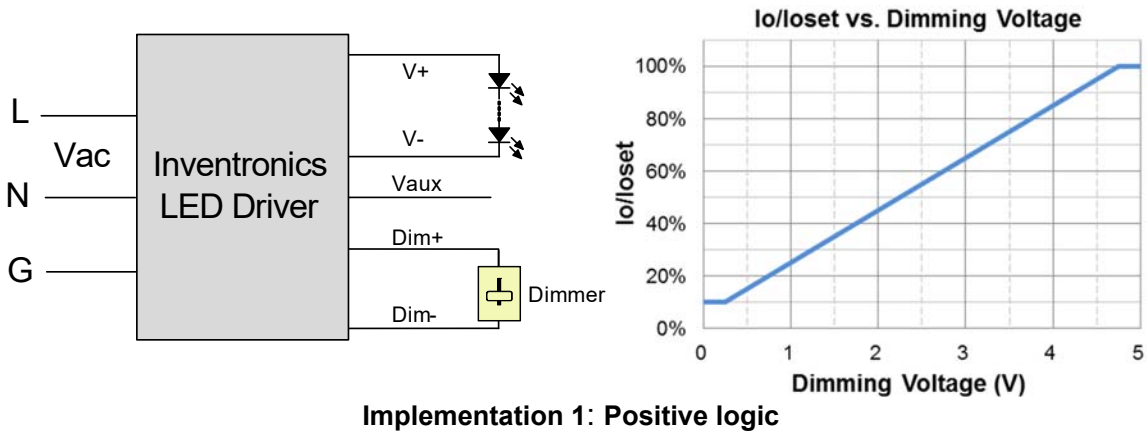
## Protection Functions

Parameter	Notes
Over Temperature Protection	Decreases output current, returning to normal after over temperature is removed.
Short Circuit Protection	Auto Recovery. No damage will occur when any output is short circuited. The output shall return to normal when the fault condition is removed.
Over Voltage Protection	Limits output voltage at no load and in case the normal voltage limit fails.

## Dimming

### ● 1-5V Dimming

The recommended implementation of the dimming control is provided below.

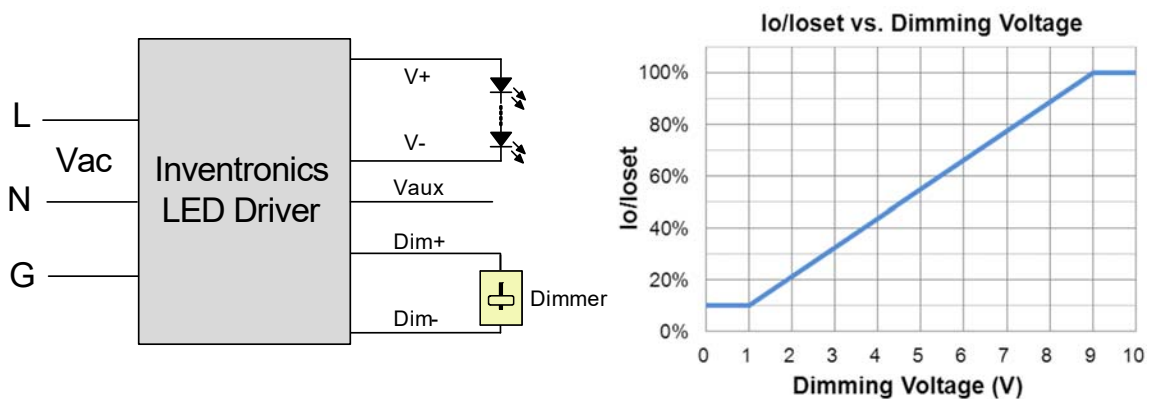


#### Notes:

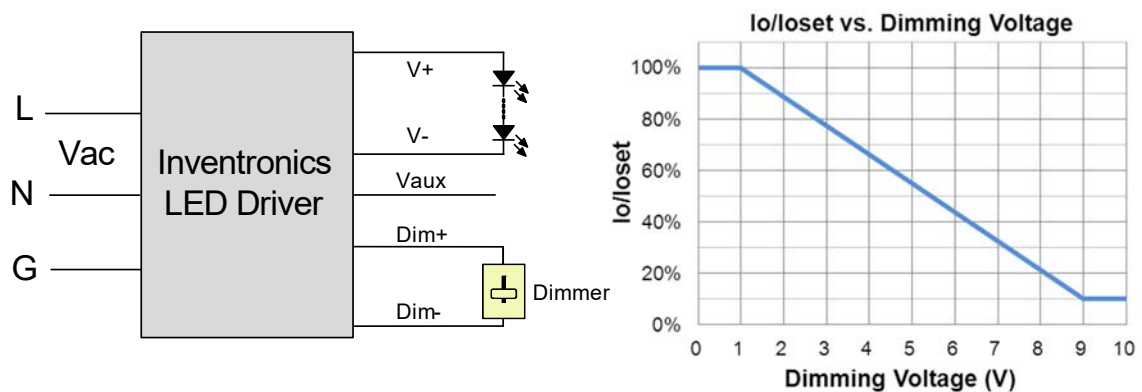
1. Do NOT connect Dim- to the output V- or V+, otherwise the driver will not work properly.
2. The dimmer can also be replaced by an active 1-5V voltage source signal or passive components like zener.
3. When 1-5V negative logic dimming mode and Dim+ is open, the driver will output maximum current.

### ● 1-10V Dimming

The recommended implementation of the dimming control is provided below.



**Implementation 3: Positive logic**



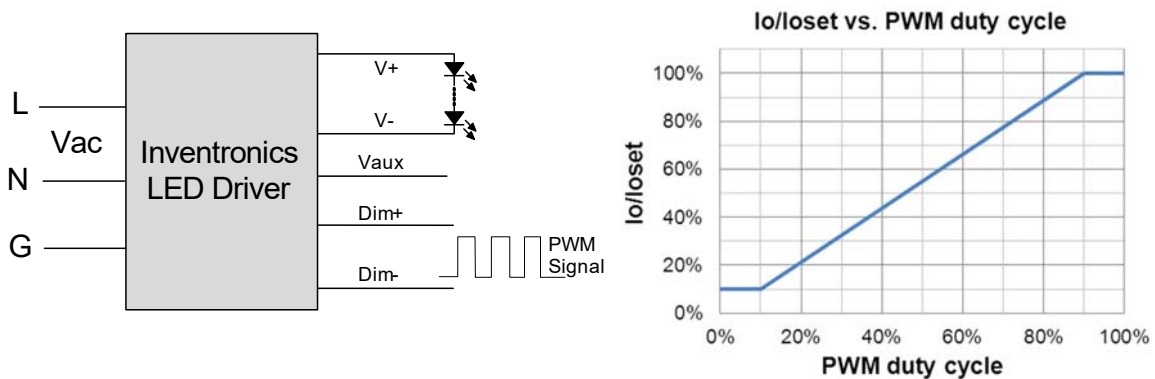
**Implementation 4: Negative logic**

**Notes:**

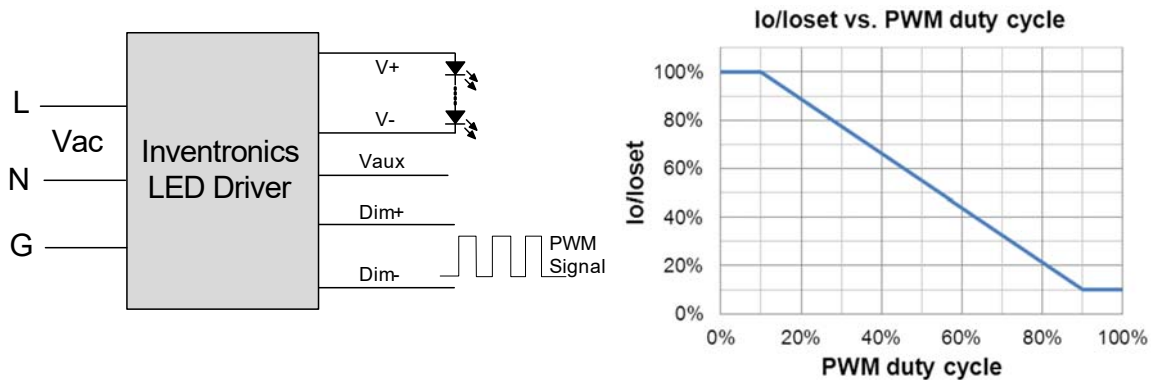
1. Do NOT connect Dim- to the output V- or V+, otherwise the driver will not work properly.
2. The dimmer can also be replaced by an active 1-10V voltage source signal or passive components like zener.
3. When 1-10V negative logic dimming mode and Dim+ is open, the driver will output minimum current.

● **10V PWM Dimming**

The recommended implementation of the dimming control is provided below.



**Implementation 5: Positive logic**



### Implementation 6: Negative logic

**Notes:**

1. Do NOT connect Dim- to the output V- or V+, otherwise the driver will not work properly.
2. When PWM negative logic dimming mode and Dim+ is open, the driver will output minimum current.

● **Time Dimming**

Time dimming control includes 3 kinds of modes, they are Self Adapting-Midnight, Self Adapting-Percentage and Traditional Timer.

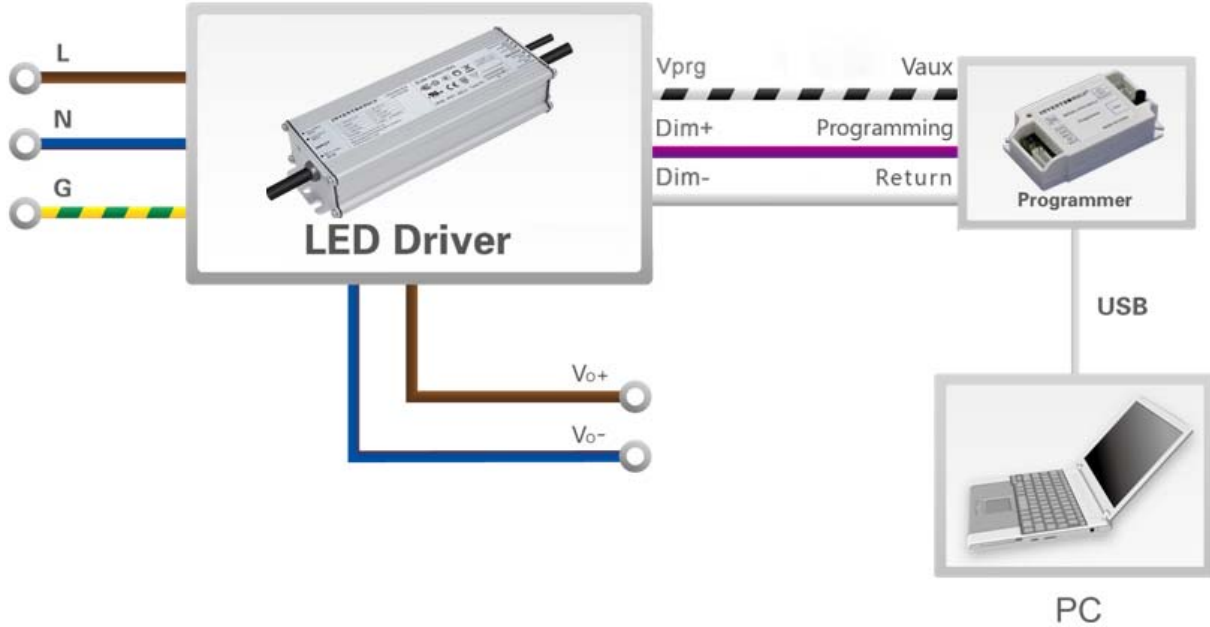
- **Self Adapting-Midnight:** Automatically adjusts the dimming curve based on the on-time of past two days (if difference <15 minutes), assuming that the center point of the dimming curve is midnight local time.
- **Self Adapting-Percentage:** Automatically adjusts the on-time of each step by a constant percentage = (actual on-time for the past 2 days if difference <15 min) / (programmed on-time from the dimming curve).
- **Traditional Timer:** Follows the programmed timing curve after power on with no changes.

● **Output Lumen Compensation**

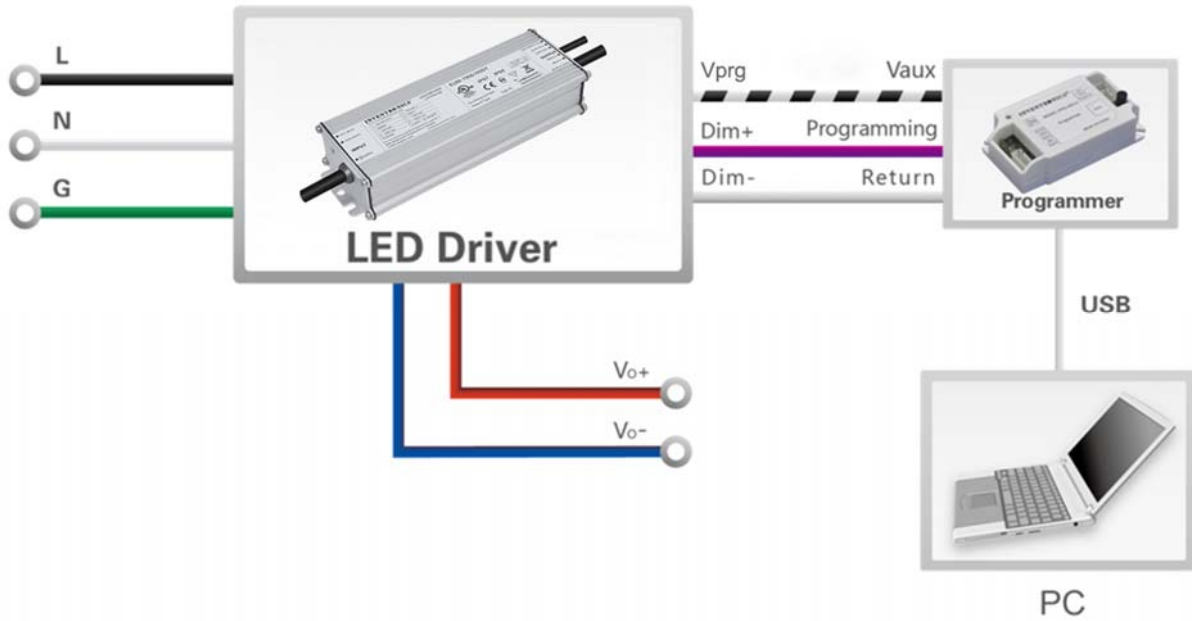
Output Lumen Compensation (OLC) may be used to maintain constant light output over the life of the LEDs by driving them at a reduced current when new, then gradually increasing the drive current over time to counteract LED lumen degradation.

## Programming Connection Diagram

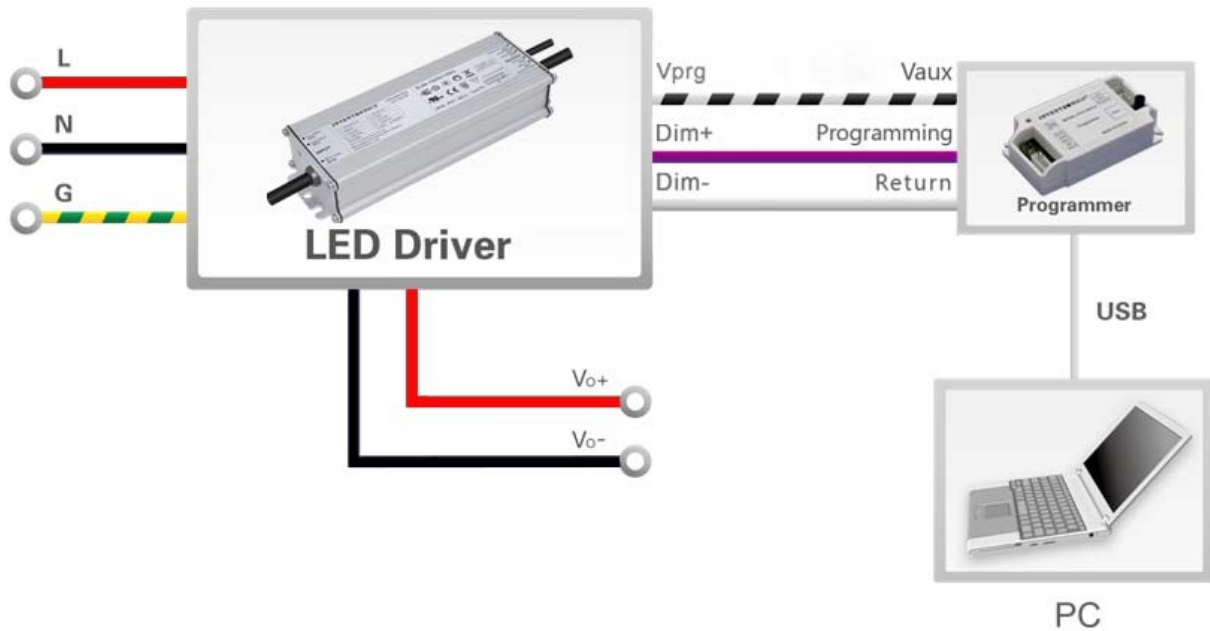
EUM-150SxxxDG



EUM-150SxxxDT



EUM-150SxxxDB

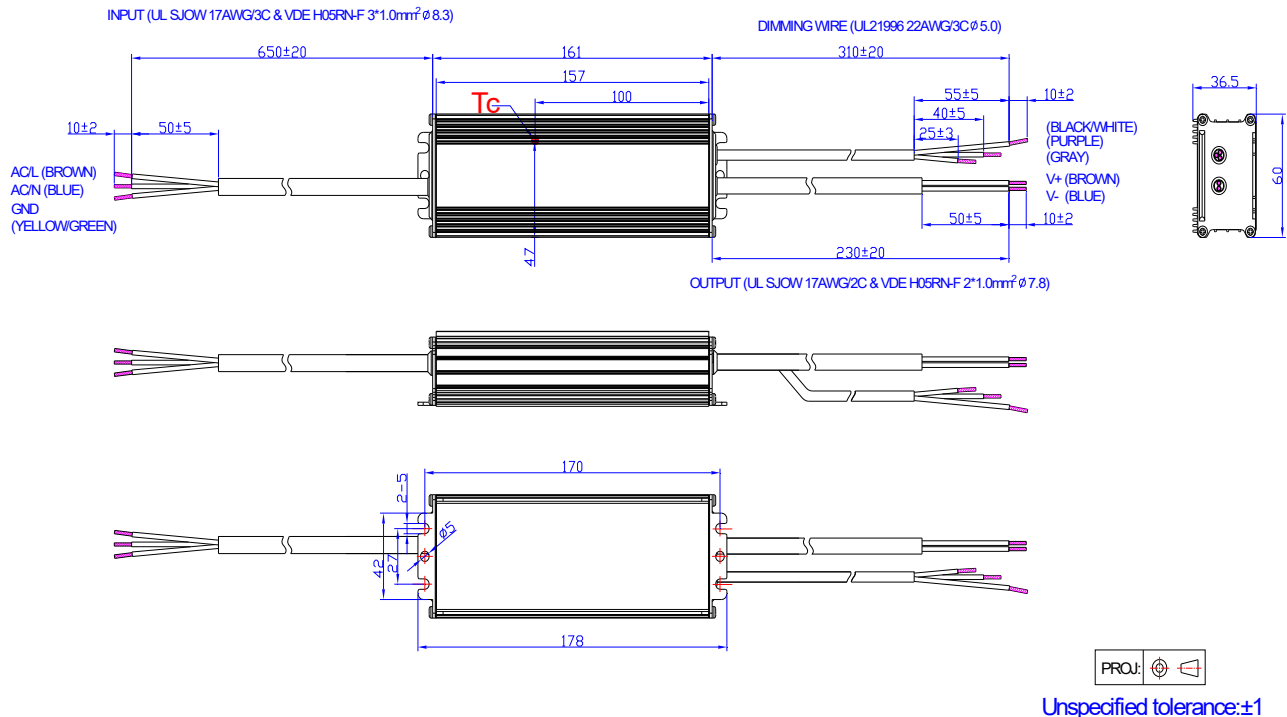


**Note:** The driver does not need to be powered on during the programming process.

- Please refer to [PRG-MUL2](#) (Programmer) datasheet for details.

## Mechanical Outline

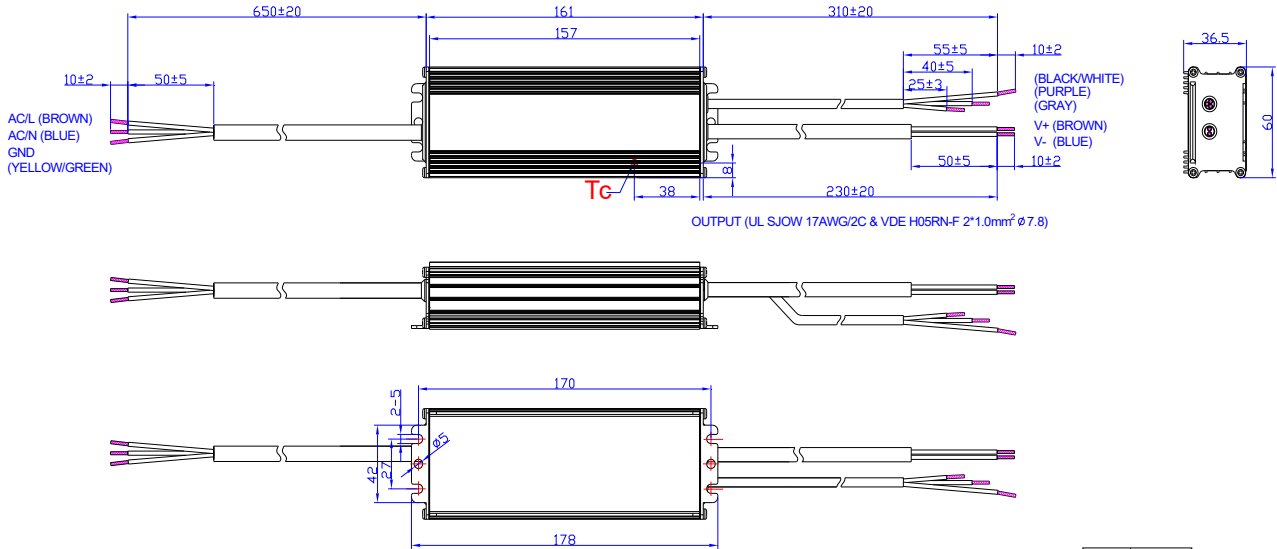
EUM-150S070DG/EUM-150S105DG/EUM-150S150DG



EUM-150S210DG/EUM-150S420DG

INPUT (UL SJOW 17AWG/3C & VDE H05RN-F 3\*1.0mm<sup>2</sup> Ø8.3)

DIMMING WIRE (UL21996 22AWG/3C Ø 5.0)

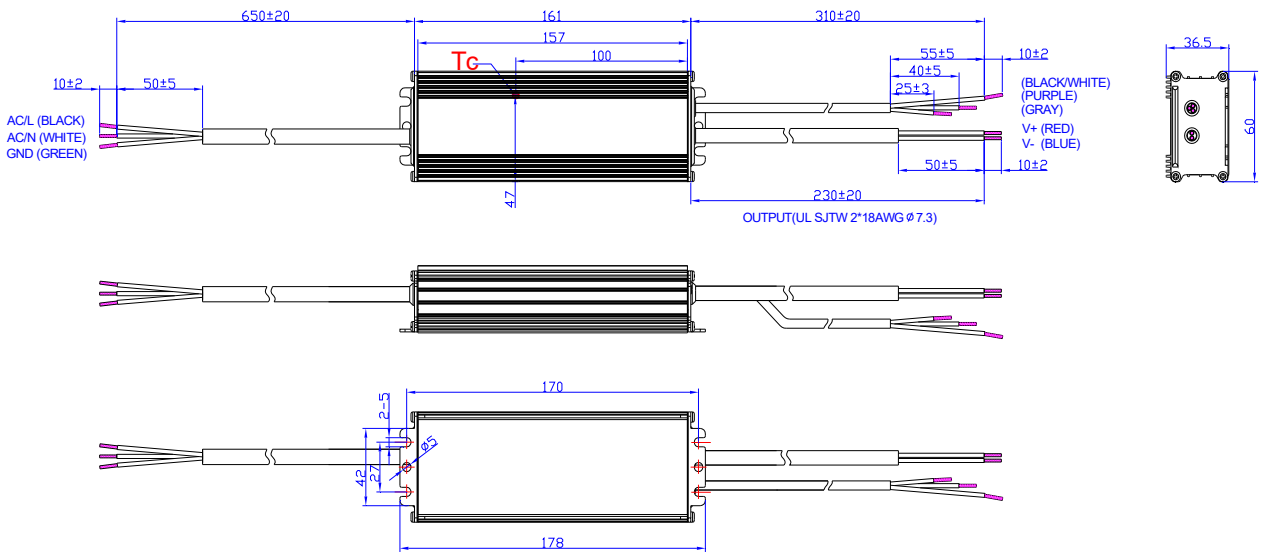


Unspecified tolerance:±1

EUM-150S105DT/EUM-150S150DT

INPUT(UL SJTW 3\*18AWG Ø 7.8)

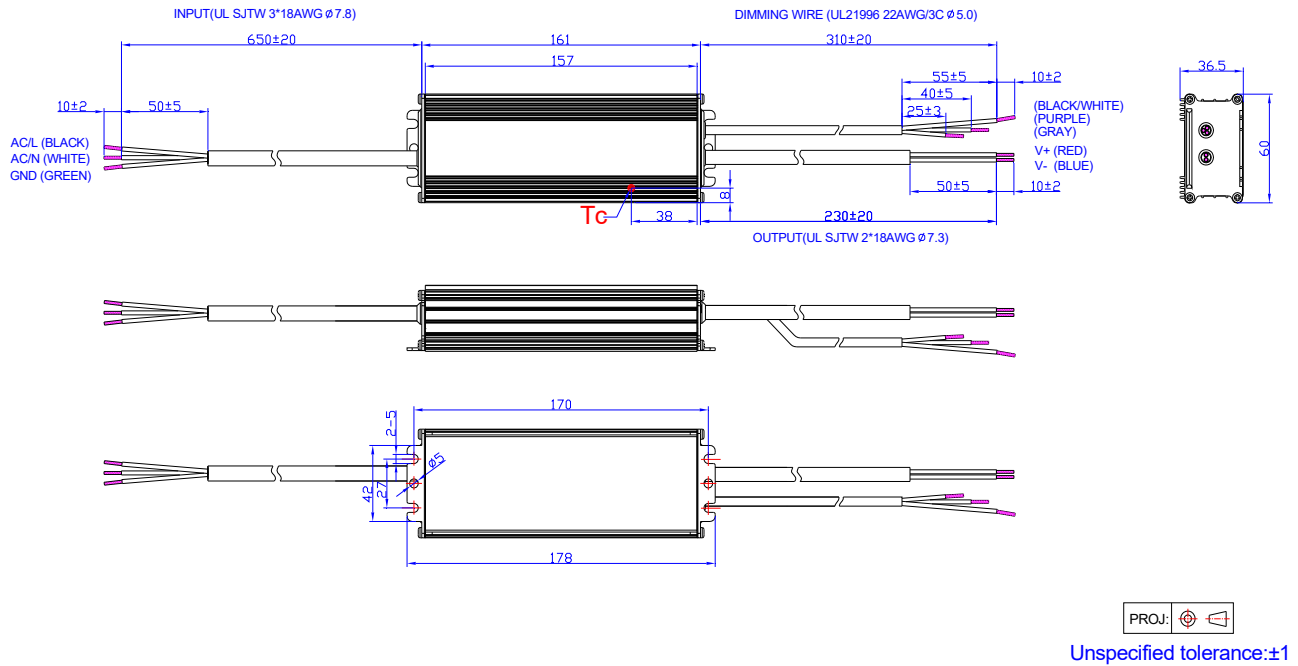
DIMMING WIRE (UL21996 22AWG/3C Ø 5.0)



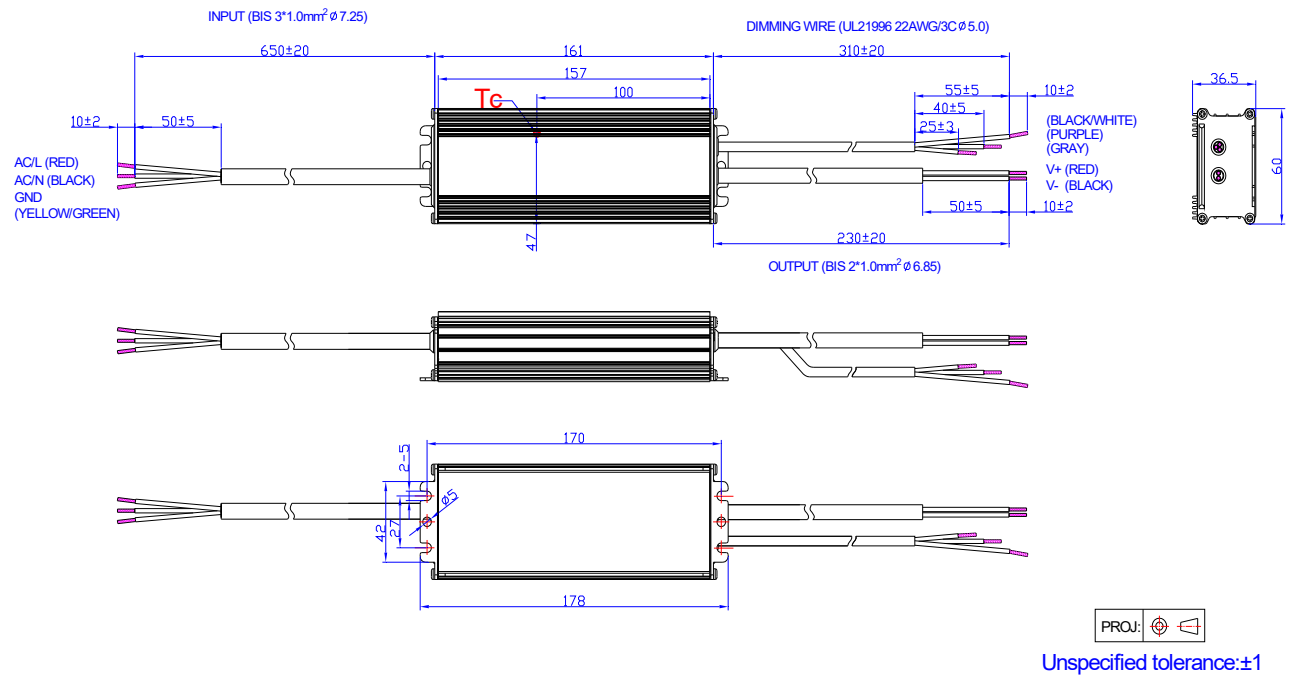
Unspecified tolerance:±1



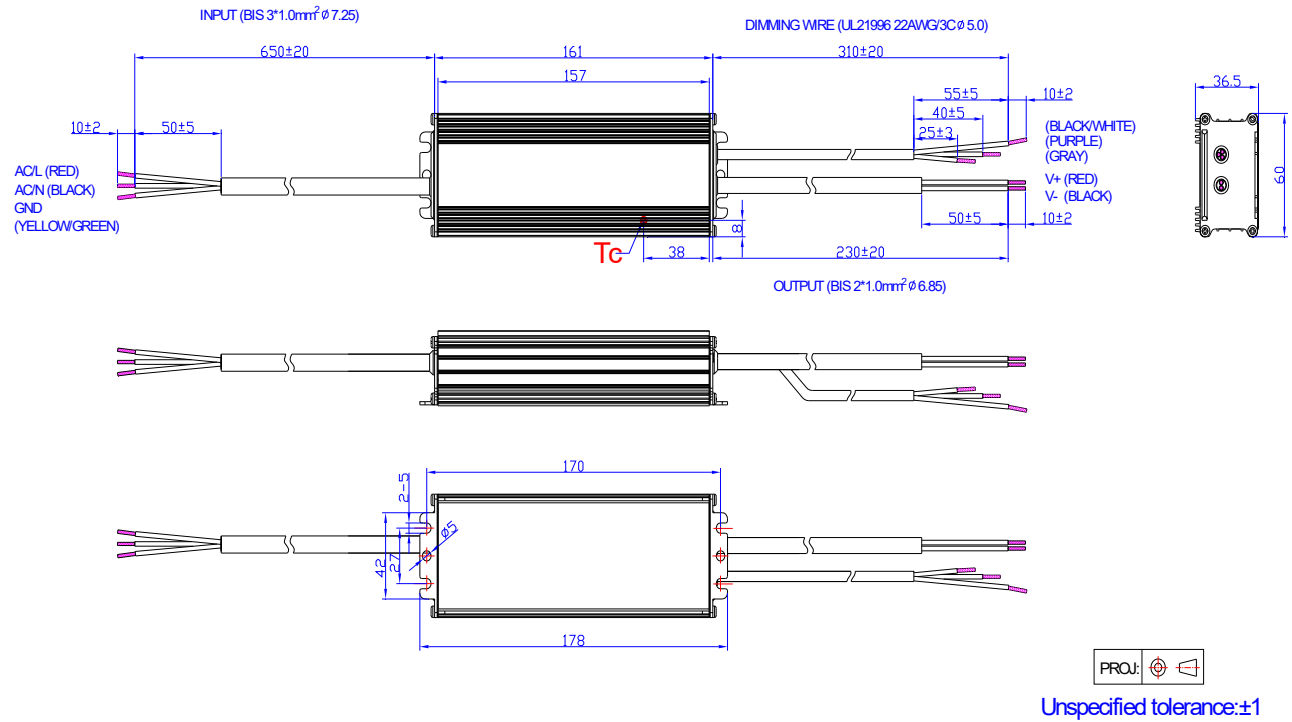
EUM-150S210DT/EUM-150S420DT



EUM-150S105DB/EUM-150S150DB



EUM-150S210DB/EUM-150S420DB



## RoHS Compliance

Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU, calling for the elimination of lead and other hazardous substances from electronic products.

## Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2021-03-09	A	Datasheets Release	/	/
2021-07-08	B	Models	EUM-150S070Dx	Added
		I-V Operation Area	EUM-150S070Dx	Added
		Output Current Setting(losset) Range	EUM-150S070Dx	Added
		Output Current Setting Range with Constant Power	EUM-150S070Dx	Added
		No Load Output Voltage	EUM-150S070Dx	Added
		Efficiency at 120 Vac input:	EUM-150S070Dx	Added
		Efficiency at 220 Vac input:	EUM-150S070Dx	Added
		Efficiency at 277 Vac input:	EUM-150S070Dx	Added
		Dimming Output Range	EUM-150S070Dx	Added
		Efficiency vs. Load	EUM-150S070Dx	Added
		Mechanical Outline	EUM-150S070DG	Added
2021-07-22	C	Models	Notes (6)	Added