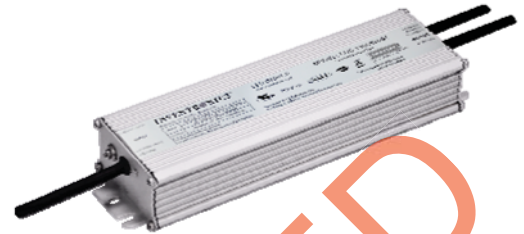


Features

- High Efficiency (Up to 92%)
- Full Power at 50-100% Max Current (Constant Power)
- DALI Dimmable and Dim-to-Off
- Standby Power ≤ 1 W
- Input Surge Protection: DM 4kV, CM 6kV
- All-Around Protection: OVP, SCP, OTP
- Waterproof (IP67) and UL Dry / Damp Location
- SELV Output
- TYPE HL, for use in a Class I, Division 2 hazardous (Classified) location



Description

The EUD-150SxxxBT series is a 150W, constant-current, programmable LED driver that operates from 90-305 Vac input with excellent power factor. Created for many lighting applications including high bay, tunnel and roadway, etc, it provides a dim-to-off mode with low standby power. The high efficiency of these drivers and compact metal case enables them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, output over voltage, short circuit, and over temperature.

Models

Output Current Range	Full-Power Current Range (1)	Default Output Current	Input Voltage Range(2)	Output Voltage Range	Max. Output Power	Typical Efficiency (3)	Power Factor		Model Number (4)
							120Vac	220Vac	
65-1300mA	650-1300mA	700 mA	90~305 Vac 127~300 Vdc	69~230Vdc	150 W	92.0%	0.99	0.96	EUD-150S130BT
130-2600mA	1300-2600mA	2100 mA	90~305 Vac 127~300 Vdc	35~115Vdc	150 W	91.5%	0.99	0.96	EUD-150S260BT
260-5200mA	2600-5200mA	4200 mA	90~305 Vac 127~300 Vdc	18 ~ 58Vdc	150 W	90.5%	0.99	0.96	EUD-150S520BT ⁽⁵⁾

Notes: (1) Output current range with constant power at 150W

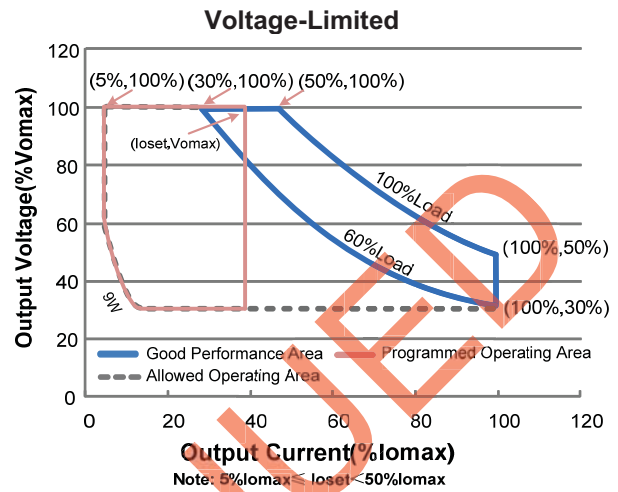
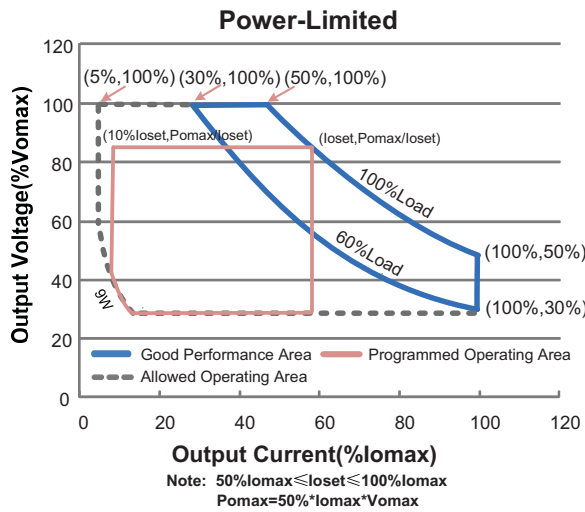
(2) UL, FCC certified input voltage range: 100-277Vac or 127-300Vdc; otherwise: 100-240Vac or 127-250Vdc (except KS)

(3) Measured at a 220 Vac input with 100% maximum output current and 50% maximum output voltage.

(4) All the models are certificated to KS, except EUD-150S130BT

(5) SELV output

I-V Operating Area



Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 Vac	-	305 Vac	127~300 Vdc
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75 MIU	UL8750; 277Vac/ 60Hz, grounding effectively
	-	-	0.70 mA	IEC60598-1; 240Vac/ 60Hz, grounding effectively
Input AC Current	-	-	1.8 A	Measured at 100% load and 100 Vac input.
	-	-	0.85 A	Measured at 100% load and 220 Vac input.
Inrush Current(I ² t)	-	-	1.4 A ² s	At 220Vac input, 25°C Cold Start, Duration=1.46 mS, 10%Ipk-10%Ipk. See Inrush Current Waveform for the details.
PF	0.90	-	-	At 100-277Vac, 50-60Hz, 60%-100% Load (90-150W)
THD	-	-	20%	

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%I _{oset}	-	5%I _{oset}	At 100% load condition
Output Current Setting(I _{oset}) Range	5%I _{omax}	-	100%I _{omax}	
Output Current Setting Range with Constant Power	50%I _{omax}	-	100%I _{omax}	
Total Output Current Ripple (pk-pk)	-	5%I _{omax}	10%I _{omax}	At 100% load condition. 20 MHz BW
Output Current Ripple at < 200 Hz (pk-pk)	-	2%I _{omax}	-	At 100% load condition. Only this component of ripple is associated with visible flicker.

Output Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Startup Overshoot Current	-	-	10%Iomax	At 100% load condition
No Load Output Voltage				
EUD-150S130BT	-	-	275V	
EUD-150S260BT	-	-	138V	
EUD-150S520BT	-	-	70V	
Line Regulation	-	-	±0.5%	Measured at 100% load
Load Regulation	-	-	±1.5%	
Turn-on Delay Time	-	0.8 s	1.5 s	Measured at 120Vac and 220Vac input.
Temperature Coefficient of I _o set	-	0.03%/°C	-	Case temperature = 0°C ~ T _c max

Note: All specifications are typical at 25°C unless otherwise stated.

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 120 Vac input:				
EUD-150S130BT				
I _o = 650 mA	86.0%	89.0%	-	Measured at 100% load and steady-state temperature in 25°C ambient; (Efficiency will be about 2.0% lower if measured immediately after startup.)
I _o = 1300 mA	87.0%	90.0%	-	
EUD-150S260BT				
I _o = 1300 mA	86.5%	89.5%	-	
I _o = 2600 mA	86.5%	89.5%	-	
EUD-150S520BT				
I _o = 2600 mA	86.5%	89.5%	-	
I _o = 5200 mA	85.5%	88.5%	-	
Efficiency at 220 Vac input:				
EUD-150S130BT				
I _o = 650 mA	89.0%	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.)
I _o = 1300 mA	90.0%	92.0%	-	
EUD-150S260BT				
I _o = 1300 mA	89.5%	91.5%	-	
I _o = 2600 mA	89.5%	91.5%	-	
EUD-150S520BT				
I _o = 2600 mA	89.5%	91.5%	-	
I _o = 5200 mA	88.5%	90.5%	-	
Efficiency at 277 Vac input:				
EUD-150S130BT				
I _o = 650 mA	89.5%	91.5%	-	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 _o = 1300 mA	90.5%	92.5%	-	
EUD-150S260BT				
I _o = 1300 mA	89.5%	91.5%	-	
I _o = 2600 mA	90.0%	92.0%	-	
EUD-150S520BT				
I _o = 2600 mA	89.5%	91.5%	-	
I _o = 5200 mA	89.0%	91.0%	-	
Standby power	-	-	1 W	Measured at 230Vac/50Hz; Dimming off
MTBF	-	236,000 Hours	-	Measured at 220Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)

General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Lifetime	-	120,000 Hours	-	Measured at 220Vac input, 80%Load and 60°C case temperature; See lifetime vs. Tc curve for the details
Operating Case Temperature for Safety Tc _s	-40°C	-	+89°C	
Operating Case Temperature for Warranty Tc _w	-40°C	-	+70°C	
Storage Temperature	-40°C	-	+85°C	Humidity: 5%RH to 100%RH
Dimensions Inches (L × W × H) Millimeters (L × W × H)	8.62 × 2.66 × 1.56 219 × 67.5 × 39.5			With mounting ears 9.67 × 2.66 × 1.56 246 × 67.5 × 39.5
Net Weight	-	1210 g	-	

Note: All specifications are typical at 25°C unless otherwise stated.

Dimming Specifications

Parameter	Min.	Typ.	Max.	Notes
DA1,DA2 High Level	9.5V	16V	22.5V	
DA1,DA2 Low Level	-6.5V	0V	6.5V	
DA1,DA2 Current	0mA	-	2mA	
Dimming Output Range	10%I _o set	-	I _o set	50%I _o max ≤ I _o set ≤ 100%I _o max
	5%I _o max	-	I _o set	5%I _o max ≤ I _o set < 50%I _o max

Note: All specifications are typical at 25 °C unless stated otherwise.

Standards Compliance

Safety Category	Standard
UL/CUL	UL8750 & CAN/CSA-C22.2 No. 250.13
CE	EN 61347-1, EN61347-2-13
KS	KS C 7655
EMI Standards	Notes
EN 55015 ⁽¹⁾	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
FCC Part 15 ⁽¹⁾	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.

Standards Compliance (Continued)

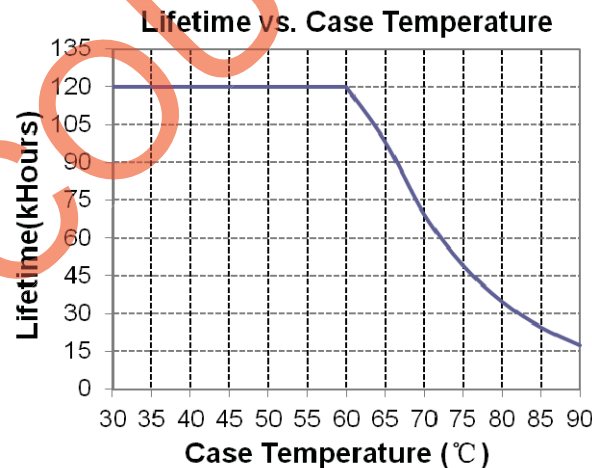
EMS Standards	Notes
EN 61000-4-2	Electrostatic Discharge(ESD): 8kV air discharge, 4kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient/Burst-EFT
EN 61000-4-5	Surge Immunity Test: AC Power Line: Differential Mode 4 kV, Common Mode 6 kV ⁽²⁾
EN 61000-4-6	Conducted Radio Frequency Disturbances test-CS
EN 61000-4-8	Power Frequency Magnetic Field Test
EN 61000-4-11	Voltage Dips
EN 61547	Electromagnetic Immunity Requirements Applies To Lighting Equipment
DALI Standards	Notes
DALI	IEC62386-101,102 & part of 207 ⁽³⁾

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.

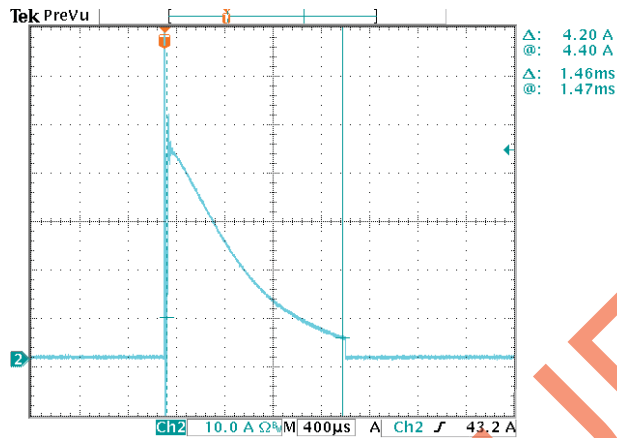
(2) To perform electric strength (hi-pot) testing, the "GDT ground disconnect" (nut and metal lock sheet) on the driver end-cap should be removed temporarily to prevent the internal gas discharge tube from conducting (as allowed by IEC 60598-1 Clause 10.2). After testing is completed, these items must be reinstalled to restore line-to-earth surge protection and secure the end cap.

(3) Optional Commands Implemented: 243 (query open circuit)

Lifetime vs. Case Temperature

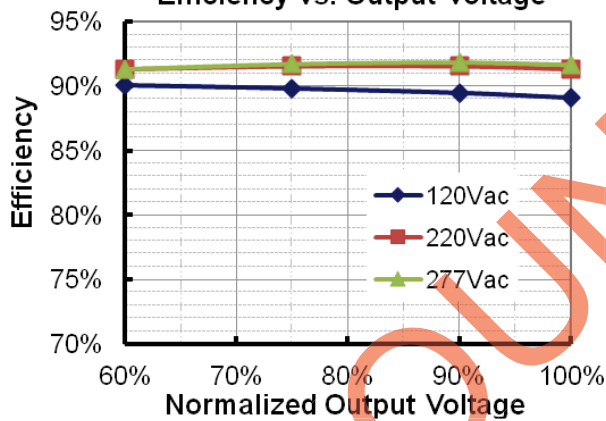


Inrush Current Waveform

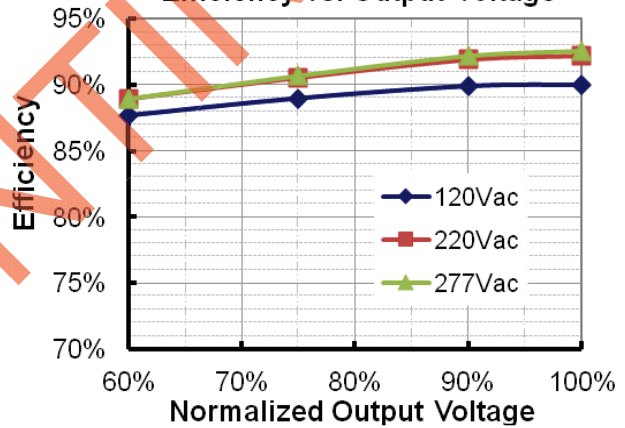


Efficiency vs. Load

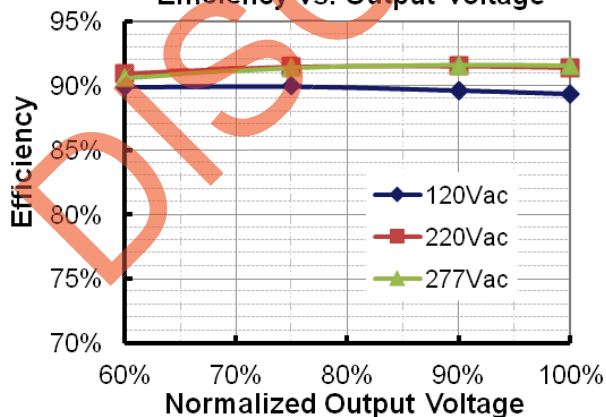
EUD-150S130BT ($I_o=650mA$)
Efficiency vs. Output Voltage



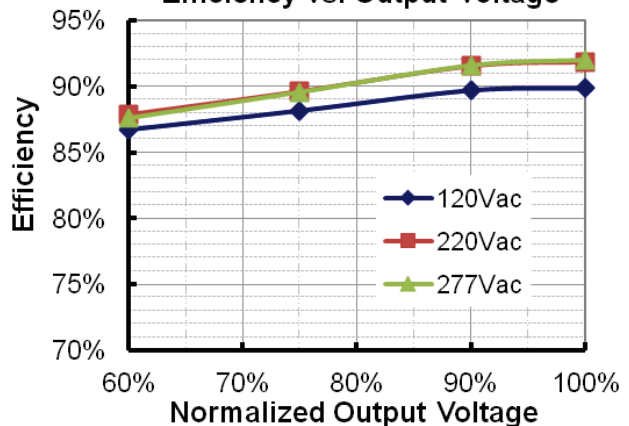
EUD-150S130BT ($I_o=1300mA$)
Efficiency vs. Output Voltage

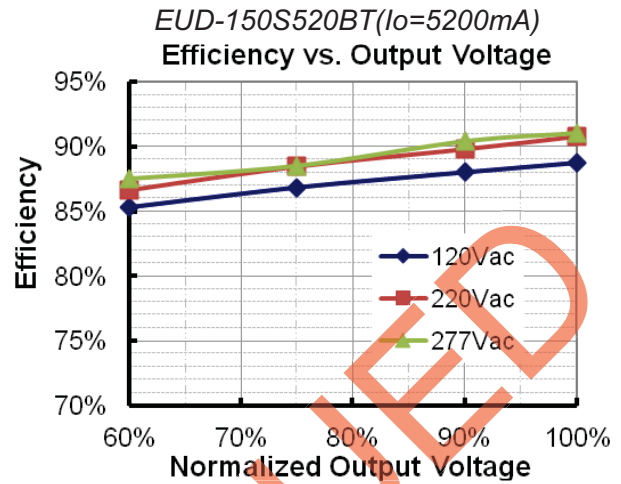
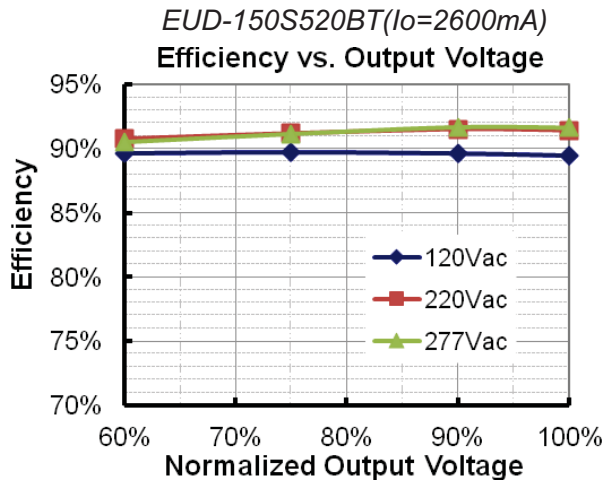


EUD-150S260BT ($I_o=1300mA$)
Efficiency vs. Output Voltage

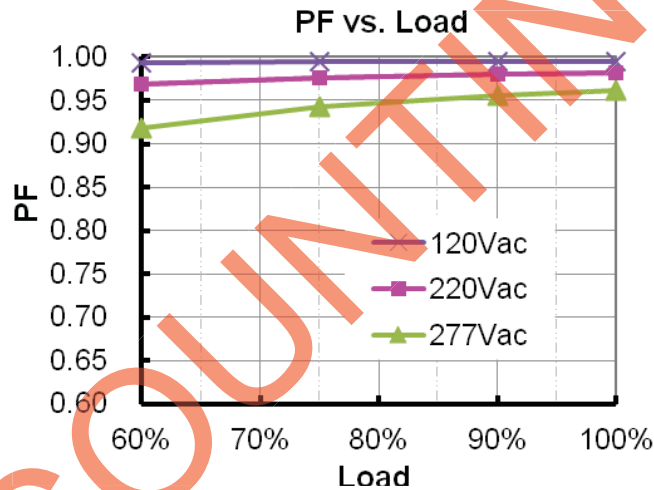


EUD-150S260BT ($I_o=2600mA$)
Efficiency vs. Output Voltage

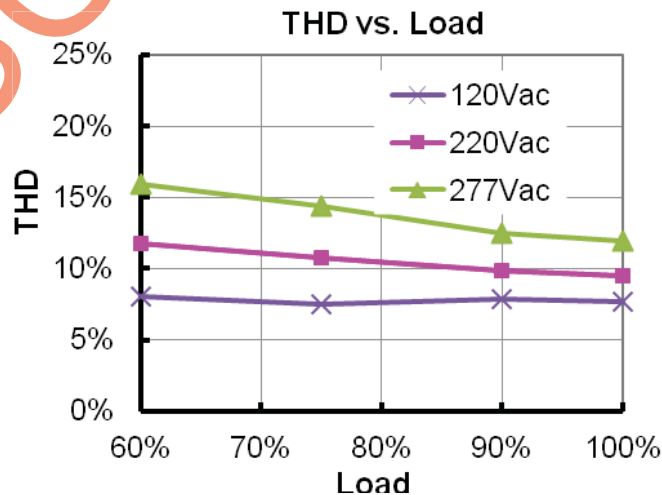




Power Factor



Total Harmonic Distortion



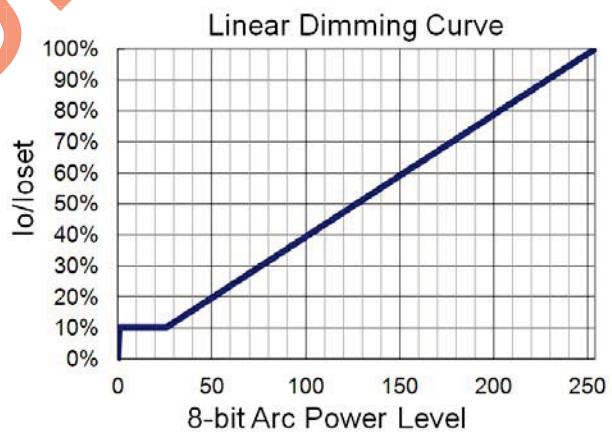
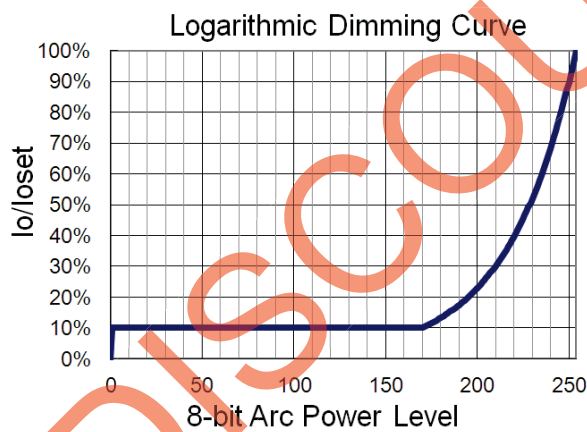
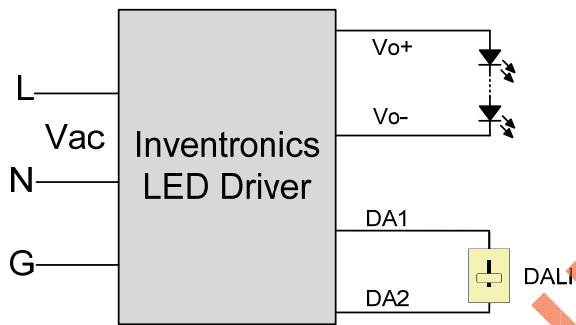
Protection Functions

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

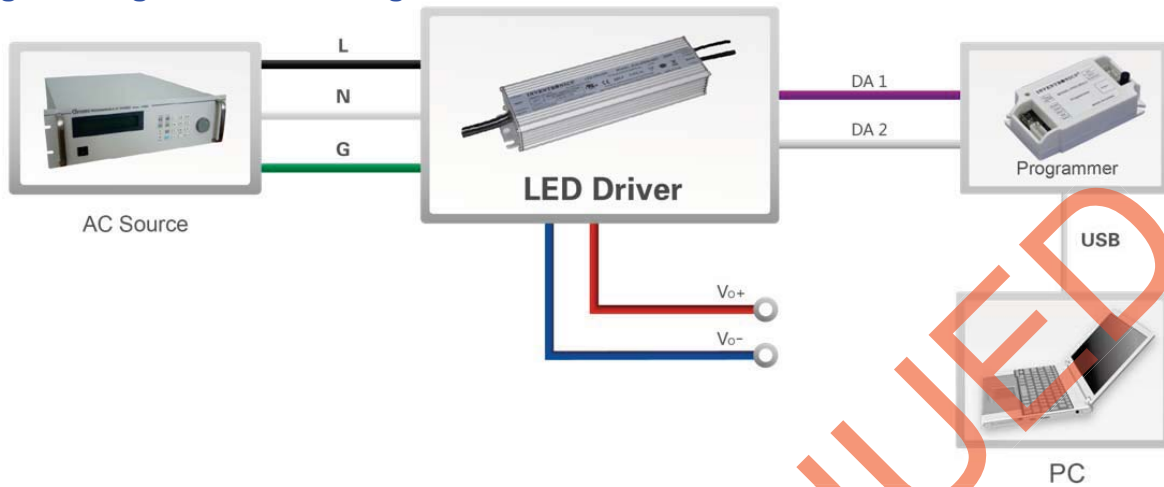
● DALI Dimming

The recommended implementation of the dimming control is provided below.



Implementation: DALI Dimming

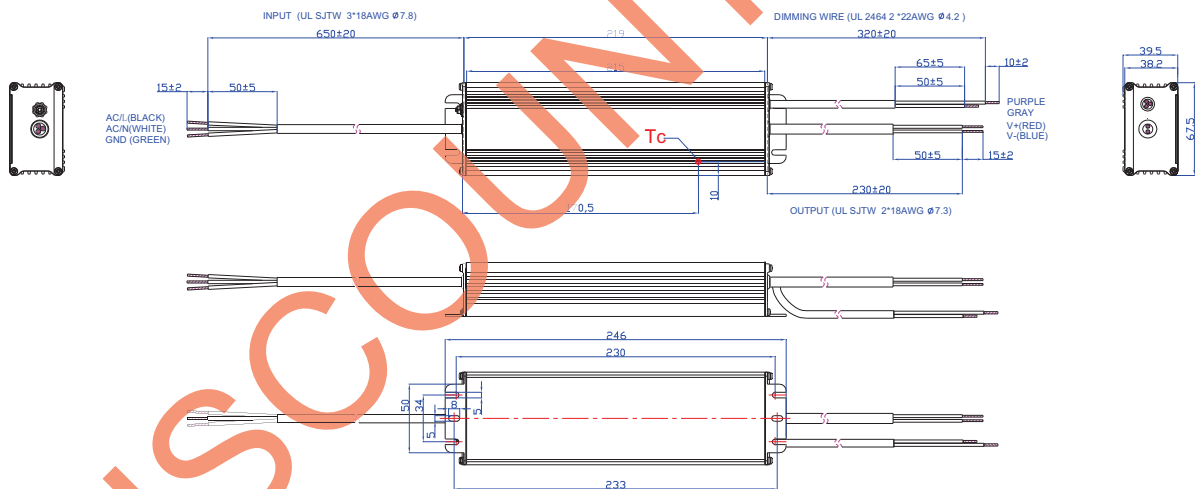
Programming Connection Diagram



Note: The driver needs to be powered on during the programming process.

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

Mechanical Outline



PROJ:

Unspecified tolerance:±1

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
2013-10-30	A	Datasheets Release	/	/
2015-03-09	B	Features	Input Surge Protection: 4kV line-line, 6kV line-earth	Added
		Output Current Ripple(pk-pk)	Output Current Ripple(pk-pk)	Total Output Current Ripple (pk-pk)
		Output Current Ripple at < 200 Hz (pk-pk)	/	Added
		Case Temperature	Case Temperature	Operating Case Temperature for Safety Tc_s
		Operating Case Temperature for Warranty Tc_w	/	Added
		General Specifications	Storage Temperature	Added
		Environmental Specifications	/	Delete
		Safety & EMC Compliance	EN 55015 EN 61000-3-2 EN 61000-3-3	Delete
2015-09-16	C	Derating	/	Delete
		KS, DALI Logo	/	Added
		Features	/	Update
		Safety & EMC Compliance	Safety & EMC Compliance	Standards Compliance
2015-11-27	D	Standards Compliance	DALI Standards	Added
		CE	/	Added
		External Grounding Screw Solution	/	/
		Standards Compliance	/	Update
2016-04-13	E	Mechanical Outline	/	Update
		General Specifications	With mounting ear	Added
		General Specifications	Net Weight	Update
2019-08-23	F	Standards Compliance	/	Update
		Features	Input Surge Protection	Updated
		Description	/	Updated
		Input Specifications(PF/THD)	50-60Hz	Added
		Safety & EMC Compliance	UL/CUL	Updated
Safety & EMC Compliance	KS	Updated		

Revision History (Continued)

Change Date	Rev.	Description of Change		
		Item	From	To
2019-08-23	F	Safety &EMC Compliance	FCC	Updated
		Safety &EMC Compliance	EN 61000-4-5	Updated
		Mechanical Outline	/	Updated
		RoHS Compliance	/	Updated

DISCONTINUED