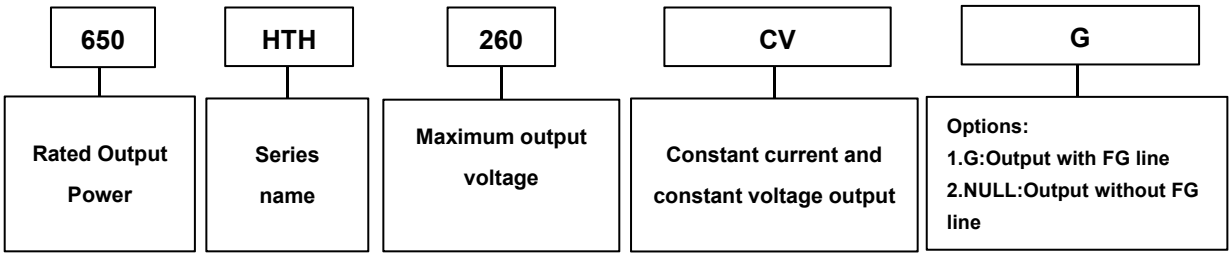
Features

- Dimming port programming without driver power on
- CC/CV hybrid output
- High efficiency: 95% typical @400Vac, full load
- Ultra low THD at light load
- Isolated 0~10V/ PWM/Rset dimming, Dim to off option
- 12V/200mA AUX Output

Description

650W LED Drivers offers digital programmable drivers with wide-range adjustable output current, together with 12V/200mA auxiliary output (optional) for smart lighting.
The output current of this series are programmable, and designed for 0-10V/PWM/Rset dimming applications.

Model Name Definition



Specifications

Part Number	Max. Output Power	Programmable Current Region@CC	Output Voltage Range	Programmable Voltage Region@CV	Efficiency typical @400VAC
650HTH260CV	650W	1.25-3.13A	124-260V	208-260V	95%

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Rated Input AC Voltage	277Vac	-	400Vac	
Limit Input AC Voltage	249Vac	-	440Vac	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75mA	At 400Vac / 50Hz input , grounding effectively
Input AC Current	-	-	1.9A	Measured at full load and 400Vac input.
	-	-	2.7A	Measured at full load and 277Vac input.
Inrush Peak Current	-	-	65A	At 277Vac input, 25°C cold start. See Inrush Current Waveform for the details.
PF	0.9	-	-	At 277-400Vac, full load, 25°C and 50Hz
THD	-	-	20%	
Efficiency	94%	95%	-	Measured at 400Vac input、100% load and

				steady-state temperature in 25° C ambient

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-5%Io set	-	5%Io set	At 25°C and full load condition
Total Output Current Ripple (pk-pk)	-	-	10%Io max	At 25°C and full load condition, 8kHz BW
Startup Overshoot Current	-	-	20%Io max	At 25°C and full load condition, 8kHz BW
No Load Output Voltage	-	275V	290V	
Line Regulation	-	-	±1%	Measured at 25°C and full load
Load Regulation	-	-	±2%	At 25°C condition
Turn-on Delay Time	-	0.8 s	1.5 s	Measured at 277Vac input.
Temperature Coefficient of Ioset	-0.05%/°C	-	0.05%/°C	Case temperature = 0°C ~Tc max
12V Auxiliary Output Voltage	11V	12 V	15 V	
12V Auxiliary Output Source Current	0 mA	-	200 mA	Return terminal is “Dim−“
OTP Tc	90°C	-	100°C	Output current will drop or shut down.
SCP				Auxiliary source: Hiccup mode, Auto recover Main output：Locked or auto recover

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Standby power	-	-	1.5 W	Measured at 277Vac/60Hz; Dimming off
MTBF	234,000 Hours	-	-	Measured at 277Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Lifetime	50,000 Hours	-	-	Measured at 400Vac input, 80%Load and 75°C case temperature; See lifetime vs. Tc curve for the details
Operating Case Temperature Tc	-40°C	-	90°C	
Operating Ambient Temperature Ta	-40°C	-	50°C	
Storage Temperature	-40°C	-	85°C	Humidity: 5%RH to 100%RH
IP Grade	IP65			
Dimensions Inches (L × W × H) Millimeters (L × W × H)	10.63 × 3.89 × 1.81 270 × 98.8 × 46.1			
Net Weight	-	TBD	-	

Note1:There are two points could be maximum Tc point, depending on different Vac input and Vdc output.These two points(Tc,Tc1) position are shown in below mechanical drawing.

Dimming Specifications

Parameter	Min.	Typ.	Max.	Notes
Absolute Maximum Voltage on the Vdim (+) Pin	-1 V	-	15 V	
Source Current on Vdim (+)Pin	90 uA	100 uA	110 uA	
Dimming Output Range	-	10%Io set	Io set	80%Io max ≤ Io set ≤ 100%Io max
	-	8%Io max	Io set	Io set ＜80%Io max
Recommended Dimming Input Range	0 V	-	10 V	Default 0-10V dimming mode.
Dim off Voltage	0.6V	0.8V	1.0V	
Dim on Voltage	0.8V	1.0V	1.2V	
Dim off Resistance	5kΩ	8kΩ	10kΩ	
Dim on Resistance	7kΩ	10kΩ	12kΩ	
Hysteresis	-	0.2 V	-	
PWM_in High Level	9.8 V	10V	10.2 V	
PWM_in Low Level	-0.3 V	-	0.6 V	
PWM_in Frequency Range	500 Hz	-	3 KHz	
PWM_in Duty Cycle	1%	-	100%	
PWM Dimming off	4%	7%	10%	
PWM Dimming on	6%	9%	12%	

Safety &EMC Compliance

Safety Category	Standard
UL/CUL	UL8750,CAN/CSA-C22.2 No. 250.13-12
Dielectric Strength(Hi-pot)	Primary to Secondary: 3600Vac 10mA max
	Primary to Earth: 1800Vac 10mA max.
	Secondary to Earth: 1600Vac 10mA max.
	Dimming to Output: 1600Vac 10mA max.
Insulation Resistance	50Mohm min.@ primary to secondary add 500Vdc test voltage
Grounded Resistance	0.1Ω max. @ 25A, 1 minute
EMI Standards	Notes
EN55015	ANSI C63.4:2009 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, criteria A
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS, criteria A
EN 61000-4-4	Electrical Fast Transient / Burst-EFT: level 3, criteria B
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 4 kV, line to earth 6 kV, criteria B
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS, criteria A
EN 61000-4-8	Power Frequency Magnetic Field Test, criteria A
EN 61000-4-11	Voltage Dips, criteria B
EN 61547	Electromagnetic Immunity Requirements Applies To Lighting Equipment

Note2：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.

Performance Curve

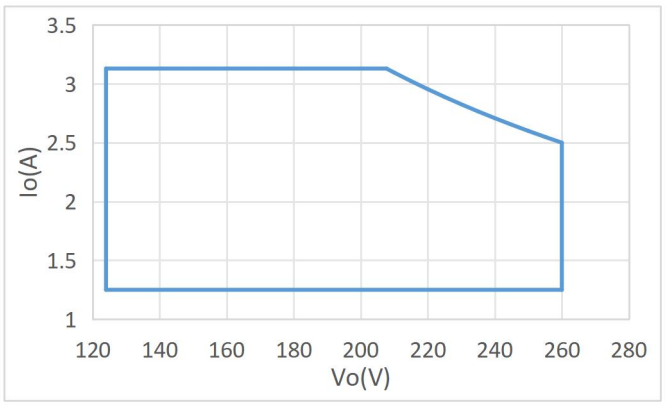
Input Voltage Derating Curve

Total Harmonics Vs Different Loads

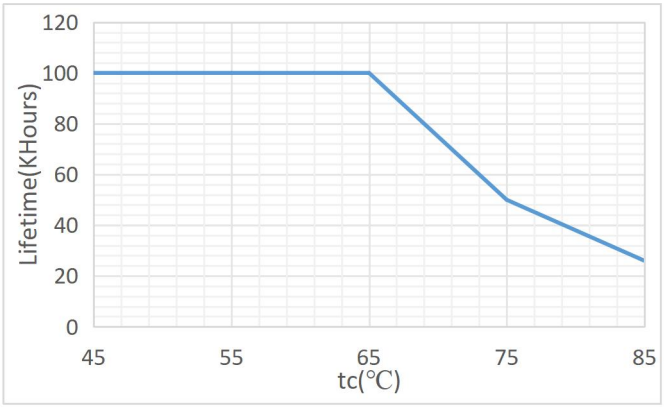
Efficiency Vs Different Loads

Power Factor Vs Different Loads

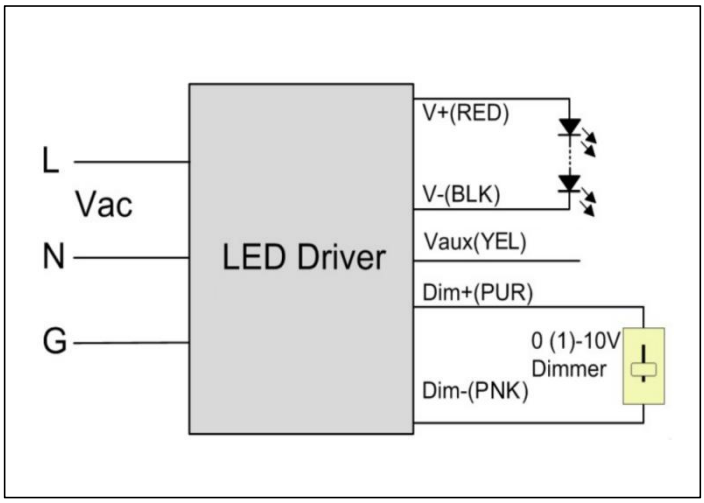
I/V Operating Area

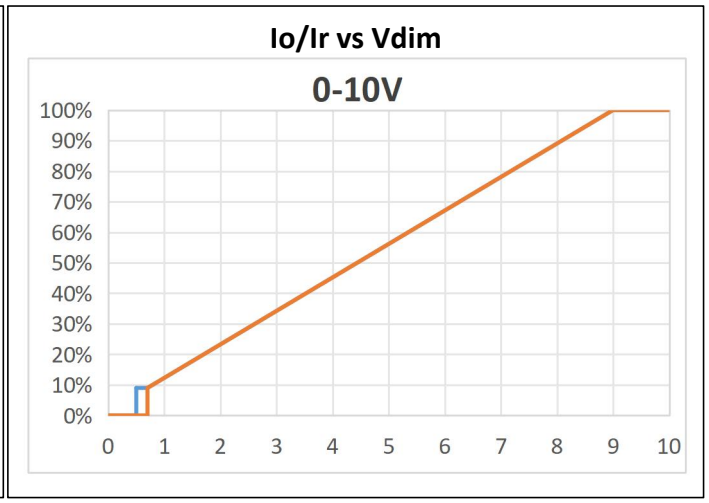


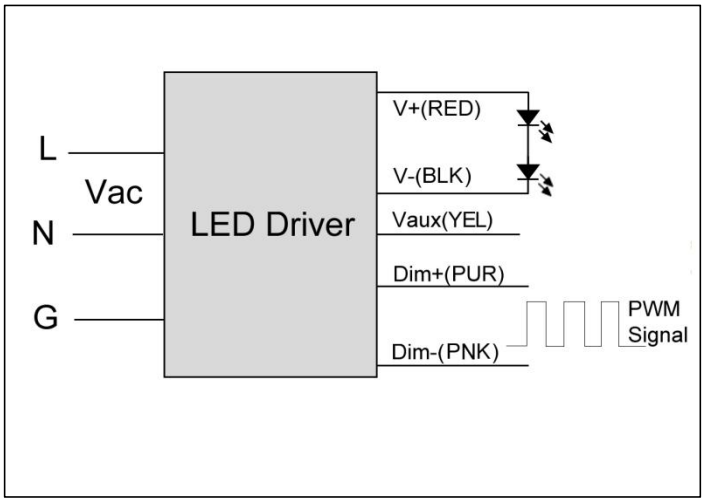
Life Vs Case Temperature

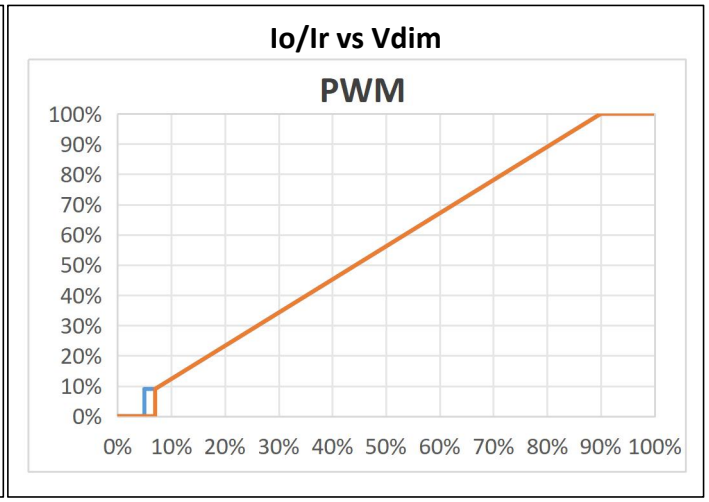


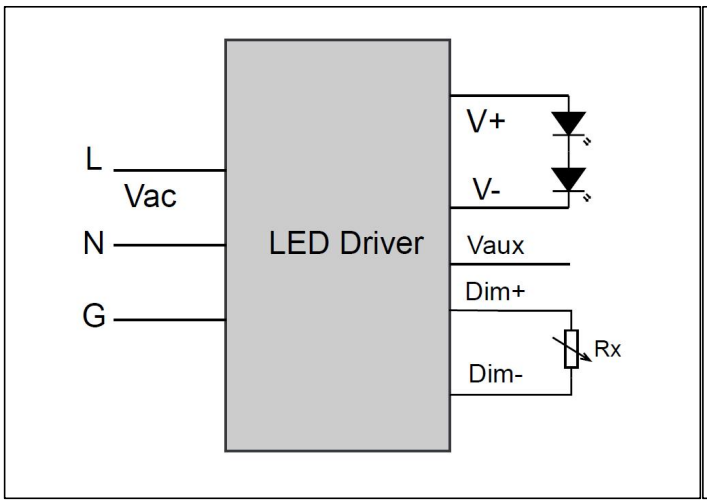
0-10V Analog Dimming &PWM Dimming

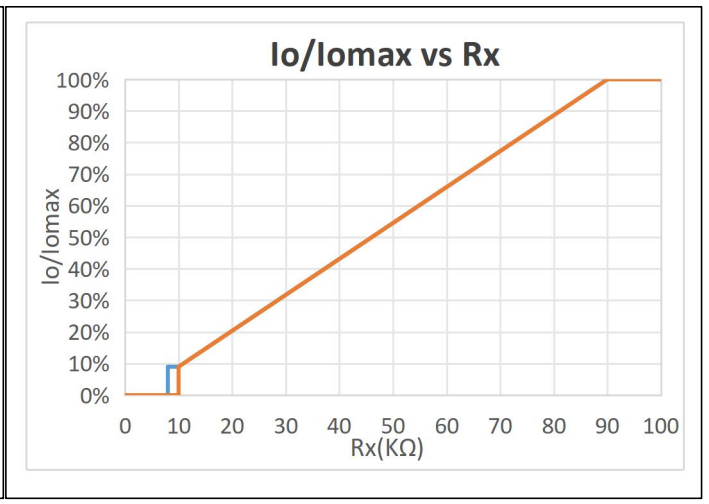




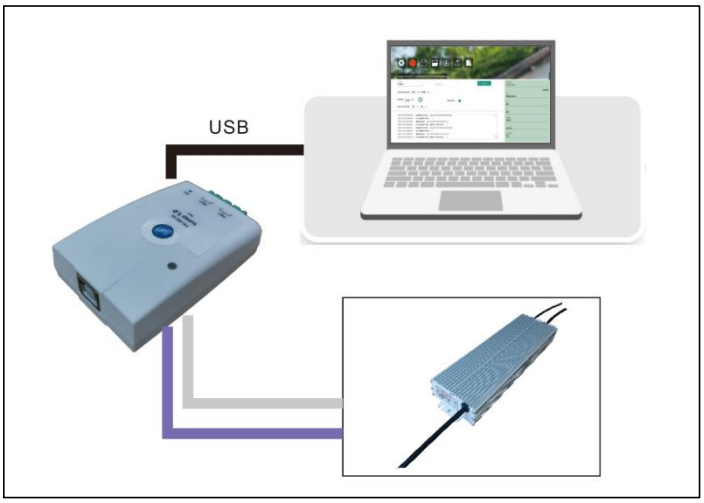




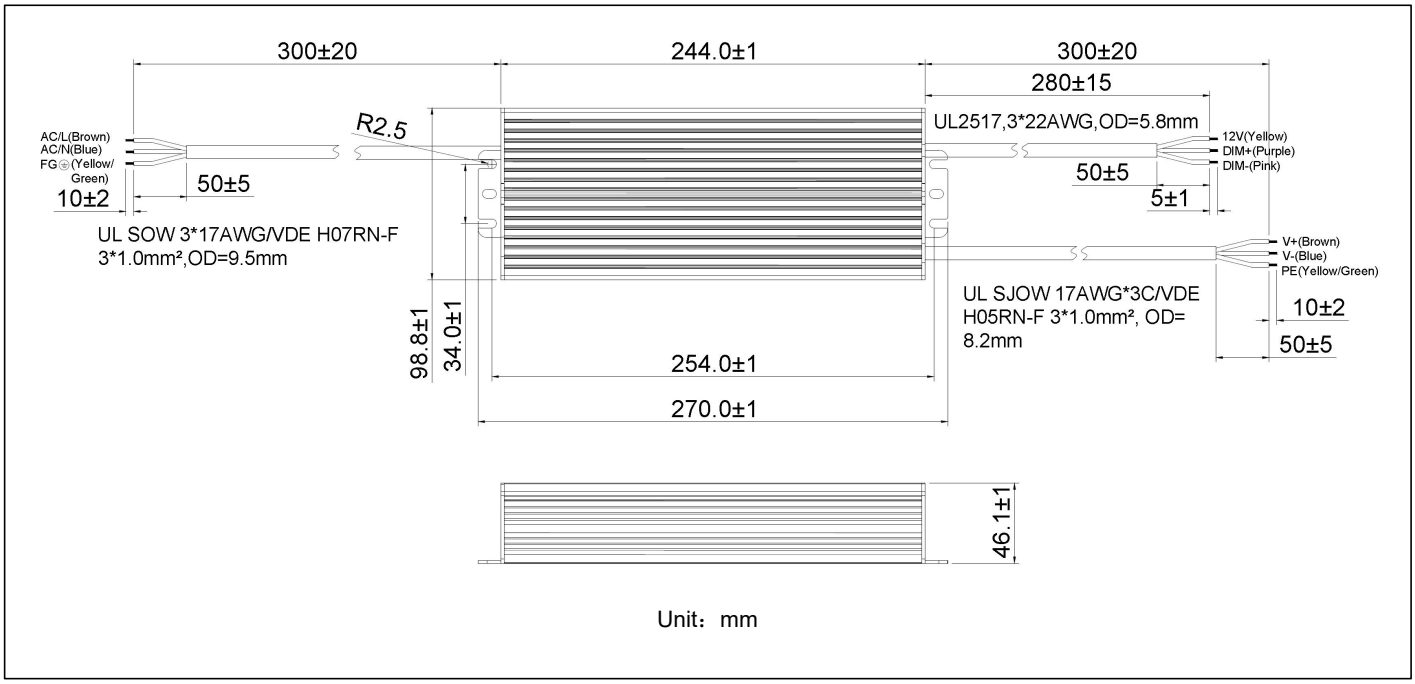




Programming Wiring Diagram



Mechanical Specification



Ordering information

Part Number	Rated Input AC Voltage	Channels output	Output whether with FG line	Dimming
650HTH260CV	277Vac-400Vac	1	Without	0-10V/PWM/Resistor
650HTH260CVG	277Vac-400Vac	1	With	0-10V/PWM/Resistor

Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2025.1.14	V1.0			
2025.2.19	V1.1	Update Mechanical Specification		
2025.12.9	V1.2	Rated Input AC Voltage	Max：480Vac	Max：400Vac
		Limit Input AC Voltage	Max：528Vac	Max：440Vac
		Add ordering information		
		No Load Output Voltage		Add:Max 290V
		Dielectric Strength(Hi-pot)	Primary to Secondary: 3920Vac 10mA max	Primary to Secondary: 3600Vac 10mA max
			Primary to Earth: 1960Vac 10mA max.	Primary to Earth: 1800Vac 10mA max.
			Secondary to Earth: 500Vac 10mA max.	Secondary to Earth: 1600Vac 10mA max.
			Dimming to Output: 500Vac 10mA max.	Dimming to Output: 1600Vac 10mA max.
		Load Regulation	Max：±1%	Max：±2%
		Temperature Coefficient of Ioset	±0.03%/°C	±0.05%/°C
2025.12.11		Input AC Current	1.6A(Measured at full load and 480Vac input.)	1.9A(Measured at full load and 400Vac input.)
		Leakage Current	At 480Vac / 60Hz input , grounding effectively	At 400Vac / 50Hz input , grounding effectively
		PF&THD	At 277-480Vac, full load, 25°C and 60Hz	At 277-400Vac, full load, 25°C and 50Hz
		Lifetime	Measured at 480Vac input, 80%Load and 75°C case temperature; See lifetime vs. Tc curve for the details	Measured at 400Vac input, 80%Load and 75°C case temperature; See lifetime vs. Tc curve for the details