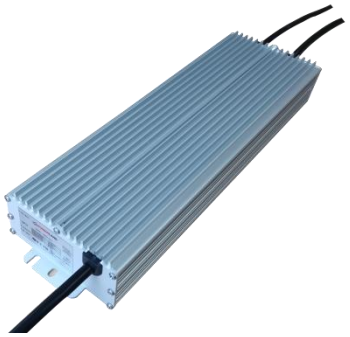
Features

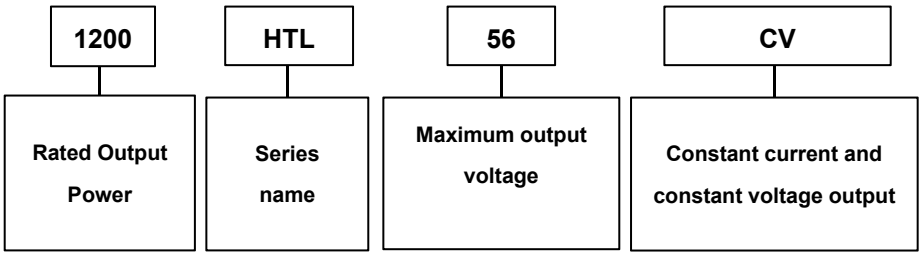


- Dimming port programming without driver power on
- CC/CV hybrid output
- High efficiency (typical 95%), active power factor correction
- Ultra low THD at light load
- Isolated 0~10V/ PWM/Rset dimming, Dim to off option
- 12V/200mA AUX Output

Description

1200W 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) @277Vac
1200HTL56CV	1200W	10.00-25.00A	28-56V	48-56V	95%
1200HTL180CV	1200W	3.33-8.33A	86-180V	144-180V	95%
1200HTL260CV	1200W	2.31-5.77A	124-260V	208-260V	95%

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Rated Input AC Voltage	100Vac	-	277 Vac	
Limit Input AC Voltage	90Vac	-	305 Vac	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75mA	At 277Vac / 60Hz input , grounding effectively
Input AC Current	-	-	12A	Measured at 25°C、full load and 100 Vac input
Inrush Peak Current	-	-	65A	At 277Vac input, 25°C cold start.
PF	0.90	-	-	At 100-277Vac, full load, 25°C and 50Hz
THD	-	-	20%	At 100-277Vac, full load, 25°C and 50Hz
Efficiency	94%	95%	-	Measured at 277Vac 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	-	-	61.6V	1200HTL56CV
	-	-	198V	1200HTL180CV
	-	-	286V	1200HTL260CV
Line Regulation	-	-	±1%	Measured at 25°C and full load
Load Regulation	-	-	±1%	At 25°C condition
Turn-on Delay Time	-	0.8 s	1.5 s	Measured at 277Vac input.
Temperature Coefficient of Ioset	-0.03%/°C	-	0.03%/°C	Case temperature = 0°C ~Tc max
12V Auxiliary Output Voltage	11V	12 V	15 V	
12V Auxiliary Output Current	0 mA	-	200 mA	Return terminal is “Dim−“
OTP Tc	85°C	90°C	100°C	Output current will drop to 50% lowest, or shut down.
SCP				Auxiliary source: Hiccup mode, Auto recover Main output：Locked
OCP				Locked or Auto recover

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Standby power	-	-	1W	Measured at 277Vac/50Hz; 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 277Vac input, 100% 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)	 16.93 × 3.89 × 1.93 430 × 98.8 × 49			
Net Weight	-	TBD	-	

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(Note2)	-	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	6%	8%	10%	
PWM Dimming on	8%	10%	12%	

Note2: The dimming depth is related to the voltage of the LED lamp, and the lamp voltage of more than 50 V is required to meet the requirements.

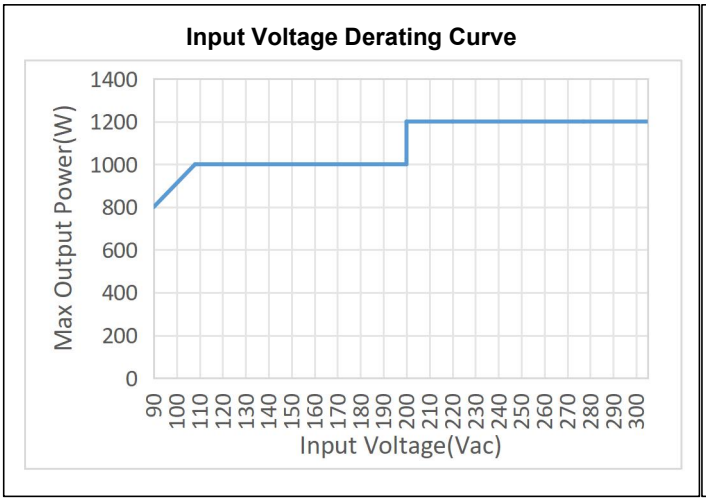
Safety &EMC Compliance

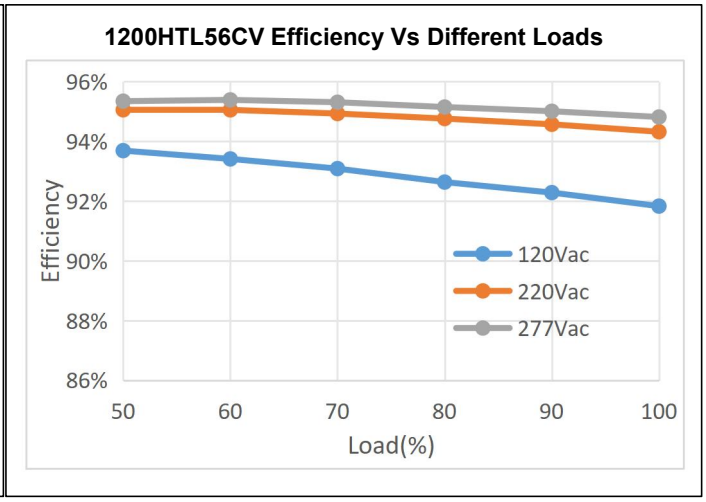
Safety Category	Standard
UL/CUL	UL8750,CAN/CSA-C22.2 No. 250.13-12
CE	EN61347-1, EN 61347-2-13
Dielectric Strength(Hi-pot)	Primary to Secondary: 3200Vac 10mA max
	Primary to Earth: 1600Vac 10mA max.
	Secondary to Earth: 500Vac 10mA max(1200HTL56CV). 1400Vac 10mA max(1200HTL180CV). 1600Vac 10mA max(1200HTL260CV).
	Dimming to Output: 500Vac 10mA max(1200HTL56CV). 1400Vac 10mA max(1200HTL180CV). 1600Vac 10mA max(1200HTL260CV).
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

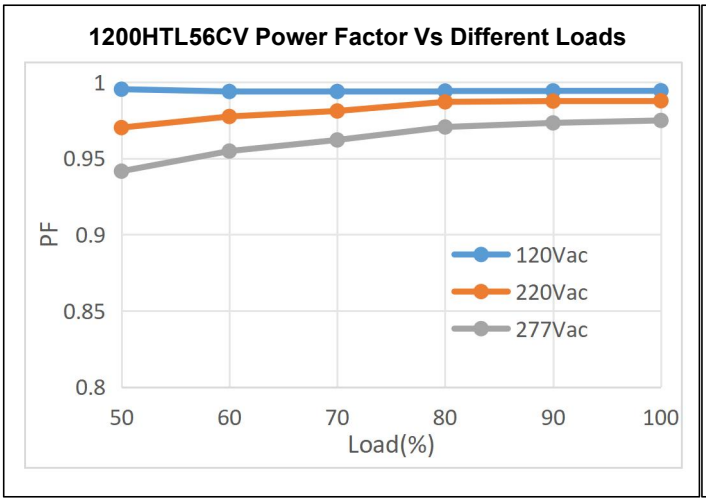
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge, criteria A
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS, criteria A
EN 61000-4-4	Electrical Fast Transient / Burst-EFT: level 3, criteria B
EN 61000-4-5	Surge Immunity Test: AC Power Line: 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

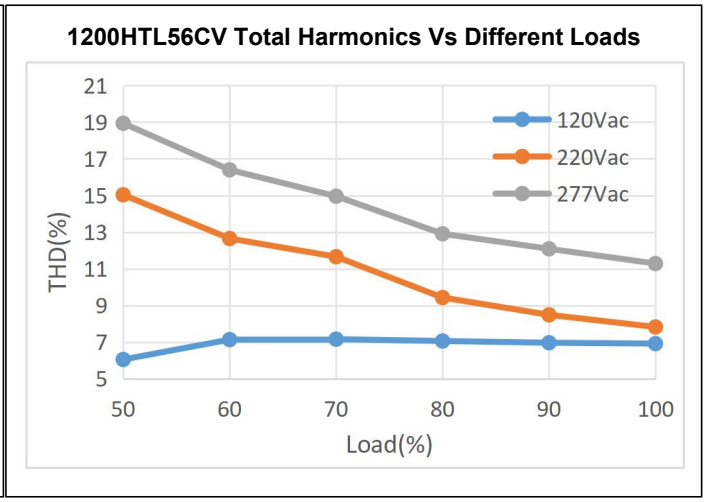
Note3：This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

Performance Curve

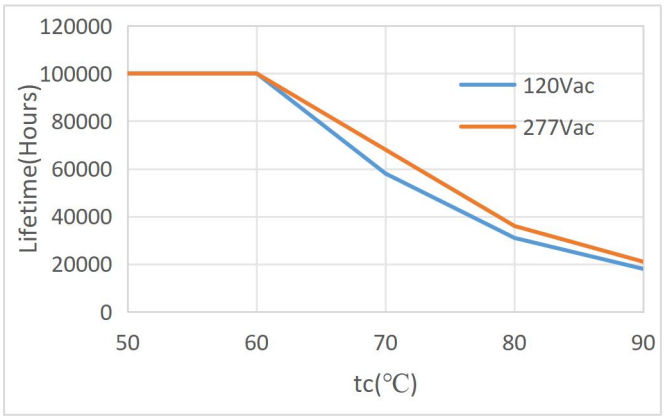




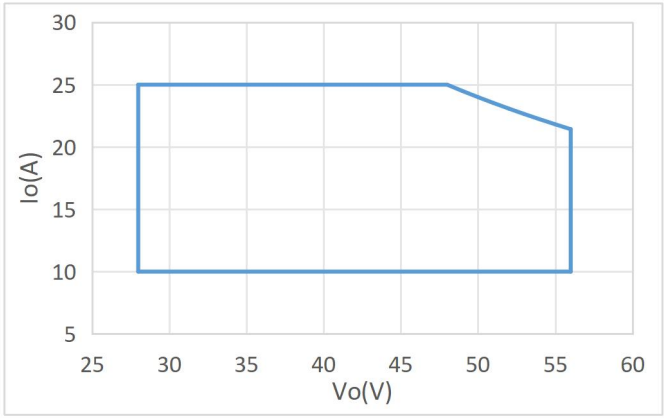




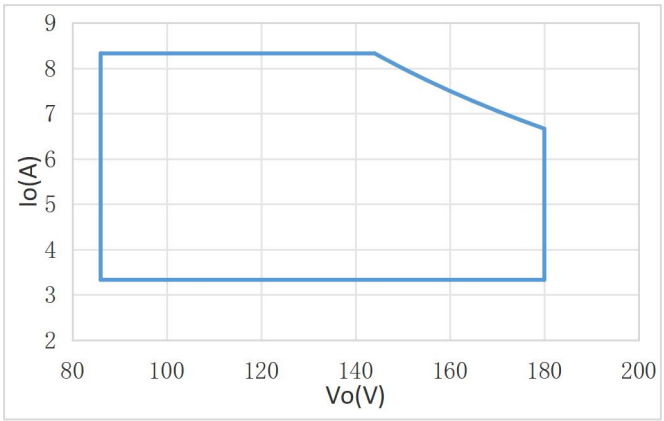
Lifetime Vs Case Temperature



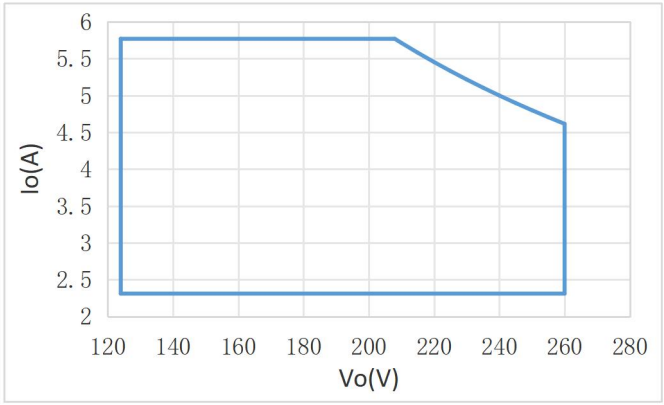
1200HTL56CV I/V Operating Area



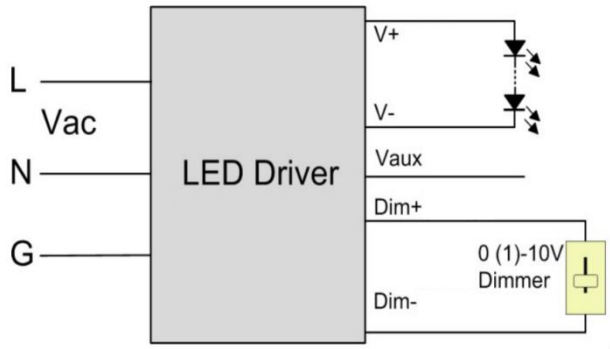
1200HTL180CV I/V Operating Area



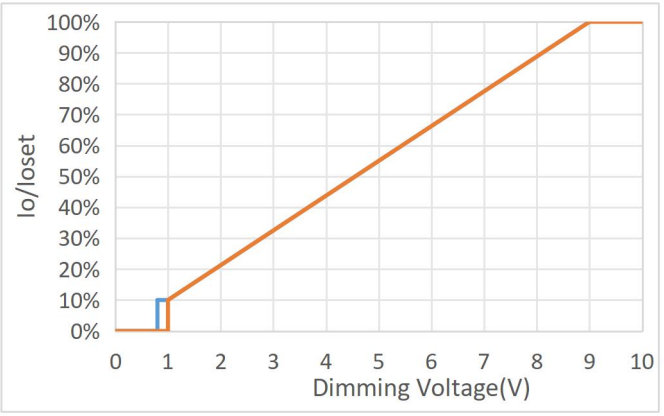
1200HTL260CV I/V Operating Area

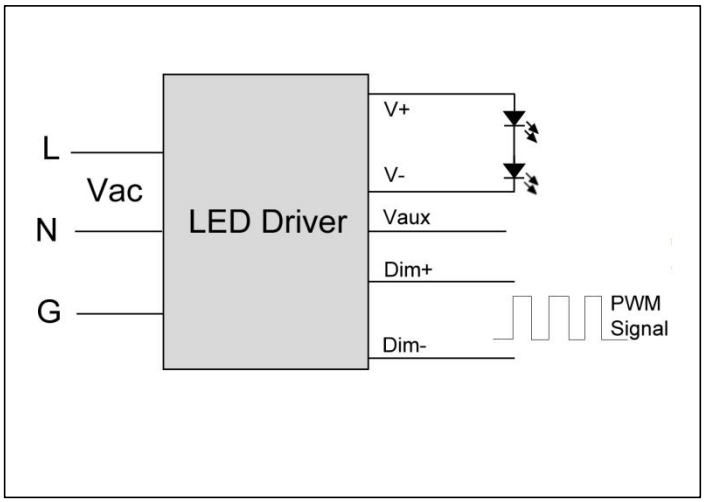


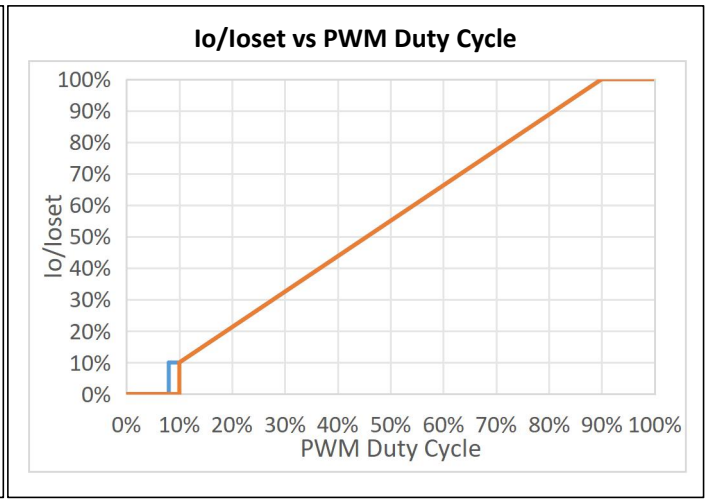
0-10V Analog Dimming &PWM Dimming

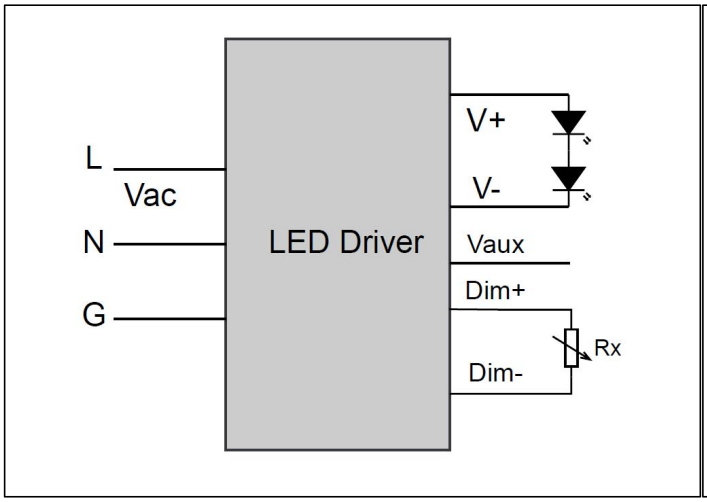


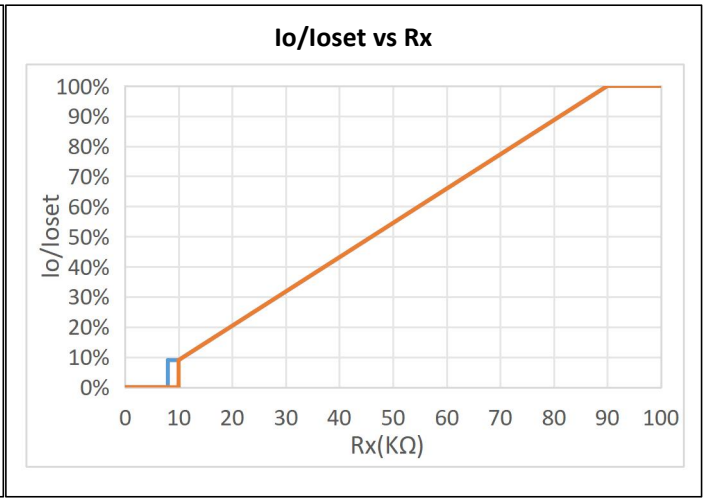
Io/Ioset vs Dimming Voltage



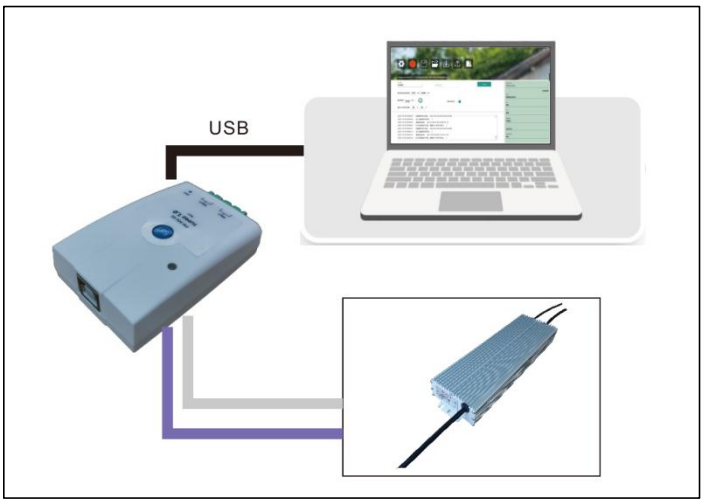




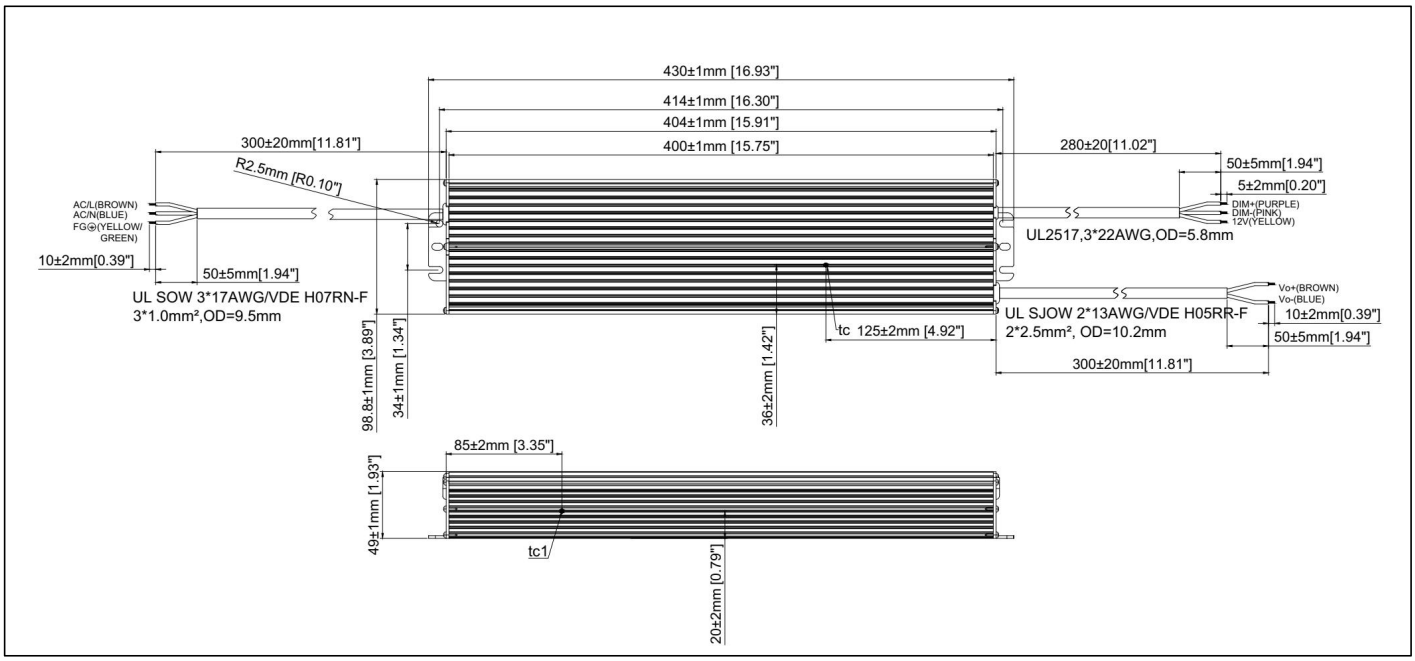




Programming wiring diagram



Mechanical Specification



Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2024.6.3	V1.0			
2024.11.7	V1.1	Update Mechanical Specification		
		Dimming Output Range	Min：10%Io set Min：8%Io max	Typ.：10%Io set Typ.：8%Io max
		Update Input Voltage Derating Curve		
		Efficiency	typical 96%	typical 95%
2025.4.28	V1.2	PF/THD		Add 25°C and 50Hz
		Input Specifications		Add efficiency
		Total Output Current Ripple (pk-pk)	At 25°C and full load condition, 200Hz BW.	At 25°C and full load condition, 8kHz BW.
		Startup Overshoot Current	At 25°C and full load condition	At 25°C and full load condition, 8kHz BW.
		Update No Load Output Voltage		
		Line Regulation/Load Regulation		Add 25°C
		Add OCP/IP Grade		
		MTBF	Typ：234,000Hours	Min：234,000Hours
		Lifetime	Typ：50,000Hours；Measured at 277Vac input, 80%load and 75°C case temperature; See lifetime vs. Tc curve for the details	Min：50,000Hours；Measured at 277Vac input, 100%load and 75°C case temperature; See lifetime vs. Tc curve for the details

		Update Dielectric Strength(Hi-pot)		
		Update Performance Curve and Mechanical Specification		