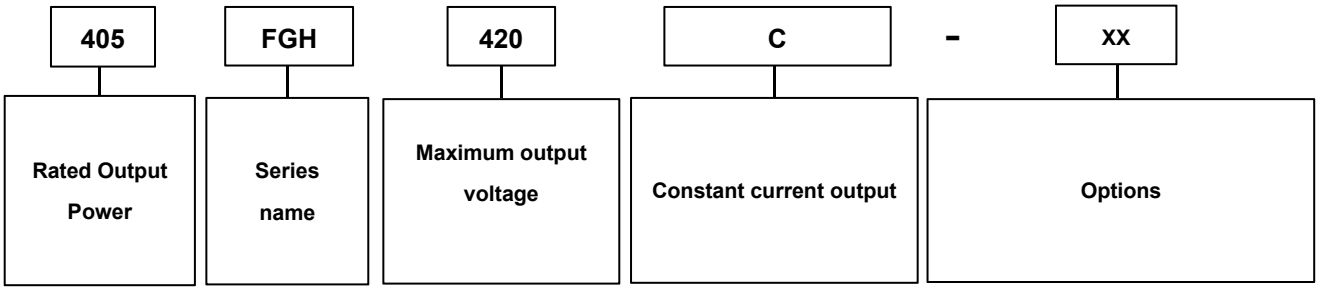
Features

- High efficiency: 96% typical @347Vac, full load
- High power factor: 0.95 typical. @ 347Vac, full load
- Isolated 0-10V/PWM/ Resistor Dimming
- 12V/200mA AUX Output
- With Lightning Protection & all-round protections (OVP,OCP,SCP,OTP)
- Comply with UL8750 & EN61347-2-13 Safety Regulation

Description

This specification describes the performance characteristics of a 405W/2A versatile power supply for LED Driver.
The output current of this series are programmable, and designed for 0-10V/PWM/Resistor dimming applications.

Model Name Definition



Specifications

Part Number	Max. Output Power	Programmable Current Range per channel	Output Voltage Range	Efficiency typical @347VAC
405FGH420C	405W	0.8-2A	150-420V	96%

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input AC Voltage	200 Vac	-	528 Vac	
Input Frequency	47 Hz	50/60 Hz	63 Hz	
Leakage Current	-	-	0.75 mA	At 440Vac / 60Hz input , grounding effectively
Input AC Current	-	-	1.05A	Measured at full load and 440 Vac input.
	-	-	1.4A	Measured at full load and 347 Vac input.
	-	-	1.75A	Measured at full load and 277 Vac input.
Inrush Current	-	-	30A	At 440Vac input, 25°C cold start.
PF	0.95	-	-	At 220-480Vac, 80%-100% load
THD	-	-	20%	At 220-480Vac, 80%-100% load

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	-	-	10%Io max	At 25°C and full load condition, 8kHz BW
Line Regulation	-	-	±3%	Measured at 25°C and full load
Load Regulation	-	-	±3%	At 25°C condition
Turn-on Delay Time	-	-	1.5 s	Measured at 277/347/440Vac input.
Temperature Coefficient of Io set	-0.03%/°C	-	0.03%/°C	Case temperature = 0°C ~Tc max
OTP Tc	85°C	90°C	95°C	Output current will drop to 50% lowest, or shut down.
SCP				Hiccup mode, Auto recover
12V Auxiliary Output Voltage	11V	12 V	15V	
12V Auxiliary Output Source Current	0 mA	-	200 mA	Return terminal is “Dim−“

Note1：12V auxiliary source cannot be used in parallel.

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Standby power	-	-	1 W	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 347Vac 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 90%RH
Dimensions Inches (L × W × H) Millimeters (L × W × H)	7.32×3.31×1.87 186×84.1×47.6			

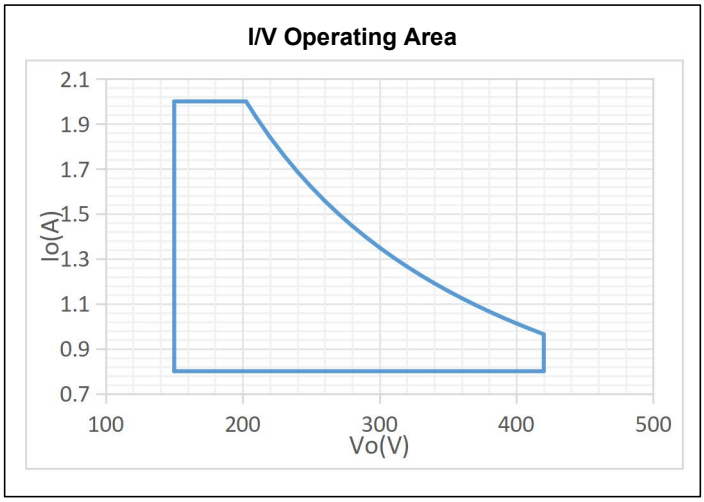
0-10V and PWM Dimming Specifications

Parameter	Min.	Typ.	Max.	Notes
Absolute Maximum Voltage on the Vdim (+) Pin	-1 V	-	15 V	
Source Current on Vdim (+)Pin	90uA	100uA	110uA	
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	0.3 V	0.5 V	0.8V	
Dim on Voltage	0.5V	0.7 V	1 V	
Hysteresis	-	0.2 V	-	
PWM_in High Level	9.5 V	10V	10.5 V	
PWM_in Low Level	-0.3 V	-	0.6 V	
PWM_in Frequency Range	500 Hz	-	3 KHz	
PWM_in Duty Cycle	1%	-	98%	
PWM Dimming off	3%	5%	8%	
PWM Dimming on	5%	7%	10%	

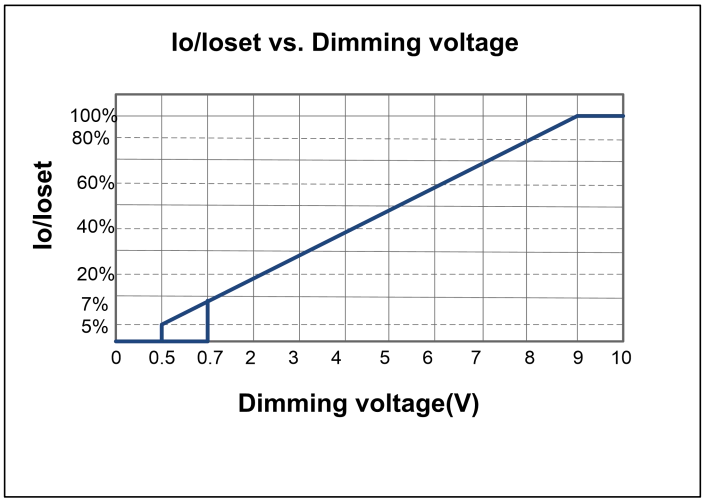
Safety &EMC Compliance

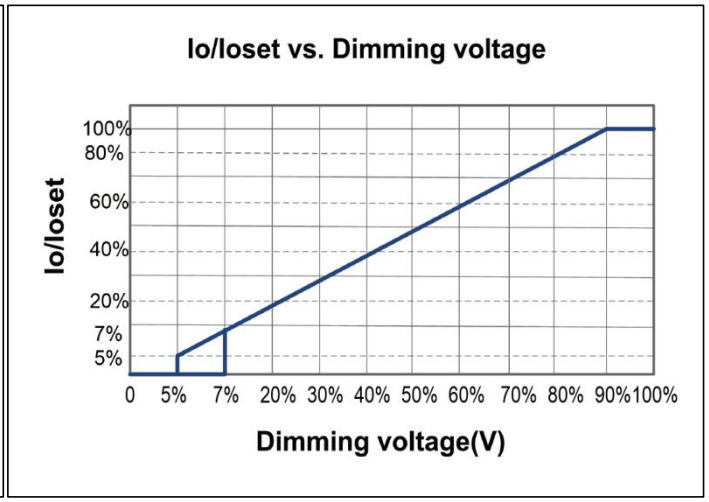
Safety Category	Standard
UL/CUL	UL8750,CAN/CSA-C22.2 No. 250.13-12
Dielectric Strength(Hi-pot)	Primary to Secondary:1960Vac / 10mAMax / 60seconds (3seconds for production) Short input L/N and output LED+/LED- together; Short 12V+/dim+/dim- together
	Primary to Earth: 1960Vac 10mA max./60 seconds (3 seconds for production) short input L/N and output LED+/LED- together
	Secondary to Earth: 1960Vac 10mA max./60 seconds (3 seconds for production) Short 12V+/dim+/dim- together
EMI Standards	Notes
EN55015	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: level 3, criteria B
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 4 kV, line to earth 6kV
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

Performance Curve

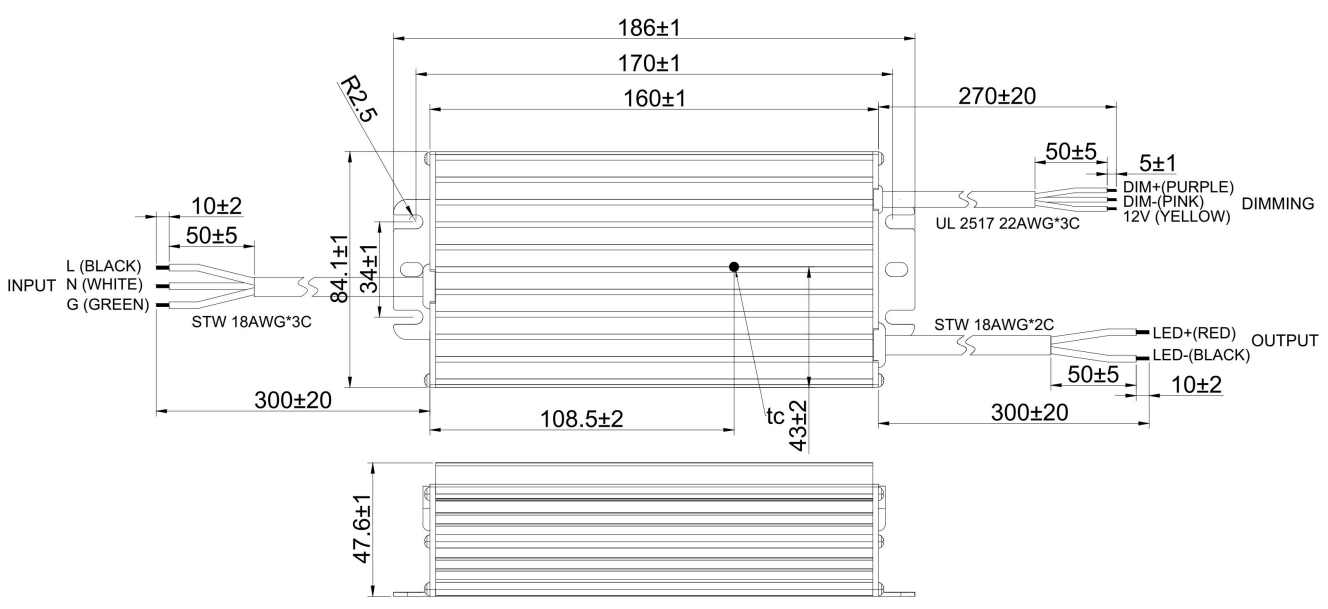


0-10V Analog Dimming &PWM Dimming





Mechanical Drawing



Unit:mm

Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2022/11/22	V1.0			
2024/4/29	V1.1	Update Mechanical Drawing		
		Inrush Current	Max：65A	Max：30A
2024/6/1	V1.2	Output Voltage Range	200-450V	150-420V
		Update I/V Operating Area		
		Update Mechanical Drawing		
2024/7/5	V1.3	Update Mechanical Drawing		
2024/8/16	V1.4	Update Mechanical Drawing		
2025/2/28	V1.5	Update Mechanical Drawing		
		Dimming Output Range	Min：10%Io set Min：8%Io max	Typ：10%Io set Typ：8%Io max
		PWM_in Duty Cycle	Max：98%	Max：100%
		PF/THD		Add 25°C and 60Hz
		Output Current Tolerance	At full load condition	At 25°C and full load condition
		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
		Line Regulation/Load Regulation		Add 25°C condition
2025/6/16	V1.6	Update Mechanical Drawing		