

680W Outdoor Programmable LED Driver



680AHP

High Reliability High Power Compact LED Driver



Highlights:

- 250VAC ~ 528VAC Wide Range High Line Input
- Constant Voltage and Constant Current
- Isolated 0-10V/PWM Dimming
- Dim to off option
- 12V 0.2A Auxiliary Output
- IP67
- Up to 95% Efficiency
- -40°C to +90°C Operation, up to +50°C without derating
- 5 Years Life
- Programmable through NFC
- UL recognized with HL/TL

Key Specification

Model	680ATP36	680ATP48	680ATP56	680ATP80	680ATP140	680ATP180	680ATP240	680ATP300	680ATP375
Output Voltage Range	18-36V	25-48V	28-56V	38-80V	47-140V	84-180V	115-240V	144-300V	180-375V
Output Current Range	8-20A	5.7-14.2A	5-12.5A	3.8-9.4A	2.1-5.4A	1.7-4.3A	1.3-3.1A	1.0-2.5A	0.8-2.0A
Rated Output Power	680W								
Dimming	0-10V, PWM								
Warranty	3 Years								
Dimension	280mm x 90.1mm x 47.2mm or 12.0" x 3.55" x 1.86"								
EMI	Compliance to EN55015:2013+A1:2015								
Safety Compliance	Compliance UL8750, UL935, UL1012, CSA-C22.2 No.107.1, EN61347-1, EN61347-2-13								

Model Name

680	AHP	36	□ □
Rated Power	Series Name	Maximum Output Voltage: 36: 36V 48: 48V 300: 300V	Control Code for Internal Use CV for standard version

SPECIFICATIONS

All specifications are for rated input/output and 25°C unless otherwise specified

INPUT CHARACTERISTICS

Function	Minimum	Typical	Maximum	Condition
Rated Input Voltage	277 VAC		480 VAC	
Input Voltage Range	250 VAC		528 VAC	No derating for whole input range
Input Frequency	47 Hz	50/60Hz	63 Hz	
Input Current			2.1 A	@ 347VAC
Efficiency		95%		Rated Input and Output
Power Factor		0.95		Rated Input and Output
THD			20%	
Inrush Current			65 A	230VAC Input, Cold Start

OUTPUT & CONTROL CHARACTERISTICS

Function	Minimum	Typical	Maximum	Condition
Output Voltage Initial Tolerance			±3%	
Line Regulation			±1%	
Load Regulation			±1%	
Output Voltage Ripple & Noise in CV Mode			1%	Peak to peak value
Turn on delay			3s	
Auxiliary Power Voltage	10 V		15 V	
Auxiliary Power Output Current			0.2 A	
Dimming Voltage	0 V		10 V	
Dimming Source Current			0.5 mA	
PWM Dimming Signal Low Level			0.8 V	
PWM Dimming Signal High Level	2.3 V			

PROTECTION CHARACTERISTICS

Function	Minimum	Typical	Maximum	Condition
Over Current Protection (OCP)			105% Maximum Output Current	Constant Current Limiting. Return to normal operation after fault removed
Short Circuit Protection (SCP)				Auto-restart after fault condition is removed
Over Voltage Protection (OVP)			105% Rated Output Voltage	Auto-restart after fault condition is removed
Over Temperature Protection (OTP)				Auto-restart after fault condition is removed

ENVIRONMENTAL

Function	Minimum	Typical	Maximum	Condition
Operation Ambient Temperature, Ta	-40 °C		50 °C	Without extra heatsink
Operation Case Temperature, Tc	-40 °C		92 °C	
Cooling				Convection Cooled
IP Grade	IP67			
Operation Humidity	10% RH		95% RH	Non-condensing
Storage Ambient Temperature	-40 °C		85 °C	
Storage Humidity	5% RH		95% RH	Non-condensing
Operating Altitude			5000 m	Or 16,400 feet
Vibration (Operation)			5 g _{RMS}	10-500Hz, 12 Minutes for each three axis in both direction, total 72 Minutes
Weight			2.25 kg	

RELIABILITY

Function	Minimum	Typical	Maximum	Condition
MTBF	200 kHours			According to MIL-HDBK-217. 25°C

EMC

Item	Description
Conducted Emissions	EN55015:2013+A1:2015
Radiated Emissions	EN55015:2013+A1:2015
Harmonic Current Emissions	IEC61000-3-2, Class C
Voltage Flicker	IEC61000-3-3
Electrostatic Discharge	IEC61000-4-2, Level 3, Criteria A. Air Discharge 8kV, Contact Discharge 6kV
Surge	IEC61000-4-5, Criteria A. Common mode 10kV, Differential Mode 6kV
Conducted Immunity	IEC61000-4-6, Level 2 Criteria A. 150kHz-80MHz, 3Vrms, 6Vrms at ISM Band and Amateur radio bands
Radiated, radio-frequency, electromagnetic field immunity	IEC61000-4-3, Criterion A, 80MHz-2700MHz, 10V/m 80%AM 1kHz modulation
Power Frequency Magnetic Fields	IEC61000-4-8, Criteria A. 30A/m
Voltage Dips	IEC61000-4-11 Criteria A & B: 30% 10ms, Criteria B: 60% 100ms, 100% 500ms

SAFETY & DIRECTIVES

Item	Description
Safety Standards (Compliance Only)	UL8750:2017 UL935:2001 UL1012:2016 CSA-C22.2 No.107.1 EN61347-1:2015 EN61347-2-13:2014+A1:2017
Directives	RoHS Directive 2011/65/EU Compliant
Dielectric Voltage	Primary to Secondary: 3.75 kVAC Primary to Earth: 1.5 kVAC Secondary to Earth: 1.5kVAC
Insulation Resistance	Primary to Secondary: >100 Mohms
Leakage Current @277VAC, 60Hz	< 0.75mA

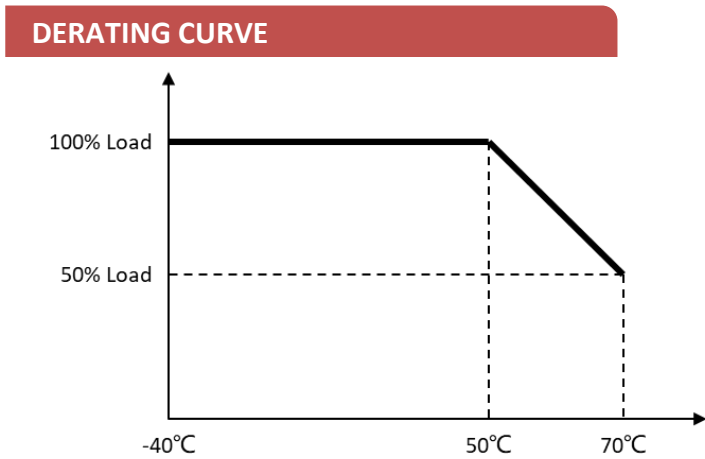


Figure 1. Derating v.s. Ambient Temperature

DIMMING

0-10V Dimming Curve

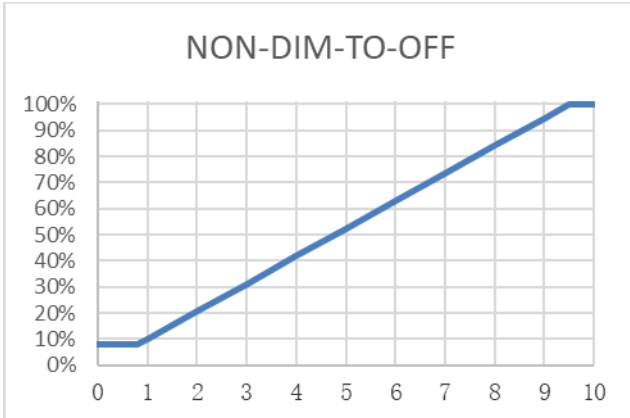


Figure 3

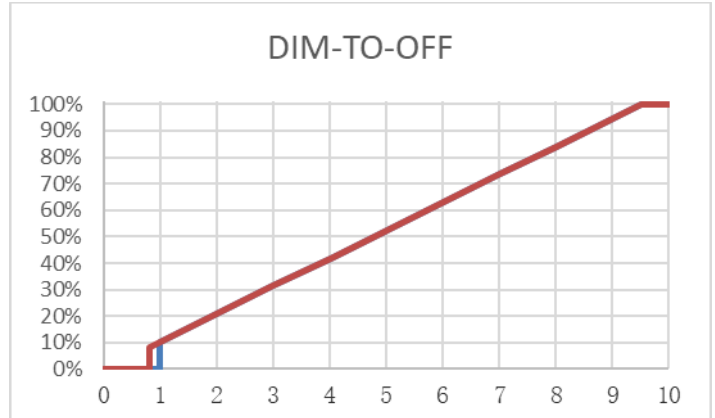


Figure 4

PWM Dimming

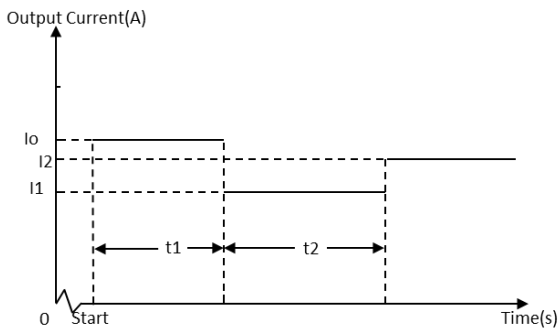


Figure 5

- All parameter can be pre-programmed according to customer requirement
- All parameter can be programmed by user using NFC interface
- Time duration adjustment step is 0.5 hour
- PWM frequency range: 0.4 ~ 10kHz

ACCESSORY

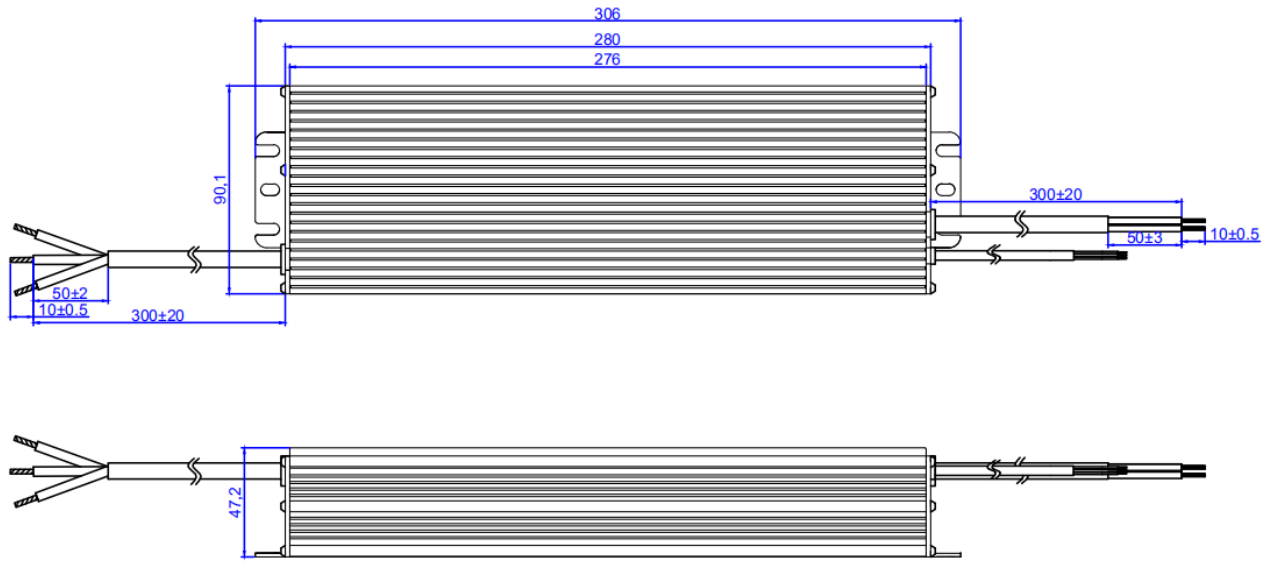
NFC Controller



Figure 6

- NFC controller sold separately, order P/N: WAND-001
- LED Driver output voltage, current and dimming information can be programmed
- LED Driver shall be programmed at power off

MECHANICAL DRAWING



Input Cable

Black	Line
White	Neutral
Yellow/Green	Functional Ground

Output Cable

Red	Output +
Black	Output -

Dimming Cable

Yellow	12V Auxiliary Power
Grey	GND
Purple	Dimming Wire, 0-10V/PWM

CONTACTS & OTHER INFORMATION

For more information, please visit www.appliedpsu.com

For sales inquiries, please send an email to sales@appliedpsu.com

User manual and other document available at www.appliedpsu.com/support