

ARCH ALF60 LED Power Datasheet

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KEY FEATURES

- IP66/67 Design for Indoor or LED Outdoor Installations
- Universal Input: 90-305 VAC
- Three in one dimming function (Just For IP67 Design)
(1~10VDC & PWM Signal or resistance)
- <0.5W No Load Input Power
- Built-in Active PFC Function
- Free Air Convection
- High Reliability
- Output Voltage and Constant Current Level can Be
Adjusted Through Internal Potential Meter
- LED Power Application
- 3-Years Product Warranty

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IP66/67 CE
ELECTRICAL SPECIFICATIONS

Model No.	ALF60-24S	ALF60-36S	ALF60-48S	ALF60-54S
Max Output Wattage (W)	60W			
Input	Voltage			
	90-305 VAC or 127-430 VDC			
	Frequency (Hz)			
	47-63 Hz			
	Current (Full load)			
	0.64 A max. (115 VAC) / 0.32 A max. (230 VAC) / 0.3 A max. (277 VAC)			
Inrush Current (<2ms) (Cold Start)				
40 A max. (115 VAC) / 70 A max. (230 VAC)				
Leakage Current				
<0.75 mA max.				
Power Factor				
PF>0.97 (115 VAC) / PF>0.9 (230 VAC) at Full Load				
Output	Voltage (V.DC.)			
	24V	36V	48V	54V
	Constant Current Range (V.DC.)			
	15.5 ~ 24V	21.6 ~ 36V	28.8 ~ 48V	32.4 ~ 54V
	Voltage Accuracy			
	±2%			
	Current Accuracy			
	±10%			
	Current (Convection) (mA) max			
	2500	1666	1250	1111
	Current ADJ Range (mA)			
	1500 ~ 2500	999 ~ 1666	750 ~ 1250	666 ~ 1111
	Voltage ADJ Range (V.DC.) (10-100% Load) (for IP66 Design)			
	23.5 ~ 26V	34.5 ~ 37.5V	46 ~ 48.5V	53 ~ 55.5V
Line Regulation (10-100%)				
±1%				
Load Regulation (10-100%)				
±1%				
Minimum Load				
3%				
Ripple & Noise (max.)			250mVp-p	
200mVp-p				
Efficiency (typ.)				
88%	89%	89%	89%	
Hold-up Time				
25 ms min.				
Protection	Over Power Protection			
	Auto recovery, 105 ~ 160% rated output power			
	Over Voltage Protection(for C.C Mode)			
Auto recovery				
Short Circuit Protection				
Auto recovery				
Isolation	Input-Output (V.AC)			
	3750V			
	Input-FG (V.AC)			
1880V				
Output-FG (V.AC)				
500V				
Environment	Operating Temperature			
	-40°C...+70°C (with derating)			
	Storage Temperature			
	-40°C...+85°C			
	Temperature Coefficient			
	±0.02%/°C (0~50°C)			
Humidity				
95% RH				
MTBF				
>100,000 h @ 25°C (MIL-HDBK-217F)				
Vibration				
10~500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes.				

1. All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

2. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.

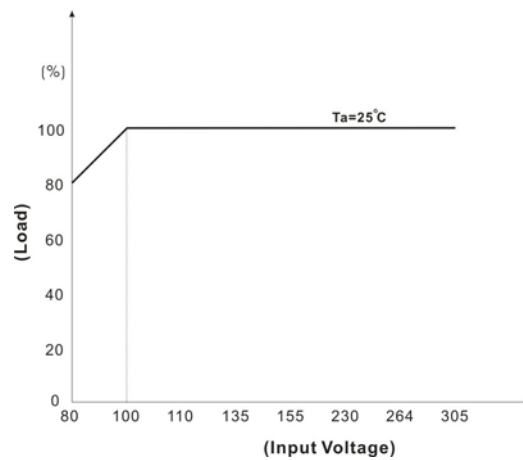
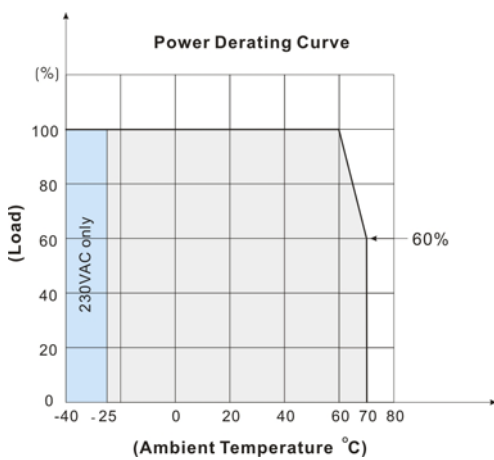
Model No.	ALF60-24S	ALF60-36S	ALF60-48S	ALF60-54S
Physical	Dimension (L x W x H) 4.76 x 2.36 x 1.38 Inches (120.9 x 60.0 x 35.0 mm) Tolerance ± 2 mm			
	Weight 500 g $\pm 15\%$			
	Cooling Method Free air convection			
Safety	Agency Approvals EN61347-1:2008 、 EN61347-2-13:2006 (Pending)			
EMC	EMI (Conducted & Radiated Emission) EN 55015 、 Class B (Pending)			
	EMS (Noise Immunity) EN 61547 (Pending)			
	Surge 2KV L-L, 4KV L-E			

- All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.
- Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.

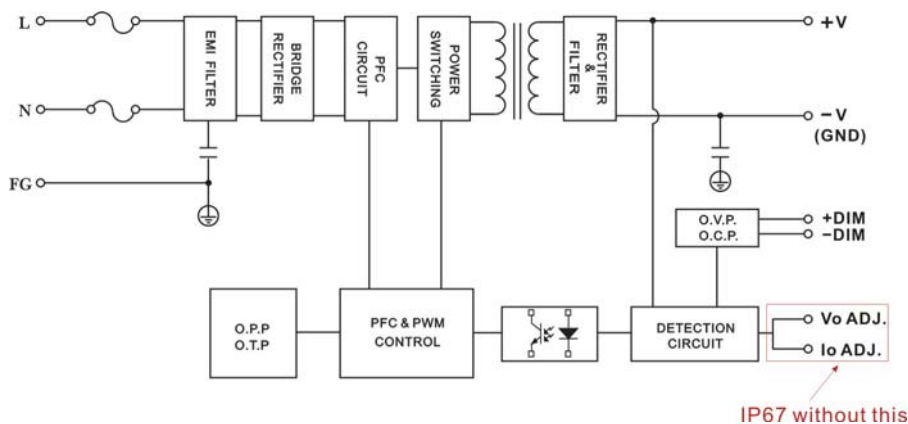
This series has IP65 and IP67, when you place order, please be noted as ordering Part No.

Model No.	ALF60-24S	ALF60-36S	ALF60-48S	ALF60-54S	
Ordering Part No	IP66	ALF60-24S-IP66	ALF60-36S-IP66	ALF60-48S-IP66	ALF60-54S-IP66
	IP67	ALF60-24S-IP67	ALF60-36S-IP67	ALF60-48S-IP67	ALF60-54S-IP67

DERATING

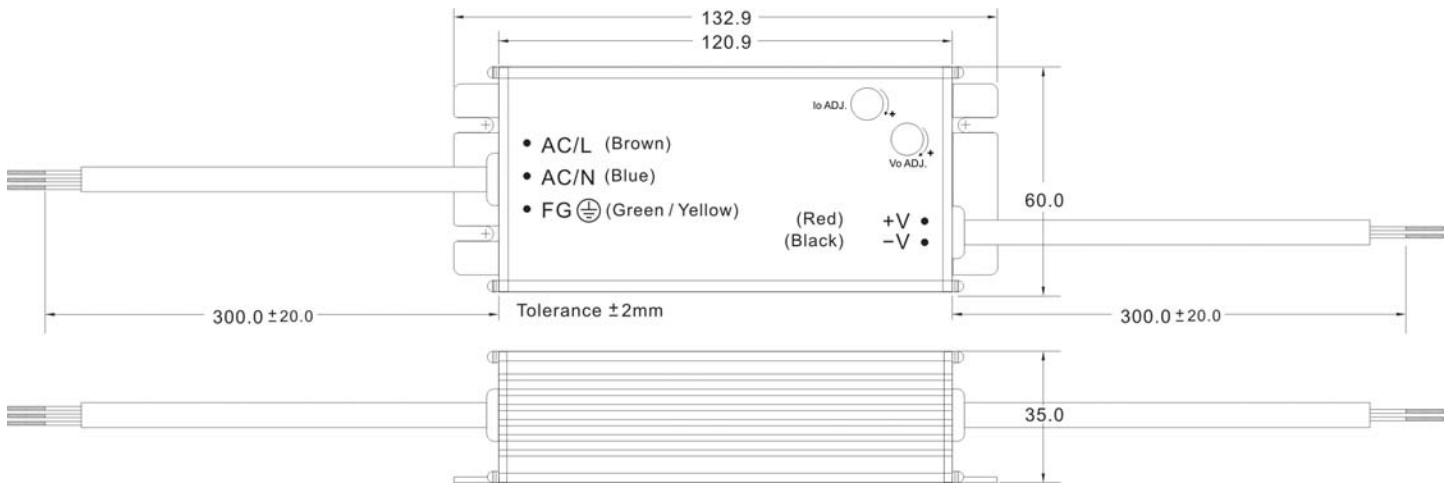


BLOCK DIAGRAM

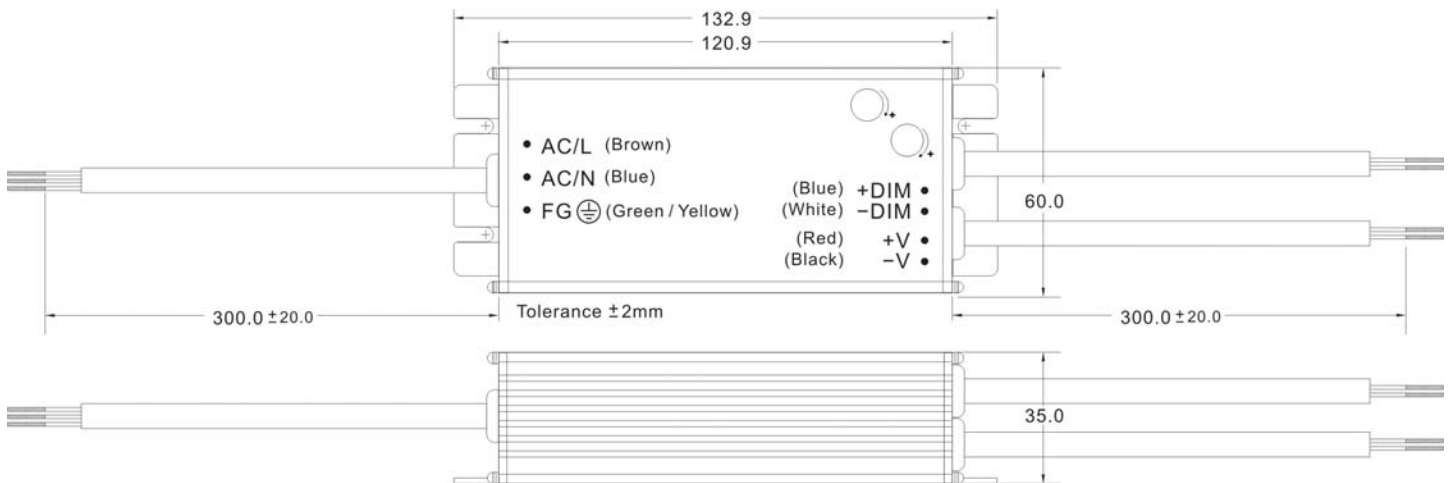


MECHANICAL DIMENSION (Top View)

IP66 Design



IP67 Design



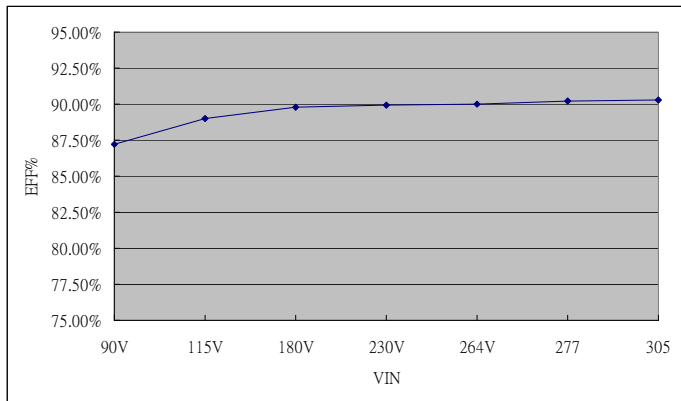
ASSEMBLY INSTRUCTIONS

*U Case T=2.5mm

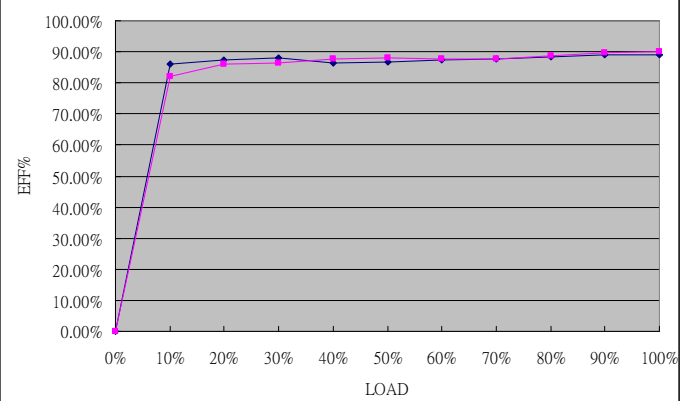
Customer screws into the length of the case no higher than 0.5mm
(Namely screw length for load plate thickness plus 3.0mm)

EFFICIENCY VERSUS LOAD
ALF60-24S
VIN VS Efficiency

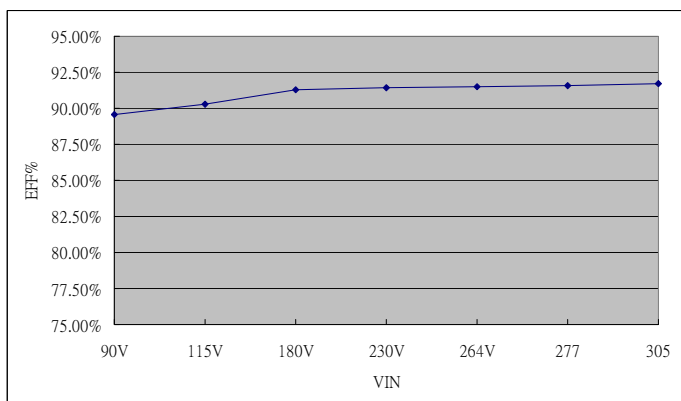
Input Voltage (V)	90	115	180	230	264
Efficiency (%)	87.20	89.00	89.80	89.90	90.00
Input Voltage (V)	277	305			
Efficiency (%)	90.20	90.30			


LOAD VS Efficiency

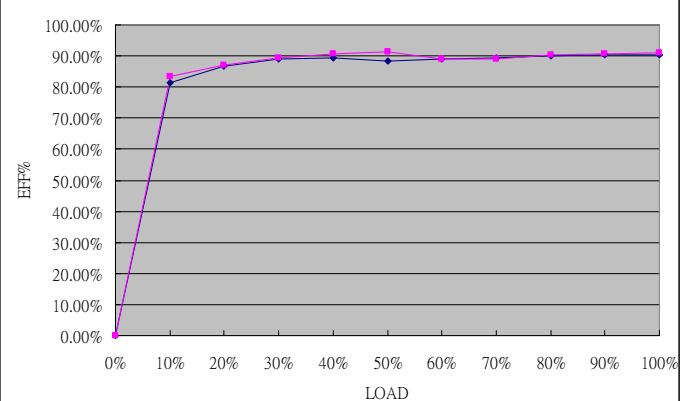
Load (%)	0	10	20	30	40	50
115V (%)	0.00	86.00	87.50	88.00	86.50	86.69
230V (%)	0.00	82.13	86.20	86.50	87.80	88.00
Load (%)	60	70	80	90	100	
115V (%)	87.50	87.70	88.30	89.00	89.07	
230V (%)	87.68	87.74	88.78	89.80	89.93	


ALF60-36S
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	89.60	90.30	91.30	91.43	91.50
Input Voltage (V)	277	305			
Efficiency (%)	91.60	91.70			

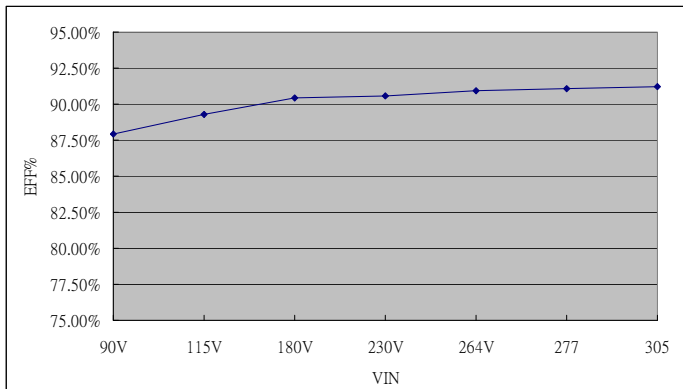

LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0.00	81.36	86.80	88.93	89.34	88.43
230V (%)	0.00	83.50	87.00	89.43	90.70	91.32
Load (%)	60	70	80	90	100	
115V (%)	89.00	89.42	90.00	90.30	90.50	
230V (%)	89.00	89.16	90.50	90.80	91.10	

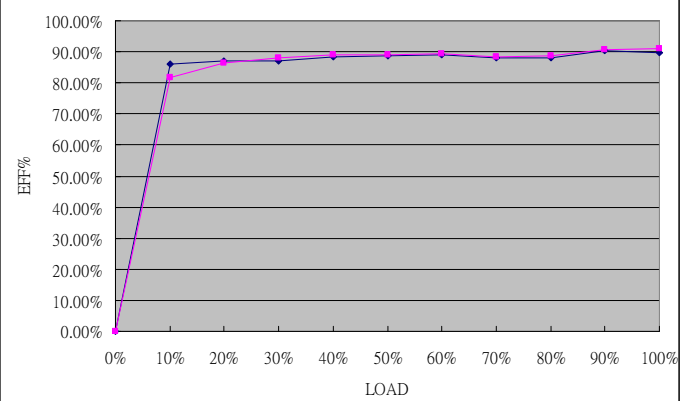


EFFICIENCY VERSUS LOAD
ALF60-48S
VIN VS Efficiency

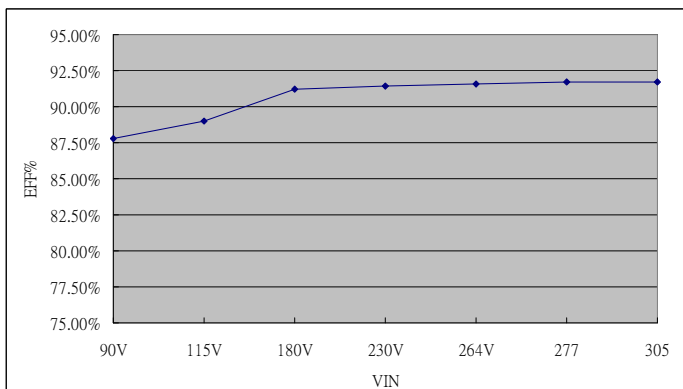
Input Voltage (V)	90	115	180	230	264
Efficiency (%)	87.90	89.30	90.45	90.60	90.90
Input Voltage (V)	277	305			
Efficiency (%)	91.10	91.22			


LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0.00	86.00	87.10	87.00	88.50	88.80
230V (%)	0.00	81.60	86.40	88.00	89.00	89.15
Load (%)	60	70	80	90	100	
115V (%)	89.00	88.00	88.15	90.30	89.55	
230V (%)	89.30	88.50	88.71	90.80	90.92	


ALF60-54S
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	87.78	89.00	91.25	91.45	91.60
Input Voltage (V)	277	305			
Efficiency (%)	91.70	91.75			


LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0.00	86.00	87.10	87.00	88.50	88.80
230V (%)	0.00	81.60	86.40	88.00	89.00	89.15
Load (%)	60	70	80	90	100	
115V (%)	87.80	89.00	89.25	89.75	90.00	
230V (%)	89.30	89.70	90.20	90.75	91.39	

