

ARCH ALF80 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.	ALF80-24S	ALF80-36S	ALF80-48S	ALF80-54S
Max Output Wattage (W)	80W			
Input	Voltage			
	90-305 VAC or 127-430 VDC			
	Frequency (Hz)			
	47-63 Hz			
	Current (Full load)			
	0.85 A max. (115 VAC) / 0.425 A max. (230 VAC) / 0.4 A max. (277 VAC)			
Output	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			
	Voltage (V.DC.)			
	24V			
	Constant Current Range (V.DC.)			
	15.5 ~ 24V			
	Voltage Accuracy			
	±2%			
	Current Accuracy			
	±10%			
Current (Convection) (mA) max				
3333				
Current ADJ Range (mA)				
1999 ~ 3333				
Voltage ADJ Range (V.DC.) (10-100% Load) (for IP66 Design)				
23.5 ~ 26V				
Line Regulation (10-100%)				
±1%				
Load Regulation (10-100%)				
±1%				
Minimum Load				
3%				
Ripple & Noise (max.)				
200mVp-p				
Efficiency (typ.)				
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				
Isolation	Short Circuit Protection			
	Auto recovery			
	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.

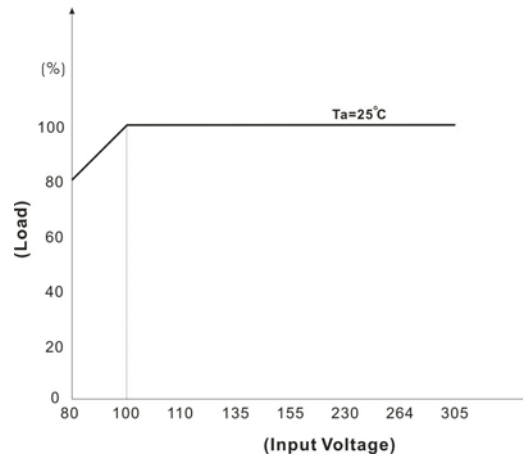
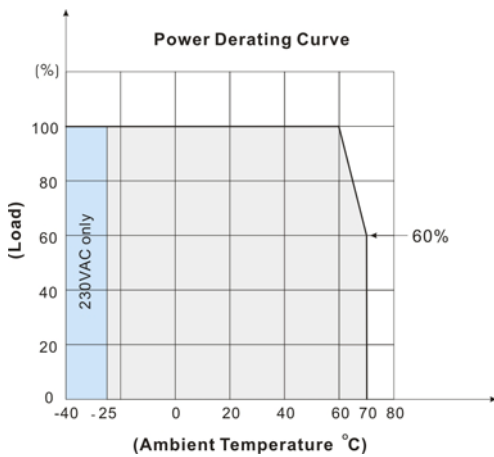
Model No.		ALF80-24S	ALF80-36S	ALF80-48S	ALF80-54S
Physical	Dimension (L x W x H)	4.76 x 2.36 x 1.38 Inches (120.9 x 60.0 x 35.0 mm) Tolerance ± 2 mm			
	Weight	500 g $\pm 15\%$			
	Cooling Method	Free air convection			
Safety	Agency Approvals	EN61347-1:2008 、 EN61347-2-13:2006 (Pending)			
EMC	EMI (Conducted & Radiated Emission)	EN 55015 、 Class B (Pending)			
	EMS (Noise Immunity)	EN 61547 (Pending)			
	Surge	2KV L-L, 4KV L-E			

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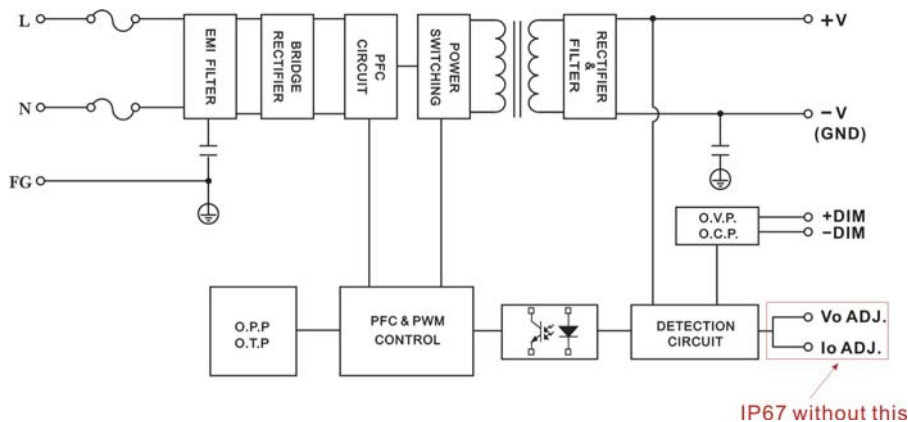
This series has IP65 and IP67, when you place order, please be noted as ordering Part No.

Model No.		ALF80-24S	ALF80-36S	ALF80-48S	ALF80-54S	ALF80-700	ALF80-350
Ordering Part No	IP66	ALF80-24S-IP66	ALF80-36S-IP66	ALF80-48S-IP66	ALF80-54S-IP66	ALF80-700-IP66	AL80-350-IP66
	IP67	ALF80-24S-IP67	ALF80-36S-IP67	ALF80-48S-IP67	ALF80-54S-IP67	ALF80-700-IP67	ALF80-350-IP67

DERATING

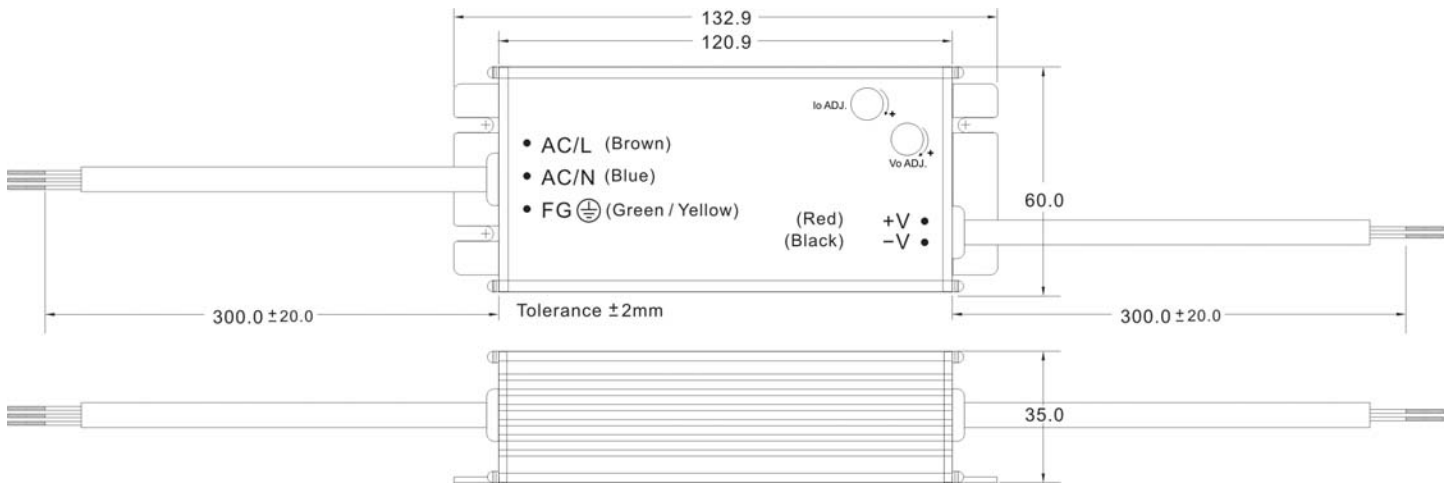


BLOCK DIAGRAM

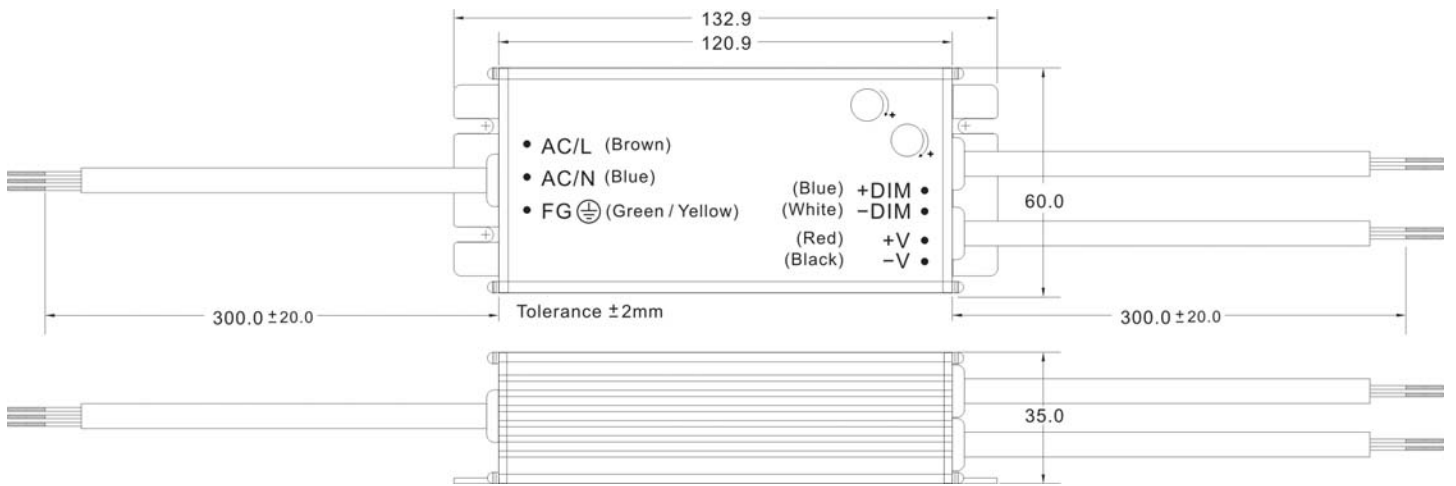


MECHANICAL DIMENSION (Top View)

IP66 Design



IP67 Design



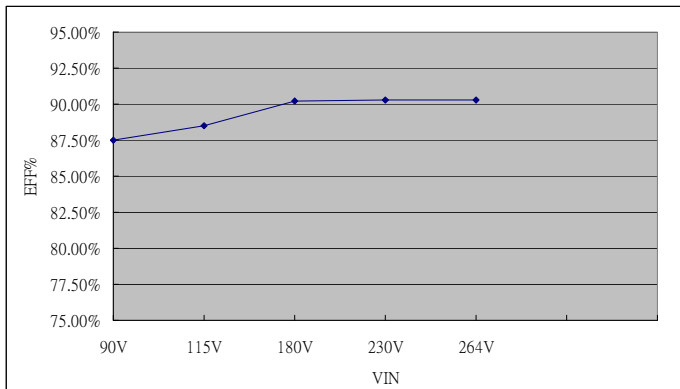
ASSEMBLY INSTRUCTIONS

*U Case T=2.5mm

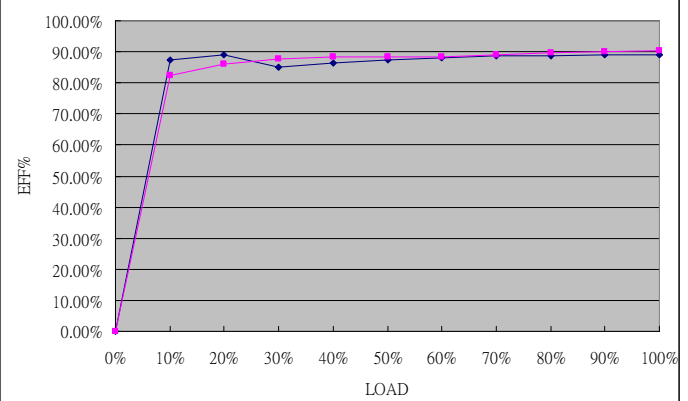
Customer screws into the length of the case no higher than 0.5mm
(Namely screw length for load plate thickness plus 3.0mm)

EFFICIENCY VERSUS LOAD
ALF80-24S
VIN VS Efficiency

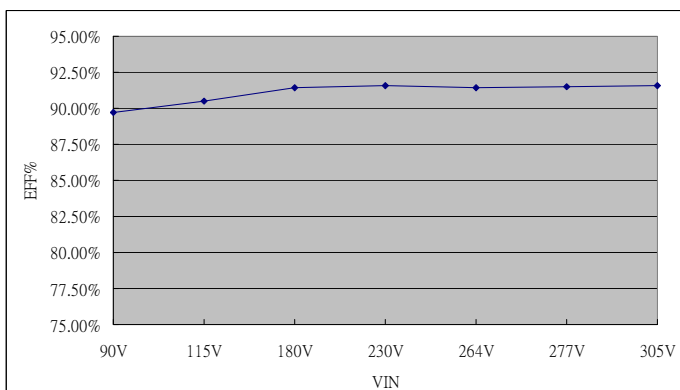
Input Voltage (V)	90	115	180	230	264
Efficiency (%)	87.50	88.50	90.20	90.30	90.27
Input Voltage (V)	277	305			
Efficiency (%)	90.40	90.50			


LOAD VS Efficiency

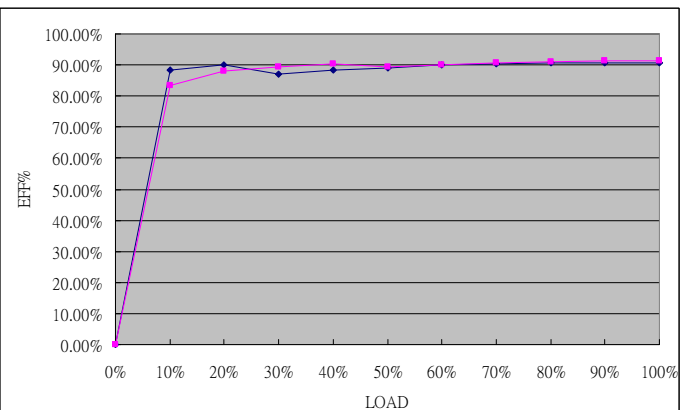
Load (%)	0	10	20	30	40	50
115V (%)	0.00	87.30	89.00	85.00	86.40	87.50
230V (%)	0.00	82.50	86.10	87.80	88.30	88.50
Load (%)	60	70	80	90	100	
115V (%)	88.20	88.70	88.80	89.00	89.00	
230V (%)	88.50	89.20	89.70	90.00	90.25	


ALF80-36S
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	89.70	90.50	91.40	91.60	91.40
Input Voltage (V)	277	305			
Efficiency (%)	91.50	91.60			

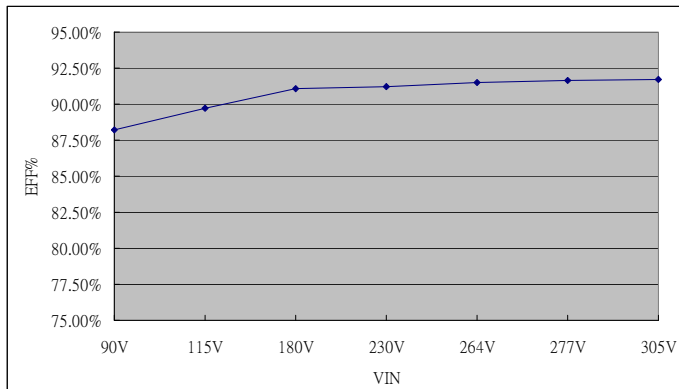

LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0.00	88.30	90.00	87.00	88.40	89.20
230V (%)	0.00	83.30	88.20	89.40	90.40	89.30
Load (%)	60	70	80	90	100	
115V (%)	90.00	90.50	90.60	90.80	90.70	
230V (%)	90.03	90.70	91.00	91.30	91.50	

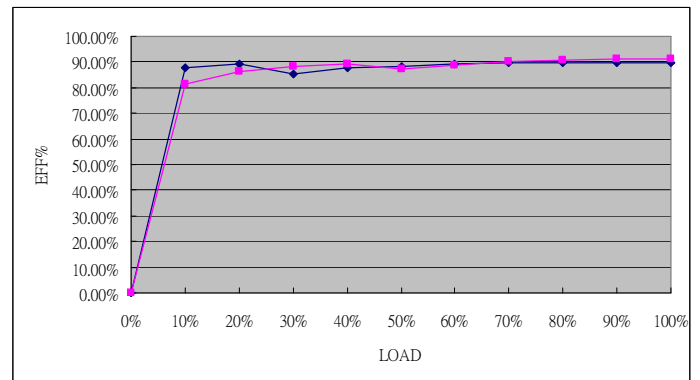


EFFICIENCY VERSUS LOAD
ALF80-48S
VIN VS Efficiency

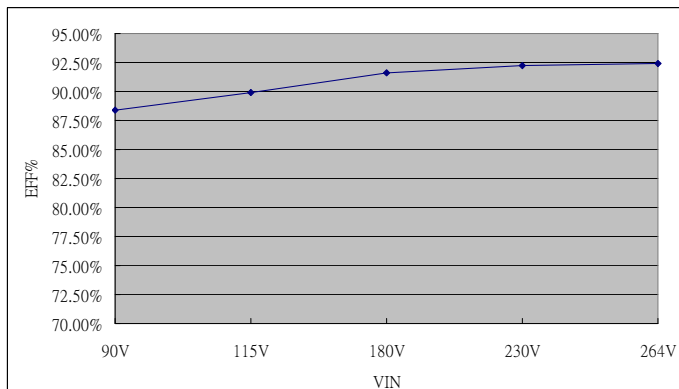
Input Voltage (V)	90	115	180	230	264
Efficiency (%)	88.18	89.72	91.05	91.21	91.52
Input Voltage (V)	277	305			
Efficiency (%)	91.62	91.72			


LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0.00	87.66	89.31	85.24	87.80	88.13
230V (%)	0.00	81.61	86.41	88.35	89.13	87.36
Load (%)	60	70	80	90	100	
115V (%)	89.01	89.48	89.65	89.83	89.90	
230V (%)	88.91	90.27	90.92	91.26	91.31	


ALF80-54S
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	88.40	89.92	91.59	92.24	92.45
Input Voltage (V)	277	305			
Efficiency (%)	92.55	92.65			


LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0	88.23	89.72	86.11	87.79	88.74
230V (%)	0	88.25	90.18	90.81	91.40	89.05
Load (%)	60	70	80	90	100	
115V (%)	89.58	90.14	90.49	90.50	89.92	
230V (%)	90.34	91.15	91.49	91.88	92.21	

