

**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 Potentiometer
- LED Power Application
- 3-Years Product Warranty


**IP66/67** 
**ELECTRICAL SPECIFICATIONS**

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

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.)	200mVp-p		250mVp-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.				

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

Model No.	ALF60-24S	ALF60-36S	ALF60-48S	ALF60-54S
Physical	Dimension (L x W x H) 4.72 x 2.36 x 1.38 Inches ( 120.0 x 60.0 x 35.0 mm ) Tolerance ±2mm			
	Weight 500 g ±15%			
	Cooling Method Free air convection			
Safety	Agency Approvals EN61347-1:2008 、 EN61347-2-13:2006			
EMC	EMI (Conducted & Radiated Emission) EN 55015 、 Class B			
	EMS (Noise Immunity) EN 61547			
	Surge 2KV L-L, 4KV L-E			

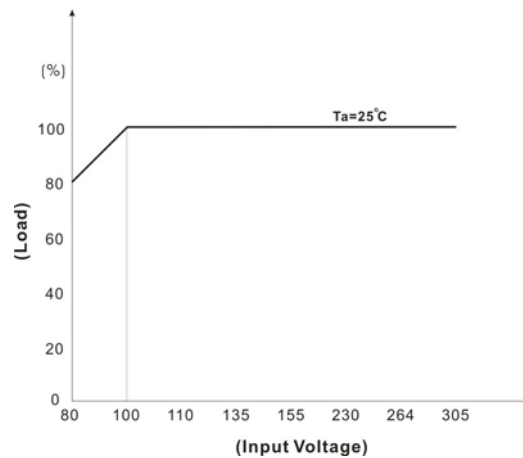
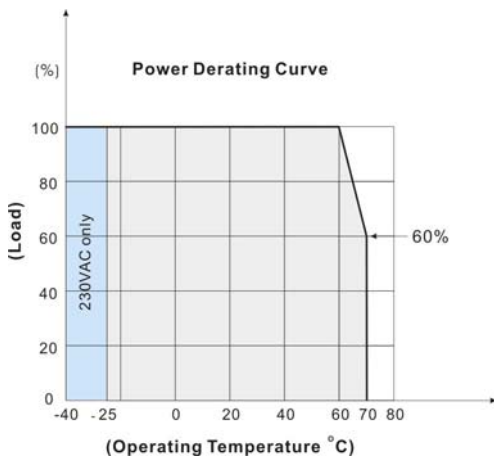
### NOTE

1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. It's recommended to add Varistor 14S561K at L / N input side in parallel.

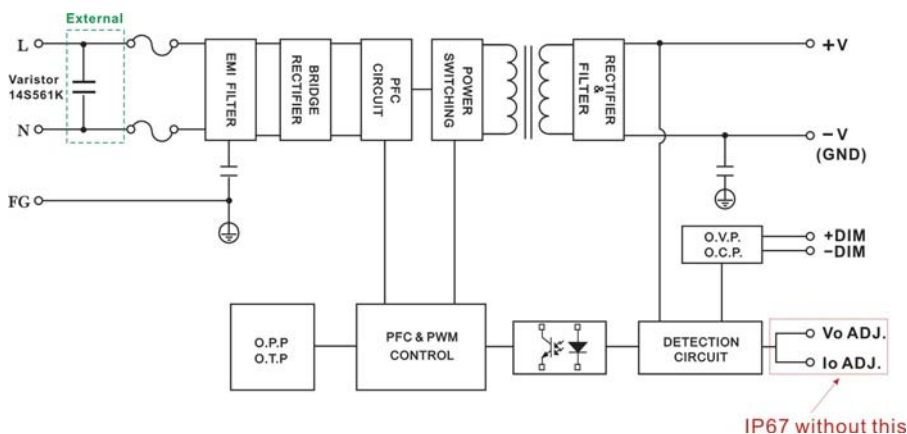
This series has IP66 and IP67, when you place order, please be noted as ordering Part No.

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

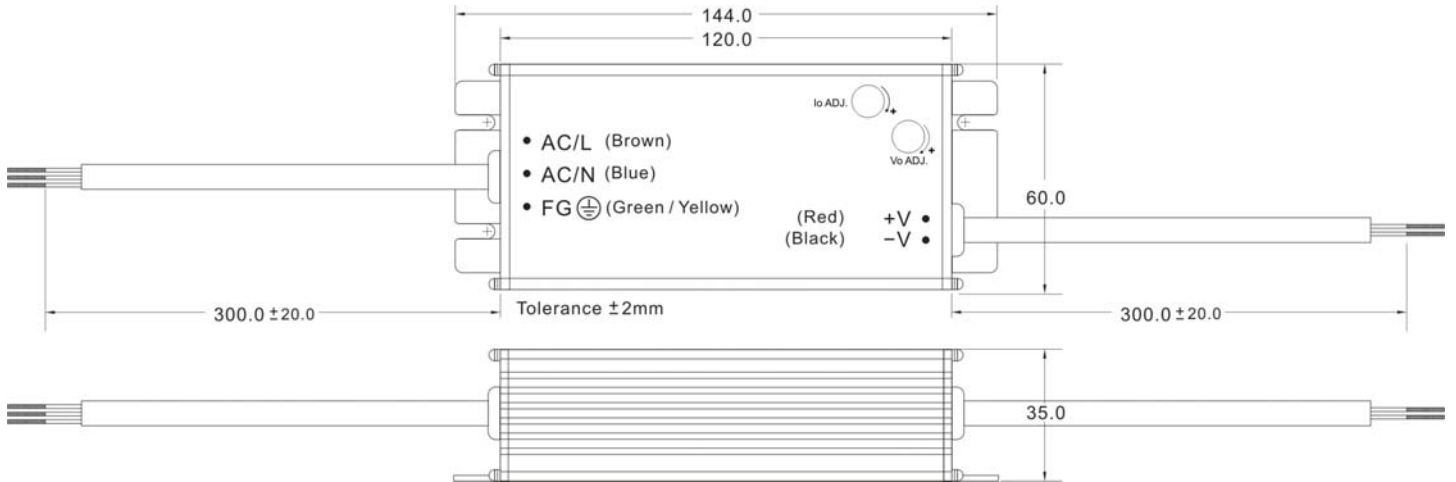


### BLOCK DIAGRAM

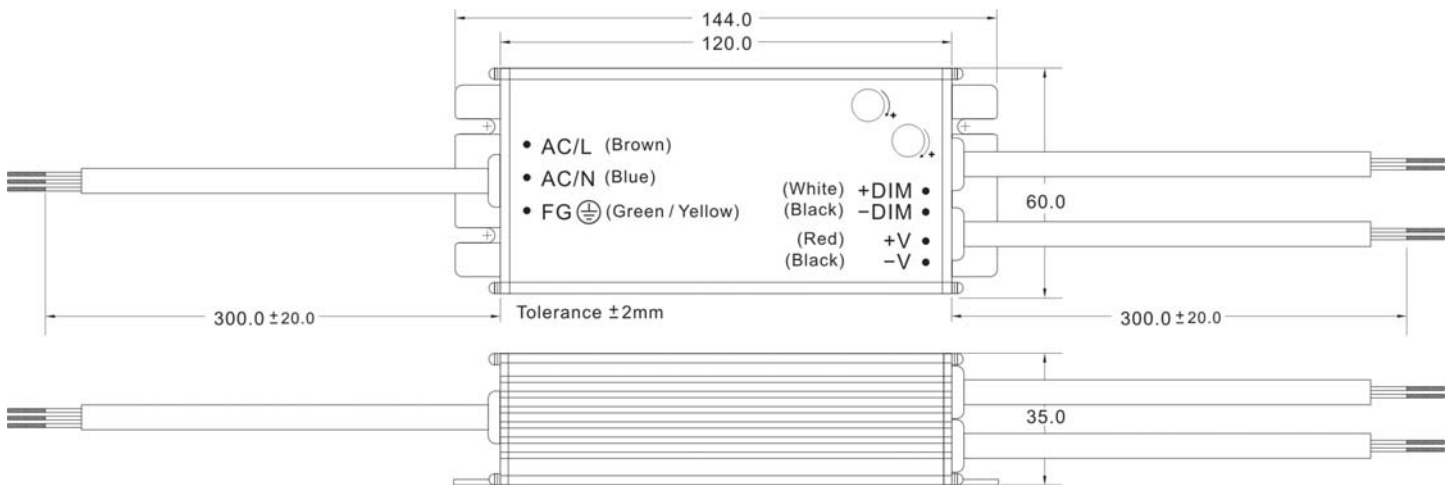


**MECHANICAL DIMENSION ( Top View )**

**IP66 Design**



**IP67 Design**



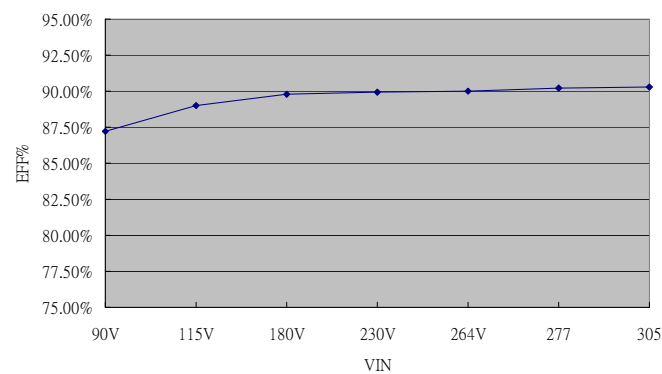
**ASSEMBLY INSTRUCTIONS**

\*U Case T=2.5mm

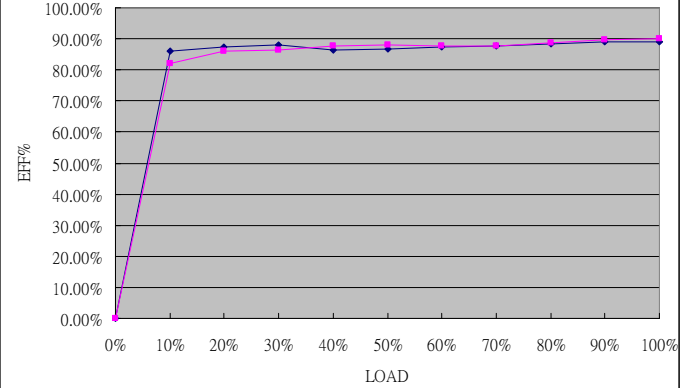
Customer screws into the length of the case no higher than 0.5mm  
(Namely screw length for load plate thickness plus 3.0mm)

**EFFICIENCY VERSUS LOAD**
**ALF60-24S**
**VIN VS Efficiency**

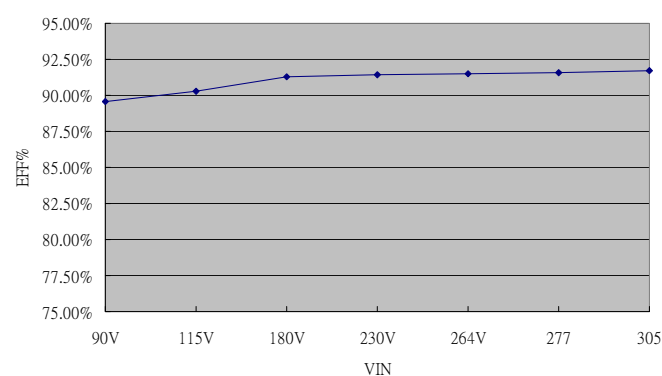
Input Voltage (V)	90	115	180	230	264
Efficiency (%)	87.20	89.00	89.80	89.90	90.00
Input Voltage (V)	277	305			
Efficiency (%)	90.20	90.30			


**LOAD VS Efficiency**

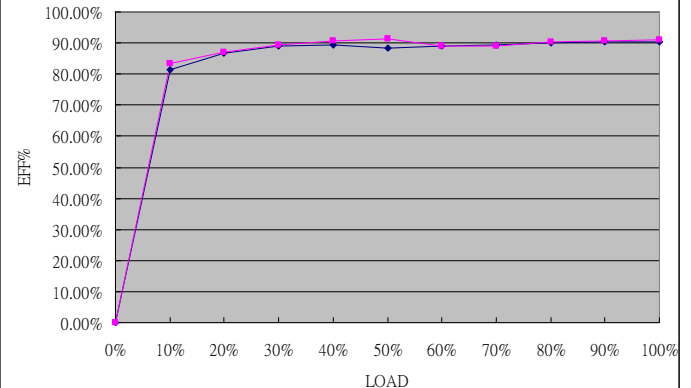
Load (%)	0	10	20	30	40	50
115V (%)	0.00	86.00	87.50	88.00	86.50	86.69
230V (%)	0.00	82.13	86.20	86.50	87.80	88.00
Load (%)	60	70	80	90	100	
115V (%)	87.50	87.70	88.30	89.00	89.07	
230V (%)	87.68	87.74	88.78	89.80	89.93	


**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			

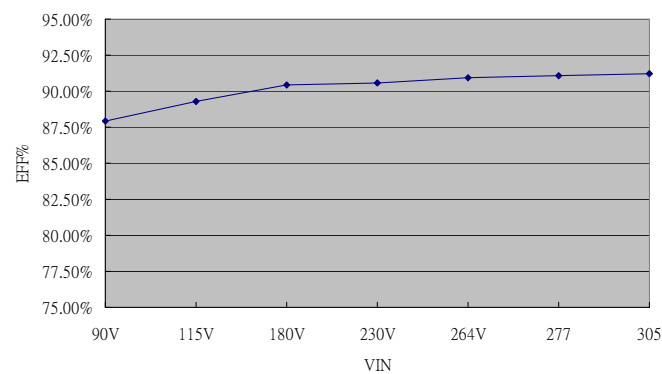

**LOAD VS Efficiency**

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	

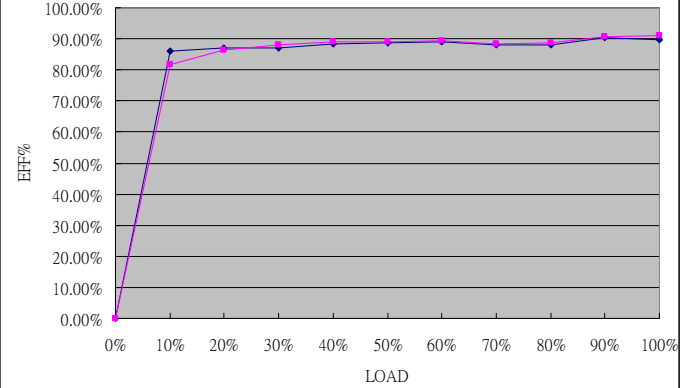


**EFFICIENCY VERSUS LOAD**
**ALF60-48S**
**VIN VS Efficiency**

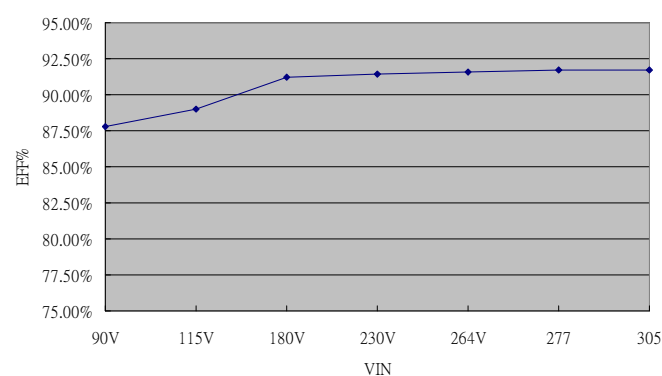
Input Voltage (V)	90	115	180	230	264
Efficiency (%)	87.90	89.30	90.45	90.60	90.90
Input Voltage (V)	277	305			
Efficiency (%)	91.10	91.22			


**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	

