

## KEY FEATURES

- IP65/67 Design for Indoor or LED Outdoor Installations
- Universal Input: 90-305 VAC or 120-430 VDC
- Built-in Active PFC Function
- Free Air Convection
- High Reliability
- With Constant Current & Constant Voltage
- Output Voltage and Constant Current Level can Be Adjusted Through Internal Potentiometer
- LED Power Application
- 3-Year Product Warranty



## ELECTRICAL SPECIFICATIONS

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

Model No.	ALF150-12S	ALF150-24S	ALF150-36S	ALF150-48S	ALF150-54S
Max Output Wattage (W)	150W				
Input	Voltage				
	90-305 VAC or 120-430 VDC				
	Frequency (Hz)				
	47-63 Hz				
	Current (Full load)				
	2 A max. (115 VAC) / 1 A max. (230 VAC) / 0.9 A max. (277 VAC)				
Output	Inrush Current (<2ms)				
	40 A max. (115 VAC) / 60 A max. (230 VAC)				
	Leakage Current				
	<0.75 mA max.				
	Power Factor				
	PF>0.97 (115 VAC) / PF>0.95 (230 VAC) / PF>0.9 (277 VAC) at Full Load				
	Voltage (V.DC.)				
	12V				
	24V				
	36V				
	48V				
	54V				
	Constant Current Range (V.DC.)				
	6 ~ 12V				
12 ~ 24V					
18 ~ 36V					
24 ~ 48V					
27 ~ 54V					
Voltage Accuracy					
±2%					
Current (Convection) (mA) max					
12500					
6250					
4166					
3125					
2777					
Current ADJ Range (mA)					
1250~12500					
625 ~ 6250					
416 ~ 4166					
312 ~ 3125					
277 ~ 2777					
Voltage ADJ Range (V.DC.) (for IP65 Design)					
10.8 ~ 13.2V					
21.6 ~ 26.4V					
32.4 ~ 38.5V					
43.2 ~ 50.4V					
48.6 ~ 55.5V					
Line Regulation					
±1%					
Load Regulation					
±1%					
Minimum Load					
1%					
Maximum Capacitive Load					
100,000 uF					
50,000 uF					
33,000 uF					
6,000 uF					
6,000 uF					
Ripple & Noise (max.)					
100mVp-p					
100mVp-p					
100mVp-p					
200mVp-p					
200mVp-p					
Efficiency (typ.)					
90.5%					
92.5%					
93.5%					
92.5%					
92.5%					
Hold-up Time					
25 ms min.					
Safety	Agency Approvals				
UL 8750 · EN61347-1:2008 · EN61347-2-13:2006					
EMC	EMI (Conducted & Radiated Emission)				
	EN 55015 · Class B				
	EMS (Noise Immunity)				
EN 61547					
Surge					
IP65 Design :1KV L-N, 2KV L N-FG / IP67 Design :2KV L-N, 4KV L N-FG					

## 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.

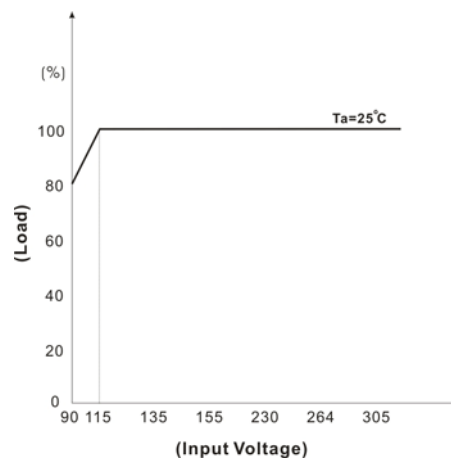
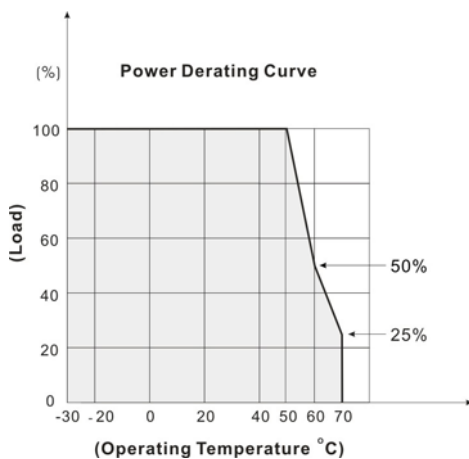
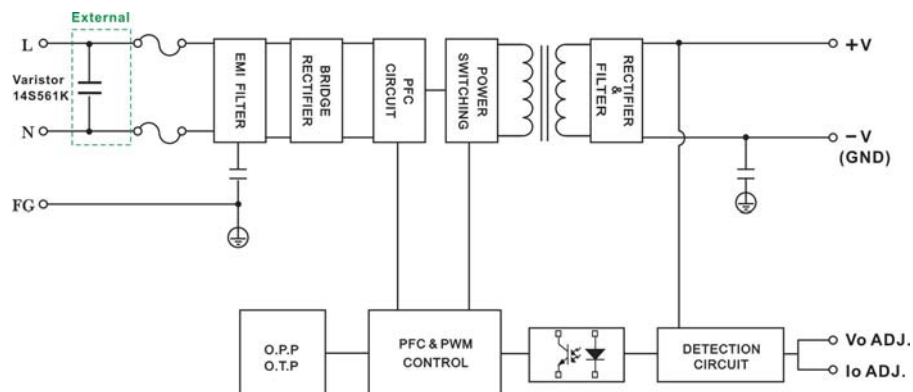
**ELECTRICAL SPECIFICATIONS**

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

Model No.	ALF150-12S	ALF150-24S	ALF150-36S	ALF150-48S	ALF150-54S	
Protection	Over Power Protection	Auto recovery				
	Over Voltage Protection	Auto recovery				
	Overt Temperature Protection	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	-30°C...+70°C (with derating)				
	Storage Temperature	-40°C...+85°C				
	Temperature Coefficient	±0.02%/°C ( 0~50°C )				
	Humidity	95% RH				
	MTBF	>127,000 h @ 25°C (MIL-HDBK-217F)				
Physical	Vibration	10~500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes.				
	Dimension (L x W x H)	6.44 x 2.79 x 1.5 Inches ( 163.7 x 71.0 x 38.0 mm ) Tolerance ±0.5 mm				
	Weight	635 g				
	Cooling Method	Free air convection				

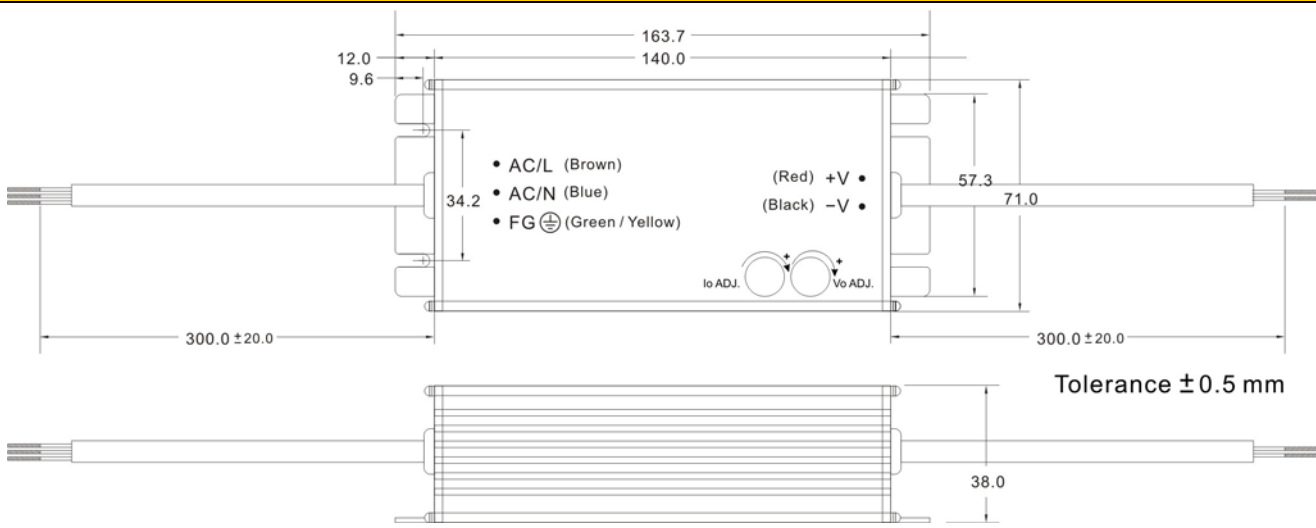
This series has IP65 and IP67, when you place order, please be noted as ordering Part No.

Model No.	ALF100-12S	ALF100-24S	ALF100-36S	ALF100-48S	ALF100-54S	
Ordering Part No	IP65	ALF100-12S-IP65	ALF100-24S-IP65	ALF100-36S-IP65	ALF100-48S-IP65	ALF100-54S-IP65
	IP67	ALF100-12S-IP67	ALF100-24S-IP67	ALF100-36S-IP67	ALF100-48S-IP67	ALF100-54S-IP67

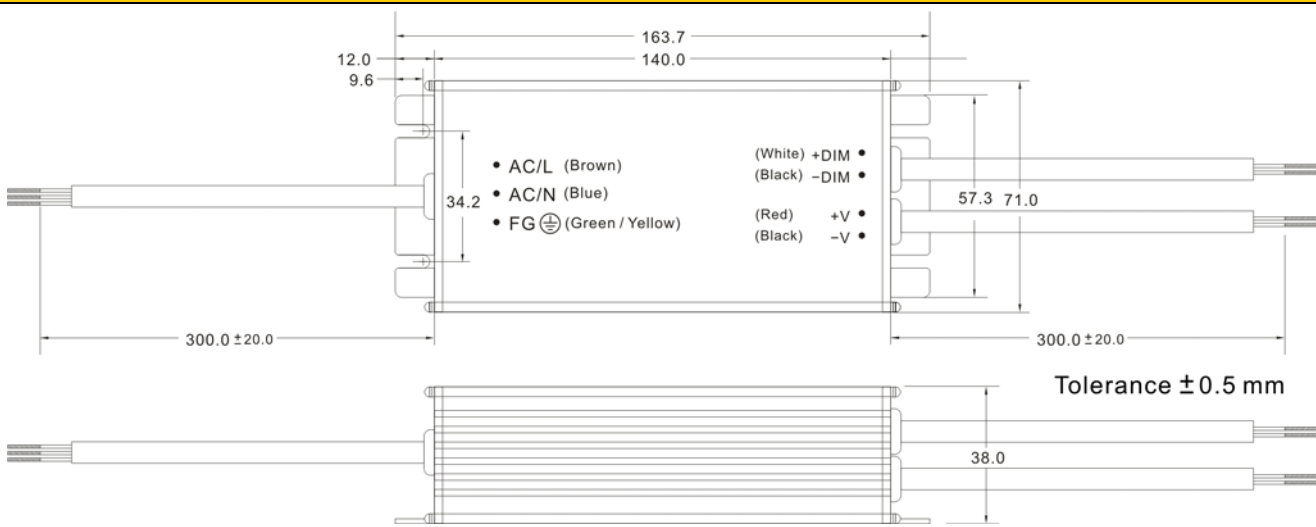
**DERATING**

**BLOCK DIAGRAM**


**MECHANICAL DIMENSION ( Top View )**

**IP65 Design**



**IP67 Design**



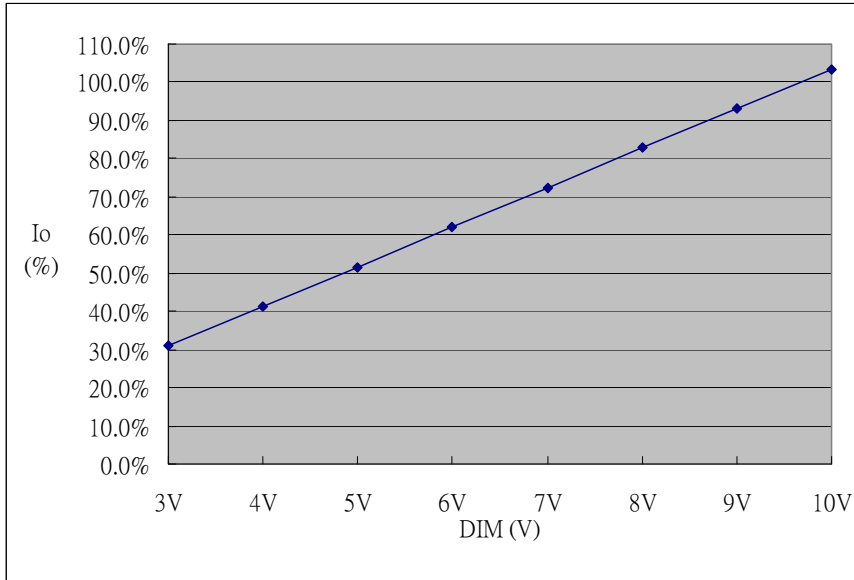
**ASSEMBLY INSTRUCTIONS**

\*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)

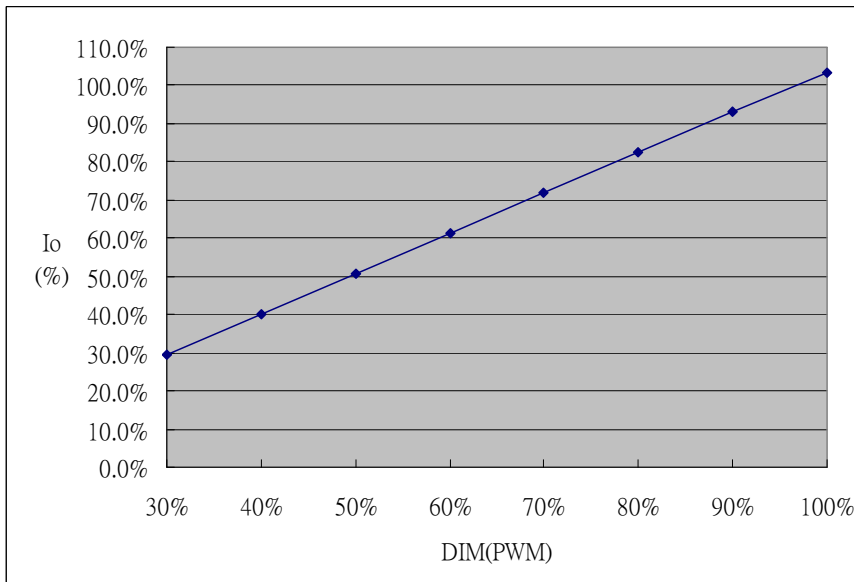
**DIMMING OPERATION**

Output constant current level can be adjusted through output cable by connecting a 3~10Vdc or 10V PWM signal between DIM+ and DIM-

I. 3~10V dimming function for output current adjustment (typ.)

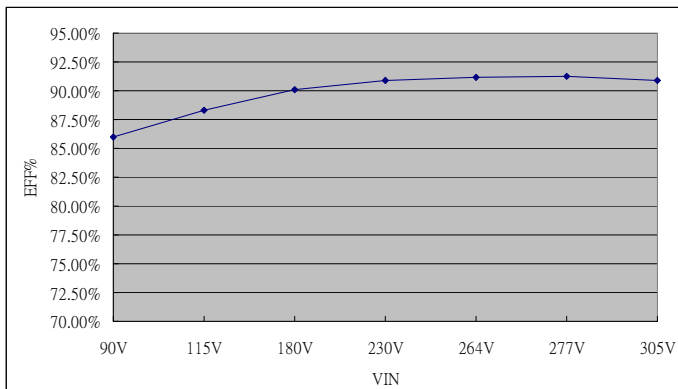


II. 10V PWM signal for output current adjustment (typ.) : Frequency range:100Hz~3KHz

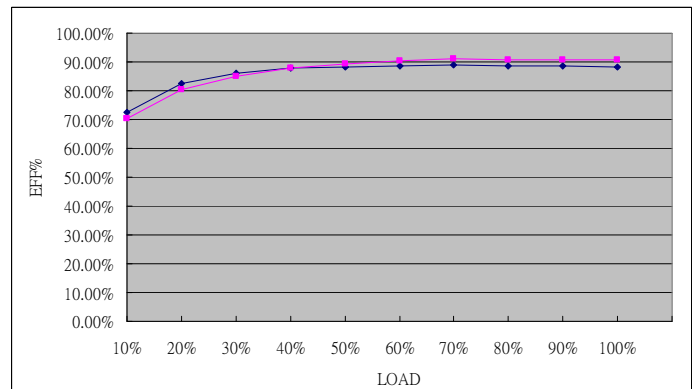


**EFFICIENCY VERSUS LOAD**
**ALF150-12S**
**VIN VS Efficiency**

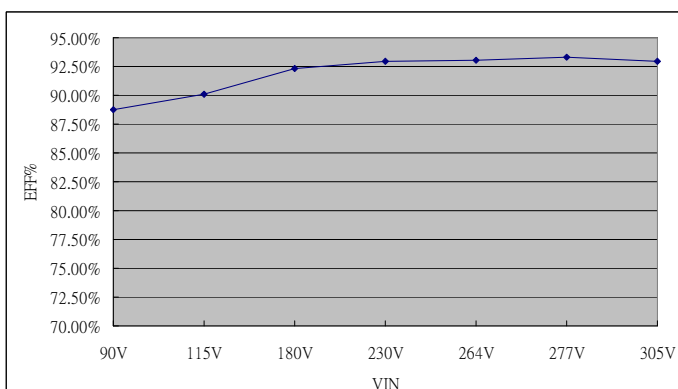
Input Voltage (V)	90	115	180	230
Efficiency (%)	85.94	88.27	90.12	90.89
Input Voltage (V)	264	277	305	
Efficiency (%)	91.16	91.23	90.91	


**LOAD VS Efficiency**

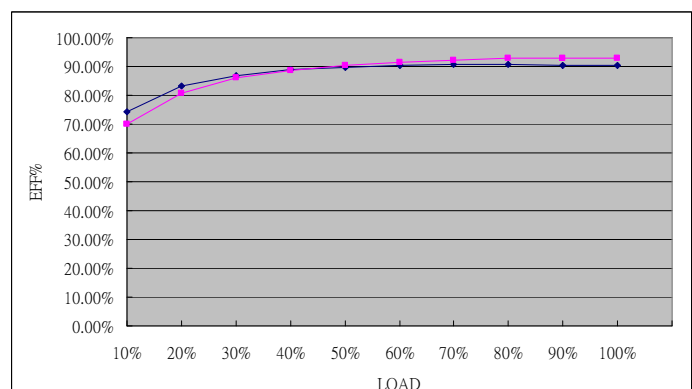
Load (%)	10	20	30	40	50
115V (%)	72.53	82.66	86.12	87.97	88.32
230V (%)	70.26	80.45	85.15	87.96	89.37
Load (%)	60	70	80	90	100
115V (%)	88.53	88.83	88.75	88.51	88.33
230V (%)	90.30	90.96	90.82	90.83	90.89


**ALF150-24S**
**VIN VS Efficiency**

Input Voltage (V)	90	115	180	230
Efficiency (%)	88.71	90.09	92.28	92.93
Input Voltage (V)	264	277	305	
Efficiency (%)	93.06	93.26	92.92	


**LOAD VS Efficiency**

Load (%)	10	20	30	40	50
115V (%)	74.25	83.07	86.82	88.81	89.81
230V (%)	70.03	80.72	86.00	88.67	90.25
Load (%)	60	70	80	90	100
115V (%)	90.29	90.62	90.58	90.53	90.38
230V (%)	91.48	92.28	92.90	92.92	92.96

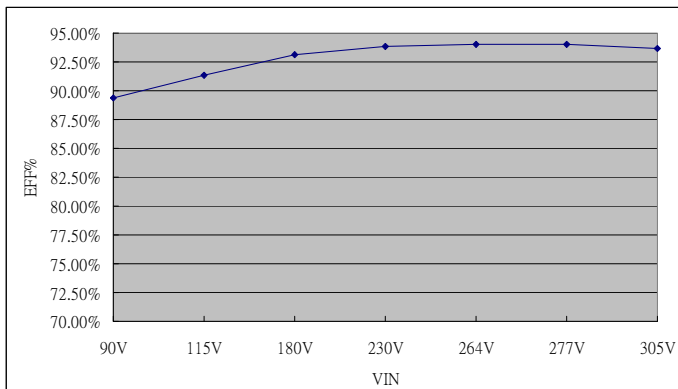


## EFFICIENCY VERSUS LOAD

## ALF150-36S

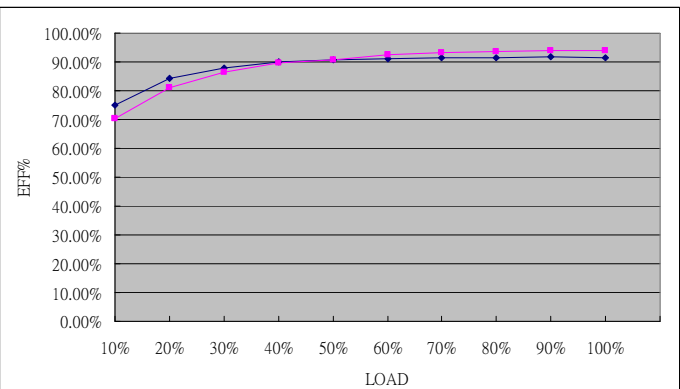
VIN VS Efficiency

Input Voltage (V)	90	115	180	230
Efficiency (%)	89.36	91.37	93.09	93.81
Input Voltage (V)	264	277	305	
Efficiency (%)	94.05	94.03	93.70	



LOAD VS Efficiency

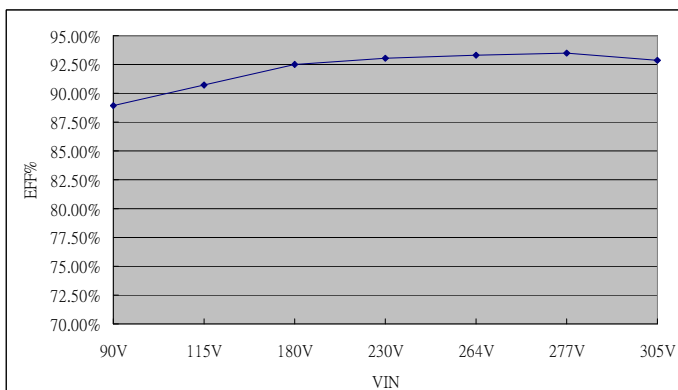
Load (%)	10	20	30	40	50
115V (%)	74.93	84.24	87.87	89.92	90.59
230V (%)	70.39	81.09	86.34	89.78	90.89
Load (%)	60	70	80	90	100
115V (%)	91.10	91.60	91.28	91.65	91.58
230V (%)	92.38	93.15	93.64	93.89	93.99



## ALF150-48S

VIN VS Efficiency

Input Voltage (V)	90	115	180	230
Efficiency (%)	88.95	90.68	92.49	93.08
Input Voltage (V)	264	277	305	
Efficiency (%)	93.27	93.51	92.84	



LOAD VS Efficiency

Load (%)	10	20	30	40	50
115V (%)	73.99	84.83	87.68	89.39	90.33
230V (%)	71.55	82.11	86.34	89.34	90.57
Load (%)	60	70	80	90	100
115V (%)	90.53	90.68	91.01	90.80	90.87
230V (%)	91.92	92.31	92.91	93.05	93.37

