

**ALF150-12S, 24S, 36S, 48S, 54S**
**KEY FEATURES**

- IP65/67 Design for Indoor or LED Outdoor Installations
- Universal Input: 90-305 VAC or 120-430 VDC
- Three in one dimming function (Just For IP67 Design)
- 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 Potential Meter
- LED Power Application
- 3-Years Product Warranty



**IP65/67** 

**ALF150-12S, 24S, 36S, 48S, 54S**
**ELECTRICAL SPECIFICATIONS**

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)				
	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				
Output	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.				
	Switching Frequency	100k~133k Hz				
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				

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.

**ALF150-700**
**KEY FEATURES**

- IP65/67 Design for Indoor or LED Outdoor Installations
- Universal Input: 90-305 VAC or 120-430 VDC
- Three in one dimming function (Just For IP67 Design)  
(5~10VDC & PWM Signal or resistance)
- Built-in Active PFC Function
- Free Air Convection
- High Reliability
- With Constant Current
- Constant Current Level can Be Adjusted Through Internal Potential Meter
- LED Power Application
- 3-Years Product Warranty


**ALF150-700**
**ELECTRICAL SPECIFICATIONS**
**IP65/67 CE**

Model No.	ALF150-700	
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)
	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
Output	Voltage (V.DC.)	215V
	Constant Current Range (V.DC.)	108 ~ 215V
	Current Accuracy	±5%
	Current (Convection) (mA) max	700
	Current ADJ Range (mA)	350 ~ 700
	Voltage ADJ Range (V.DC.) (for IP65 Design)	215V
	Line Regulation	±3%
	Load Regulation	±3%
	Ripple & Noise (max.)	5Vp-p
	Efficiency (typ.)	91%
Safety	Agency Approvals	EN61347-1:2008 、 EN61347-2-13:2006
	EMC	EMI (Conducted & Radiated Emission)
EMS (Noise Immunity)		EN 61547
Surge		2KV L-N, 4KV L N-FG

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.

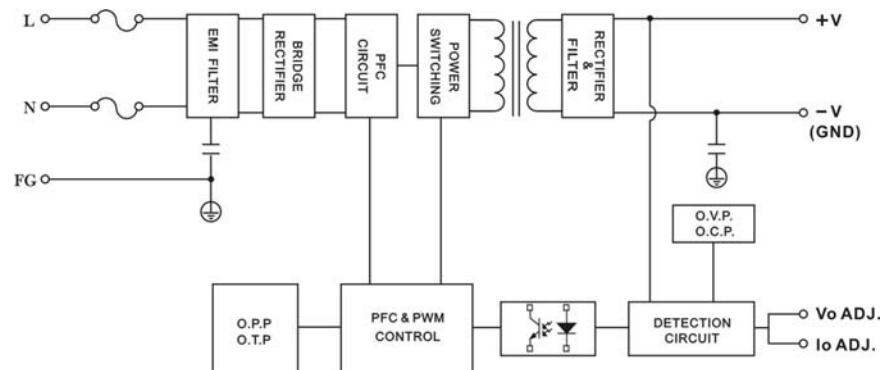
**ELECTRICAL SPECIFICATIONS**

Model No.		ALF150-12S	ALF150-24S	ALF150-36S	ALF150-48S	ALF150-54S	ALF150-700
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	>75,000 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	750 g					
Safety	Cooling Method	Free air convection					
	Agency Approvals	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					

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.

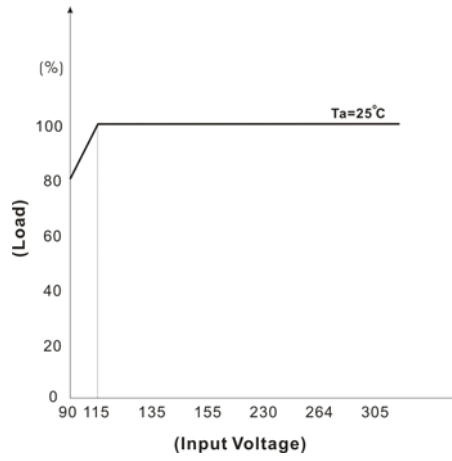
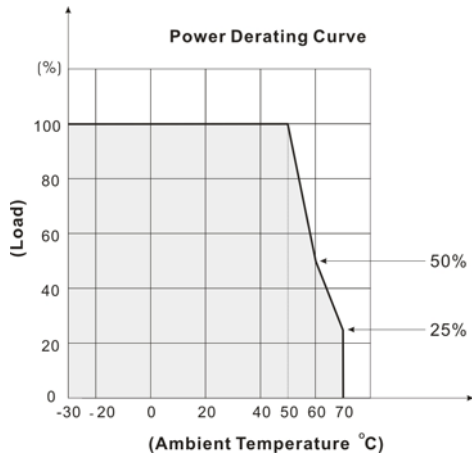
This series has IP65 and IP67, when you place order, please be noted as ordering Part No.

Model No.		ALF150-12S	ALF150-24S	ALF150-36S	ALF150-48S	ALF150-54S	ALF150-700
Ordering Part No	IP65	ALF150-12S-IP65	ALF150-24S-IP65	ALF150-36S-IP65	ALF150-48S-IP65	ALF150-54S-IP65	ALF150-700-IP65
	IP67	ALF150-12S-IP67	ALF150-24S-IP67	ALF150-36S-IP67	ALF150-48S-IP67	ALF150-54S-IP67	ALF150-700-IP67

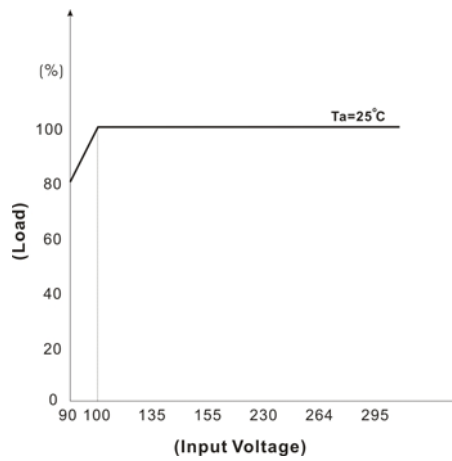
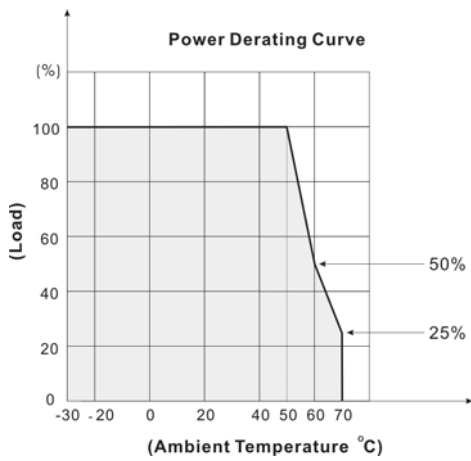
**BLOCK DIAGRAM**


**DERATING**

ALF150-12S, 24S, 36S, 48S, 54S

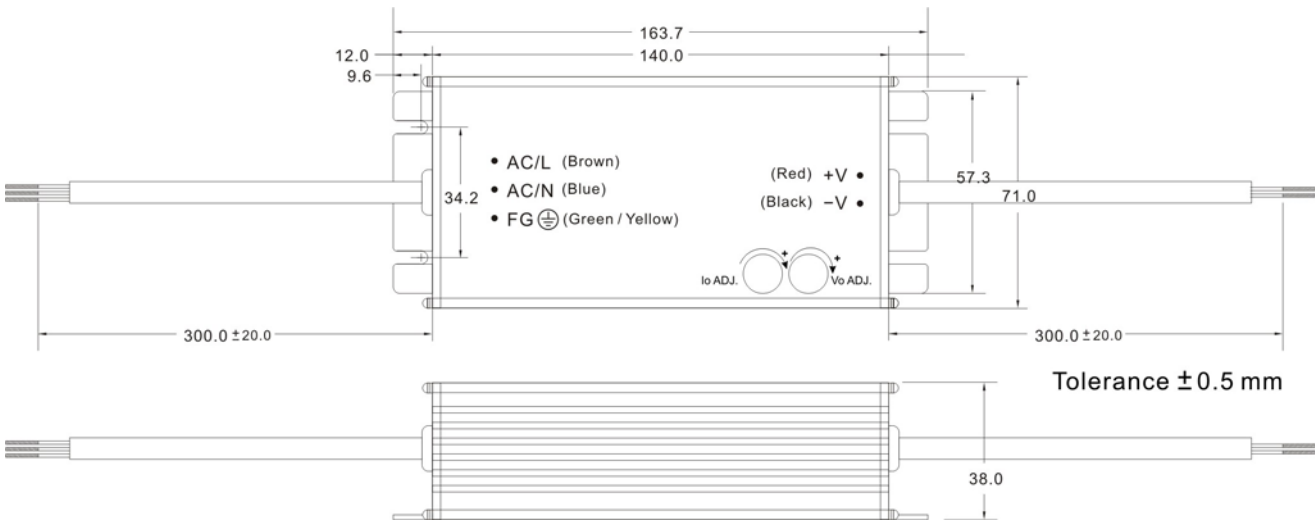


ALF150-700

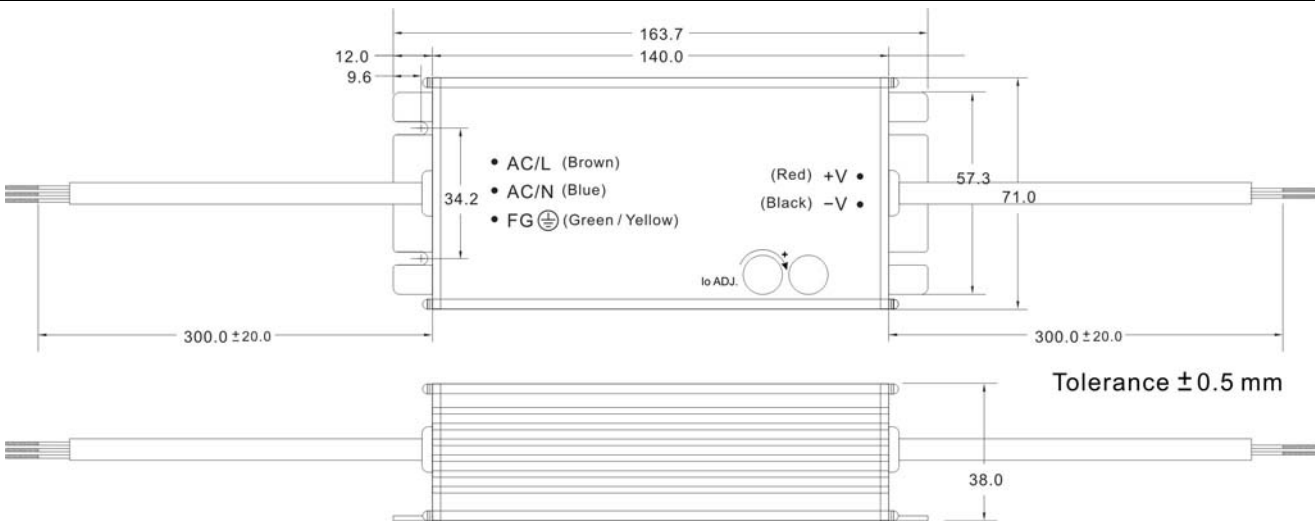


**MECHANICAL DIMENSION ( Top View )**

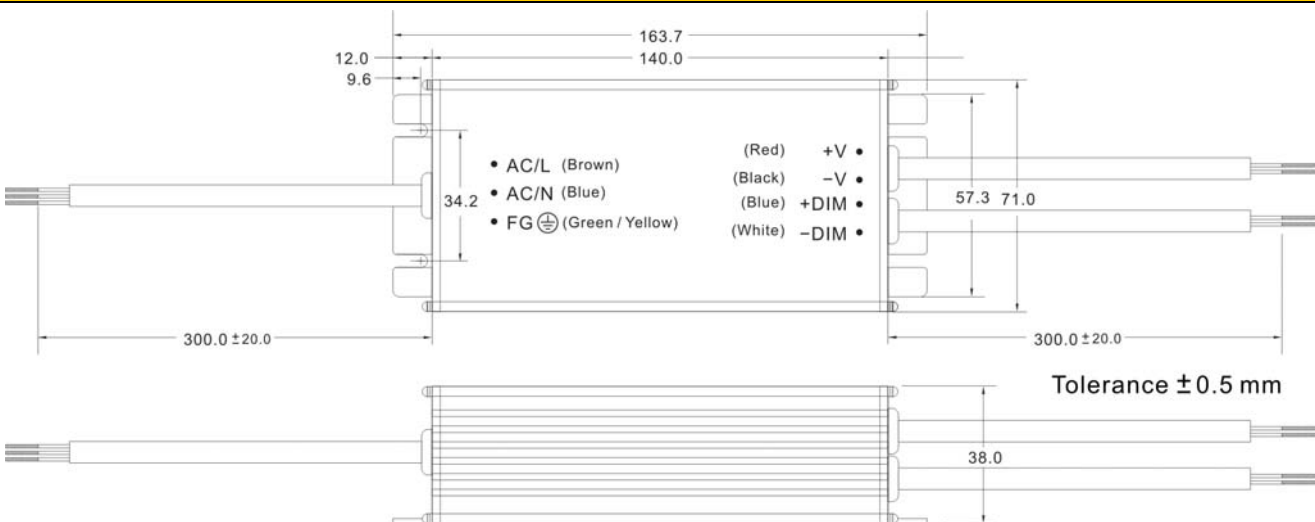
**ALF150-12S, 24S, 36S, 48S, 54S IP65 Design**



**ALF150-700 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)

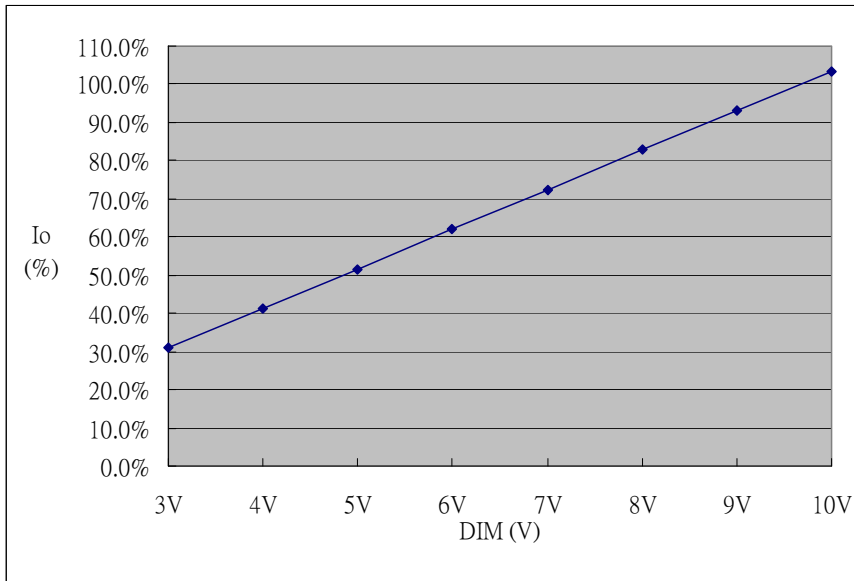
**ALF150-12S, 24S, 36S, 48S, 54S**

**DIMMING OPERATION**

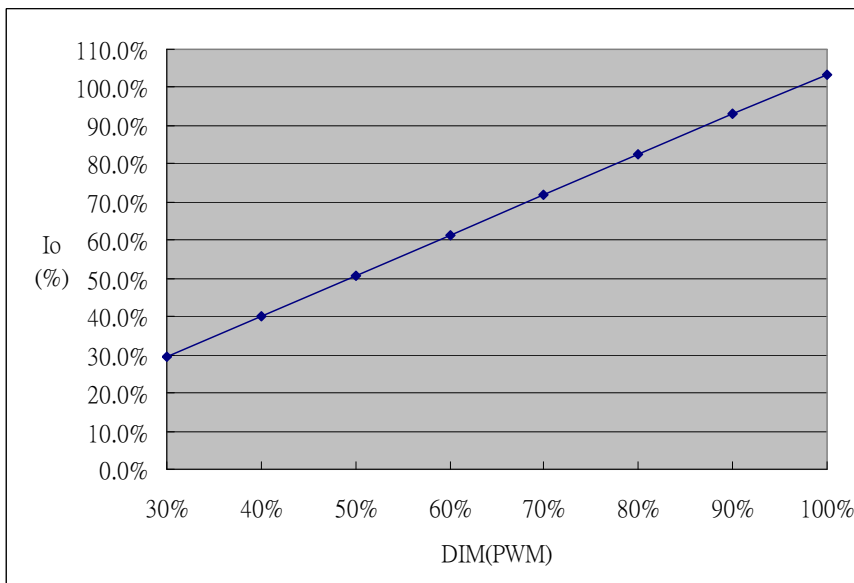
Built-in 3 in 1 dimming function, IP67 rated.

Output constant current level can be adjusted through output cable by connecting a 100K Ohm VR or 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



III. It can control 10~100% output Current but it must add 100K Ohm VR in parallel

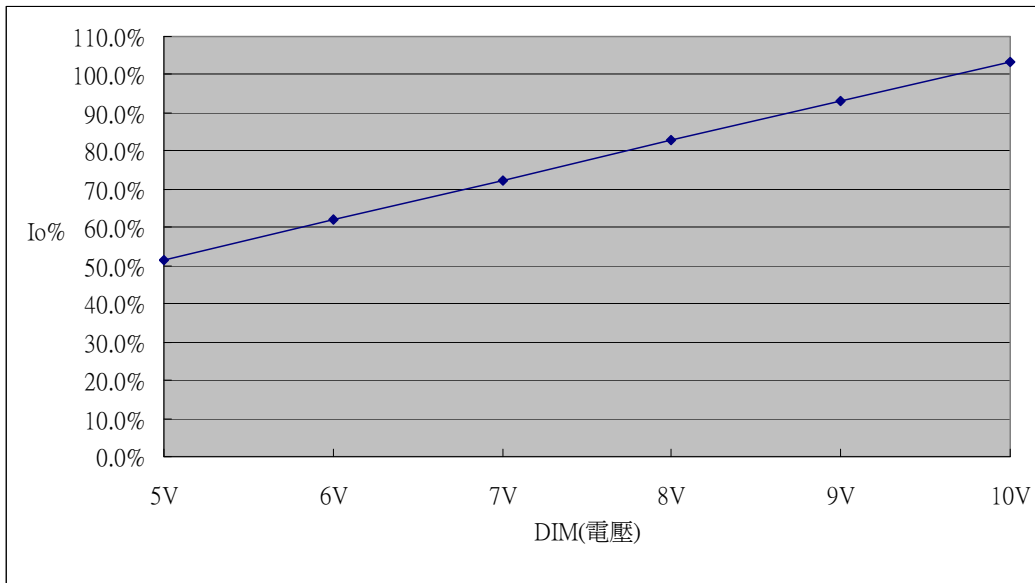
**ALF150-700**

**DIMMING OPERATION**

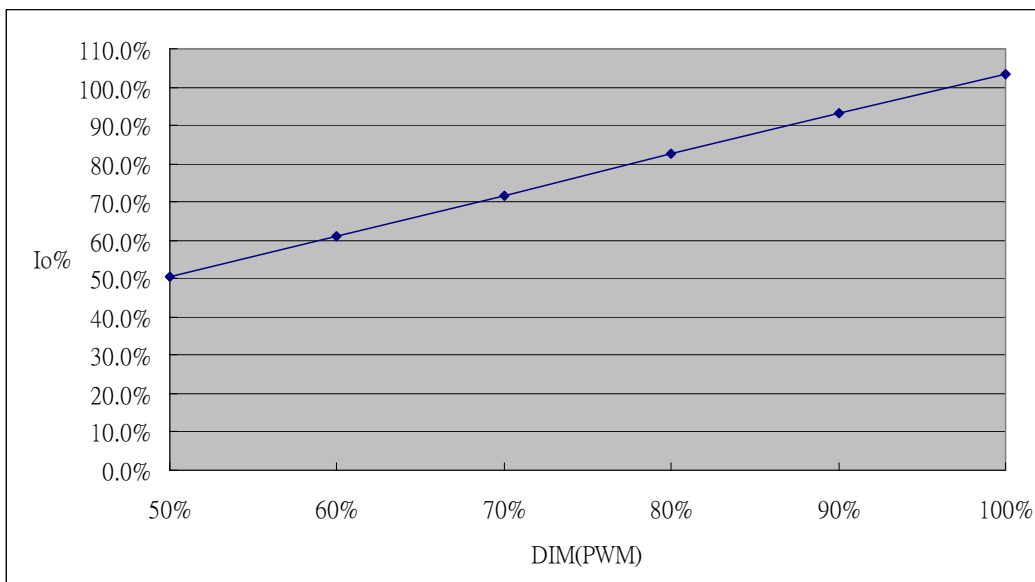
Built-in 3 in 1 dimming function, IP67 rated.

Output constant current level can be adjusted through output cable by connecting a 100K Ohm VR or 5~10Vdc or 10V PWM signal between DIM+ and DIM-

IV. 5~10V dimming function for output current adjustment (typ.)



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

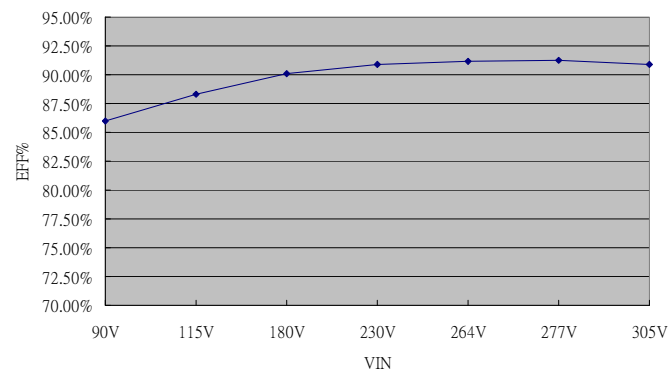


VI. It can control 20~100% output Current but it must add 100K Ohm VR in parallel

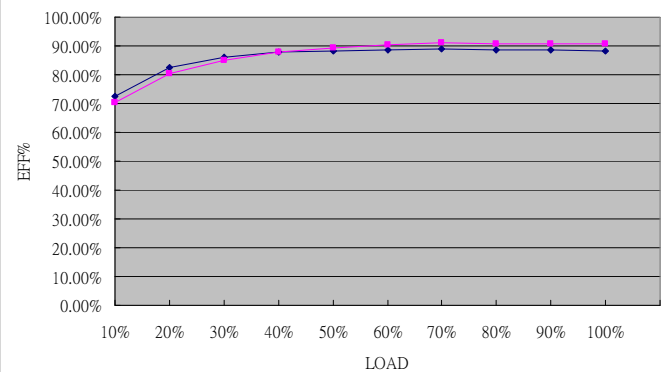
**EFFICIENCY VERSUS LOAD**

**ALF150 SERIES**
**150 Watts**
**ALF150-12S**
**VIN VS Efficiency**

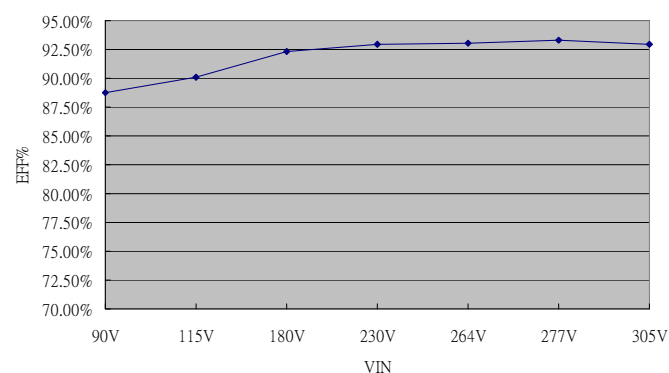
Input Voltage (V)	90	115	180	230
Efficiency (%)	85.94	88.27	90.12	90.89
Input Voltage (V)	264	277	305	
Efficiency (%)	91.16	91.23	90.91	


**LOAD VS Efficiency**

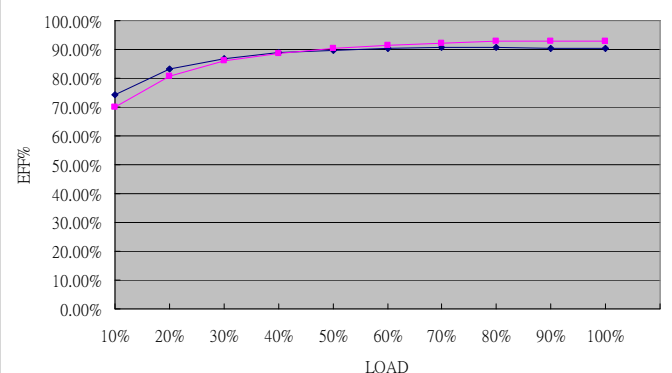
Load (%)	10	20	30	40	50
115V (%)	72.53	82.66	86.12	87.97	88.32
230V (%)	70.26	80.45	85.15	87.96	89.37
Load (%)	60	70	80	90	100
115V (%)	88.53	88.83	88.75	88.51	88.33
230V (%)	90.30	90.96	90.82	90.83	90.89


**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**

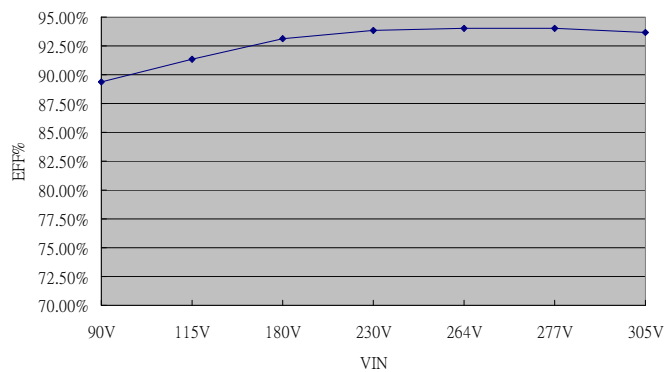
Load (%)	10	20	30	40	50
115V (%)	74.25	83.07	86.82	88.81	89.81
230V (%)	70.03	80.72	86.00	88.67	90.25
Load (%)	60	70	80	90	100
115V (%)	90.29	90.62	90.58	90.53	90.38
230V (%)	91.48	92.28	92.90	92.92	92.96


**EFFICIENCY VERSUS LOAD**

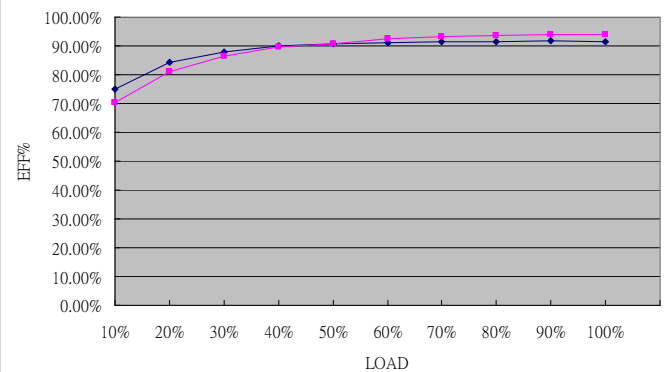


**ALF150 SERIES**
**150 Watts**
**ALF150-36S**
**VIN VS Efficiency**

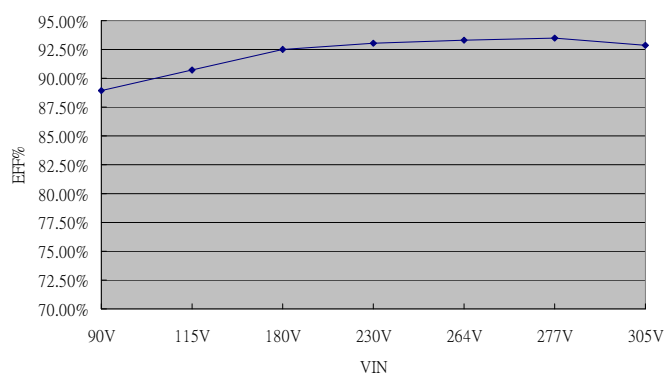
Input Voltage (V)	90	115	180	230
Efficiency (%)	89.36	91.37	93.09	93.81
Input Voltage (V)	264	277	305	
Efficiency (%)	94.05	94.03	93.70	


**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

