ALF100 SERIES 100 Watts

ALF100-12S, 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)
- Bulit-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

ALF100-12S, 24S, 36S, 48S, 54S
ELECTRICAL SPECIFICATIONS

IP65/67 CE c UL us E347942 LEVEL3

Model No.		ALF100-12S	ALF100-24S	ALF100-36S	ALF100-48S	ALF100-54S
Max Output Wattage (W)		100W				
Input	Voltage	90-305 VAC or 120-430 VDC				
	Frequency (Hz)	47-63 Hz				
	Current (Full load)	1.5 A max. (115 VAC) / 0.7 A max. (230 VAC) / 0.6 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>0.9 (230 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	8333	4166	2777	2083	1852
	Current ADJ Range (mA)	833 ~ 8333	416 ~ 4166	277 ~2777	208 ~ 2083	185 ~ 1852
	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	8,000 uF	4,000 uF	3,000 uF
	Ripple & Noise (max.)	100mVp-p	100mVp-p	100mVp-p	200mVp-p	200mVp-p
	Efficiency (typ.)	89%	91.5%	91.5%	91.5%	91.5%
	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				

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.

ALF100 SERIES 100 Watts

ALF100-700, ALF100-350

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)
- Bulit-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, ALF100-350

ELECTRICAL SPECIFICATIONS

IP65/67 CE

Model No.		ALF100-700	ALF100-350
Max Output Wattage (W)		100W	
Input	Voltage	90-305 VAC or 120-430 VDC	
	Frequency (Hz)	47-63 Hz	
	Current (Full load)	1.5 A max. (115 VAC) / 0.7 A max. (230 VAC) / 0.6 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>0.9 (230 VAC) at Full Load	
Output	Voltage (V.DC.)	140V	280V
	Constant Current Range (V.DC.)	70~140V	140~280V
	Current Accuracy	±5%	
	Current (Convection) (mA) max	700	350
	Current ADJ Range (mA)	350 ~ 700	175 ~ 350
	Voltage ADJ Range (V.DC.) (for IP65 Design)	140V	280V
	Line Regulation	±3%	
	Load Regulation	±3%	
	Ripple & Noise (max.)	5Vp-p	
	Efficiency (typ.)	91%	91%
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-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.

ALF100 SERIES 100 Watts

ELECTRICAL SPECIFICATIONS

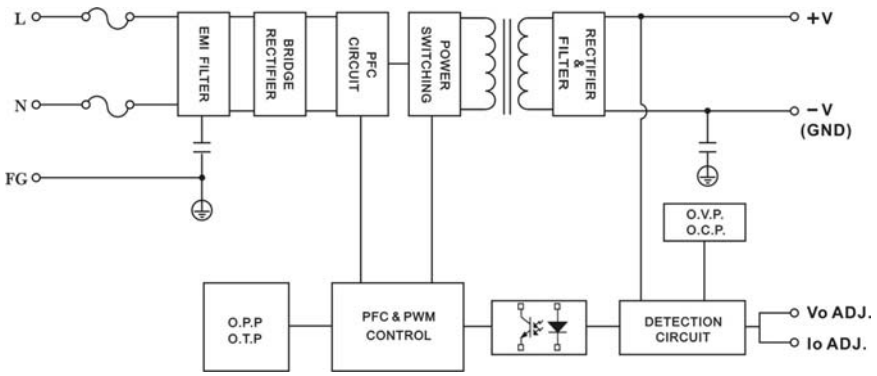
Model No.		ALF100-12S	ALF100-24S	ALF100-36S	ALF100-48S	ALF100-54S	ALF100-700	ALF100-350
Protection	Over Power Protection	Auto recovery						
	Over Voltage Protection	Auto recovery						
	Overt Temperature Protection	Auto recovery						
	Short Circuit Protection	Auto recovery						
Isolation	Input-Output (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)						
	Vibration	10~500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes.						
Physical	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						

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.

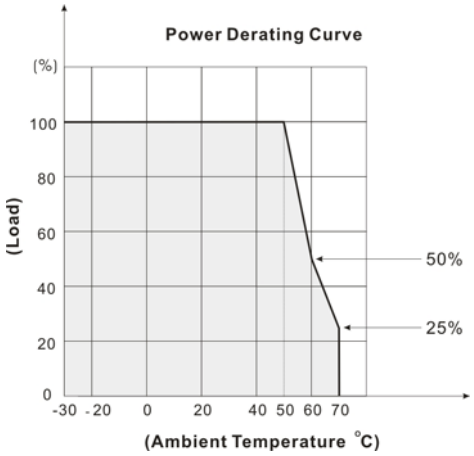
Model No.		ALF100-12S	ALF100-24S	ALF100-36S	ALF100-48S	ALF100-54S	ALF100-700	ALF100-350
Ordering Part No	IP65	ALF100-12S-IP65	ALF100-24S-IP65	ALF100-36S-IP65	ALF100-48S-IP65	ALF100-54S-IP65	ALF100-700-IP65	ALF100-350-IP65
	IP67	ALF100-12S-IP67	ALF100-24S-IP67	ALF100-36S-IP67	ALF100-48S-IP67	ALF100-54S-IP67	ALF100-700-IP67	ALF100-350-IP67

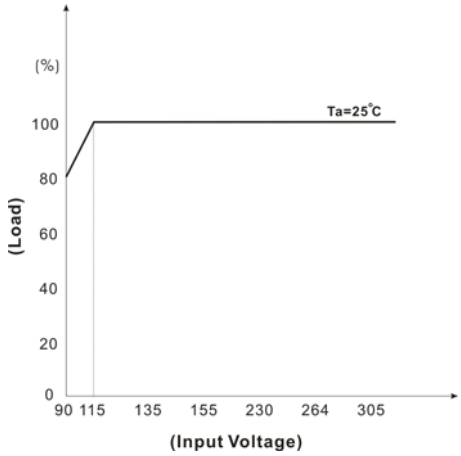
BLOCK DIAGRAM



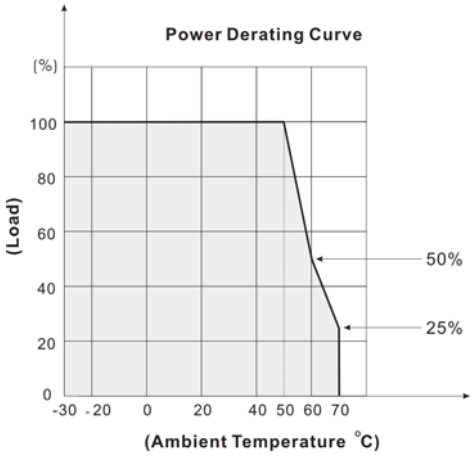
DERATING

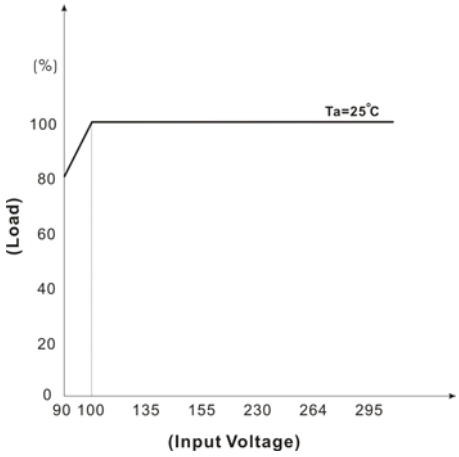
ALF100-12S, 24S, 36S, 48S, 54S





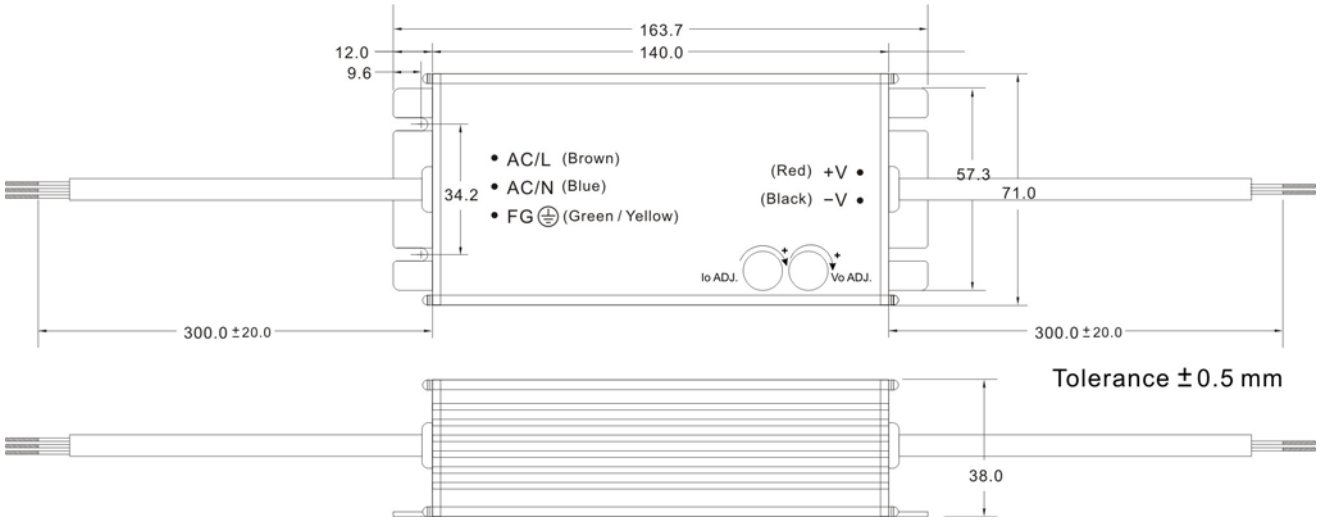
ALF100-700, ALF100-350



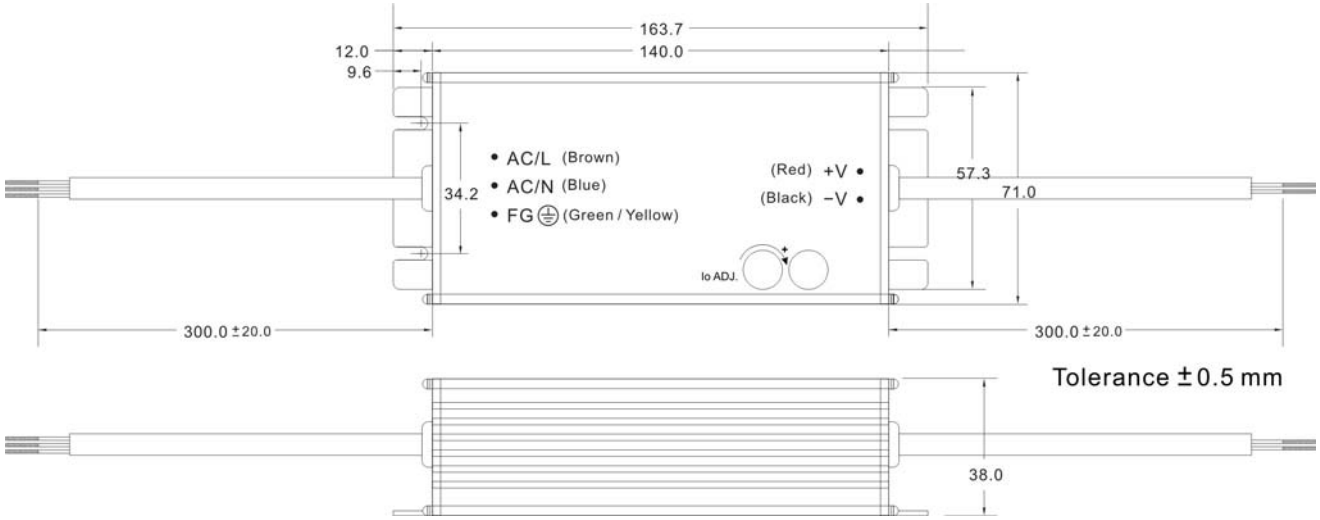


MECHANICAL DIMENSION (Top View)

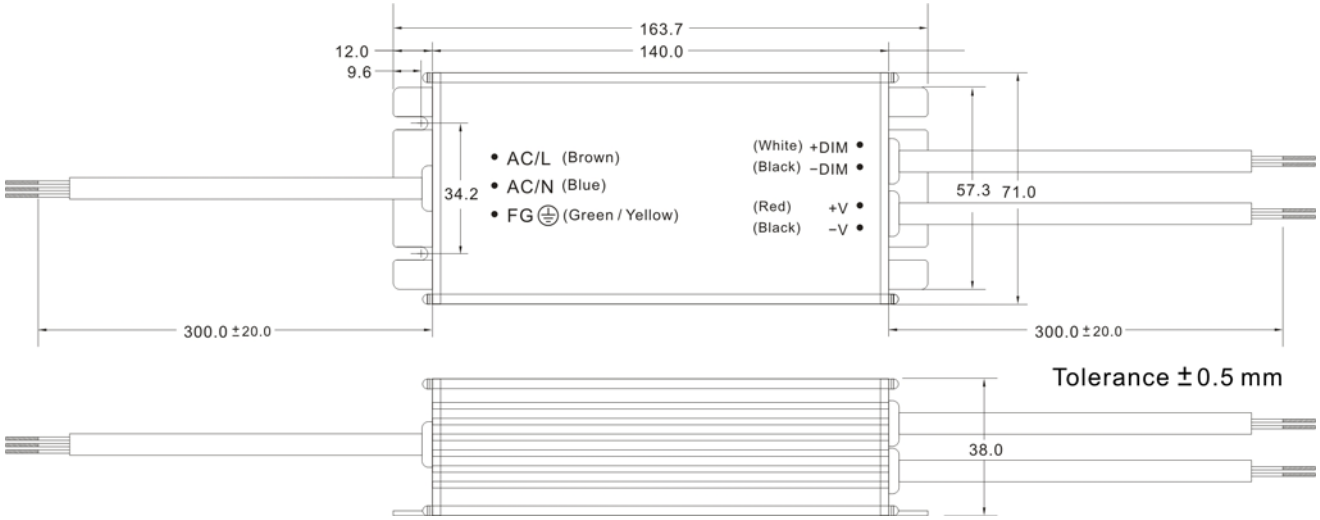
ALF100-12S, 24S, 36S, 48S, 54S IP65 Design



ALF100-700, ALF100-350 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

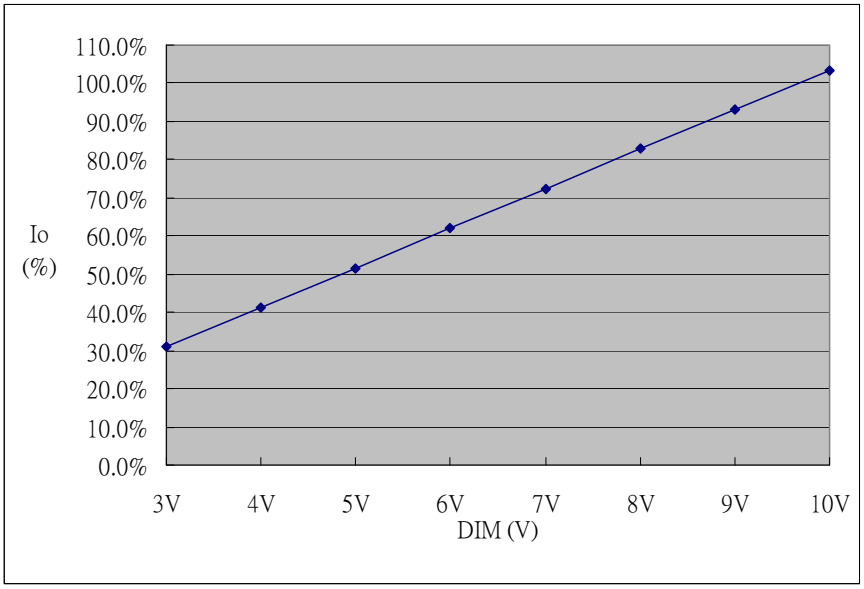
ALF100-12S, 24S, 36S, 48S, 54S

DIMMING OPERATION

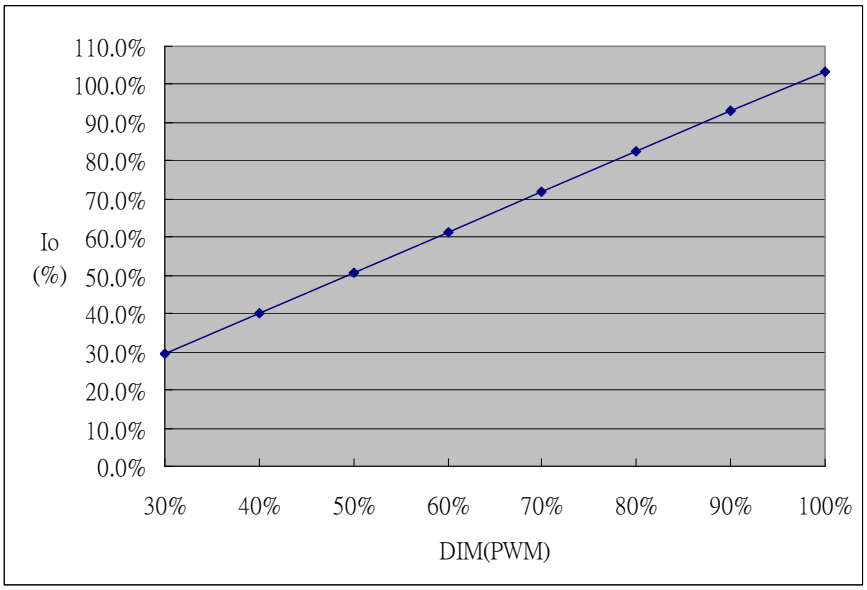
Built-in 3 in 1 dimming function, IP67 rated.

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

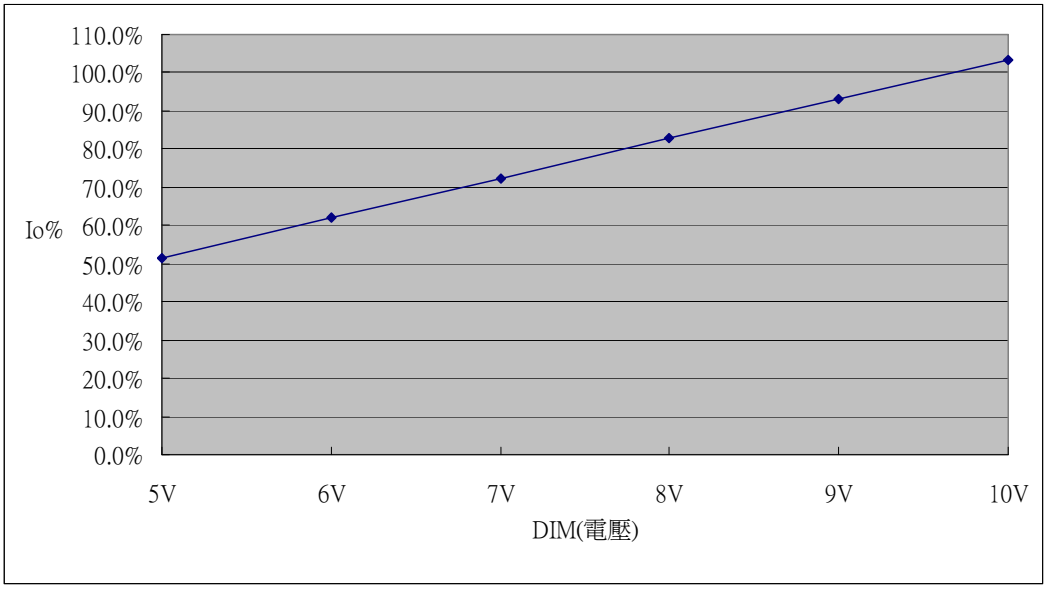
ALF100-700, ALF100-350

DIMMING OPERATION

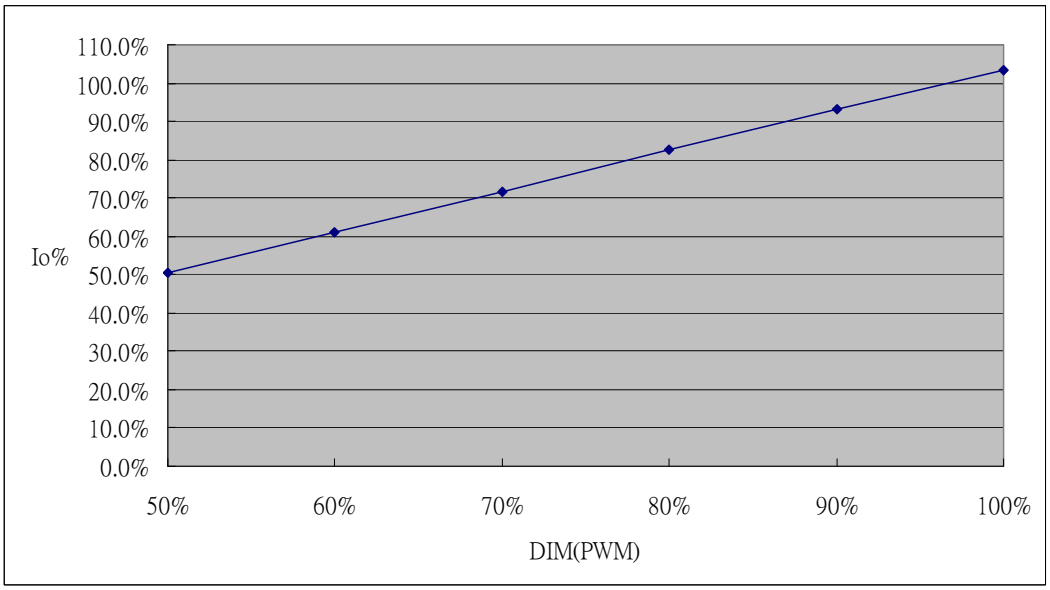
Built-in 3 in 1 dimming function, IP67 rated.

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

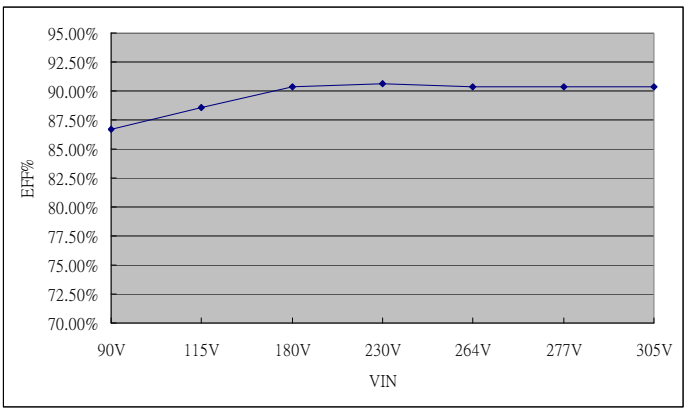
ALF100-12S

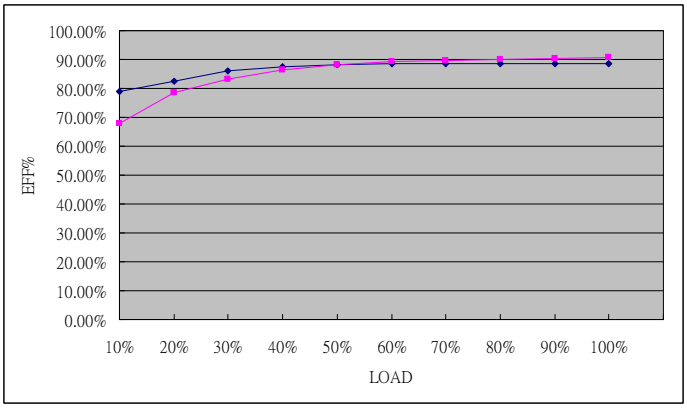
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	86.70	88.61	90.36	90.61	90.36
Input Voltage (V)	277	305			
Efficiency (%)	90.36	90.36			

LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0	78.83	82.61	86.10	87.62	88.25
230V (%)	0	67.92	78.75	83.11	86.31	88.09
Load (%)	60	70	80	90	100	
115V (%)	88.58	88.54	88.62	88.57	88.51	
230V (%)	89.24	89.71	89.91	90.25	90.61	





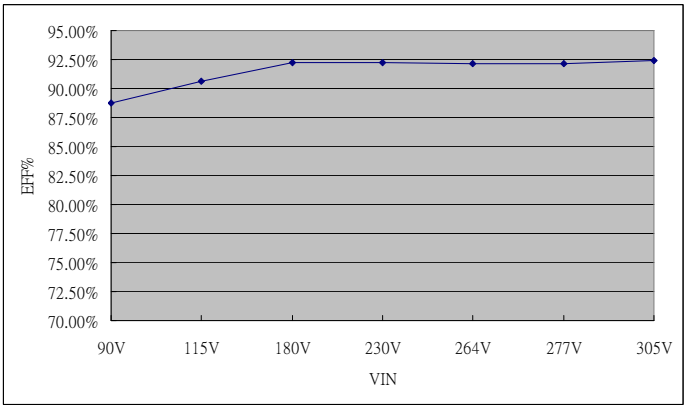
ALF100-24S

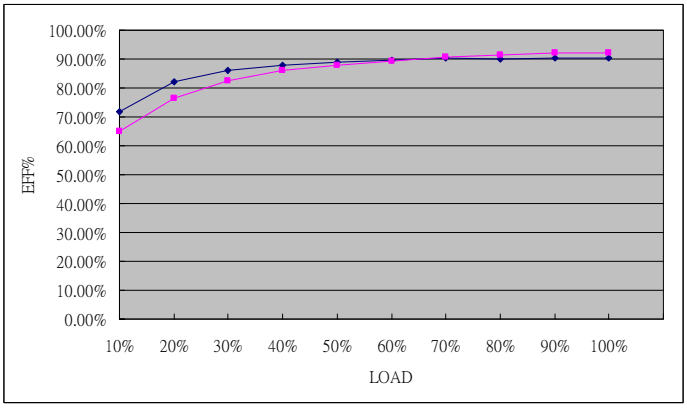
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	88.71	90.65	92.27	92.27	92.14
Input Voltage (V)	277	305			
Efficiency (%)	92.14	92.40			

LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0	71.91	82.20	86.04	87.80	88.81
230V (%)	0	65.13	76.60	82.51	85.92	87.91
Load (%)	60	70	80	90	100	
115V (%)	89.54	90.26	90.12	90.34	90.43	
230V (%)	89.28	90.61	91.47	92.20	92.31	





EFFICIENCY VERSUS LOAD

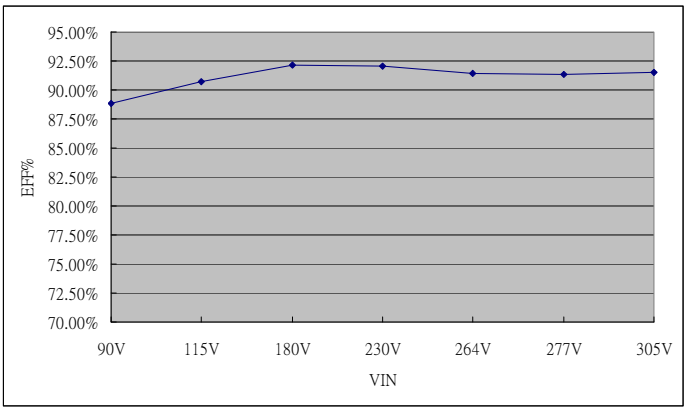
ALF100-36S

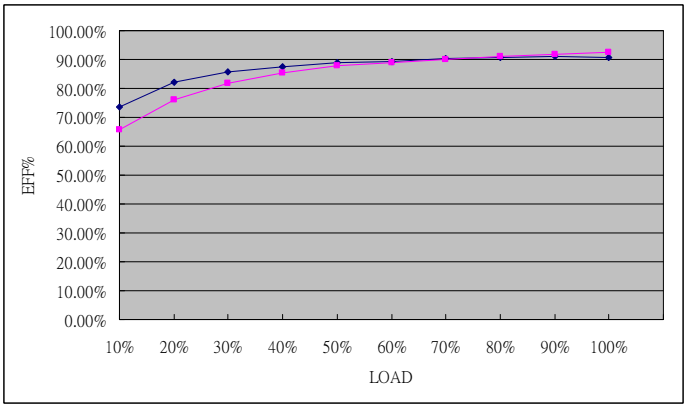
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	88.82	90.67	92.10	92.01	91.42
Input Voltage (V)	277	305			
Efficiency (%)	91.36	91.53			

LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0	73.59	82.19	85.65	87.60	89.01
230V (%)	0	65.58	76.12	81.72	85.42	87.77
Load (%)	60	70	80	90	100	
115V (%)	89.29	90.38	90.80	90.97	90.89	
230V (%)	88.78	89.89	91.24	91.68	92.43	





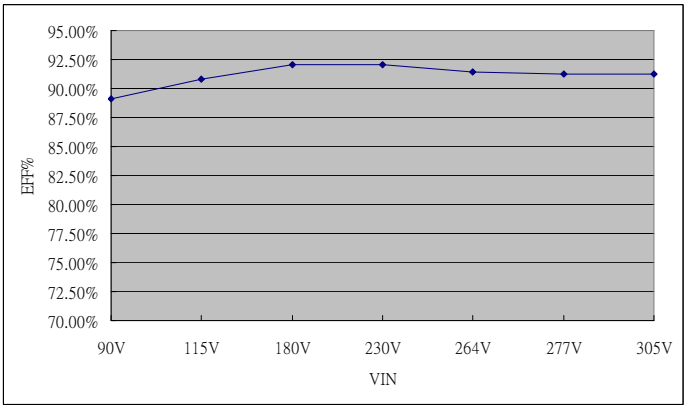
ALF100-48S

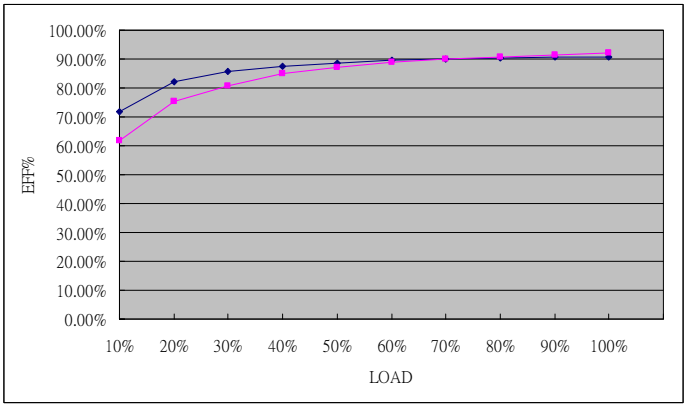
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	89.15	90.83	92.09	92.01	91.42
Input Voltage (V)	277	305			
Efficiency (%)	91.25	91.25			

LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0	71.89	81.99	85.76	87.48	88.59
230V (%)	0	61.76	75.28	80.88	84.90	87.04
Load (%)	60	70	80	90	100	
115V (%)	89.48	90.16	90.40	90.73	90.85	
230V (%)	88.77	89.95	90.66	91.27	92.01	



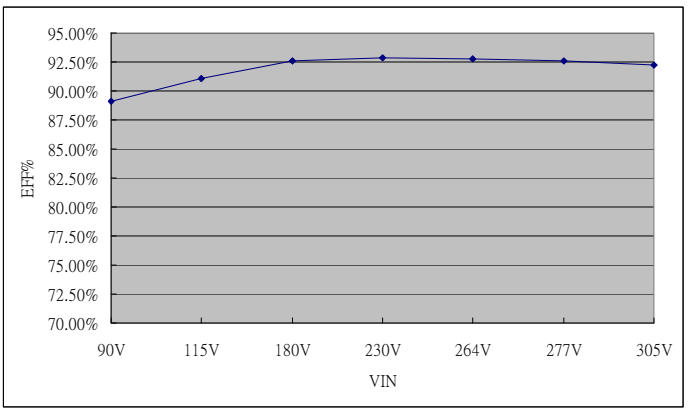


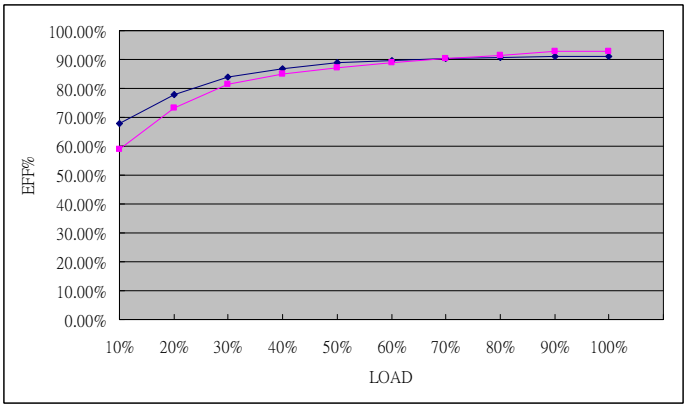
EFFICIENCY VERSUS LOAD

ALF100-54S

VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	89.11	91.04	92.56	92.82	92.73
Input Voltage (V)	277	305			
Efficiency (%)	92.58	92.22			



LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0	67.86	77.81	84.01	86.71	88.96
230V (%)	0	58.78	73.10	81.29	84.94	87.15
Load (%)	60	70	80	90	100	
115V (%)	89.80	90.32	90.75	91.12	91.04	
230V (%)	89.06	90.30	91.60	92.93	92.82