ALF100 SERIES 100 Watts

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
  (1~10VDC & PWM Signal or resistance)
- 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

IP65/67 CE

Preliminary

ELECTRICAL SPECIFICATIONS

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)	4166 ~ 8333	2083 ~ 4166	1388 ~2777	1041 ~ 2083	926 ~ 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.				
	Switching Frequency	100 kHz				
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	-25°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.

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Model No.		ALF100-12S	ALF100-24S	ALF100-36S	ALF100-48S	ALF100-54S
Physical	Dimension (L x W x H)	6.44 x 2.79 x 1.50 Inches (163.7 x 71.0 x 38.0 mm) Tolerance ±0.5 mm				
	Weight	635 g				
	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				

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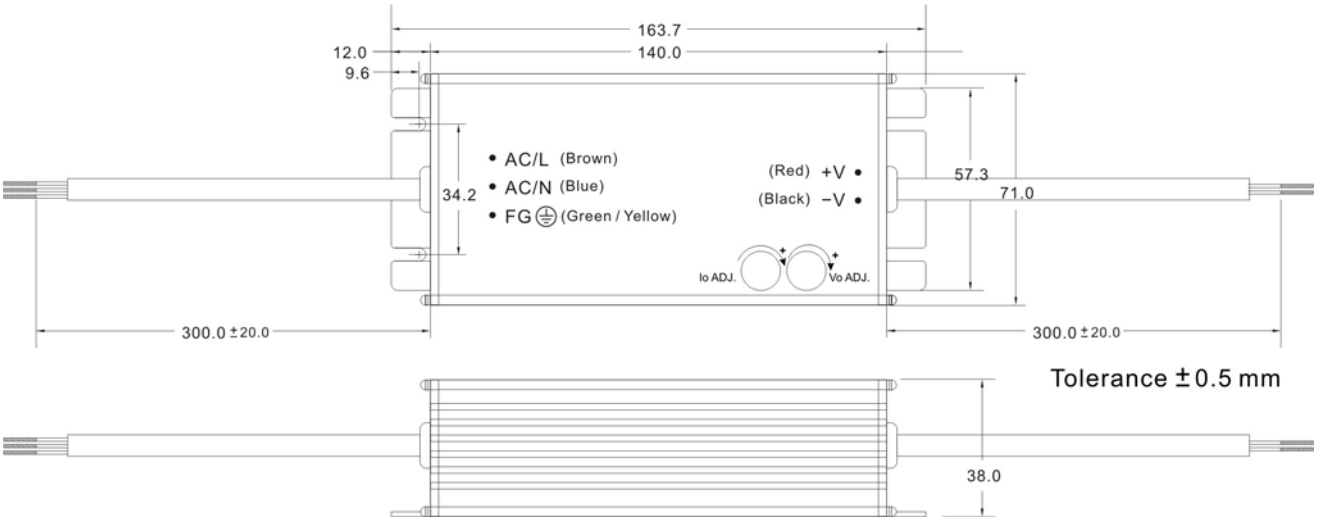
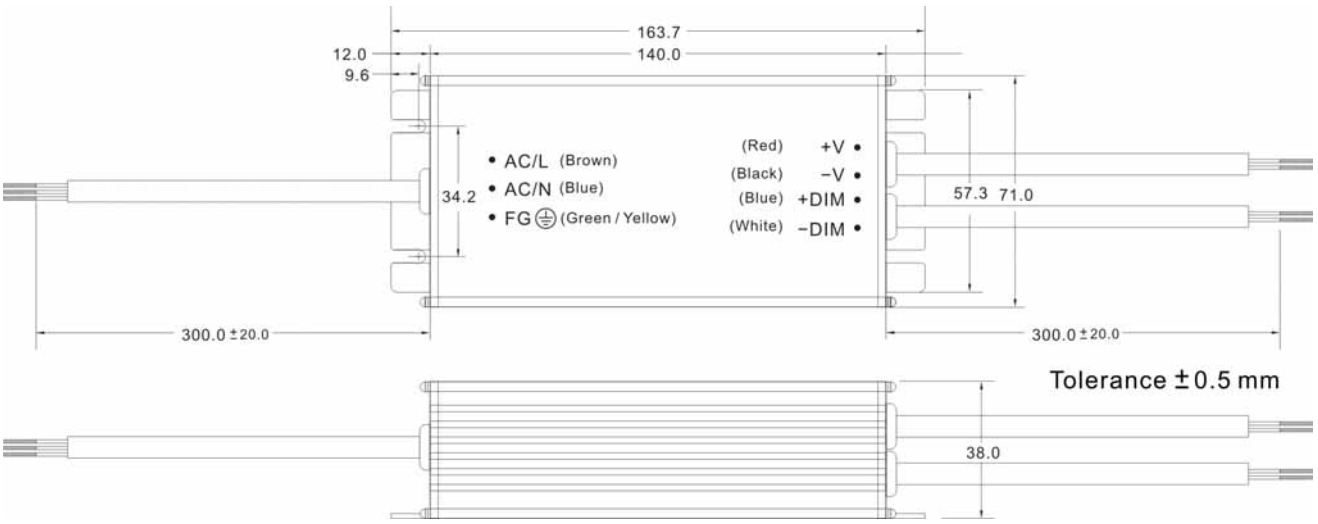
2. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.

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

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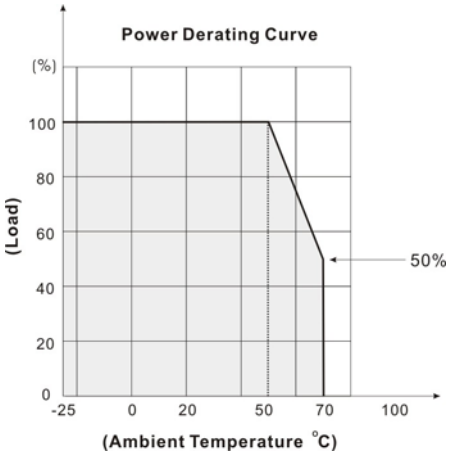
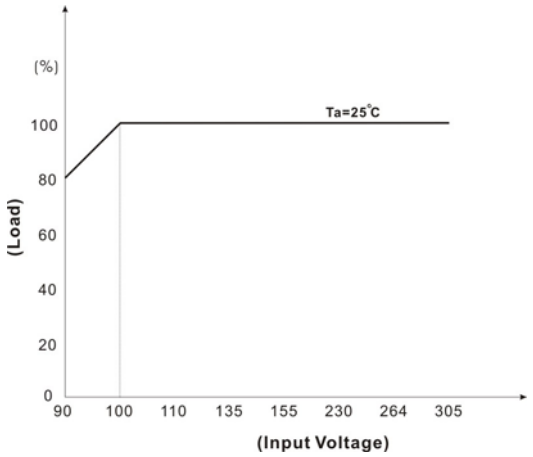
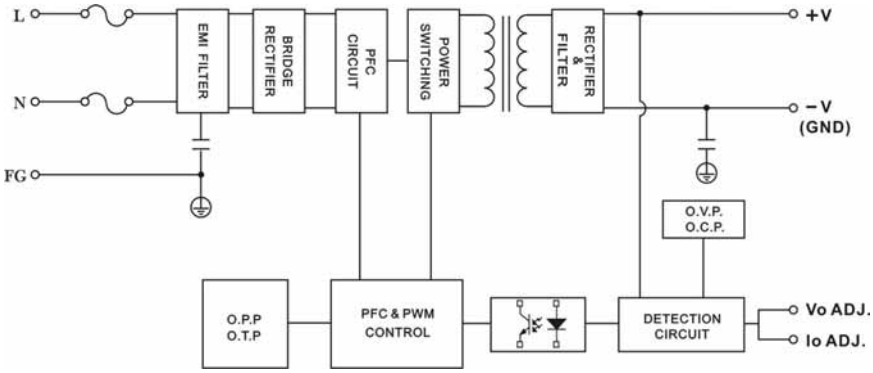
DERATING





BLOCK DIAGRAM



EFFICIENCY VERSUS LOAD

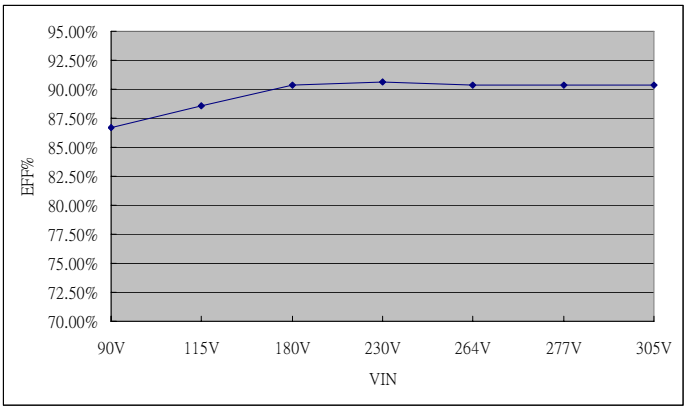
ALF100-12S

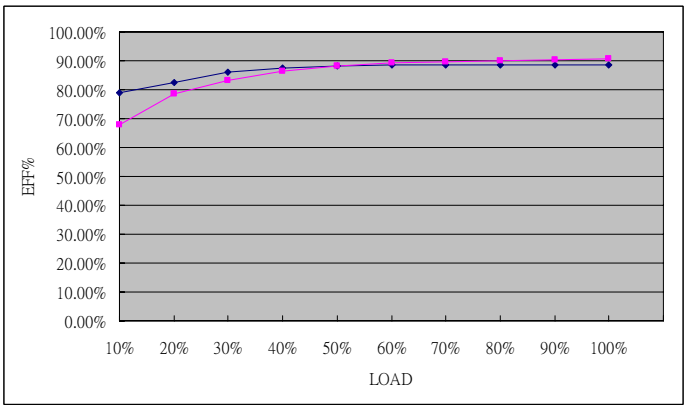
VIN VS Efficiency

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	





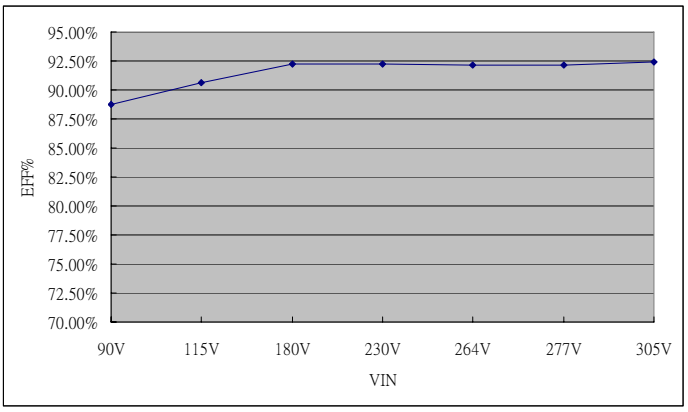
ALF100 SERIES 100 Watts

EFFICIENCY VERSUS LOAD

ALF100-24S

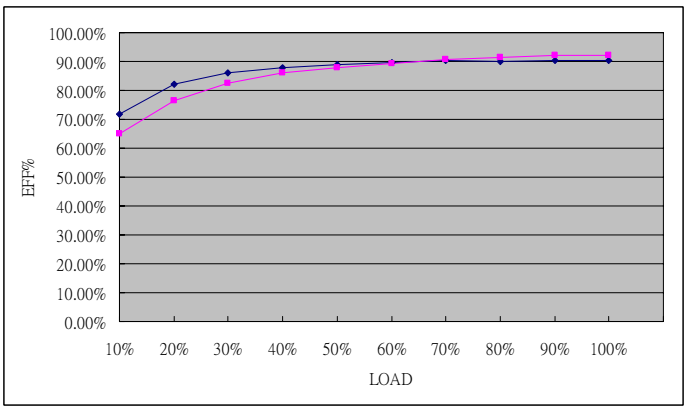
VIN VS Efficiency

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

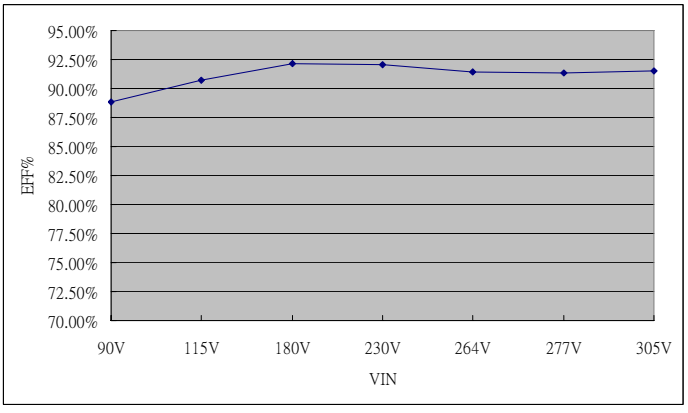
Load (%)	0	10	20	30	40	50
115V (%)	0	71.91	82.20	86.04	87.80	88.81
230V (%)	0	65.13	76.60	82.51	85.92	87.91
Load (%)	60	70	80	90	100	
115V (%)	89.54	90.26	90.12	90.34	90.43	
230V (%)	89.28	90.61	91.47	92.20	92.31	



ALF100-36S

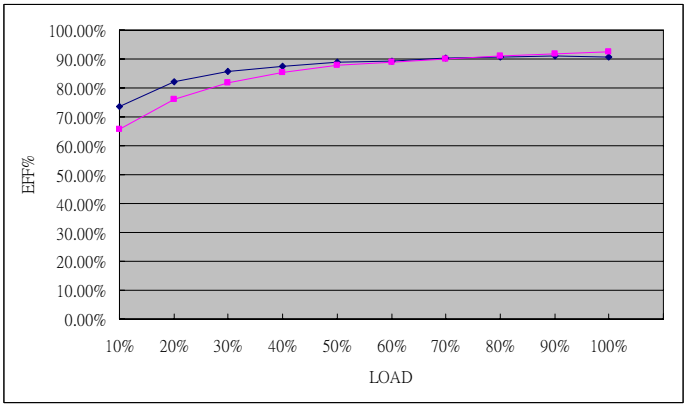
VIN VS Efficiency

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	



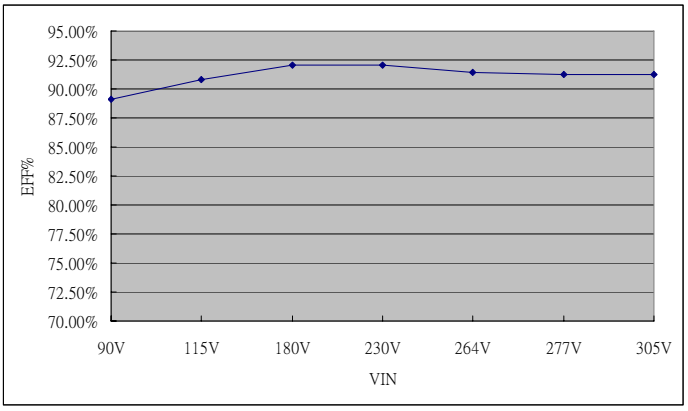
ALF100 SERIES 100 Watts

EFFICIENCY VERSUS LOAD

ALF100-48S

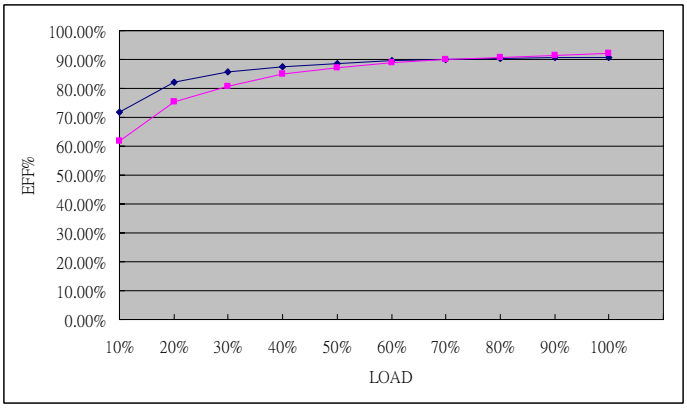
VIN VS Efficiency

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

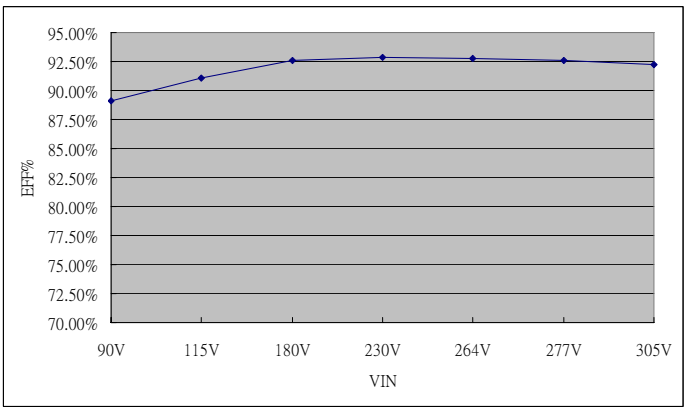
Load (%)	0	10	20	30	40	50
115V (%)	0	71.89	81.99	85.76	87.48	88.59
230V (%)	0	61.76	75.28	80.88	84.90	87.04
Load (%)	60	70	80	90	100	
115V (%)	89.48	90.16	90.40	90.73	90.85	
230V (%)	88.77	89.95	90.66	91.27	92.01	



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