

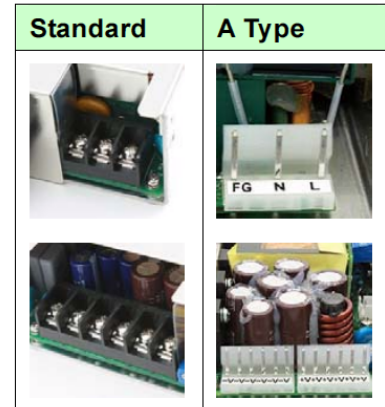
AQF360F Series

360 W AC/DC Switching Power Supply

CoolPower
Solutions

KEY FEATURES

- Enclosed Switching Power Supply
- Universal Input: 90-264 VAC
- With P.F.C. Function, PF>0.95
- Cooling by Built-in 12 VDC FAN
- 240W Convection without FAN
- Protections: Over Load / Over Voltage /
Over Temperature / Short Circuit
All by Auto-recovery
- Leakage Current <300uA
- High Power Density
- High Efficiency up to 93%
- RoHS Compliant Design
- Ultra Compact Size: 7.8 x 3.2 x 1.6 Inches
- 3-Years Product Warranty



ELECTRICAL SPECIFICATIONS

Model No.	AQF360F-12S	AQF360F-24S	AQF360F-36S	AQF360F-48S	AQF360F-54S
Max Output Wattage (W)	360W				
Input	Voltage				
	90-264 VAC or 120-370 VDC				
	Frequency (Hz)				
	47-63 Hz				
	Current (Full load)				
	< 4.0 A max. (115 VAC) / < 2.0 A max. (230 VAC)				
Output	Inrush Current (<2ms)				
	< 30 A max. (115 VAC) / < 60 A max. (230 VAC)				
	Leakage Current				
	< 0.3 mA max.(240VAC 63Hz)				
	Power Factor				
	PF>0.98 (115 VAC) / PF>0.93 (230 VAC) at Full Load				
	Voltage (V.DC.)				
	12V 24V 36V 48V 54V				
	Trim				
	10.8 ~ 13.2V 21.6 ~ 26.4V 32.7 ~ 39.6V 44 ~ 51V 51.3 ~ 56.7V				
	Voltage Accuracy				
	±2%				
Current (Convection) (A) max					
30 15 10 7.5 6.66					
Line Regulation (LL-HL) (typ.)					
±1%					
Load Regulation (5-100%) (typ.)					
±1%					
Minimum Load					
1%					
Maximum Capacitive Load					
85000 uF 48000 uF 21000 uF 13000 uF 7000 uF					
Ripple & Noise (max.)					
150mVp-p 200mVp-p					
Efficiency (typ.)					
89% 91% 92% 93% 93%					
Hold-up Time					
12 ms min.					
Switching Frequency					
75 kHz					
Protection	Over Power Protection				
	Auto recovery				
	Over Voltage Protection				
	Auto recovery				
Over Temperature					
Auto recovery					
Short Circuit Protection					
Auto-recovery					
Isolation	Input-Output (V.AC)				
	3000V				
	Input-FG (V.AC)				
1500V					
Output-FG (V.AC)					
500V					
Environment	Operating Temperature				
	-10°C... +70°C (with derating)				
	Storage Temperature				
	-25°C... +85°C				
	Temperature Coefficient				
	±0.03%/°C (0~50°C)				
Humidity					
95% RH					
MTBF					
>120,000 h @ 25°C (MIL-HDBK-217F)					
Vibration					
10~500Hz, 2G 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.

ELECTRICAL SPECIFICATIONS

Model No.		AQF360F-12S	AQF360F-24S	AQF360F-36S	AQF360F-48S	AQF360F-54S
Physical	Dimension (L x W x H)	7.8 x 3.2 x 1.57 Inches (197.7 x 81.3 x 40.0 mm) Tolerance ± 0.5 mm				
	Weight	746 g				
	Cooling Method	Cooling by Built-in DC FAN				
Safety	Agency Approvals	CE, UL60950, CB				
EMC	EMI (Conducted & Radiated Emission)	EN 55022 class B				
	EMS (Noise Immunity)	EN 55024				

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.

MECHANICAL DIMENSION (Top View)

Standard

PIN#	Single
1	FG
2	AC IN (N)
3	AC IN (L)
4~6	+DC OUT
7~9	-DC OUT

A Type

PIN#	Single
1	FG
2	AC IN (N)
3	AC IN (L)
4~9	+DC OUT
10~15	-DC OUT

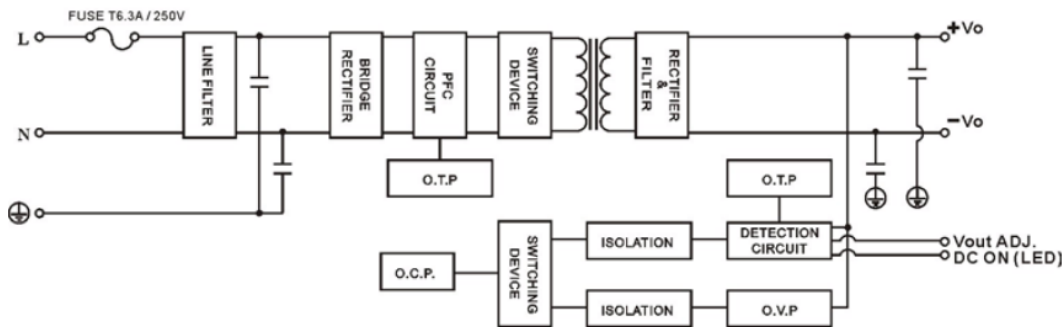
ASSEMBLY INSTRUCTIONS

*U Case T=2.0mm

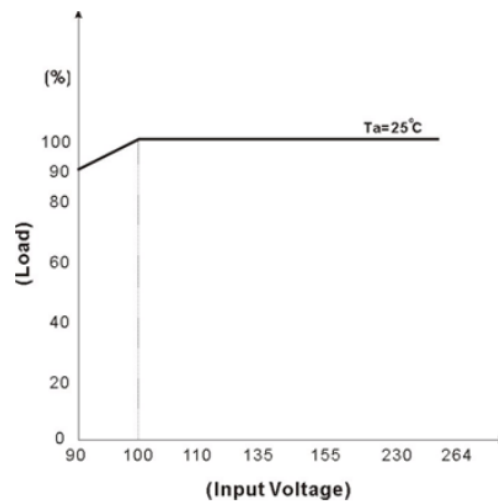
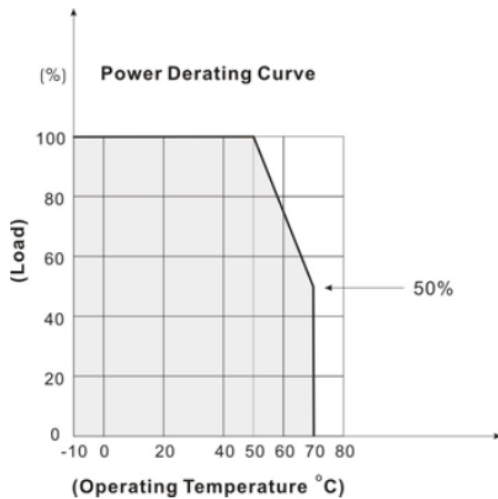
Customer screws into the length of the case no higher than 0.5mm
(Namely screw length for load plate thickness plus 2.5mm)

BLOCK DIAGRAM

Single Output



DERATING

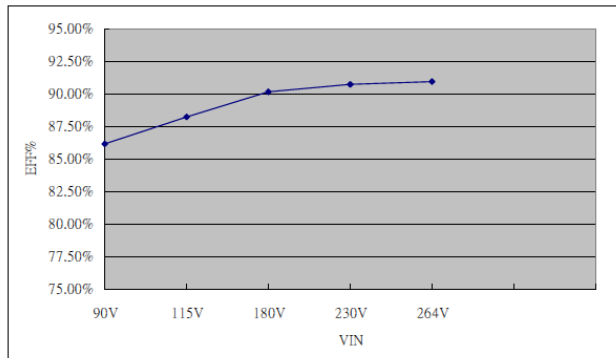


EFFICIENCY VERSUS LOAD

AQF360F-12S

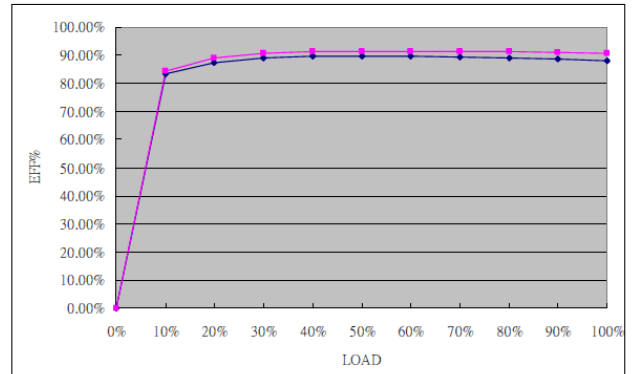
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	86.12	88.20	90.15	90.69	90.95



LOAD VS Efficiency

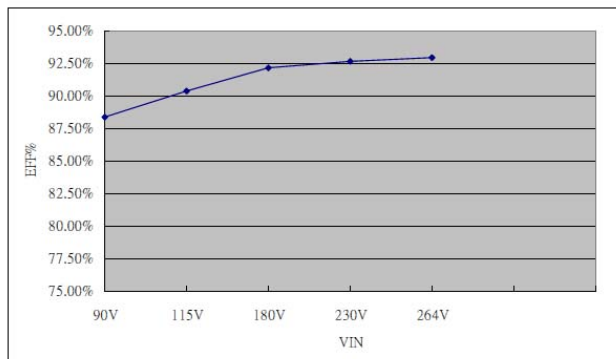
Load (%)	0	10	20	30	40	50
115V (%)	0	83.25	87.43	89.02	89.67	89.80
230V (%)	0	84.38	88.94	90.75	91.24	91.49
Load (%)	60	70	80	90	100	
115V (%)	89.64	89.39	89.00	88.65	88.20	
230V (%)	91.46	91.38	91.22	91.02	90.09	



AQF360F-24S

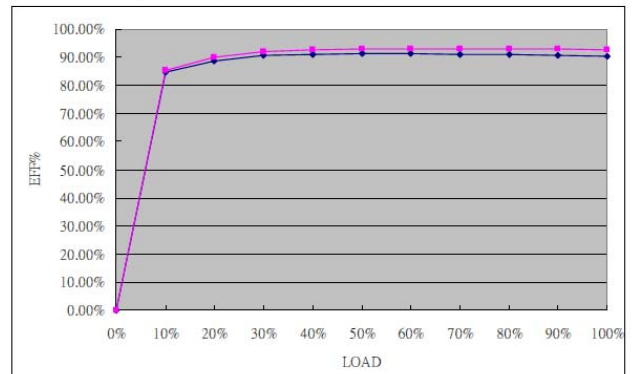
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	88.36	90.35	92.13	92.67	92.96



LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0	84.77	88.62	90.54	91.14	91.33
230V (%)	0	85.54	90.08	92.06	92.62	92.99
Load (%)	60	70	80	90	100	
115V (%)	91.32	91.18	90.98	90.70	90.35	
230V (%)	93.08	93.08	93.02	92.91	92.67	

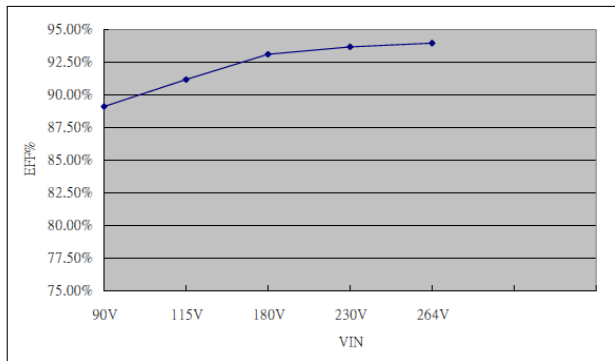


EFFICIENCY VERSUS LOAD

AQF360F-36S

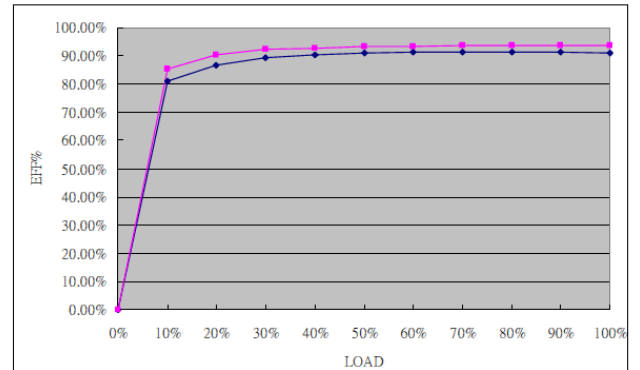
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	89.04	91.17	93.06	93.64	93.93



LOAD VS Efficiency

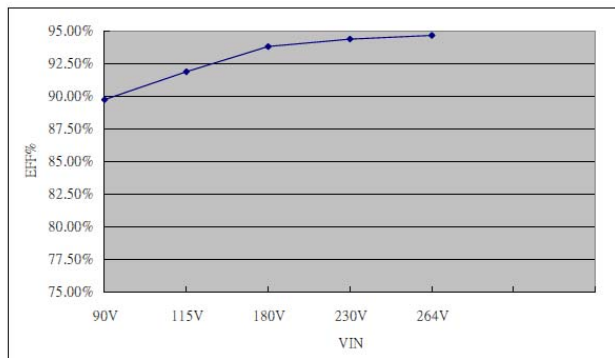
Load (%)	0	10	20	30	40	50
115V (%)	0	80.96	86.76	89.39	90.51	91.01
230V (%)	0	85.51	90.25	92.24	92.82	93.39
Load (%)	60	70	80	90	100	
115V (%)	91.21	91.36	91.37	91.31	91.17	
230V (%)	93.46	93.68	93.76	93.68	93.64	



AQF360F-48S

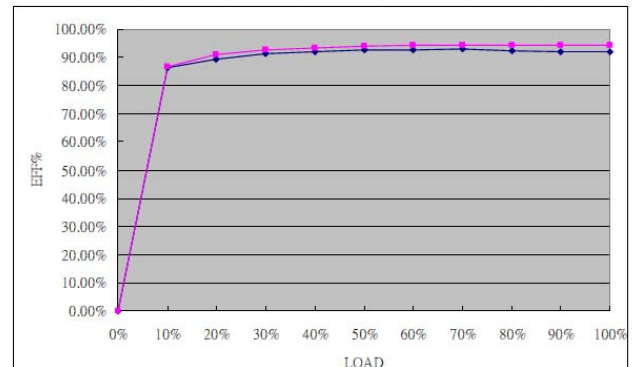
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	89.75	91.89	93.79	94.36	94.67



LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0	86.43	89.33	91.43	92.17	92.58
230V (%)	0	86.80	90.87	92.74	93.47	94.02
Load (%)	60	70	80	90	100	
115V (%)	92.58	93.00	92.38	92.18	91.89	
230V (%)	94.02	94.23	94.24	94.40	94.36	

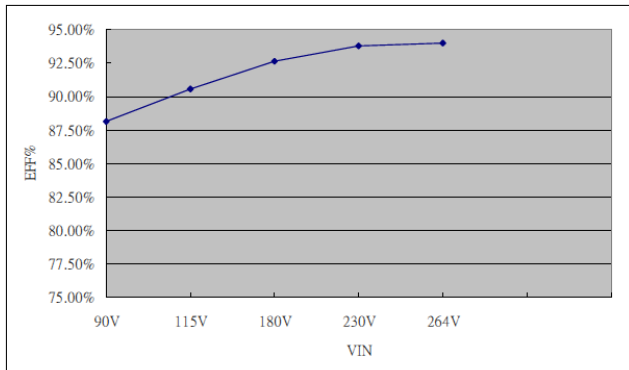


EFFICIENCY VERSUS LOAD

AQF360F-54S

VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	88.12	90.58	92.65	93.79	93.99



LOAD VS Efficiency

Load (%)	0	10	20	30	40	50
115V (%)	0.00	86.37	88.87	89.82	90.28	90.91
230V (%)	0.00	88.59	91.67	92.80	93.35	93.66
Load (%)	60	70	80	90	100	
115V (%)	90.98	90.96	90.95	90.87	90.58	
230V (%)	93.79	93.83	93.86	93.80	93.79	

