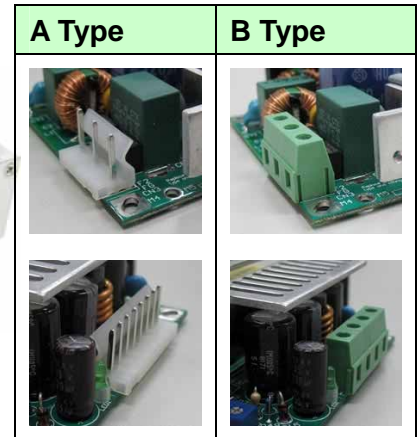


**KEY FEATURES**

- Enclose Switching Power Supply
- 180 Watt with 18CFM FAN
- High Efficiency up to 93%
- Universal Input: 90-264 VAC
- Low Ripple and Noise
- With P.F.C. Function >0.95
- 120 Watt with Free Air Convection
- Din Rail Kit For Optional
- Ultra Compact Size: 5.0 x 3.24 x 1.5 Inches
- 3-Years Product Warranty


**ELECTRICAL SPECIFICATIONS**

Model No.		AQF120E-3.8S	AQF120E-5S	AQF120E-12S	AQF120E-15S	AQF120E-24S	AQF120E-48S
		(Preliminary)					
Max Output Wattage (18CFM FAN) (W)		91 W	120 W	180 W	180 W	180 W	180 W
Max Output Wattage (W)		76 W	100 W	120 W	120 W	120 W	120 W
Input	Voltage	90-264 VAC or 120-370 VDC (80-274 VAC or 110-390 VDC with Derating)					
	Frequency (Hz)	47-63 Hz					
	Current (Full load)	<2.0 A max. (115 VAC) / <1.0 A max. (230 VAC)					
	Inrush Current (<2ms)	< 30 A max. (115 VAC) / < 60 A max. (230 VAC)					
	Leakage Current	< 0.5 mA max.					
	Power Factor	PF>0.99 (115 VAC) / PF>0.95 (230 VAC) at Full Load					
Output	Voltage (V.DC.)	3.8V	5V	12V	15V	24V	48V
	Voltage Accuracy	±2%					
	Voltage Adj. Range (V.DC)	3.6~4V	4.5~5.1V	11.4~13.2V	13.5~16V	22.8~26.4V	45.6~52V
	Current (18CFM FAN) (A) max	0~24	0~24	0~15	0~12	0~7.5	0~3.75
	Current (Convection) (A) max	0~20	0~20	0~10	0~8	0~5	0~2.5
	Line Regulation	±1%					
	Load Regulation	±1%					
	Minimum Load	1%					
	Maximum Capacitive Load	100,000µF	80,000µF	40,000µF	35,000µF	20,000µF	1,200µF
	Ripple & Noise (max.)	100mV	100mV	50mV	50mV	100mV	100mV
	Efficiency (typ.)	88%	90%	90%	90%	93%	93%
	Hold-up Time	15 ms min.					
	Switching Frequency	100 kHz					
Protection	Over Power Protection	Auto recovery					
	Over Voltage Protection	Auto recovery ( > 125% Vout)					
	Short Circuit Protection	Auto recovery					
Isolation	Input-Output (V.AC)	4000V					
	Input-FG (V.AC)	2000V					
	Output-FG (V.AC)	500V					
Environment	Operating Temperature	-25°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, Notice 1)					
	Vibration	10~500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes.					
Physical	Dimension (L x W x H)	5.0 x 3.24 x 1.5 Inches (127.0 x 82.2 x 38.1 mm ) Tolerance ±0.5 mm					
	Weight	400 g					
	Cooling Method	Free convection / 18 CFM FAN					
Safety	Agency Approvals	CE, UL60950-1(except 3.8S / 5S / 15S)					
EMC	EMI (Conducted & Radiated Emission)	EN61000-6-3 · 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 &amp; Noise are measured at 20MHz of bandwidth with 0.1UF &amp; 47UF parallel capacitor.

3.Hold-up Time measured at 90% Vout.

**MECHANICAL DIMENSION ( Top View )**
**Standard**

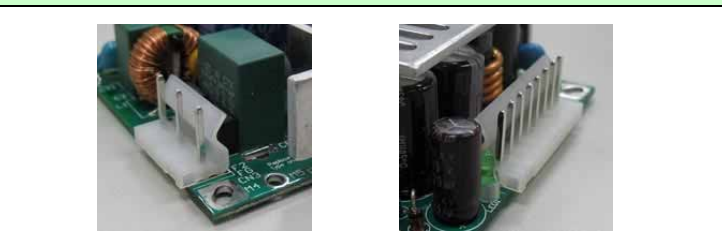
Tolerance  $\pm 0.5$  mm

**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)

PIN#	SINGLE
1	AC IN (L)
2	AC IN (N)
3	FG
4	+DC OUT
5	+DC OUT
6	-DC OUT
7	-DC OUT

**A Type**


PIN#	Single
1	AC IN (L)
2	AC IN (N)
3	FG
4 ~ 7	+DC OUT
8 ~ 11	-DC OUT

**B Type**


PIN#	Single
1	AC IN (L)
2	AC IN (N)
3	FG
4 ~ 5	+DC OUT
6 ~ 7	-DC OUT

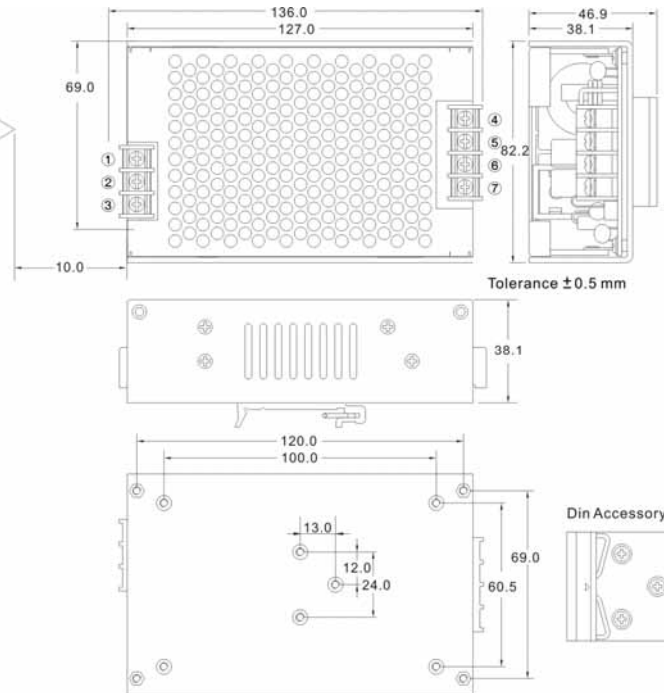
**Din Rail Kit**

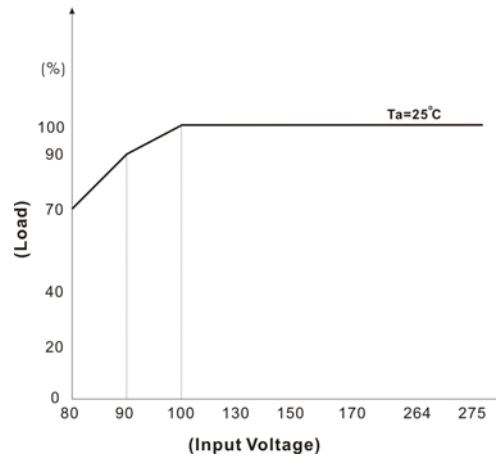
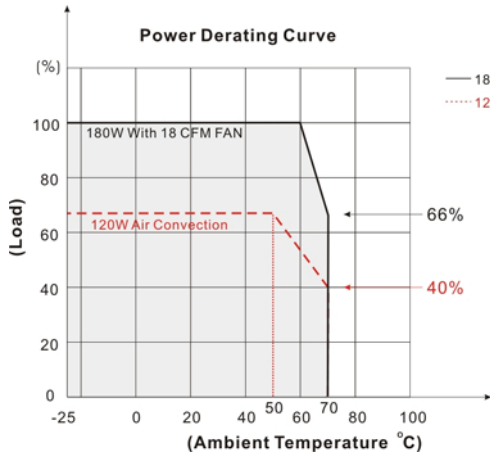
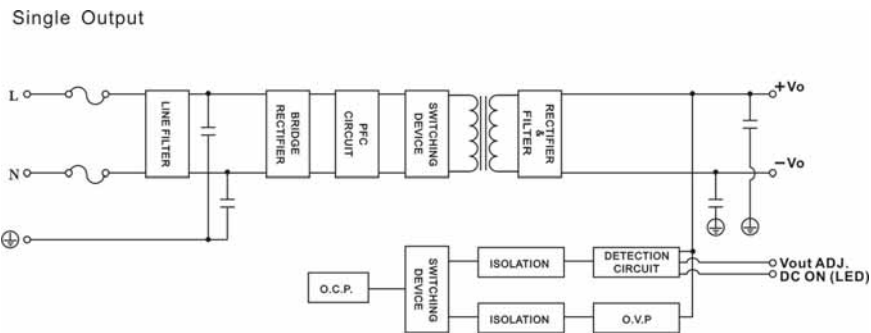
**AQF120E-180W-DRK**



PIN#	SINGLE
1	AC IN (L)
2	AC IN (N)
3	FG
4	+DC OUT
5	+DC OUT
6	-DC OUT
7	-DC OUT

18 CFM

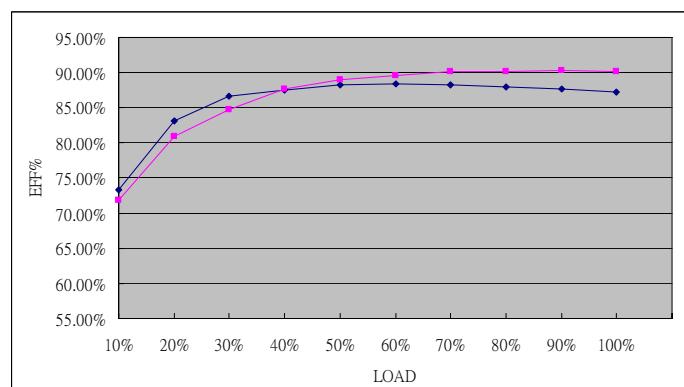
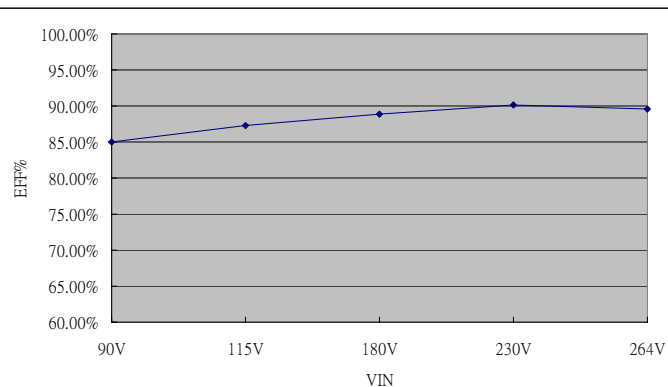


**DERATING**

**BLOCK DIAGRAM**

**EFFICIENCY VERSUS LOAD**
**AQF120E-5S**
**VIN VS Efficiency**

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	85.02	87.22	88.84	90.1	89.64

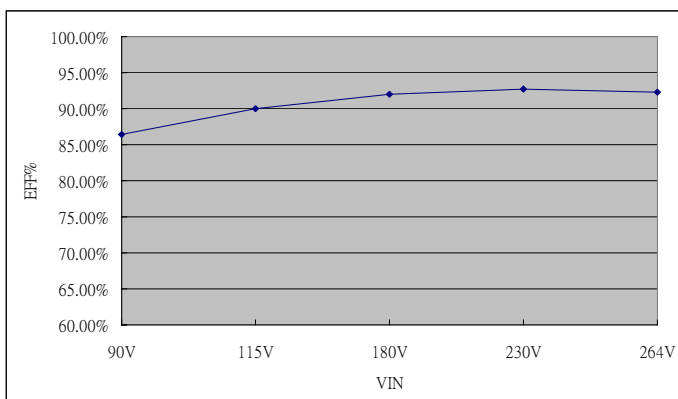
**LOAD VS Efficiency**

Load (%)	10	20	30	40	50
115V (%)	73.27	83.19	86.61	87.59	88.26
230V (%)	71.78	80.97	84.81	87.63	88.92
Load (%)	60	70	80	90	100
115V (%)	88.37	88.32	87.95	87.68	87.22
230V (%)	89.52	90.17	90.15	90.31	90.1

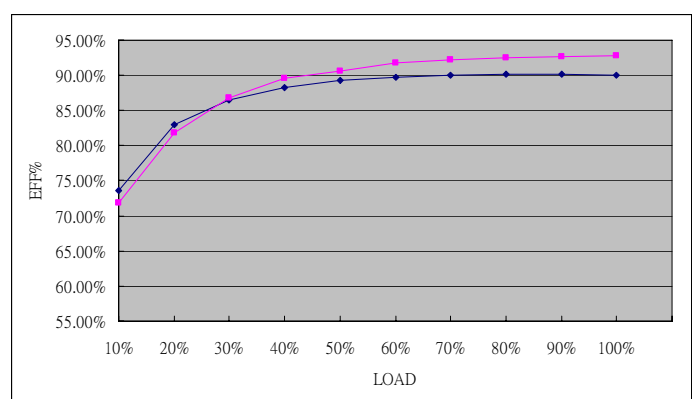


**EFFICIENCY VERSUS LOAD**
**AQF120E-12S**
**VIN VS Efficiency**

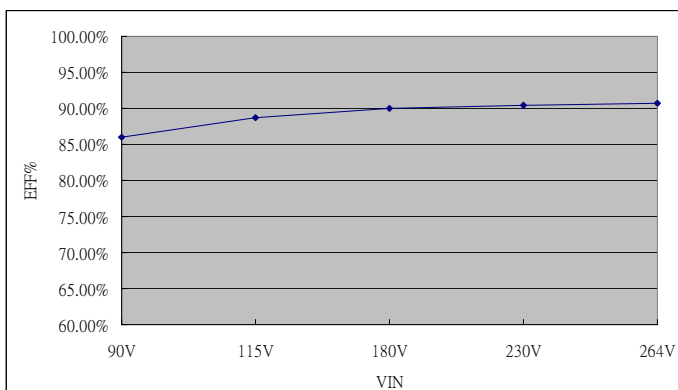
Input Voltage (V)	90	115	180	230	264
Efficiency (%)	86.45	89.96	92	92.77	92.3


**LOAD VS Efficiency**

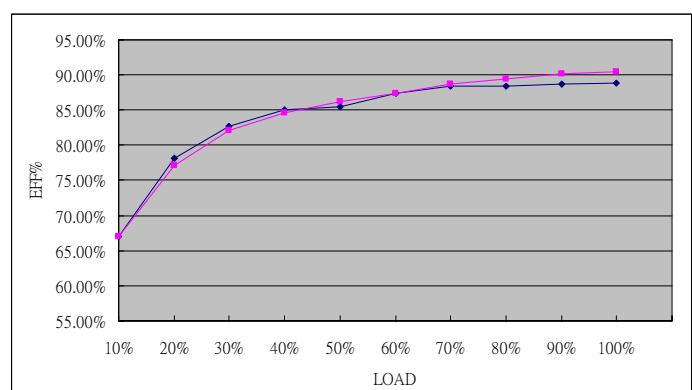
Load (%)	10	20	30	40	50
115V (%)	73.62	82.98	86.43	88.26	89.27
230V (%)	71.83	81.82	86.81	89.54	90.58
Load (%)	60	70	80	90	100
115V (%)	89.72	89.95	90.11	90.1	89.96
230V (%)	91.74	92.18	92.53	92.62	92.77


**AQF120E-15S**
**VIN VS Efficiency**

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	86.03	88.78	90.06	90.45	90.75

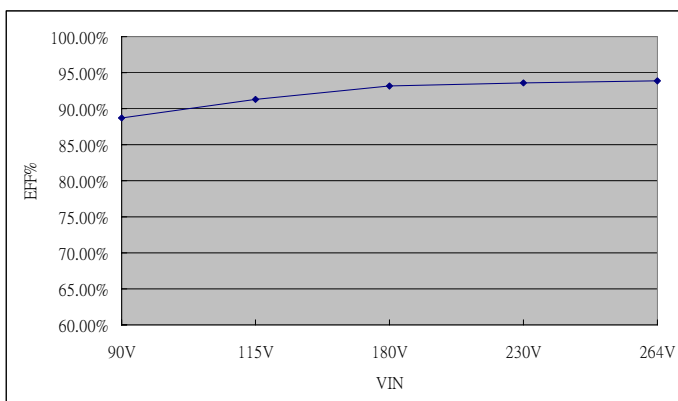

**LOAD VS Efficiency**

Load (%)	10	20	30	40	50
115V (%)	67.05	78.17	82.74	85.07	85.52
230V (%)	67.05	77.17	82.17	84.61	86.14
Load (%)	60	70	80	90	100
115V (%)	87.40	88.34	88.44	88.67	88.78
230V (%)	87.39	88.68	89.5	90.14	90.45

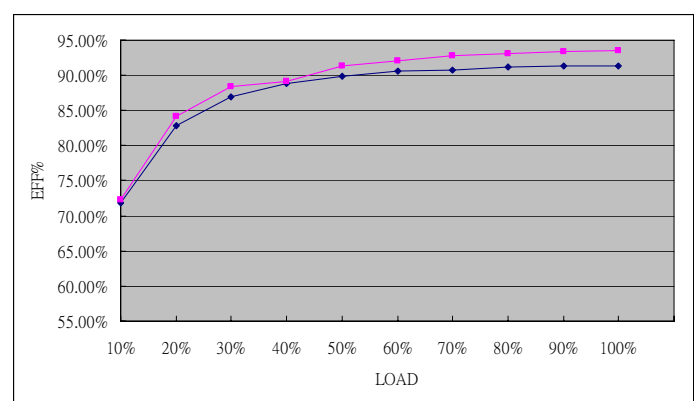


**EFFICIENCY VERSUS LOAD**
**AQF120E-24S**
**VIN VS Efficiency**

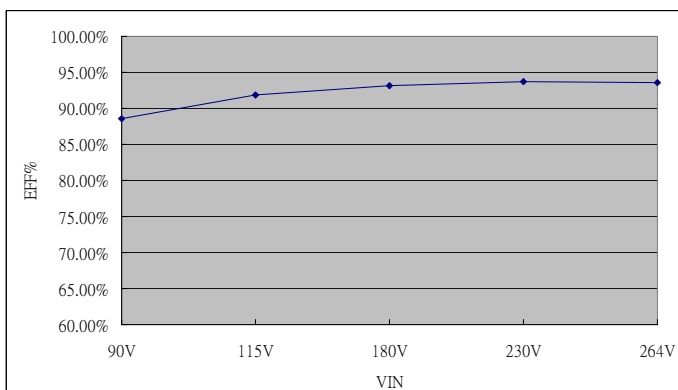
Input Voltage (V)	90	115	180	230	264
Efficiency (%)	88.78	91.27	93.11	93.52	93.81


**LOAD VS Efficiency**

Load (%)	10	20	30	40	50
115V (%)	71.89	82.79	86.97	88.9	89.82
230V (%)	72.3	84.22	88.46	89.21	92.29
Load (%)	60	70	80	90	100
115V (%)	90.54	90.78	91.13	91.4	91.27
230V (%)	92.14	92.86	93.14	93.44	93.52


**AQF120E-48S**
**VIN VS Efficiency**

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	88.56	91.86	93.20	93.76	93.61


**LOAD VS Efficiency**

Load (%)	10	20	30	40	50
115V (%)	74.99	83.9	87.25	89.17	90.01
230V (%)	67.31	79.29	84.97	88.18	89.99
Load (%)	60	70	80	90	100
115V (%)	90.69	91.18	91.46	91.84	91.86
230V (%)	91.24	92.15	92.84	93.36	93.76

