AQF120O SERIES 180 Watts

KEY FEATURES

- Open Frame Switching Power Supply
- 180 Watt with 18CFM FAN for 12V to 48V Output Voltage
- 150 Watt with 30CFM FAN for 5V Output Voltage
- 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

E199779 LEVEL3

Standard 5S	Standard (5S N/A)	A Type (5S N/A)	B Type (5S N/A)
			

Please refer to the types of terminal block; the pictures shown are for illustration purpose only, actual product may vary.

ELECTRICAL SPECIFICATIONS

All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Model No.		AQF120O-5S	AQF120O-12S	AQF120O-15S	AQF120O-24S	AQF120O-48S
Max Output Wattage (W)		150 W (30CFM FAN)	180 W (18CFM FAN)			
Max Output Wattage (W)		100 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.)	5V	12V	15V	24V	48V
	Voltage Accuracy	±2%				
	Voltage Adj. Range	±5% Output Voltage				
	Current (18/30 CFM FAN)(A) max	0~30 (30CFM FAN)	0~15 (18CFM FAN)	0~12 (18CFM FAN)	0~7.5 (18CFM FAN)	0~3.75 (18CFM FAN)
	Current (Convection) (A) max	0~20	0~10	0~8	0~5	0~2.5
	Line Regulation	±1%				
	Load Regulation	±1%				
	Minimum Load	5%	1%			
	Maximum Capacitive Load	100,000μF	40,000μF	35,000μF	20,000μF	1,200μF
	Ripple & Noise (max.)	100mV	50mV	50mV	100mV	200mV
	Efficiency (typ.)	87%	90%	90%	93%	93%
	Hold-up Time	15 ms min.				
Protection	Over Power Protection	Auto recovery				
	Over Voltage Protection	Auto recovery (> 125% Vout) (except 5S)				
	Short Circuit Protection	Protection level 1 (nominal)：Continuous, Auto recovery				
		Protection level 2 (instantaneous high current)：Latch				

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ELECTRICAL SPECIFICATIONS

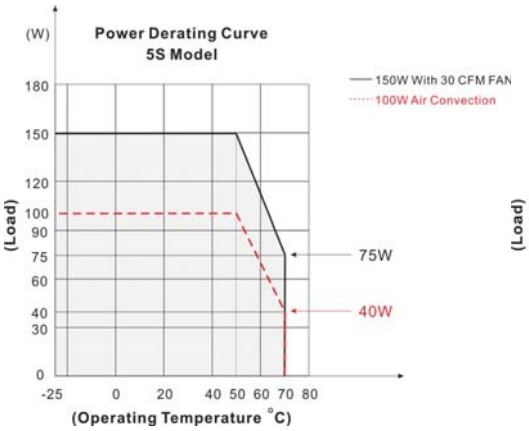
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

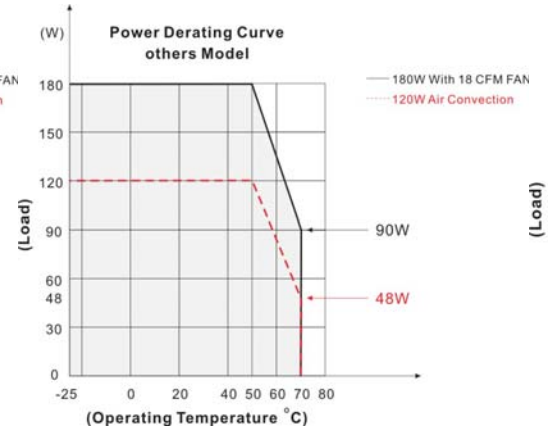
Model No.		AQF120O-5S	AQF120O-12S	AQF120O-15S	AQF120O-24S	AQF120O-48S
Isolation	Input-Output (V.AC)	4000VAC or 5656VDC				
	Input-FG (V.AC)	2000V				
	Output-FG (V.AC)	500V				
Environment	Operating Temperature	-25°C…+70°C (with derating)				
	Storage Temperature	-25°C…+85°C				
	Temperature Coefficient	±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)	5S: 5.0 x 3.0 x 1.24 Inches (127.0 x 76.2 x 31.5 mm) Tolerance ±0.5 mm				
		others: 5.0 x 3.0 x 1.16 Inches (127.0 x 76.2 x 29.5 mm) Tolerance ±0.5 mm				
	Weight	5S:350 g / others:280 g				
	Cooling Method	Free convection / 18 CFM FAN				
Safety	Agency Approvals	IEC / EN 60950(5S,15S N/A), UL/ IEC / EN 62368-1(5S,15S N/A)				
EMC	EMI (Conducted & Radiated Emission)	EN61000-6-3、EN 55032 class B				
	EMS (Noise Immunity)	EN 55024				

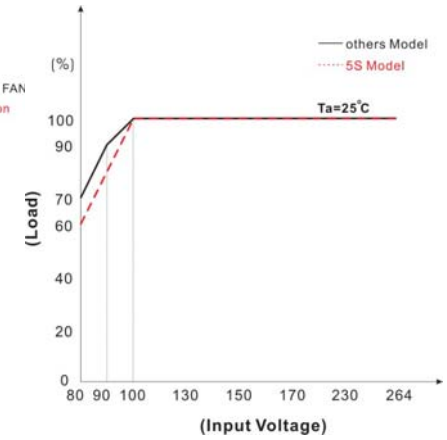
NOTE

1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. Hold-up Time measured at 90% Vout.
3. Strongly recommend to conduct this test with DC Voltage. If customer wishes to test with AC Voltage, please disconnect all Y-Capacitors from Arch power supply.
4. **CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.**
   (ATTENTION : 2 poles avec fusible sur le neutre. Deconnecter le secteur avant intervention.)

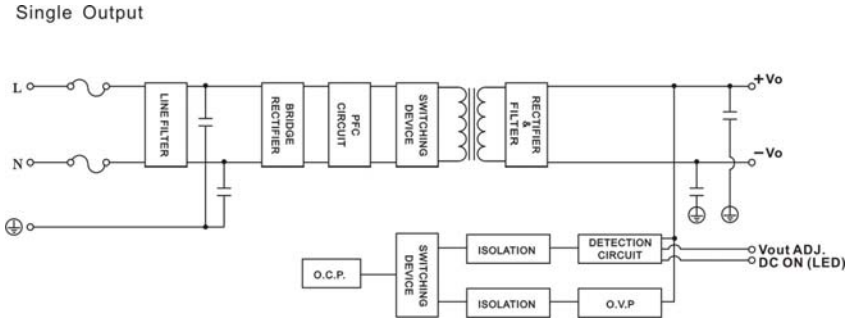
DERATING







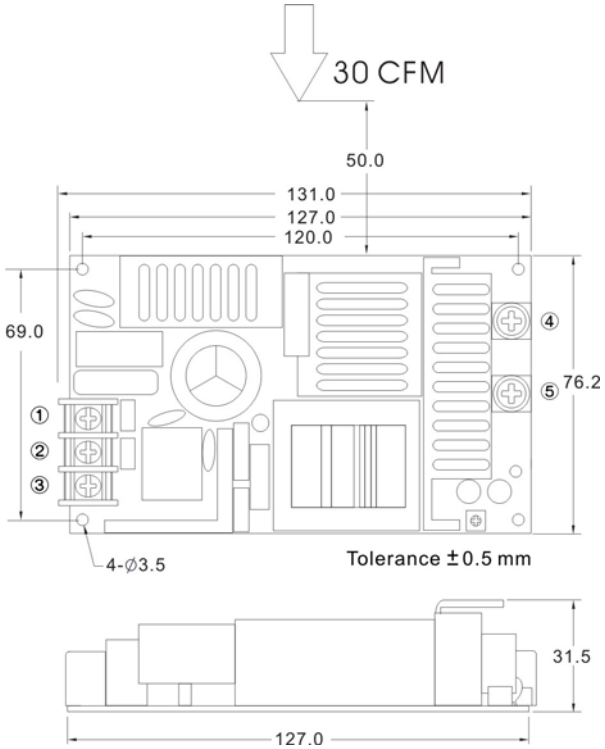
BLOCK DIAGRAM



AQF120O SERIES 180 Watts

MECHANICAL DIMENSIONS (Top View)

Standard (5S)

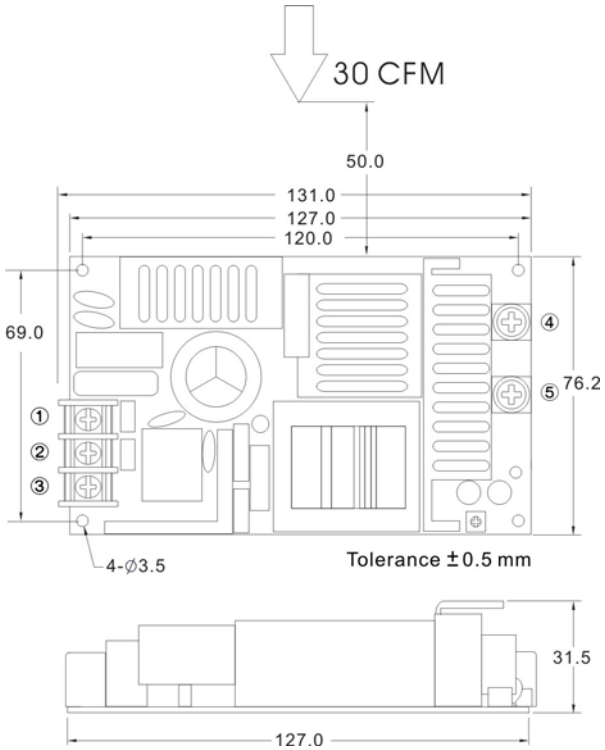


Standard (5S)

Please refer to the types of terminal block; the pictures shown are for illustration purpose only, actual product may vary.

Brands		Terminal
PIN#	Single	
1	AC IN (L)	ANYTEK DG28S-B-03P
2	AC IN (N)	
3	FG	
4	+DC OUT	M5 Pan HD screw in 2 positions Torque to 8 Ibs-in(90 cNm) max.
5	-DC OUT	

Standard (5S N/A)



Standard (5S N/A)

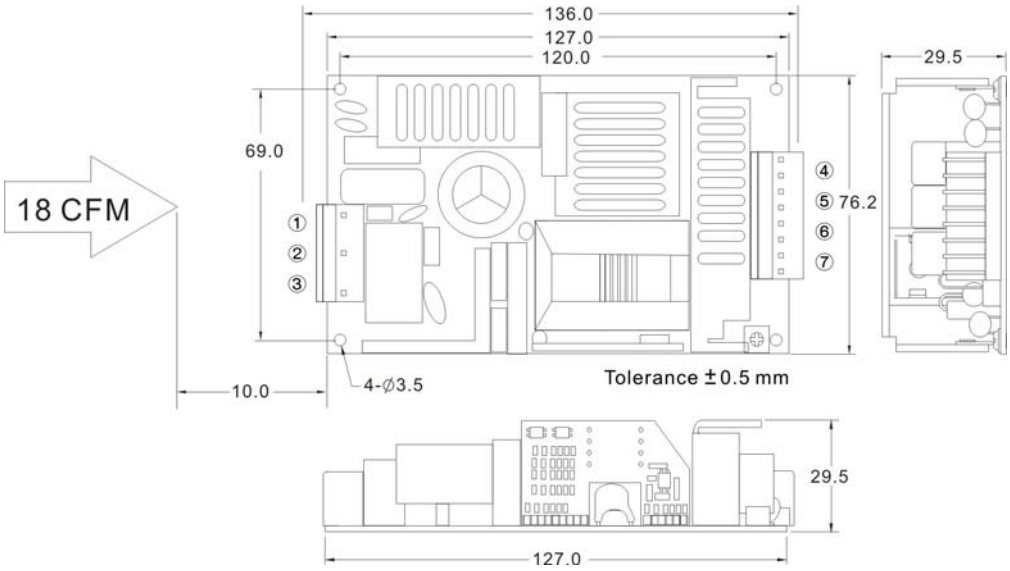
Please refer to the types of terminal block; the pictures shown are for illustration purpose only, actual product may vary.

Brands		Terminal
PIN#	Single	
1	AC IN (L)	ANYTEK DG28S-B-03P
2	AC IN (N)	
3	FG	
4~5	+DC OUT	ANYTEK DG28S-B-04P
6~7	-DC OUT	

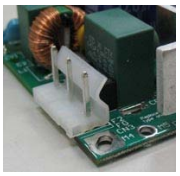
AQF120O SERIES 180 Watts

MECHANICAL DIMENSIONS (Top View)

A Type (5S N/A)



A Type (5S N/A)



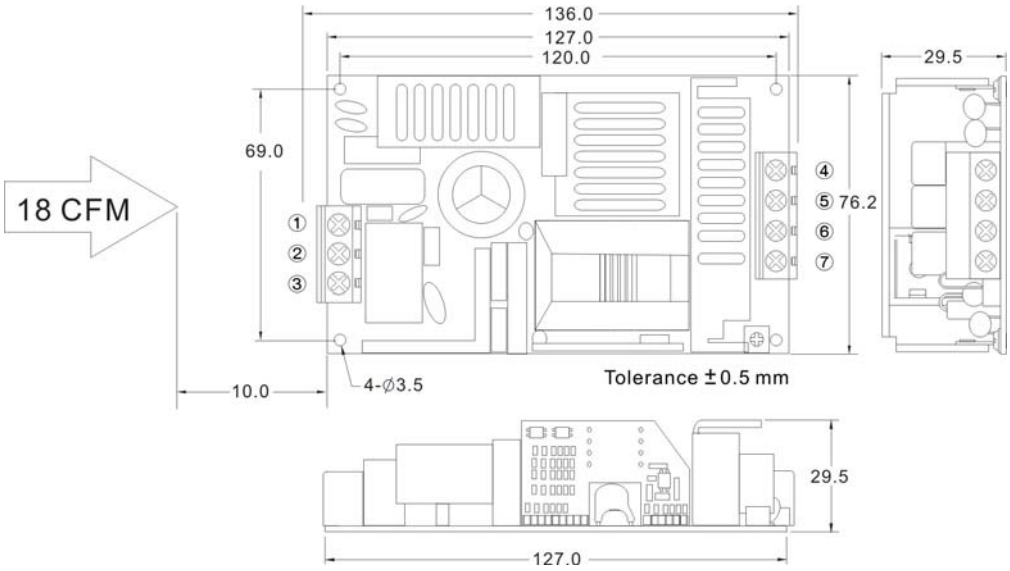

Please refer to the types of terminal block; the pictures shown are for illustration purpose only, actual product may vary.

Brands		Alex		Molex	
PIN#	Single	Mating Housing	Terminal	Mating Housing	Terminal
1	AC IN (L)	8639-05N2 8095-05N2	23T or 24T series 94T or 95T series	5195-05	5194T
2	AC IN (N)				
3	FG				
4~7	+DC OUT	8639-08N2 8095-08N2	23T or 24T series 94T or 95T series	5195-08	5194T
8~11	-DC OUT				

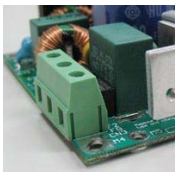
AQF120O SERIES 180 Watts

MECHANICAL DIMENSIONS (Top View)

B Type (5S N/A)



B Type (5S N/A)




Please refer to the types of terminal block; the pictures shown are for illustration purpose only, actual product may vary.

Brands		Terminal
PIN#	Single	
1	AC IN (L)	ANYTEK TI0324500010G
2	AC IN (N)	
3	FG	
4~5	+DC OUT	DINKLE DT-128V-1711-04P3
6~7	-DC OUT	

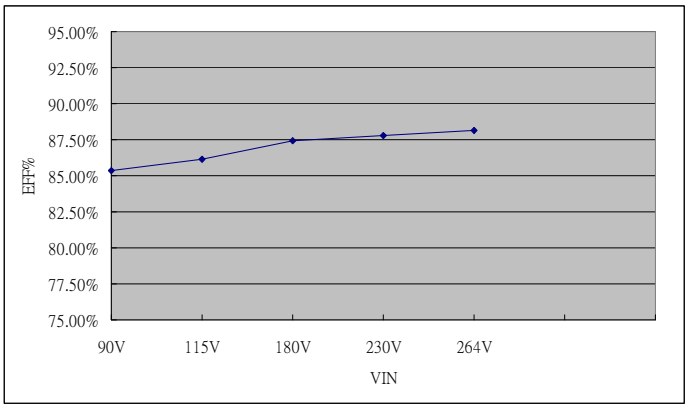
AQF120O SERIES 180 Watts

EFFICIENCY VERSUS LOAD

AQF120O-5S

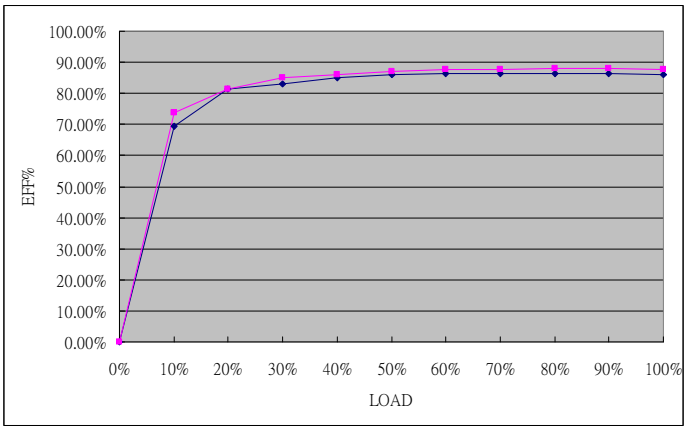
VIN VS Efficiency

Input Voltage (V)	90	115	180	230	264
Efficiency (%)	85.37	86.17	87.46	87.76	88.14



LOAD VS Efficiency

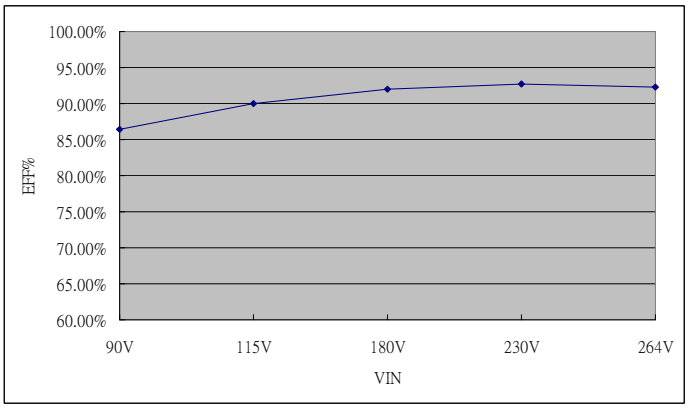
Load (%)	10	20	30	40	50
115V (%)	69.59	81.53	83.15	84.92	85.96
230V (%)	73.66	81.49	85.04	86.21	87.16
Load (%)	60	70	80	90	100
115V (%)	86.44	86.45	86.37	86.48	86.20
230V (%)	87.57	87.75	87.98	87.94	87.80



AQF120O-12S

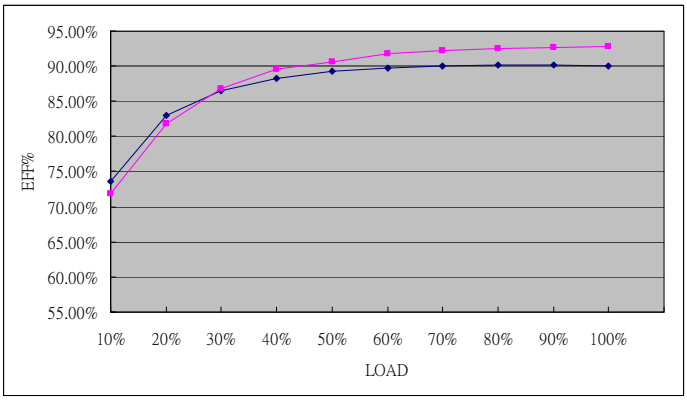
VIN VS Efficiency

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



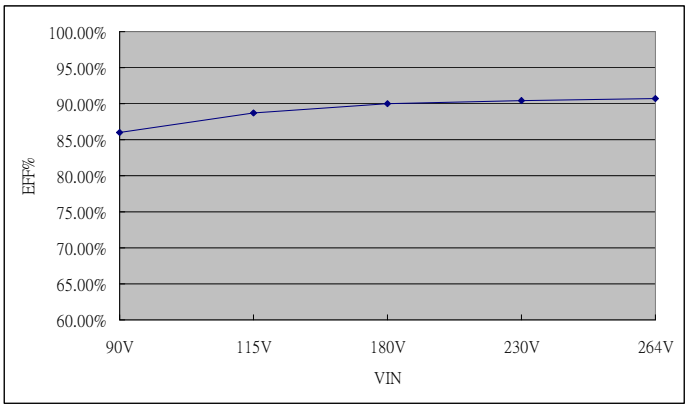
AQF120O SERIES 180 Watts

EFFICIENCY VERSUS LOAD

AQF120O-15S

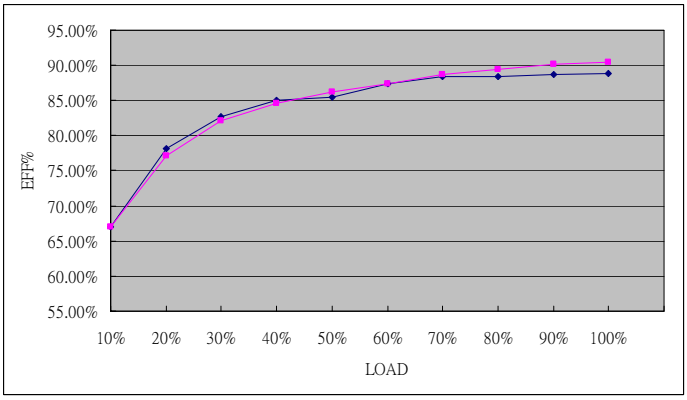
VIN VS Efficiency

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



LOAD VS Efficiency

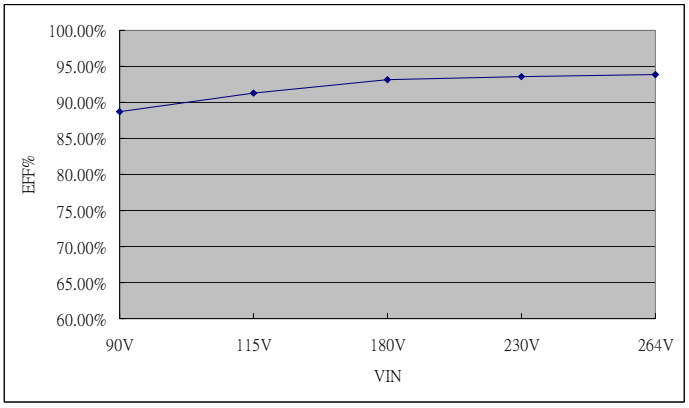
Load (%)	10	20	30	40	50
115V (%)	67.05	78.17	82.74	85.07	85.52
230V (%)	67.05	77.17	82.17	84.61	86.14
Load (%)	60	70	80	90	100
115V (%)	87.40	88.34	88.44	88.67	88.78
230V (%)	87.39	88.68	89.5	90.14	90.45



AQF120O-24S

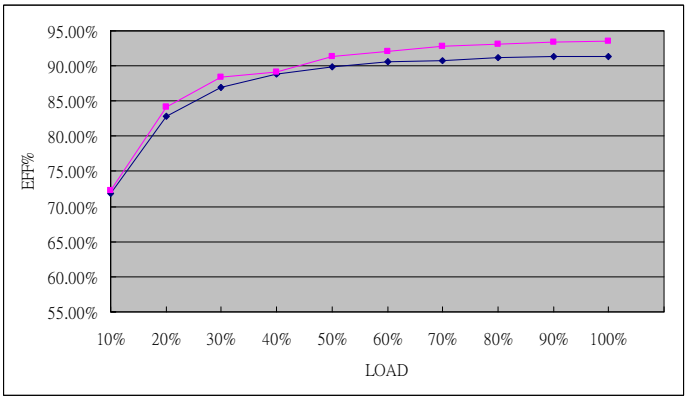
VIN VS Efficiency

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



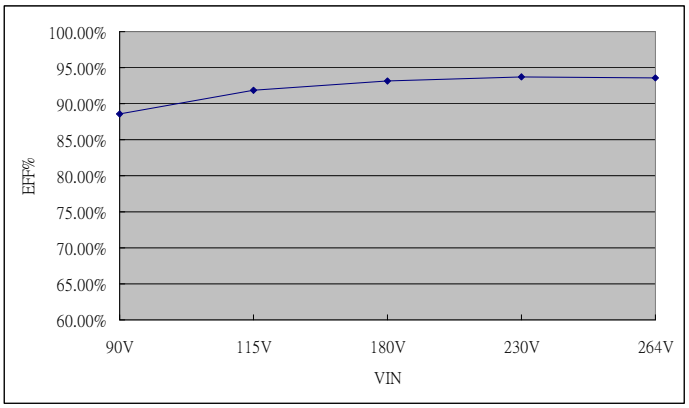
AQF120O SERIES 180 Watts

EFFICIENCY VERSUS LOAD

AQF120O-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