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#### ARCH TAIWAN

3F, No. 79, Sec. 1, Hsin Tai Wu Rd.,  
Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

Tel: +886-2-2698-9508  
Fax: +886-2-2698-1319  
E-mail address: [sales@archcorp.com.tw](mailto:sales@archcorp.com.tw)



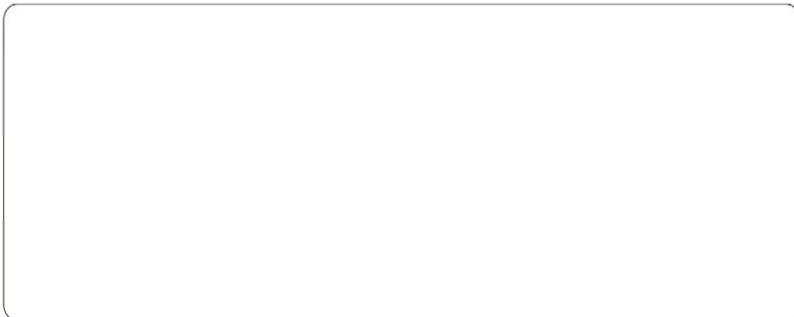
#### ARCH CHINA

No. 58, Yinsheng Road,  
Suzhou Industrial Park, 215126

Tel: +86-512-6282-8895  
Fax: +86-512-6282-8881  
E-mail address: [sales@archcorp.com.cn](mailto:sales@archcorp.com.cn)



Please Contact Local Distributor



Issued Data: Mar, 2011 (Ver.12)



- ◆ AC-DC Power Module
- ◆ AC-DC Medical Power Module
- ◆ AC-DC Switching Power Supply
- ◆ LED Power
- ◆ DC-DC Converter



**(M)** AC-DC Power Module

Series	Output Power	Picture	Input Voltage Range (V AC)	Output Voltage Range (V DC)	Isolation Voltage (V AC)	Operating Temperature	Dimension (mm)	Page
AIC	3W		90~264	Single 3.3 · 5 · 9 · 12 · 15 · 24	3750	-40°C~85°C	35.0 x 18.0 x 22.0 Safety: UL · CE · RoHS	08
AOC	4W		90~264	Single 3.3 · 5 · 8 · 9 · 12 · 14 · 15 · 24 Dual 5/3.3 · 8/5 · 12/5	3000	-40°C~70°C	36.66 x 27.16 x 17.1 Safety: UL · CE · RoHS	10
AOCH	4W		90~305	Single 3.3 · 5 · 8 · 9 · 12 · 14 · 15 · 24 Dual 5/3.3 · 8/5 · 12/5	3000	-40°C~70°C	36.66 x 27.16 x 17.1 Safety: UL · CE · RoHS	11
AHC	5W		90~264	Single 3.3 · 5 · 12 · 15 · 24	3000	-25°C~70°C or -40°C~70°C	50.8 x 25.4 x 15.16 Safety: UL · CE · RoHS	12
APC	5W		90~264	Single 3.3 · 5 · 12 · 15 · 24 Dual ±5 · ±12 · ±15	3000	-25°C~70°C or -40°C~70°C	55.0 x 45.0 x 20.5 Safety: UL · CE · TUV · RoHS	09
ALC	8W		90~305	Single 3.3 · 5 · 8 · 9 · 12 · 14 · 15 · 24 Dual 5/3.3 · 8/5 · 12/5	3000	-40°C~70°C	36.5 x 27.0 x 26.4 Safety: UL · CE · RoHS	14
AHC08	8W		90~305	Single 3.3 · 3.8 · 5 · 8 · 9 · 12 · 14 · 15 · 24 Dual 5/3.3 · 8/5 · 12/5 · 12/7.5	3000	-40°C~70°C	52.5 x 26.8 x 19.0 Safety: UL · CE · RoHS	13
AFC	10W		90~264	Single 3.3 · 5 · 12 · 15 · 24	3000	-25°C~70°C or -40°C~70°C	52.4 x 27.2 x 23.5 Safety: UL · CE · CB · RoHS	16
ATC	10W		90~264	Single 3.3 · 5 · 12 · 15 · 24 Dual ±5 · ±12 · ±15	3000	-25°C~70°C or -40°C~70°C	64.0 x 45.0 x 21.5 Safety: UL · CE · TUV · RoHS	18
ANC A	15W		90~264	Single 5 · 12 · 15 · 24 Dual ±5 · ±12 · ±15 Triple 5/±12 · 5/±15	3000	-25°C~70°C or -40°C~70°C	74.0 x 54.0 x 22.0 Safety: UL · CE · TUV · RoHS	20
AFC20	20W		90~264	Single 3.3 · 5 · 12 · 15 · 24	3000	-40°C~70°C	52.4 x 27.2 x 23.5 Safety: UL · CE · RoHS	17
AKC	20W		90~264	Single 3.3 · 5 · 7.35 · 9 · 12 · 15 · 24 Dual ±5 · ±12 · ±15 Triple 5/±12 · 5/±15	3000	-25°C~70°C	70.0 x 48.0 x 22.0 Safety: UL · CE · RoHS	15
ATC30	30W		90~305	Single 3.3 · 5 · 12 · 15 · 24 Dual ±5 · ±12 · ±15	3000	-40°C~70°C	64.0 x 45.0 x 21.5 Safety: UL (pending) · CE · RoHS	19
ASC	30W		90~264	Single 3.3 · 5 · 12 · 15 · 24 Dual ±5 · ±12 · ±15 · 5/12 Triple 5/±12 · 5/±15	3000	-25°C~70°C or -40°C~70°C	89.0 x 63.5 x 25.0 Safety: UL · CE · CB · TUV · RoHS	22
AJC	40W		90~264	Single 3.3 · 5 · 9 · 12 · 15 · 24 Dual ±5 · ±12 · ±15 · 5/12 · 5/24 Triple 5/±12 · 5/±15	3000	-40°C~70°C	89.0 x 63.5 x 25.0 Safety: UL · CE · RoHS	23
ANC50	50W		90~305	Single 3.3 · 5 · 12 · 15 · 24 Dual ±5 · ±12 · ±15	3000	-40°C~70°C	74.0 x 54.0 x 22.0 Safety: UL (pending) · CE · RoHS	21
AEC60	60W		85~265	Single 5 · 9 · 12 · 15 · 24 · 48	4000	-40°C~70°C	109.0 x 58.5 x 30.0 Safety: UL · CE · RoHS	24
AQC100	100W		90~264	Single 12 · 15 · 24 · 48	3000	-40°C~70°C	109.0 x 58.5 x 30.0 Safety: UL (pending) · CE · RoHS	25

**(+)** AC-DC Medical Power Module

Series	Output Power	Picture	Input Voltage Range (V AC)	Output Voltage Range (V DC)	Isolation Voltage (V AC)	Operating Temperature	Dimension (mm)	Page
MTC	15W		90~264	Single 3.3 · 5 · 7.35 · 9 · 12 · 15 · 24 Dual ±5 · ±12 · ±15 Triple 5/±12 · 5/±15	4000	-25°C~70°C or -40°C~70°C	64.0 x 45.8 x 23.5 Safety: UL50601-1, IEC601-1 UL · CE · CB · RoHS	26
MSC	40W		90~264	Single 3.3 · 5 · 9 · 12 · 15 · 24 Dual ±5 · ±12 · ±15 Triple 5/12 · 5/24	4000	-25°C~70°C or -40°C~70°C	89.0 x 63.5 x 27.0 Safety: UL50601-1, IEC601-1 UL · CE · CB · RoHS	27

**(S)** AC-DC Switching Power Supply

Series	Output Power	Picture	Package Style	I/P Voltage Range (V AC)	Output Voltage Range (V DC)	Isolation Voltage (V AC)	Operating Temperature	Dimension (mm)	Page
AES600	60W		Open Frame	85~265	Single 5 · 9 · 12 · 15 · 24 · 48	3000	-40°C~70°C	103.9 x 52.1 x 25.4 Safety: UL · CE · RoHS	28
AES60U	60W		U Bracket	85~265	Single 5 · 9 · 12 · 15 · 24 · 48	3000	-40°C~70°C	105.0 x 58.0 x 38.1 Safety: UL · CE · RoHS	28
AES60D	60W		Din Rail	85~265	Single 5 · 9 · 12 · 15 · 24 · 48	3000	-40°C~70°C	105.0 x 58.0 x 38.1 Safety: UL · CE · RoHS	28
AES60E	60W		Enclosed	85~265	Single 5 · 9 · 12 · 15 · 24 · 48	3000	-40°C~70°C	105.0 x 58.0 x 38.1 Safety: UL · CE · RoHS	28
AQF1000	100W		Open Frame	90~264	Single 12 · 15 · 24 · 48	3000	-25°C~70°C	103.9 x 52.1 x 25.0 Safety: UL · CE · RoHS	30
AQF1200	180W		Open Frame	90~264	Single 5 · 12 · 15 · 24 · 48	4000	-25°C~70°C	127.0 x 76.2 x 29.5 Safety: UL · CE · RoHS	32
AQF120U	180W		U Bracket	90~264	Single 5 · 12 · 15 · 24 · 48	4000	-25°C~70°C	127.0 x 82.2 x 38.1 Safety: UL · CE · RoHS	32
AQF120D	180W		Din Rail	90~264	Single 5 · 12 · 15 · 24 · 48	4000	-25°C~70°C	127.0 x 82.2 x 38.1 Safety: UL · CE · RoHS	32
AQF120E	180W		Enclosed	90~264	Single 5 · 12 · 15 · 24 · 48	4000	-25°C~70°C	127.0 x 82.2 x 38.1 Safety: UL · CE · RoHS	32
AQF240U	240W		U Bracket	90~264	Single 12 · 15 · 24 · 28 · 32 · 48	4000	-10°C~70°C	150.0 x 106.0 x 35.0 Safety: UL · CE · RoHS	34
AQF240D	240W		Din Rail	90~264	Single 12 · 15 · 24 · 28 · 32 · 48	4000	-10°C~70°C	150.0 x 106.0 x 35.0 Safety: UL · CE · RoHS	34
AQF240E	240W		Enclosed	90~264	Single 12 · 15 · 24 · 28 · 32 · 48	4000	-10°C~70°C	150.0 x 106.0 x 35.0 Safety: UL · CE · RoHS	34
AQF360U	360W		U Bracket	90~264	Single 12 · 24 · 36 · 48 · 54	3000	-10°C~70°C	172.7 x 81.3 x 38.0 Safety: UL · CE · RoHS	36
AQF360E	360W		Enclosed	90~264	Single 12 · 24 · 36 · 48 · 54	3000	-10°C~70°C	172.7 x 81.3 x 53.3 Safety: UL · CE · RoHS	36
AQF360F	360W		Enclosed	90~264	Single 12 · 24 · 36 · 48 · 54	3000	-10°C~70°C	197.7 x 81.3 x 41.0 Safety: UL · CE · RoHS	36
AQFV480U	480W		U Bracket	90~264	Single 12 · 24 · 36 · 48	3000	-20°C~70°C	177.8 x 106.5 x 45.0 Safety: UL · CE · RoHS	38
AQFV480E	480W		Enclosed	90~264	Single 12 · 24 · 36 · 48	3000	-20°C~70°C	177.8 x 106.5 x 60.3 Safety: UL · CE · RoHS	38
AQFV480F	480W		Enclosed	90~264	Single 12 · 24 · 36 · 48	3000	-20°C~70°C	202.8 x 106.5 x 45.0 Safety: UL · CE · RoHS	38
AQFC480U	480W		U Bracket	90~264	Single 12 · 24 · 36 · 48	3000	-20°C~70°C	177.8 x 106.5 x 45.0 Safety: UL · CE · RoHS	40
AQFC480E	480W		Enclosed	90~264	Single 12 · 24 · 36 · 48	3000	-20°C~70°C	177.8 x 106.5 x 60.3 Safety: UL · CE · RoHS	40
AQFC480F	480W		Enclosed	90~264	Single 12 · 24 · 36 · 48	3000	-20°C~70°C	202.8 x 106.5 x 45.0 Safety: UL · CE · RoHS	40

**AIC SERIES**  
3 Watt



--- Feature ---

- Switching Power Module for PCB Mountable
- Universal Input: 90-264 VAC, 47-63Hz
- Fully Encapsulated Plastic Case
- Low Ripple and Noise
- Maximum No-Load Watts < 0.3W
- Isolation Class II
- CE, UL Approval
- 2-Years Product Warranty

Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 120 ~ 370 VDC
Frequency	47 ~ 63 Hz

Output Specifications	
Characteristics	Conditions
Output Power	3 Watt (max.)
Voltage Accuracy	±10% (Full Load and Nominal Vin)
Minimum Load	0% (at Full Load)
Line Regulation	3.3S: ±5% (typ.) others: ±2% (typ.)
Load Regulation	3.3S: ±5% (typ.) others: ±2% (typ.)
Ripple & Noise	3.3S: <250mV (Vp-p) (max.) 20MHz bandwidth
Temperature Coefficient	±0.02% / °C
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

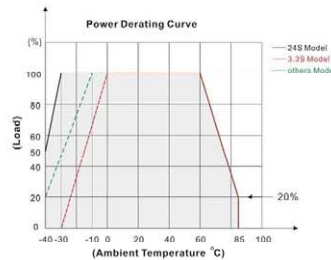
General Specifications	
Characteristics	Conditions
Efficiency (see table list)	69% to 77% (typ.)
Frequency	132 ±8K Hz (typ.)
Isolation Voltage	3750 VAC (min.)
Isolation Resistance	10 <sup>10</sup> Ω (Input to Output) (min.)
Operating Temperature	-40 C to +85 C (with Derating)
Storage Temperature	-40 C to +125 C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	35.0 x 18.0 x 22.0 mm 1.37 x 0.71 x 0.86 inches
Weight	26 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

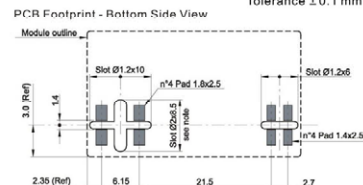
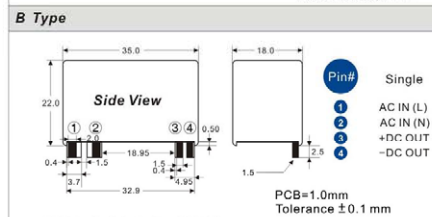
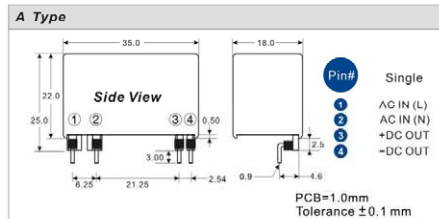
---> AIC Single Output

Model No.	Input Voltage (V AC)	Output Voltage (V DC)	Output Current (mA) max.	Eff (%)
AIC-3.3S	90~264	3.3	900	69
AIC-5S	90~264	5	600	71
AIC-9S	90~264	9	333	76
AIC-12S	90~264	12	250	76
AIC-15S	90~264	15	200	76
AIC-24S	90~264	24	125	77

Derating



Outline Dimensions & Pin Connections



The 2x8.5mm slot is not mandatory  
This slot is useful when high creepage between PCB tracks is required

**APC SERIES**  
5 Watt



--- Feature ---

- Switching Power Module for PCB Mountable
- Universal Input: 90-264 VAC, 47-440Hz
- Regulated Output
- Low Ripple and Noise
- 40°C Starting & Screw Terminal For Optional
- Detail See Attachment, Page 74 and Page 77
- CE, UL, TUV Approval
- 2-Years Product Warranty

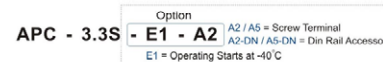
Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 120 ~ 370 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	5 Watt (max.)
Voltage Accuracy	±2% (Full Load and Nominal Vin)
Minimum Load	0% to 4% (at Full Load)
Line Regulation	±0.3% (LL to HL at Full Load) (typ.)
Load Regulation	±0.5% (5% to 100% at Full Load) (typ.)
Ripple (20MHz bandwidth)	<0.2% Vout +40mV (Vp-p) (max.)
Noise (20MHz bandwidth)	<0.5% Vout +50mV (Vp-p) (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	63% to 75% (typ.)
Frequency	100K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	10 <sup>10</sup> Ω (Input to Output) (min.)
Operating Temperature	-25 C to +70 C (with Derating)
Storage Temperature	-40 C to +85 C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	55.0 x 45.0 x 20.5 mm 2.17 x 1.77 x 0.81 inches
Weight	80 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

-40°C Starting & Screw Terminal For Optional (Page 74 / Page 77) :



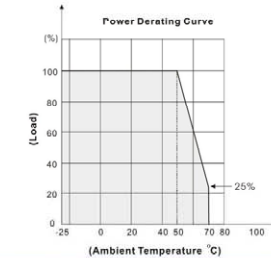
---> APC Single Output

Model No.	Input Voltage (V AC)	Output Voltage (V DC)	Output Current (mA) max.	Eff (%)
APC-3.3S	90~264	3.3	1500	63
APC-5S	90~264	5	1000	71
APC-12S	90~264	12	416	75
APC-15S	90~264	15	333	75
APC-24S	90~264	24	200	74

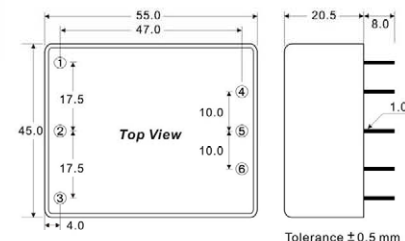
---> APC Dual Output

Model No.	Input Voltage (V AC)	Output Voltage (V DC)	Output Current (mA) max.	Eff (%)
APC-5D	90~264	±5	±500	72
APC-12D	90~264	±12	±200	74
APC-15D	90~264	±15	±160	74

Derating



Outline Dimensions & Pin Connections



**AOC SERIES**

4 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 120 ~ 370 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	4 Watt (max.)
Voltage Accuracy (Full Load and Nominal Vin)	Single: $\pm 2\%$ Dual: $V_o \pm 2\%$ Vr: $\pm 5\%$
Minimum Load (at Full Load)	Single: 0% Dual: 25%
Line Regulation (LL to HL at Full Load)	Single: $\pm 0.2\%$ (typ.) Dual: $V_o \pm 0.2\%$ Vr: $\pm 3\%$ (typ.)
Load Regulation (0% to 100% at Full Load)	3.3S: $\pm 1\%$ (typ.) 5S~24S: $\pm 0.5\%$ (typ.) Dual: $V_o \pm 0.5\%$ Vr: $\pm 5\%$ (typ.)
Ripple & Noise (20MHz bandwidth)	3.3S: <250mV (Vp-p) (max.) 5S, 5S3.3S: <200mV (Vp-p) (max.) 8S, 8S5S~5S: <150mV (Vp-p) (max.) 9S~24S: <100mV (Vp-p) (max.)
Temperature Coefficient	$\pm 0.02\% / ^\circ\text{C}$ (max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	68% to 77% (typ.)
Frequency	132 $\pm 8\text{K}$ Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	$10^9 \Omega$ (Input to Output) (min.)
Operating Temperature	-40 $^\circ\text{C}$ to +70 $^\circ\text{C}$ (with Derating)
Storage Temperature	-40 $^\circ\text{C}$ to +125 $^\circ\text{C}$
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance $\pm 0.5$ mm)	36.66 x 27.16 x 17.1 mm 1.44 x 1.07 x 0.67 inches
Weight	26 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

--- Feature ---

- Switching Power Module for PCB Mountable
- Universal Input: 90-264 VAC, 47-440Hz
- Fully Encapsulated Plastic Case
- Single and Dual Output
- Low Ripple and Noise
- Maximum No-Load Watts < 0.3W
- Isolation Class II
- CE, UL Approval
- 2-Years Product Warranty

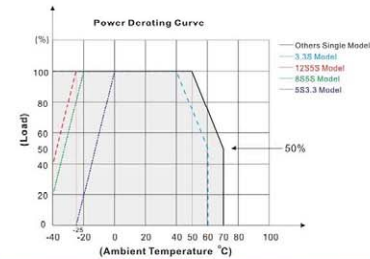
--- AOC Single Output ---

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (mA) max.	Eff (%)
AOC-3.3S	90~264	3.3	1200	68
AOC-5S	90~264	5	800	72
AOC-8S	90~264	8	500	74
AOC-9S	90~264	9	444	75
AOC-12S	90~264	12	333	76
AOC-14S	90~264	14	286	76
AOC-15S	90~264	15	267	76
AOC-24S	90~264	24	167	77

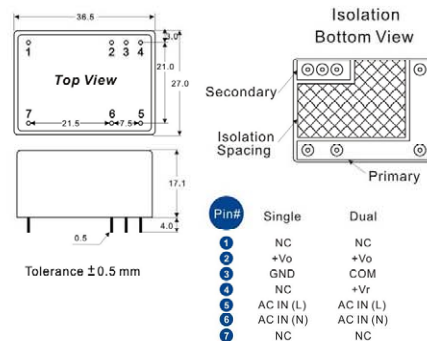
--- AOC Dual Output ---

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (mA) max.	Eff (%)
AOC-5S3.3S	90~264	Vo:5 Vr:3.3	600 / 150	72
AOC-8S5S	90~264	Vo:8 Vr:5	375 / 120	74
AOC-12S5S	90~264	Vo:12 Vr:5	250 / 120	75

Derating



Outline Dimensions & Pin Connections



**AOCH SERIES**

4 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 305 VAC or 120 ~ 430 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	4 Watt (max.)
Voltage Accuracy (Full Load and Nominal Vin)	Single: $\pm 2\%$ Dual: $V_o \pm 0.2\%$ Vr: $\pm 5\%$
Minimum Load (at Full Load)	Single: 0% Dual: 25%
Line Regulation (LL to HL at Full Load)	3.3S: $\pm 0.5\%$ (typ.) 5S~24S: $\pm 0.2\%$ (typ.) Dual: $V_o \pm 0.2\%$ Vr: $\pm 3\%$ (typ.)
Load Regulation (0% to 100% at Full Load)	3.3S: $\pm 1.5\%$ (typ.) 5S~24S: $\pm 0.5\%$ (typ.) Dual: $V_o \pm 0.5\%$ Vr: $\pm 5\%$ (typ.)
Ripple & Noise (20MHz bandwidth)	3.3S: <250mV (Vp-p) (max.) 5S, 5S3.3S: <200mV (Vp-p) (max.) 8S, 8S5S~5S: <150mV (Vp-p) (max.) 9S~24S: <100mV (Vp-p) (max.)
Temperature Coefficient	$\pm 0.02\% / ^\circ\text{C}$ (max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	68% to 77% (typ.)
Frequency	132 $\pm 8\text{K}$ Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	$10^9 \Omega$ (Input to Output) (min.)
Operating Temperature	-40 $^\circ\text{C}$ to +70 $^\circ\text{C}$ (with Derating)
Storage Temperature	-40 $^\circ\text{C}$ to +125 $^\circ\text{C}$
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance $\pm 0.5$ mm)	36.66 x 27.16 x 17.1 mm 1.44 x 1.07 x 0.67 inches
Weight	26 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

--- Feature ---

- Switching Power Module for PCB Mountable
- Universal Input: 90-305 VAC, 47-440Hz
- Fully Encapsulated Plastic Case
- Single and Dual Output
- Low Ripple and Noise
- Maximum No-Load Watts < 0.3W
- Isolation Class II
- CE, UL Approval
- 2-Years Product Warranty

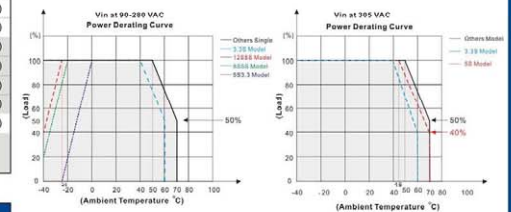
--- AOCH Single Output ---

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (mA) max.	Eff (%)
AOCH-3.3S	90~305	3.3	1200	68
AOCH-5S	90~305	5	800	72
AOCH-8S	90~305	8	500	74
AOCH-9S	90~305	9	444	75
AOCH-12S	90~305	12	333	76
AOCH-14S	90~305	14	286	76
AOCH-15S	90~305	15	267	76
AOCH-24S	90~305	24	167	77

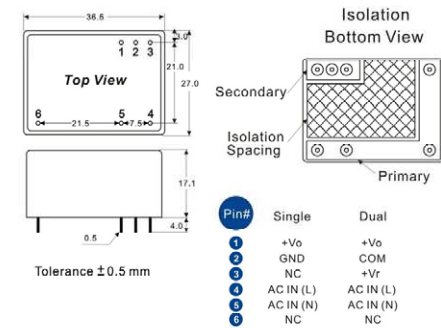
--- AOCH Dual Output ---

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (mA) max.	Eff (%)
AOCH-5S3.3S	90~305	Vo:5 Vr:3.3	600 / 150	72
AOCH-8S5S	90~305	Vo:8 Vr:5	375 / 120	74
AOCH-12S5S	90~305	Vo:12 Vr:5	250 / 120	75

Derating



Outline Dimensions & Pin Connections



**AHC SERIES**

5 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 120 ~ 370 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	5.5 Watt (max.)
Voltage Accuracy	±2% (Full Load and Nominal Vin)
Minimum Load	0% (at Full Load)
Line Regulation	±0.3% (LL to HL at Full Load) (typ.)
Load Regulation	±0.5% (5% to 100% at Full Load) (typ.)
Ripple (20MHz bandwidth)	<0.2% Vout +40mV (Vp-p) (max.)
Noise (20MHz bandwidth)	<0.5% Vout +50mV (Vp-p) (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	68% to 77% (typ.)
Frequency	132K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	10 <sup>10</sup> Ω (Input to Output) (min.)
Operating Temperature	-25 °C to +70 °C (with Derating)
Storage Temperature	-40 °C to +85 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	50.8 x 25.4 x 15.16 mm 2.0 x 1.0 x 0.597 inches
Weight	30 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

-40°C Starting & Screw Terminal For Optional (Page 74 / Page 77) :

AHC - 3.3S Option  
- E1 - A2 A2 / A5 = Screw Terminal  
A2-DN / A5-DN = Din Rail Accessory  
E1 = Operating Starts at -40 °C

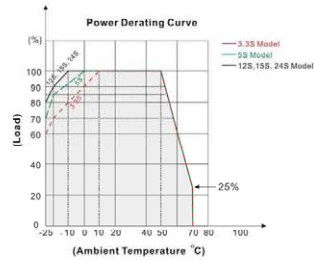
---- Feature ----

- Switching Power Module for PCB Mountable
- Universal Input: 90-264 VAC, 47-440Hz
- Regulated Output and Low Ripple and Noise
- 40°C Starting & Screw Terminal For Optional
- Detail See Attachment, Page 74 and Page 77
- Small Size: 2.0 x 1.0 x 0.597 inches
- Isolation Class II
- CE, UL Approval
- 2-Years Product Warranty

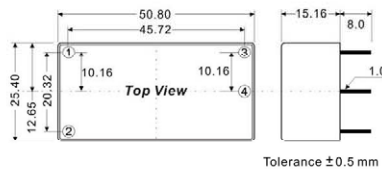
▶▶ AHC Single Output

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (mA) max.	Eff (%)
AHC-3.3S	90~264	3.3	1250	68
AHC-5S	90~264	5	1000	71
AHC-12S	90~264	12	420	75
AHC-15S	90~264	15	333	75
AHC-24S	90~264	24	230	77

Derating



Outline Dimensions & Pin Connections



- Pin# Single
- 1 AC IN (N)
  - 2 AC IN (L)
  - 3 +DC OUT
  - 4 -DC OUT

**AHC08 SERIES**

8 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 305 VAC or 120 ~ 430 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	9 Watt (max.)
Voltage Accuracy	Single: ±2% (Full Load and Nominal Vin) others: Vo: ±2% Vr: ±5%
Minimum Load (at Full Load)	Single: 0% Dual: 25%
Line Regulation (LL to HL at Full Load)	Single: ±0.2% (typ.) Dual: Vo: ±0.2% Vr: ±3% (typ.)
Load Regulation (10% to 100% at Full Load)	3.3S~9S: ±1% (typ.) 12S~24S: ±0.5% (typ.) Dual: Vo: ±0.5% Vr: ±5% (typ.)
Ripple (20MHz bandwidth)	24S: <150mV (Vp-p) (max.) others: <100mV (Vp-p) (max.)
Noise (20MHz bandwidth)	24S: <200mV (Vp-p) (max.) others: <150mV (Vp-p) (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	69% to 81% (typ.)
Frequency	132 ±8K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	10 <sup>10</sup> Ω (Input to Output) (min.)
Operating Temperature	-40 °C to +70 °C (with Derating)
Storage Temperature	-40 °C to +125 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	52.5 x 26.8 x 19.0 mm 2.055 x 1.055 x 0.75 inches
Weight	35 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

Screw Terminal For Optional (Page 74 / Page 77) :

AHC08 - 3.3S Option  
- A2 A2 / A5 = Screw Terminal  
A2-DN / A5-DN = Din Rail Accessory

---- Feature ----

- Switching Power Module for PCB Mountable
- Universal Input: 90-305 VAC, 47-440Hz
- Single and Dual Output
- Maximum No-Load Watts < 0.3W
- Regulated Output and Low Ripple and Noise
- Small Size as AHC 5Watt with 8Watt Higher Power
- Screw Terminal For Optional
- Detail See Attachment, Page 74 and Page 77
- Isolation Class II
- CE, UL Approval
- 2-Years Product Warranty

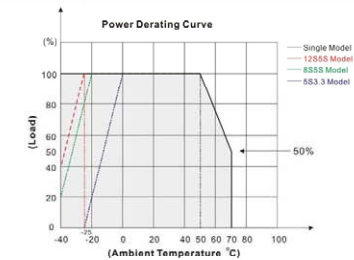
▶▶ AHC08 Single Output

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (mA) max.	Eff (%)
AHC08-3.3S	90~264	3.3	2100	69
AHC08-3.8S	90~264	3.8	2000	71
AHC08-5S	90~264	5	1600	72
AHC08-8S	90~264	8	1000	79
AHC08-9S	90~264	9	888	79
AHC08-12S	90~264	12	666	79
AHC08-14S	90~264	14	571	80
AHC08-15S	90~264	15	533	80
AHC08-24S	90~264	24	335	81

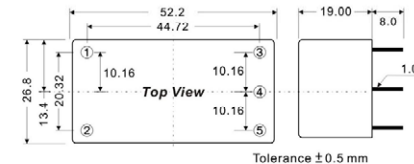
▶▶ AHC08 Dual Output

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (mA) max.	Eff (%)
AHC08-5S3.3S	90~264	Vo:5 Vr:3.3	1600 / 310	71
AHC08-8S5S	90~264	Vo:8 Vr:5	1000 / 150	77
AHC08-12S5S	90~264	Vo:12 Vr:5	666 / 200	78
AHC08-12S7.5S	90~264	Vo:12 Vr:7.5	560 / 250	78

Derating



Outline Dimensions & Pin Connections



- Pin# Single Dual
- 1 AC IN (N)
  - 2 AC IN (L)
  - 3 +DC OUT
  - 4 -DC OUT
  - 5 NO PIN
  - 6 +Vr

**ALC SERIES**  
8 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 305 VAC or 120 ~ 430 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	9 Watt (max.)
Voltage Accuracy (Full Load and Nominal Vin)	Single: ±2% 5S3.3S: Vo: ±2% Vr: ±15% others: Vo: ±2% Vr: ±10%
Minimum Load (at Full Load)	Single: 0% Dual: 25%
Line Regulation (LL to HL at Full Load)	Single: ±0.2% (typ.) Dual: Vo: ±0.2% Vr: ±3% (typ.)
Load Regulation (Single 0% to 100% at Full Load) (Dual: 10% to 100% at Full Load)	3.3S: ±3% (typ.) 5S: ±2% (typ.) others: ±0.5% (typ.) Dual: Vo: ±0.5% Vr: ±5% (typ.)
Ripple (20MHz bandwidth)	24S: <150mV (Vp-p) (max.) others: <100mV (Vp-p) (max.)
Noise (20MHz bandwidth)	24S: <200mV (Vp-p) (max.) others: <150mV (Vp-p) (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	69% to 81% (typ.)
Frequency (see table list)	132 ±8K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	10 <sup>10</sup> Ω (Input to Output) (min.)
Operating Temperature	-40 C to +70 C (with Derating)
Storage Temperature	-40 C to +125 C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	36.5 x 27.0 x 26.4 mm 1.44 x 1.06 x 1.04 inches
Weight	45 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

---- Feature ----

- Switching Power Module for PCB Mountable
- Universal Input: 90-305 VAC, 47-440Hz
- Fully Encapsulated Plastic Case
- Single and Dual Output
- Low Ripple and Noise
- Maximum No-Load Watts < 0.3W
- Isolation Class II
- CE, UL Approval
- 2-Years Product Warranty

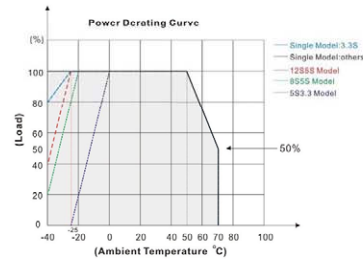
▶▶ ALC Single Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
ALC-3.3S	90~264	3.3	2000	69
ALC-5S	90~264	5	1600	75
ALC-8S	90~264	8	1000	78
ALC-9S	90~264	9	888	79
ALC-12S	90~264	12	666	79
ALC-14S	90~264	14	571	80
ALC-15S	90~264	15	533	80
ALC-24S	90~264	24	333	81

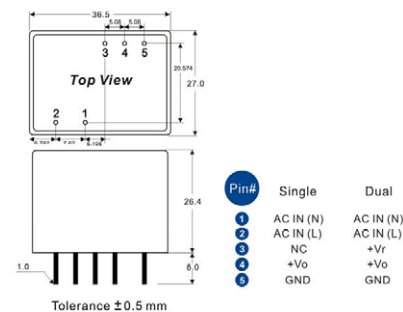
▶▶ ALC Dual Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
ALC-5S3.3S	90~264	Vo:5 Vr:3.3	1600 / 310	73
ALC-8S5S	90~264	Vo:8 Vr:5	1000 / 100	78
ALC-12S5S	90~264	Vo:12 Vr:5	666 / 100	79

Derating



Outline Dimensions & Pin Connections



**AKC SERIES**  
20 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 100 ~ 375 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	20 Watt (max.)
Voltage Accuracy (Full Load and Nominal Vin)	±2% (Full Load and Nominal Vin)
Minimum Load (at Full Load)	0% to 10%
Line Regulation (LL to HL at Full Load)	Single, Dual: ±0.5% (typ.) Triple: ±1% / ±5% (typ.)
Load Regulation (Single 0% to 100% / Dual: 10% to 100% / Triple: 20% to 100% at Full Load)	Single: ±1% (typ.) Dual: ±3% (typ.) Triple: ±2% / ±5% (typ.)
Ripple (20MHz bandwidth)	<0.2% Vout +40mV (Vp-p) (max.)
Noise (20MHz bandwidth)	<0.5% Vout +50mV (Vp-p) (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	75% to 84% (typ.)
Frequency	100K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	10 <sup>10</sup> Ω (Input to Output) (min.)
Operating Temperature	-25 C to +70 C (with Derating) -40 C to +85 C
Storage Temperature	-40 C to +85 C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	70.0 x 48.0 x 22.0 mm 2.76 x 1.89 x 0.87 inches
Weight	110 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

Screw Terminal For Optional (Page74/Page77) :



---- Feature ----

- Switching Power Module for PCB Mountable
- Universal Input: 90-264 VAC, 47-440Hz
- Regulated Output
- Low Ripple and Noise
- Small Size But Higher Wattage
- Screw Terminal for Optional
- Detail See Attachment, Page 74 and Page 77
- CE, UL Approval
- 2-Years Product Warranty

▶▶ AKC Single Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
AKC-3.3S	90~264	3.3	4500	75
AKC-5S	90~264	5	4000	79
AKC-7.35S	90~264	7.35	2730	82
AKC-9S	90~264	9	2230	82
AKC-12S	90~264	12	1670	83
AKC-15S	90~264	15	1340	83
AKC-24S	90~264	24	840	84

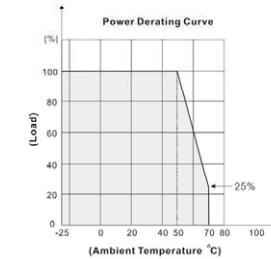
▶▶ AKC Dual Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
AKC-5D	90~264	±5	±2000	79
AKC-12D	90~264	±12	±833	82
AKC-15D	90~264	±15	±667	82

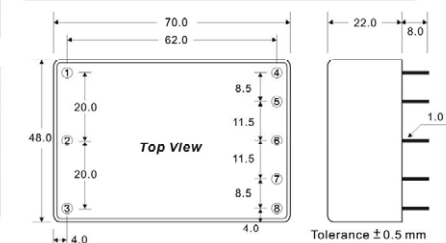
▶▶ AKC Triple Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
AKC-5S12D	90~264	5 / ±12	2800 / ±250	81
AKC-5S15D	90~264	5 / ±15	2800 / ±200	81

Derating



Outline Dimensions & Pin Connections



**AFC SERIES**

10 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 120 ~ 370 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	10 Watt (max.)
Voltage Accuracy	±2% (Full Load and Nominal Vin)
Minimum Load	0% (at Full Load)
Line Regulation	±0.3% (LL to HL at Full Load) (typ.)
Load Regulation	±0.5% (5% to 100% at Full Load) (typ.)
Ripple (20MHz bandwidth)	<0.2% Vout +40mV (Vp-p) (max.)
Noise (20MHz bandwidth)	<0.5% Vout +50mV (Vp-p) (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	74% to 82% (typ.)
Frequency	125K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature	-25 °C to +70 °C (with Derating)
Storage Temperature	-40 °C to +85 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	52.4 x 27.2 x 23.5 mm
Weight	54 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

-40°C Starting & Screw Terminal For Optional (Page 74 / Page 77) :

AFC - 3.3S	Option	A2 / A5 = Screw Terminal
	- E1 - A2	A2-DN / A5-DN = Din Rail Accessory
		E1 = Operating Starts at -40 °C

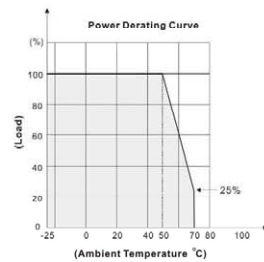
--- Feature ---

- Switching Power Module for PCB Mountable
- Universal Input: 90-264 VAC, 47-440Hz
- Regulated Output and Low Ripple and Noise
- 40°C Starting & Screw Terminal For Optional
- Detail See Attachment, Page 74 and Page 77
- Small Size: 2.06 x 1.07 x 0.93 inches
- Isolation Class II
- CE, CB, UL Approval
- 2-Years Product Warranty

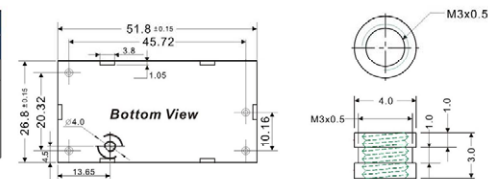
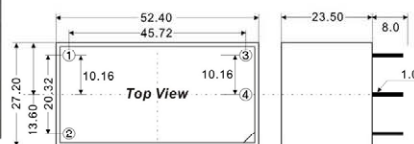
--- AFC Single Output ---

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (mA) max.	Eff (%)
AFC-3.3S	90~264	3.3	2500	74
AFC-5S	90~264	5	2000	79
AFC-12S	90~264	12	833	82
AFC-15S	90~264	15	667	78
AFC-24S	90~264	24	417	80

Derating



Outline Dimensions & Pin Connections



Maximum Torque 12 (1.21) (kgf.cm (N.m))  
Tolerance ±0.1 mm



**AFC20 SERIES**

20 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 120 ~ 370 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	20 Watt (max.)
Voltage Accuracy	±2% (Full Load and Nominal Vin)
Minimum Load	0% (at Full Load)
Line Regulation	±0.5% (LL to HL at Full Load) (typ.)
Load Regulation	±1% (5% to 100% at Full Load) (typ.)
Ripple (20MHz bandwidth)	3.3S-5S:75mV (Vp-p) (max.) Others:1% Vout (max.)
Noise (20MHz bandwidth)	3.3S-5S:120mV (Vp-p) (max.) Others:1% Vout (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	74% to 83% (typ.)
Frequency	100K~133K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature	-40 °C to +70 °C (with Derating)
Storage Temperature	-40 °C to +85 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	52.4 x 27.2 x 23.5 mm
Weight	59 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

Screw Terminal For Optional (Page 74 / Page 77) :

AFC20 - 3.3S	Option	A2 / A5 = Screw Terminal
	- A2	A2-DN / A5-DN = Din Rail Accessory

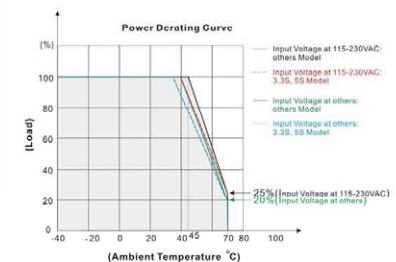
--- Feature ---

- Switching Power Module for PCB Mountable
- Universal Input: 90-264 VAC, 47-440Hz
- Regulated Output and Low Ripple and Low Noise
- Low Standby <0.5W
- Small Size as AFC 10Watt with 20Watt Higher Power
- Screw Terminal for Optional
- Detail See Attachment, Page 74 and Page 77
- Isolation Class II
- CE, UL Approval
- 2-Years Product Warranty

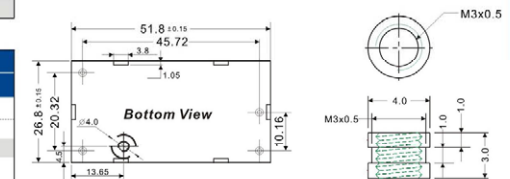
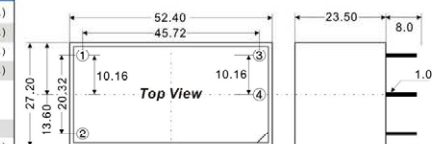
--- AIC Single Output ---

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (mA) max.	Eff (%)
AFC20-3.3S	90~264	3.3	3600	74
AFC20-5S	90~264	5.1	3600	78
AFC20-12S	90~264	12	1660	82
AFC20-15S	90~264	15	1330	83
AFC20-24S	90~264	24	833	83

Derating



Outline Dimensions & Pin Connections



Maximum Torque 12 (1.21) (kgf.cm (N.m))  
Tolerance ±0.1 mm



**ATC SERIES**  
10 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 120 ~ 370 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	10 Watt (max.)
Voltage Accuracy	±2% (Full Load and Nominal Vin)
Minimum Load	1% to 5% (at Full Load)
Line Regulation	±0.3% (LL to HL at Full Load) (typ.)
Load Regulation	±0.5% (5% to 100% at Full Load) (typ.)
Ripple (20MHz bandwidth)	<0.2% Vout +40mV (Vp-p) (max.)
Noise (20MHz bandwidth)	<0.5% Vout +50mV (Vp-p) (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	65% to 76% (typ.)
Frequency	100K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature	-25 °C to +70 °C (with Derating)
Storage Temperature	-40 °C to +85 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension	64.0 x 45.0 x 21.5 mm (Tolerance ±0.5 mm)
Weight	100 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

---- Feature ----

- Switching Power Module for PCB Mountable
- Universal Input: 90-264 VAC, 47-440Hz
- Regulated Output
- Low Ripple and Noise
- 40°C Starting & Screw Terminal For Optional
- Detail See Attachment, Page 74 and Page 77
- CE, UL, TUV Approval
- 2-Years Product Warranty

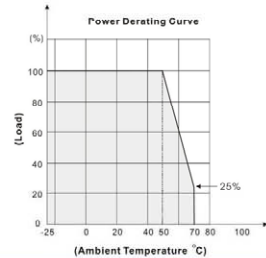
▶▶ ATC Single Output

Model No.	Input Voltage (V AC)	Output Voltage (V DC)	Output Current (mA) max.	Eff (%)
ATC-3.3S	90~264	3.3	3000	65
ATC-5S	90~264	5	2000	71
ATC-12S	90~264	12	833	76
ATC-15S	90~264	15	666	75
ATC-24S	90~264	24	426	76

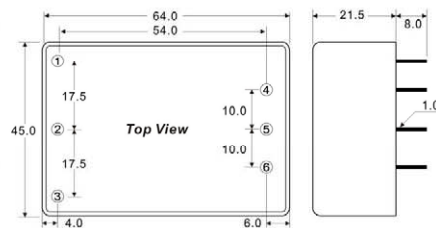
▶▶ ATC Dual Output

Model No.	Input Voltage (V AC)	Output Voltage (V DC)	Output Current (mA) max.	Eff (%)
ATC-5D	90~264	±5	±800	73
ATC-12D	90~264	±12	±380	75
ATC-15D	90~264	±15	±300	74

Derating



Outline Dimensions & Pin Connections



-40°C Starting & Screw Terminal For Optional (Page 74 / Page 77) :



**ATC30 SERIES**  
30 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 305 VAC or 120 ~ 430 VDC
Frequency	47 ~ 63 Hz

Output Specifications	
Characteristics	Conditions
Output Power	30 Watt (max.)
Voltage Accuracy	±2% (Full Load and Nominal Vin)
Line Regulation	±0.3% (LL to HL at Full Load) (typ.)
Load Regulation	±0.5% (5% to 100% at Full Load) (typ.)
Ripple (20MHz bandwidth)	<100mV (Vp-p) (max.)
Noise (20MHz bandwidth)	<125mV (Vp-p) (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	77% to 84% (typ.)
Frequency	100K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature	-40 °C to +70 °C (with Derating)
Storage Temperature	-40 °C to +85 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension	64.0 x 45.0 x 21.5 mm (Tolerance ±0.5 mm)
Weight	100 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

**NEW Preliminary**

---- Feature ----

- Switching Power Module for PCB Mountable
- Universal Input: 90-305 VAC, 47-63Hz
- Regulated Output and Low Ripple and Low Noise
- Low Standby <0.5W
- Small Size as ATC 10Watt with 30Watt Higher Power
- Screw Terminal for Optional
- Detail See Attachment, Page 74 and Page 77
- Isolation Class II
- CE, UL Approval (pending)
- 2-Years Product Warranty

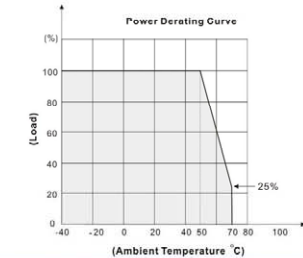
▶▶ ATC30 Single Output

Model No.	Input Voltage (V AC)	Output Voltage (V DC)	Output Current (mA) max.	Eff (%)
ATC30-3.3S	90~264	3.3	5000	77
ATC30-5S	90~264	5	5000	80
ATC30-12S	90~264	12	2500	82
ATC30-15S	90~264	15	2000	82
ATC30-24S	90~264	24	1250	84

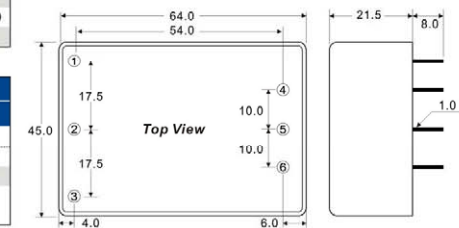
▶▶ ATC30 Dual Output

Model No.	Input Voltage (V AC)	Output Voltage (V DC)	Output Current (mA) max.	Eff (%)
ATC30-5D	90~264	±5	±2500	79
ATC30-12D	90~264	±12	±1250	82
ATC30-15D	90~264	±15	±1000	82

Derating



Outline Dimensions & Pin Connections



Screw Terminal For Optional (Page 74 / Page 77) :





ANC A SERIES

15 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 120 ~ 370 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	15 Watt (max.)
Voltage Accuracy (Full Load and Nominal Vin)	Single: $\pm 2\%$ Dual: $\pm 5\%$
Minimum Load (at Full Load)	Single: 0% to 4% Dual: 0%
Line Regulation (LL to HL at Full Load)	Single: $5V \ 10\%$ (200 mA) Dual: $\pm 0.5\%$ (typ.) Triple: $\pm 1\% / \pm 5\%$ (typ.)
Load Regulation (5% to 100% at Full Load)	Single: $\pm 0.5\%$ (typ.) Dual: $\pm 3\%$ (typ.) Triple: $\pm 2\% / \pm 5\%$ (typ.)
Ripple (20MHz bandwidth)	$<0.2\% \ V_{out} +40mV$ (Vp-p) (max.)
Noise (20MHz bandwidth)	$<0.5\% \ V_{out} +50mV$ (Vp-p) (max.)
Temperature Coefficient	$\pm 0.02\% / ^\circ C$ (max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	73% to 80% (typ.)
Frequency	100K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	$10^9 \ \Omega$ (Input to Output) (min.)
Operating Temperature	-25°C to +70°C (with Derating) -40°C to +85°C
Storage Temperature	-40°C to +85°C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance $\pm 0.5$ mm)	74.0 x 54.0 x 22.0 mm 2.91 x 2.13 x 0.87 inches
Weight	140 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

-40°C Starting & Screw Terminal For Optional (Page 74 / Page 77) :

Option	Pin#	1	2	3	4	5	6	7	8	
A2 / A5 = Screw Terminal		Single	FG	AC IN (N)	AC IN (L)	NO PIN	-DC OUT	NO PIN	+DC OUT	NO PIN
A2-DN / A5-DN = Din Rail Accessory		Dual	FG	AC IN (N)	AC IN (L)	NO PIN	-DC OUT	COMMON	+DC OUT	NO PIN
E1 = Operating Starts at -40°C		Triple	FG	AC IN (N)	AC IN (L)	-DC OUT	COMMON	+DC OUT	+5V RTN	+5V OUT

Feature

- Switching Power Module for PCB Mountable
- Universal Input: 90-264 VAC, 47-440Hz
- Regulated Output
- Low Ripple and Noise
- 40°C Starting & Screw Terminal For Optional
- Detail See Attachment, Page 74 and Page 77
- CE, UL, TUV Approval
- 2-Years Product Warranty

ANC Single Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
ANC-5S A	90~264	5	3000	74
ANC-12S A	90~264	12	1250	79
ANC-15S A	90~264	15	1000	78
ANC-24S A	90~264	24	625	80

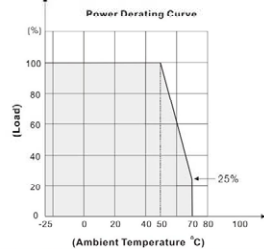
ANC Dual Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
ANC-5D A	90~264	$\pm 5$	$\pm 1500$	76
ANC-12D A	90~264	$\pm 12$	$\pm 650$	79
ANC-15D A	90~264	$\pm 15$	$\pm 500$	77

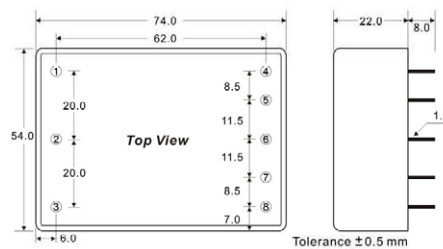
ANC Triple Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
ANC-5S12D A	90~264	5 / $\pm 12$	2000 / $\pm 200$	73
ANC-5S15D A	90~264	5 / $\pm 15$	2000 / $\pm 150$	73

Derating



Outline Dimensions & Pin Connections



ANC50 SERIES

50 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 305 VAC or 120 ~ 430 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	50 Watt (max.)
Voltage Accuracy (Full Load and Nominal Vin)	Single: $\pm 2\%$ Dual: $\pm 5\%$
Minimum Load (at Full Load)	0%
Line Regulation	$\pm 0.5\%$ (LL to HL at Full Load) (typ.)
Load Regulation (5% to 100% at Full Load)	Single: $\pm 0.5\%$ (typ.) Dual: $\pm 3\%$ (typ.)
Ripple (20MHz bandwidth)	$<1\% \ V_{out}$ (Vp-p) (max.)
Noise (20MHz bandwidth)	$<1\% \ V_{out}$ (Vp-p) (max.)
Temperature Coefficient	$\pm 0.02\% / ^\circ C$ (max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	76% to 83% (typ.)
Frequency	100K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	$10^9 \ \Omega$ (Input to Output) (min.)
Operating Temperature	-40°C to +70°C (with Derating) -50°C to +85°C
Storage Temperature	-50°C to +85°C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance $\pm 0.5$ mm)	74.0 x 54.0 x 22.0 mm 2.91 x 2.13 x 0.87 inches
Weight	140 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

Screw Terminal For Optional (Page 74 / Page 77) :

Option	Pin#	1	2	3	4	5	6	7	8	
A2 / A5 = Screw Terminal		Single	FG	AC IN (N)	AC IN (L)	NO PIN	-DC OUT	NO PIN	+DC OUT	NO PIN
A2-DN / A5-DN = Din Rail Accessory		Dual	FG	AC IN (N)	AC IN (L)	NO PIN	-DC OUT	COMMON	+DC OUT	NO PIN

ANC50 - 3.3S

NEW Preliminary

Feature

- Switching Power Module for PCB Mountable
- Universal Input: 90-305 VAC, 47-440Hz
- Regulated Output
- Low Ripple and Noise
- Small Size as ANC 15Watt with 50Watt Higher Power
- Screw Terminal for Optional
- Detail See Attachment, Page 74 and Page 77
- CE, UL Approval (pending)
- 2-Years Product Warranty

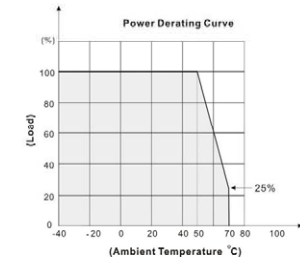
ANC50 Single Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
ANC50-3.3S	90~264	3.3	8000	76
ANC50-5S	90~264	5	8000	81
ANC50-12S	90~264	12	4167	83
ANC50-15S	90~264	15	3333	83
ANC50-24S	90~264	24	2083	83

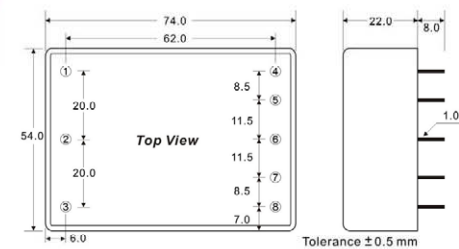
ANC50 Dual Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
ANC50-5D	90~264	$\pm 5$	$\pm 5000$	81
ANC50-12D	90~264	$\pm 12$	$\pm 2083$	83
ANC50-15D	90~264	$\pm 15$	$\pm 1667$	83

Derating



Outline Dimensions & Pin Connections



**ASC SERIES**  
30 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 120 ~ 370 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	30 Watt (max.)
Voltage Accuracy	Single, Triple: ±2%
(Full Load and Nominal Vin)	Dual: ±5%
Minimum Load (at Full Load)	1% to 20%
Line Regulation	Single, Dual: ±1% (typ.)
(LL to HL at Full Load)	5S12S, Triple: ±1% / ±5% (typ.)
Load Regulation	Single: ±1% (typ.)
(5% to 100% at Full Load)	Dual: ±3% (typ.)
	5S12S, Triple: ±2% / ±6% (typ.)
Ripple (20MHz bandwidth)	<0.2% Vout +40mV (Vp-p) (max.)
Noise (20MHz bandwidth)	<0.5% Vout +50mV (Vp-p) (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	75% to 82% (typ.)
Frequency	100K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature	-40°C to +70°C (with Derating)
Storage Temperature	-40°C to +85°C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	89.0 x 63.5 x 25.0 mm 3.5 x 2.5 x 0.98 inches
Weight	220 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

Screw Terminal For Optional (Page74/Page77) :

Option	
ASC - 3.3S - A2	
A2 / A5 = Screw Terminal	
A2-DN / A5-DN = Din Rail Accessory	

Pin#	1	2	3	4	5	6	7
Single	AC IN (N)	AC IN (L)	+DC OUT	NO PIN	-DC OUT	NO PIN	NO CONNECT
Dual	AC IN (N)	AC IN (L)	+DC OUT	NO PIN	COMMON	NO PIN	-DC OUT
5S12S	AC IN (N)	AC IN (L)	+12V OUT	+5V OUT	+12V RTN	+5V RTN	NO PIN
Triple	AC IN (N)	AC IN (L)	+DC OUT	+5V OUT	COMMON	+5V RTN	-DC OUT

--- Feature ---

- Switching Power Module for PCB Mountable
- Universal Input: 90-264 VAC, 47-440Hz
- Regulated Output
- Low Ripple and Noise
- 40°C Starting
- Screw Terminal for Optional
- Detail See Attachment, Page 74 and Page 77
- Isolation Class II
- CE, UL, CB, TUV Approval
- 2-Years Product Warranty

ASC Single Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff. (%)
ASC-3.3S	90~264	3.3	6000	75
ASC-5S	90~264	5	6000	79
ASC-12S	90~264	12	2500	82
ASC-15S	90~264	15	2000	82
ASC-24S	90~264	24	1250	82

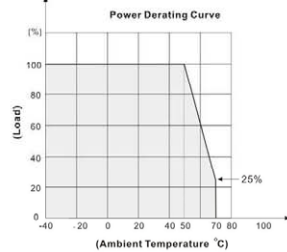
ASC Dual Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff. (%)
ASC-5D	90~264	±5	±3000	79
ASC-12D	90~264	±12	±1250	82
ASC-15D	90~264	±15	±1000	80
ASC-5S12S	90~264	5 / 12	3000 / 1250	79

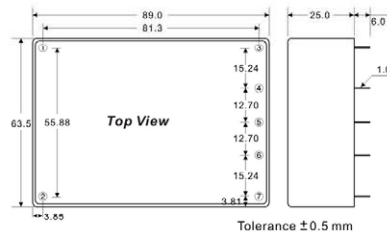
ASC Triple Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff. (%)
ASC-5S12D	90~264	5 / ±12	3000 / ±630	79
ASC-5S15D	90~264	5 / ±15	3000 / ±500	78

Derating



Outline Dimensions & Pin Connections



**AJC SERIES**  
40 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 100 ~ 375 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	40 Watt (max.)
Voltage Accuracy	Single, Dual: ±2%
(Full Load and Nominal Vin)	5S12S, 5S24S, Triple: ±3% / ±5%
Minimum Load (at Full Load)	1% to 25%
Line Regulation	Single, Dual: ±0.5% (typ.)
(LL to HL at Full Load)	5S12S, 5S24S, Triple: ±0.5% / ±5% (typ.)
Load Regulation	Single: ±1% (typ.)
(Single: 1% to 100% / Dual: 10% to 100%)	Dual: ±1% (Symmetric Load) (typ.)
(Triple: 10% to 100% at Full Load)	5S12S, 5S24S: ±2% / ±6% (Symmetric Load) (typ.)
	Triple: ±3% / ±7% (Symmetric Load) (typ.)
Ripple & Noise	3.3S: 50mV (Vp-p) (max.)
(20MHz bandwidth)	others: 1% Vout (max.)
Temperature Coefficient	±0.01% / °C (Max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	76% to 84% (typ.)
Frequency	132K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature	-40°C to +70°C (Case Temperature max. +95°C)
Storage Temperature	-40°C to +100°C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	89.0 x 63.5 x 25.0 mm 3.5 x 2.5 x 0.98 inches
Weight	280 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

Screw Terminal For Optional (Page74/Page77) :

Option	
AJC - 3.3S - A2	
A2 / A5 = Screw Terminal	
A2-DN / A5-DN = Din Rail Accessory	

Pin#	1	2	3	4	5	6	7
Single	AC IN (L)	AC IN (N)	+DC OUT	NO PIN	-DC OUT	NO PIN	NO CONNECT
Dual	AC IN (L)	AC IN (N)	+DC OUT	NO PIN	COMMON	NO PIN	-DC OUT
5S12S	AC IN (L)	AC IN (N)	+12V/+24V OUT	+5V OUT	+12V/+24V RTN	+5V RTN	NO PIN
5S24S	AC IN (L)	AC IN (N)	+DC OUT	+5V OUT	COMMON	+5V RTN	-DC OUT

--- Feature ---

- Switching Power Module for PCB Mountable
- Universal Input: 90-264 VAC, 47-440Hz
- Regulated Output and Low Ripple and Noise
- Small Size as ASC 30Watt But Higher Wattage
- 40°C Starting
- Screw Terminal for Optional
- Detail See Attachment, Page 74 and Page 77
- Isolation Class II
- CE, UL Approval
- 2-Years Product Warranty

AJC Single Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff. (%)
AJC-3.3S	90~264	3.3	8000	76
AJC-5S	90~264	5	8000	81
AJC-9S	90~264	9	4444	83
AJC-12S	90~264	12	3333	84
AJC-15S	90~264	15	2666	83
AJC-24S	90~264	24	1667	83

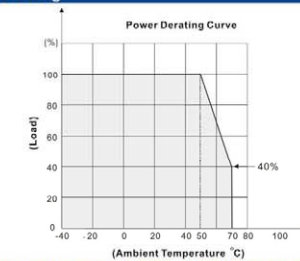
AJC Dual Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff. (%)
AJC-5D	90~264	±5	±4000	81
AJC-12D	90~264	±12	±1666	83
AJC-15D	90~264	±15	±1333	83
AJC-5S12S	90~264	5 / 12	5000 / 1250	82
AJC-5S24S	90~264	5 / 24	5000 / 625	82

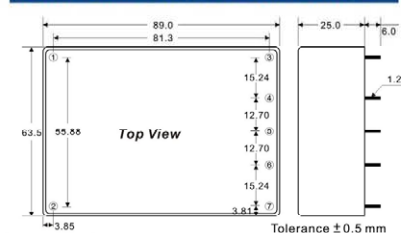
AJC Triple Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff. (%)
AJC-5S12D	90~264	5 / ±12	5000 / ±600	82
AJC-5S15D	90~264	5 / ±15	5000 / ±500	81

Derating



Outline Dimensions & Pin Connections



**AEC60 SERIES**

60 Watt



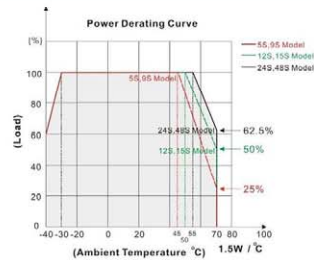
--- Feature ---

- Switching Power Module for PCB Mountable
- Universal Input: 85-265 VAC, 47-63Hz
- Fully Encapsulated Plastic Case
- 5 VDC to 48 VDC Single Output
- 40°C Starting
- Screw Terminal for Optional
- Detail See Attachment, Page 75 and Page 77
- Ultra Compact Size: 4.3 x 2.3 x 1.18 Inches
- CE, UL Approval
- 2-Years Product Warranty

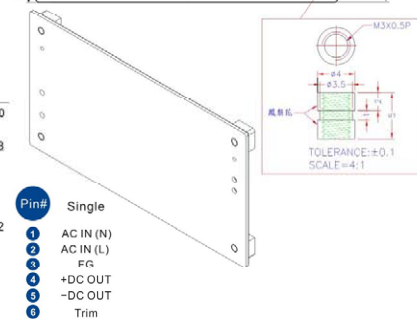
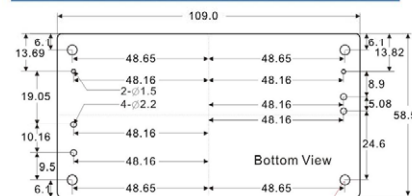
--- AEC60 Single Output ---

Model No.	Input Voltage (V AC)	Output Voltage (V DC)	Output Current (mA) max	Eff (%)
AEC60-5S	85~265	5	10,000	82
AEC60-9S	85~265	9	6660	84
AEC60-12S	85~265	12	5000	86
AEC60-15S	85~265	15	4000	86
AEC60-24S	85~265	24	2500	86
AEC60-48S	85~265	48	1250	86

Derating

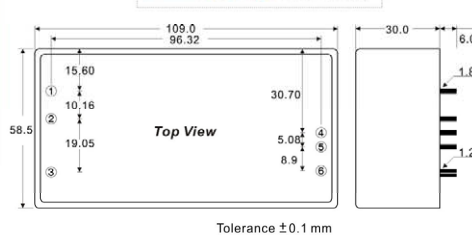


Outline Dimensions & Pin Connections



Screw Terminal For Optional (Page 75/ Page 77) :

AEC60 - 5S - A2  
Option A2 / A5 = Screw Terminal  
A2-DN / A5-DN = Din Rail Accessory



- Pin# Single
- 1 AC IN (N)
  - 2 AC IN (L)
  - 3 FG
  - 4 +DC OUT
  - 5 -DC OUT
  - 6 Trim

**AQC100 SERIES**

100 Watt



**NEW**

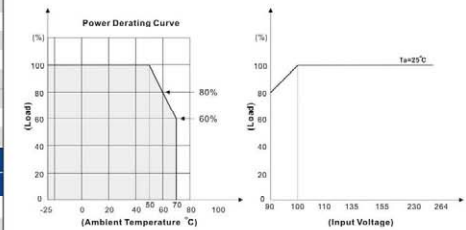
--- Feature ---

- Switching Power Module for PCB Mountable
- Universal Input: 90-264 VAC, 47-63Hz
- High Efficiency up to 93% Typical
- Active PFC Function, >0.95 (230Vac), >0.99 (115Vac)
- Low Leakage Current, <250uA
- EN55022 Class B Meets
- Class I and Class II Construction
- Continuous Short Circuit Protection with Hiccup Mode and Auto Recover
- 2-Years Product Warranty

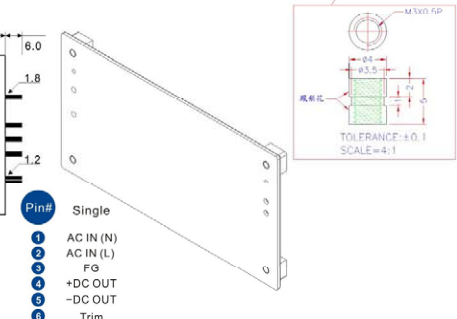
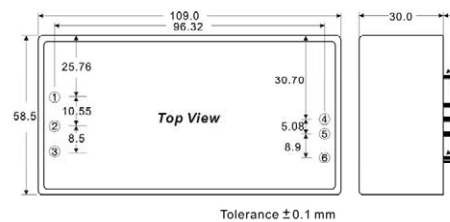
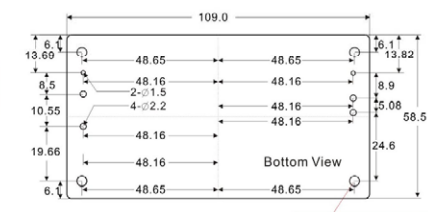
--- AQC100 Single Output ---

Model No.	Input Voltage (V AC)	Output Voltage (V DC)	Output Current (mA) max	Eff (%)
AQC100-12S	90~264	12	5000	86
AQC100-15S	90~264	15	4000	86
AQC100-24S	90~264	24	250	86
AQC100-48S	90~264	48	1250	86

Derating



Outline Dimensions & Pin Connections



- Pin# Single
- 1 AC IN (N)
  - 2 AC IN (L)
  - 3 FG
  - 4 +DC OUT
  - 5 -DC OUT
  - 6 Trim

**MTC SERIES**  
15 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 100 ~ 375 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	15 Watt (max.)
Voltage Accuracy	Single Dual: ± 2% Triple: + 2% / + 3%
Minimum Load (at Full Load)	0% to 25%
Line Regulation	Single, Dual: ± 0.5% (typ.) Triple: ± 0.5% / ± 2% (typ.)
Load Regulation	Single: ± 1% (typ.) Dual: ± 1% (Symmetric Load) (typ.) Triple: ± 1% / ± 5% (Symmetric Load) (typ.)
Ripple & Noise	1% Vout (20MHz bandwidth) (max.)
Temperature Coefficient	± 0.01% / °C (Max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	75% to 83% (typ.)
Frequency	132K Hz (typ.)
Isolation Voltage	4000 VAC (min.)
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature	-25 °C to +70 °C (Case Temperature max. +95°C)
Storage Temperature	-40 °C to +100 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension	64.0 x 45.6 x 23.5 mm (Tolerance ±0.5 mm)
Weight	120 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

Physical Specifications	
Characteristics	Conditions
Dimension	64.0 x 45.6 x 23.5 mm (Tolerance ±0.5 mm)
Weight	120 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

-40°C Starting For Optional:

MTC - 3.3S - E1  
Option  
E1=Operating Starts at -40°C



--- Feature ---

- Switching Power Module for PCB Mountable
- Universal Input: 90-264 VAC, 47-440Hz
- Fully Encapsulated Plastic Case
- Low Ripple and Noise and Regulated Output
- Isolation Class II
- 40°C Starting For Optional
- CE, CB, UL, CUL, TUV Approval
- Medical Safety: UL60601-1, IEC601-1, EC60601-1
- 3-Years Product Warranty

--- MTC Single Output ---

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
MTC-3.3S	90~264	3.3	3000	75
MTC-5S	90~264	5	3000	79
MTC-7.35S	90~264	7.35	2040	79
MTC-9S	90~264	9	1666	80
MTC-12S	90~264	12	1250	81
MTC-15S	90~264	15	1000	82
MTC-24S	90~264	24	625	83

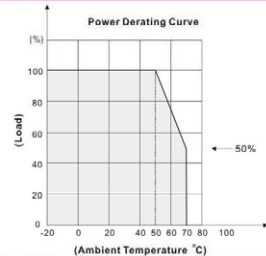
--- MTC Dual Output ---

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
MTC-5D	90~264	±5	±1500	79
MTC-12D	90~264	±12	±625	82
MTC-15D	90~264	±15	±500	82

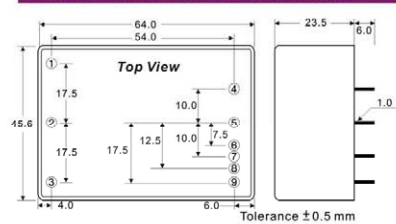
--- MTC Triple Output ---

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
MTC-5S12D	90~264	5 / +12	2000 / ±200	78
MTC-5S15D	90~264	5 / ±15	2000 / ±150	78

Derating



Outline Dimensions & Pin Connections



**MSC SERIES**  
40 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 100 ~ 375 VDC
Frequency	47 ~ 440 Hz

Output Specifications	
Characteristics	Conditions
Output Power	40 Watt (max.)
Voltage Accuracy	Single Dual: ± 2% (Full Load and Nominal Vin) Triple: + 3% / + 5%
Minimum Load (at Full Load)	1% to 25%
Line Regulation	Single, Dual: ± 0.5% (typ.) (LL to HL at Full Load) Triple: ± 0.5% / ± 5% (typ.)
Load Regulation	Single: ± 1% (typ.) Dual: ± 1% (Symmetric Load) (typ.) Triple: ± 2% / ± 6% (Symmetric Load) (typ.)
Ripple & Noise	3.3S: 50mV (Vp-p) (max.) others: 1% Vout (max.)
Temperature Coefficient	± 0.01% / °C (Max.)
Short Circuit Protection	Hiccup mode, indefinite (Automatic recovery)

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	76% to 83% (typ.)
Frequency	132K Hz (typ.)
Isolation Voltage	4000 VAC (min.)
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature	-25 °C to +70 °C (Case Temperature max. +95°C)
Storage Temperature	-40 °C to +100 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension	89.0 x 63.5 x 27.0 mm (Tolerance ±0.5 mm)
Weight	280 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

Physical Specifications	
Characteristics	Conditions
Dimension	89.0 x 63.5 x 27.0 mm (Tolerance ±0.5 mm)
Weight	280 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

Physical Specifications	
Characteristics	Conditions
Dimension	89.0 x 63.5 x 27.0 mm (Tolerance ±0.5 mm)
Weight	280 g
Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)

-40°C Starting For Optional:

MSC - 3.3S - E1  
Option  
E1=Operating Starts at -40°C



--- Feature ---

- Switching Power Module for PCB Mountable
- Universal Input: 90-264 VAC, 47-440Hz
- Fully Encapsulated Plastic Case
- Low Ripple and Noise and Regulated Output
- Isolation Class II
- 40°C Starting For Optional
- CE, CB, UL, CUL, TUV Approval
- Medical Safety: UL60601-1, IEC601-1, EC60601-1
- 3-Years Product Warranty

--- MSC Single Output ---

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
MSC-3.3S	90~264	3.3	8000	76
MSC-5S	90~264	5	8000	79
MSC-9S	90~264	9	4444	82
MSC-12S	90~264	12	3333	83
MSC-15S	90~264	15	2666	83
MSC-24S	90~264	24	1667	83

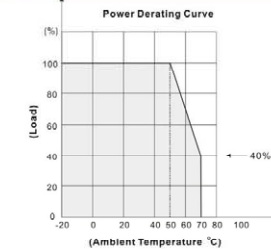
--- MSC Dual Output ---

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
MSC-5D	90~264	±5	±4000	80
MSC-12D	90~264	±12	±1666	83
MSC-15D	90~264	±15	±1333	83
MSC-5S12S	90~264	5 / 12	5000 / 1250	80
MSC-5S24S	90~264	5 / 24	5000 / 625	80

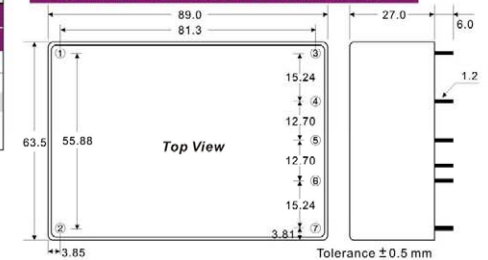
--- MSC Triple Output ---

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (mA) max.	Eff (%)
MSC-5S12D	90~264	5 / ±12	5000 / ±600	79
MSC-5S15D	90~264	5 / ±15	5000 / ±500	79

Derating



Outline Dimensions & Pin Connections



**AES60 SERIES**  
60 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	85 ~ 265 VAC or 100 ~ 370 VDC
Frequency	47 ~ 63 Hz
Output Specifications	
Characteristics	Conditions
Output Power	60 Watt (max.)
Voltage Accuracy	±2% (Full Load and Nominal Vin)
Minimum Load	1% (at Full Load)
Line Regulation	±1% (LL to HL at Full Load) (typ.)
Load Regulation	±1% (5% to 100% at Full Load) (typ.)
Ripple (20MHz bandwidth)	<0.2% Vout +40mV (Vp-p) (max.)
Noise (20MHz bandwidth)	<0.5% Vout +50mV (Vp-p) (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Auto-recovery
General Specifications	
Characteristics	Conditions
Efficiency (see table list)	82% to 86% (typ.)
Frequency	100K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature	-40 °C to +70 °C (with Derating)
Storage Temperature	-50 °C to +85 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection
Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	AES60O: 103.9 x 52.1 x 25.4 mm 4.1 x 2.05 x 1.0 inches AES60U/D/E: 105.0 x 58.0 x 38.1 mm 4.13 x 2.28 x 1.5 inches
Weight	AES60O: 150 g / AES60U: 240 g AES60D: 265 g / AES60E: 260 g
Case Material	AES60O: Open Frame AES60U: U Bracket AES60D: Din Rail AES60E: Enclosed

--- Feature ---

- Open Frame, U Bracket, Din Rail and Enclosed
- Universal Input: 85-265 VAC, 47-63Hz
- 5 VDC to 48 VDC Single Output
- 3000VAC Input to Output Isolation
- Ultra Compact Size:
- AES60O: 4.1 x 2.05 x 1.0 inches
- AES60U/D/E: 4.13 x 2.28 x 1.5 inches
- CE, UL Approval
- 2-Years Product Warranty

▶▶ AES60O Single Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (A) max.	Eff (%)
AES60O-5S	85~265	5	10	82
AES60O-9S	85~265	9	6.66	84
AES60O-12S	85~265	12	5	86
AES60O-15S	85~265	15	4	86
AES60O-24S	85~265	24	2.5	86
AES60O-48S	85~265	48	1.25	86

▶▶ AES60U Single Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (A) max.	Eff (%)
AES60U-5S	85~265	5	10	82
AES60U-9S	85~265	9	6.66	84
AES60U-12S	85~265	12	5	86
AES60U-15S	85~265	15	4	86
AES60U-24S	85~265	24	2.5	86
AES60U-48S	85~265	48	1.25	86

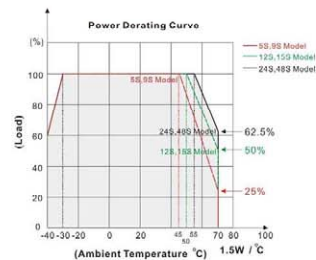
▶▶ AES60D Single Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (A) max.	Eff (%)
AES60D-5S	85~265	5	10	82
AES60D-9S	85~265	9	6.66	84
AES60D-12S	85~265	12	5	86
AES60D-15S	85~265	15	4	86
AES60D-24S	85~265	24	2.5	86
AES60D-48S	85~265	48	1.25	86

▶▶ AES60E Single Output

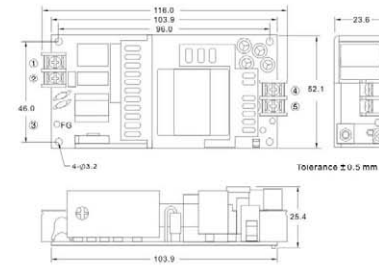
Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (A) max.	Eff (%)
AES60E-5S	85~265	5	10	82
AES60E-9S	85~265	9	6.66	84
AES60E-12S	85~265	12	5	86
AES60E-15S	85~265	15	4	86
AES60E-24S	85~265	24	2.5	86
AES60E-48S	85~265	48	1.25	86

Derating

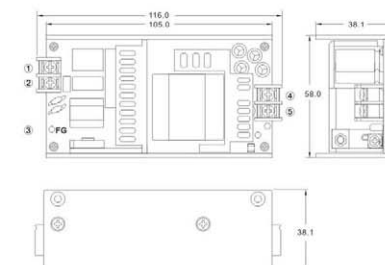


Outline Dimensions & Pin Connections (Top View)

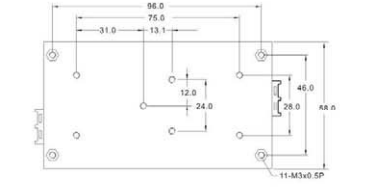
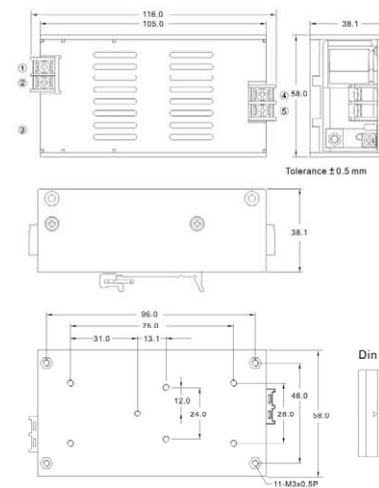
AES60O Series



AES60U Series

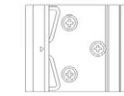


AES60D / AES60E Series



- Pin# Single
- 1 AC IN (N)
  - 2 AC IN (L)
  - 3 FG
  - 4 +DC OUT
  - 5 -DC OUT

Din Accessory



# AQF1000 SERIES

## 100 Watt



**NEW**

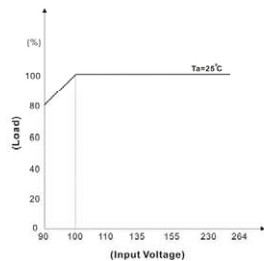
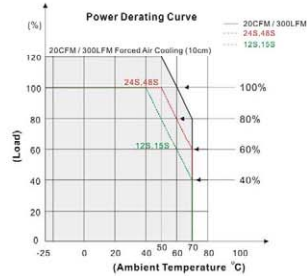
**--- Feature ---**

- Open Frame 100W Power Supply in 4.0" x 2.0" Size
- Universal Input: 90-264 VAC, 47-63Hz
- High Efficiency up to 93% Typical
- Active PFC Function, >0.95 (230Vac), >0.99 (115Vac)
- 100W Full Load at 50°C Under Free Air Convection
- 120W with FAN (20CFM / 300LFM)
- Low Leakage Current, <250uA
- EN55022 Class B Meets
- Class I and Class II Construction
- Continuous Short Circuit Protection with Hiccup Mode and Auto Recover
- Ultra Compact Size: 4.1 x 2.05 x 0.98 Inches
- 3-Years Product Warranty

**--- AQF1000 Single Output ---**

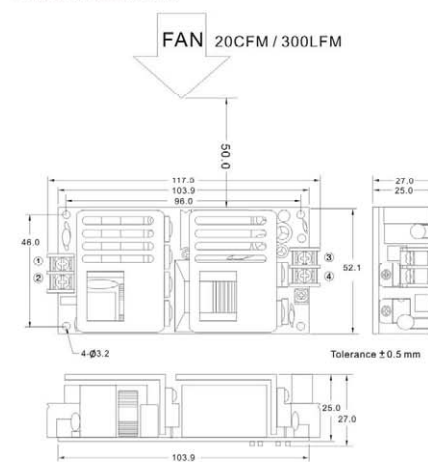
Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (A) max	Eff (%)	
				12V	15V
AQF1000-12S	90~264	12	8.4	10	89
AQF1000-15S	90~264	15	6.7	8	89
AQF1000-24S	90~264	24	4.2	5	92
AQF1000-48S	90~264	48	2.1	2.5	93

**Derating**

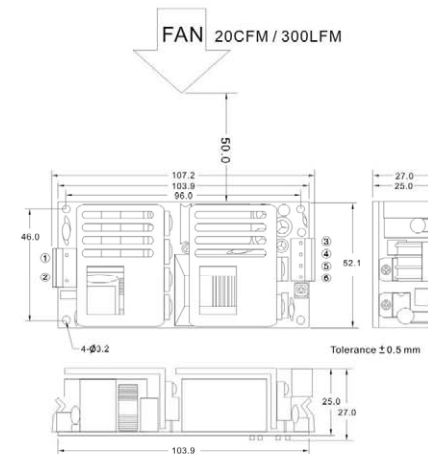


**Outline Dimensions & Pin Connections (Top View)**

Standard : Terminal Block



A Type : Molex Series 8673 (Alex Connector Co., Ltd)



Standard : Terminal Block



Pin# Single

- 1 AC IN (N)
- 2 AC IN (L)
- 3 +DC OUT
- 4 -DC OUT

A Type : Molex Series 8673 (Alex Connector Co., Ltd)



Pin# Single

- 1 AC IN (N)
- 2 AC IN (L)
- 3 +DC OUT
- 4 +DC OUT
- 5 -DC OUT
- 6 -DC OUT

**AQF120 SERIES**  
180 Watt



Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 120 ~ 370 VDC 80-274 VAC or 110-390 VDC with Derating
Frequency	47 ~ 63 Hz

Output Specifications	
Characteristics	Conditions
Output Power	Convection: 120 Watt (max.) 18CFM FAN: 180 Watt (max.)
Voltage Accuracy	±2% (Full Load and Nominal Vin)
Minimum Load	0% (at Full Load)
Line Regulation	±1% (typ.)
Load Regulation	±1% (typ.)
Ripple & Noise (20MHz bandwidth)	3.3S~15S: 50mV (Vp-p) (max.) 24S~48S: 100mV (Vp-p) (max.)
Temperature Coefficient	±0.03% / °C (0~50°C) (max.)
Short Circuit Protection	Auto-recovery

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	87% to 93% (typ.)
Frequency	100K Hz (typ.)
Isolation Voltage	4000 VAC (min.)
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature	-25 °C to +70 °C (with Derating) -25 °C to +85 °C
Storage Temperature	-25 °C to +85 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection & 18 CFM Forced Air
Vibration	10~500Hz, 2G 10min./1cycle, 60min. Each along X, Y, Z axes.

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	AQF1200: 127.0 x 76.2 x 29.5 mm 5.0 x 3.0 x 1.16 inches AQF120U/D/E: 127.0 x 82.2 x 38.1 mm 5.0 x 3.24 x 1.5 inches
Weight	AQF1200: 280 g / AQF120U: 382 g AQF120D: 405 g / AQF120E: 400 g
Case Material	AQF1200: Open Frame AQF120U: U Bracket AQF120D: Din Rail AQF120E: Enclosed

Note:  
5V and 15V Output Voltage without UL Approval.  
( AQF1200-5S · AQF1200-15S · AQF120U-5S · AQF120U-15S · AQF120D-5S · AQF120D-15S · AQF120E-5S · AQF120E-15S )

--- Feature ---

- Open Frame, U Bracket, Din Rail and Enclosed
- Universal Input: 90-264 VAC, 47-63Hz
- High Efficiency up to 93%
- With P.F.C. Function >0.95
- 180 Watt with 18CFM FAN
- 120 Watt with Free Air Convection
- Ultra Compact Size:  
AQF1200: 5.0 x 3.0 x 1.16 Inches  
AQF120U/D/E: 5.0 x 3.24 x 1.5 Inches
- CE, UL Approval
- 2-Years Product Warranty

►► AQF1200 Single Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (A) max.	Eff (%)	
AQF1200-5S	90~264	5	0~20	0~24	87
AQF1200-12S	90~264	12	0~10	0~15	90
AQF1200-15S	90~264	15	0~8	0~12	90
AQF1200-24S	90~264	24	0~5	0~7.5	93
AQF1200-48S	90~264	48	0~2.5	0~3.75	93

►► AQF120U Single Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (A) max.	Eff (%)	
AQF120U-5S	90~264	5	0~20	0~24	87
AQF120U-12S	90~264	12	0~10	0~15	90
AQF120U-15S	90~264	15	0~8	0~12	90
AQF120U-24S	90~264	24	0~5	0~7.5	93
AQF120U-48S	90~264	48	0~2.5	0~3.75	93

►► AQF120D Single Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (A) max.	Eff (%)	
AQF120D-5S	90~264	5	0~20	0~24	87
AQF120D-12S	90~264	12	0~10	0~15	90
AQF120D-15S	90~264	15	0~8	0~12	90
AQF120D-24S	90~264	24	0~5	0~7.5	93
AQF120D-48S	90~264	48	0~2.5	0~3.75	93

►► AQF120E Single Output

Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (A) max.	Eff (%)	
AQF120E-5S	90~264	5	0~20	0~24	87
AQF120E-12S	90~264	12	0~10	0~15	90
AQF120E-15S	90~264	15	0~8	0~12	90
AQF120E-24S	90~264	24	0~5	0~7.5	93
AQF120E-48S	90~264	48	0~2.5	0~3.75	93

Standard Type



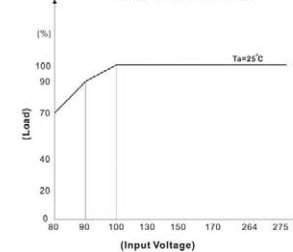
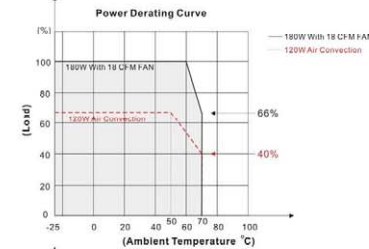
A Type



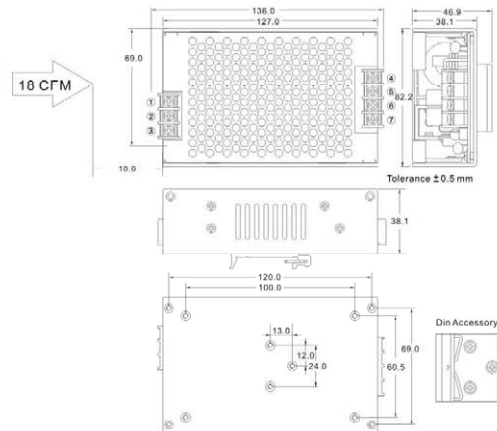
B Type



Derating

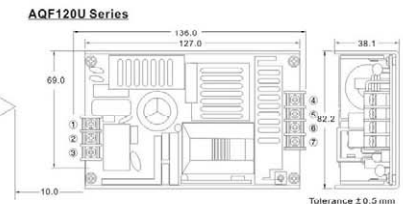
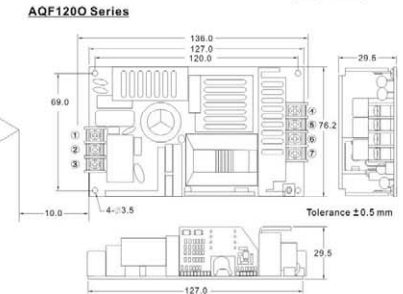


AQF120D / AQF120E Series



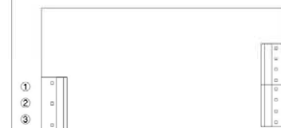
Outline Dimensions & Pin Connections

(Top View)



- 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



B Type



## AQF240 SERIES

### 240 Watt



#### --- Feature ---

- U Bracket, Din Rail and Enclosed
- Universal Input: 90-264 VAC, 47-63Hz
- High Efficiency up to 93%
- With P.F.C. Function, PF>0.95
- Free Air Convection
- RoHS Compliant Design
- Ultra Compact Size:
- AQF240U/D/E: 6.0 x 4.18 x 1.38 Inches
- CE, UL Approval
- 2-Years Product Warranty

#### Input Specifications

Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 120 ~ 370 VDC
Frequency	47 ~ 63 Hz

#### Output Specifications

Characteristics	Conditions
Output Power	240 Watt (max.)
Voltage Accuracy	±2% (Full Load and Nominal Vin)
Minimum Load	0% (at Full Load)
Line Regulation	±1% (LL to HL at Full Load) (typ.)
Load Regulation	±1% (typ.)
Ripple & Noise	12S: 120mV (Vp-p) (max.) others: 200mV (Vp-p) (max.)
Temperature Coefficient	±0.03% / °C (0~50°C) (max.)
Short Circuit Protection	Auto-recovery

#### General Specifications

Characteristics	Conditions
Efficiency (see table list)	90% to 93% (typ.)
Frequency	100K Hz (typ.)
Isolation Voltage	4000 VAC (min.)
Isolation Resistance	10 <sup>10</sup> Ω (Input to Output) (min.)
Operating Temperature	-10 °C to +70 °C (with Derating)
Storage Temperature	-25 °C to +85 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection
Vibration	10~500Hz, 2G 10min./1cycle, 60min. Each along X, Y, Z axes.

#### Physical Specifications

Characteristics	Conditions
Dimension	150.0 x 106.0 x 35.0 mm (Tolerance ±0.5 mm)
Weight	AQF240U: 580 g AQF240D: 615 g AQF240E: 610 g
Case Material	AQF240U: U Bracket AQF240D: Din Rail AQF240E: Enclosed

#### AQF240U Single Output

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (A) max.	Eff (%)
AQF240U-12S	90~264	12	20	90
AQF240U-15S	90~264	15	16	90
AQF240U-24S	90~264	24	10	92
AQF240U-28S	90~264	28	8.57	92
AQF240U-32S	90~264	32	7.5	92
AQF240U-48S	90~264	48	5	93

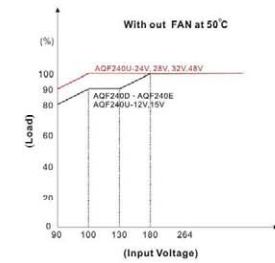
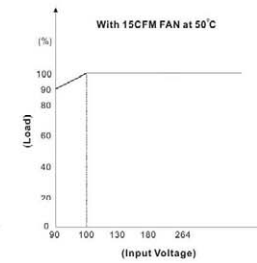
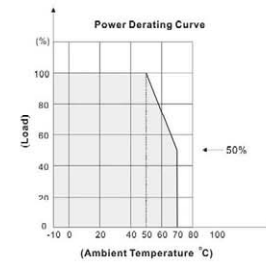
#### AQF240D Single Output

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (A) max.	Eff (%)
AQF240D-12S	90~264	12	16.66	90
AQF240D-15S	90~264	15	14.66	90
AQF240D-24S	90~264	24	10	92
AQF240D-28S	90~264	28	8.57	92
AQF240D-32S	90~264	32	7.5	92
AQF240D-48S	90~264	48	5	93

#### AQF240E Single Output

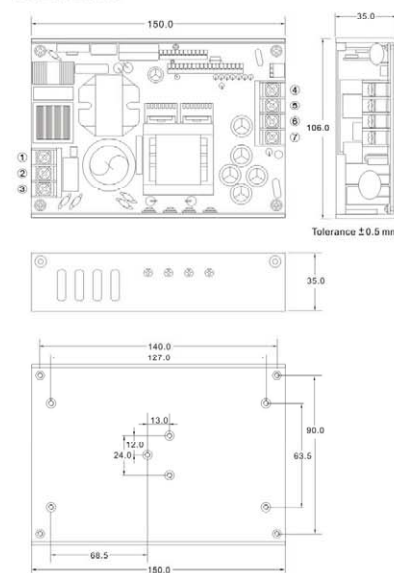
Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (A) max.	Eff (%)
AQF240E-12S	90~264	12	16.66	90
AQF240E-15S	90~264	15	14.66	90
AQF240E-24S	90~264	24	10	92
AQF240E-28S	90~264	28	8.57	92
AQF240E-32S	90~264	32	7.5	92
AQF240E-48S	90~264	48	5	93

#### Derating

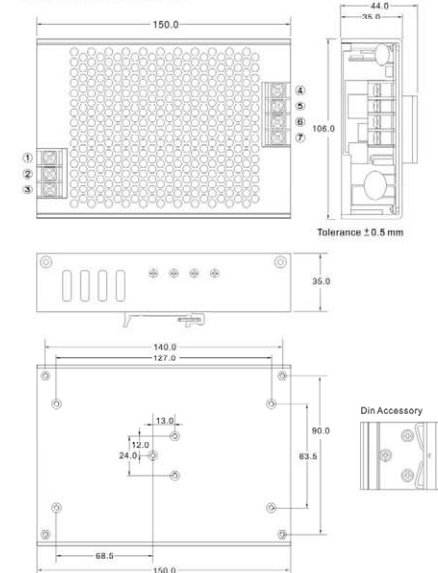


#### Outline Dimensions & Pin Connections (Top View)

##### AQF240U Series



##### AQF240D / AQF240E Series



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



**AQF360 SERIES**  
360 Watt



--- Feature ---

- U Bracket and Enclosed Switching Power Supply
- Universal Input: 90-264 VAC, 47-63Hz
- 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
- CE, UL Approval
- 2-Years Product Warranty

Input Specifications	
<b>Characteristics</b>	<b>Conditions</b>
Voltage Range	90 ~ 264 VAC or 120 ~ 370 VDC
Frequency	47 ~ 63 Hz
Output Specifications	
<b>Characteristics</b>	<b>Conditions</b>
Output Power	AQF360U: Convection:240 Watt (max.) 18CFM FAN:360 Watt (max.) AQF360E/F:360 Watt (max.)
Voltage Accuracy	± 2% (Full Load and Nominal Vin)
Minimum Load	0% (at Full Load)
Line Regulation	± 1% (LL to HL at Full Load) (typ.)
Load Regulation	± 1% (5% to 100% at Full Load) (typ.)
Ripple & Noise (20MHz bandwidth)	AQF360U: 12S:120mV (Vp-p) (max.) Others:200mV (Vp-p) (max.) AQF360E/F: 12S:150mV (Vp-p) (max.) others:200mV (Vp-p) (max.)
Temperature Coefficient	± 0.03% / °C (0~50°C) (max.)
Short Circuit Protection	Auto-recovery
General Specifications	
<b>Characteristics</b>	<b>Conditions</b>
Efficiency (see table list)	AQF360U:90% to 93% (typ.) AQF360E/F:89% to 93% (typ.)
Frequency	75K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature	-10 °C to +70 °C (with Derating)
Storage Temperature	-25 °C to +85 °C
Humidity	95% RH (max.)
Cooling	AQF360U:240W Convection without FAN AQF360E/F:Cooling by Built-in DC FAN
Physical Specifications	
<b>Characteristics</b>	<b>Conditions</b>
Dimension (Tolerance ±0.5 mm)	AQF360U: 172.7 x 81.3 x 38.0 mm 6.8 x 3.2 x 1.5 inches AQF360E: 172.7 x 81.3 x 53.3 mm 6.8 x 3.2 x 2.1 inches AQF360F: 197.7 x 81.3 x 41.0 mm 7.8 x 3.2 x 1.6 inches
Weight	AQF360U: 668 g AQF360E: 729 g AQF360F: 746 g
Case Material	AQF360U: U Bracket AQF360E/F: Enclosed

AQF360U Single Output					
Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (A) max.	Eff (%)	FAN
AQF360U-12S	90~264	12 (10.8~13.2)	20	30	90
AQF360U-24S	90~264	24 (21.6~26.4)	10	15	92
AQF360U-36S	90~264	36 (32.7~39.6)	6.66	10	93
AQF360U-48S	90~264	48 (44~51)	5	7.5	93
AQF360U-54S	90~264	54 (51.3~56.7)	4.44	6.66	93

AQF360E Single Output					
Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (A) max.	Eff (%)	FAN
AQF360E-12S	90~264	12 (10.8~13.2)	30	89	
AQF360E-24S	90~264	24 (21.6~26.4)	15	91	
AQF360E-36S	90~264	36 (32.7~39.6)	10	92	
AQF360E-48S	90~264	48 (44~51)	7.5	93	
AQF360E-54S	90~264	54 (51.3~56.7)	6.66	93	

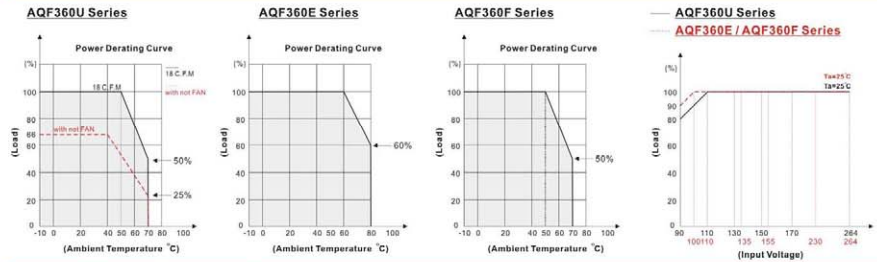
AQF360F Single Output					
Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (A) max.	Eff (%)	FAN
AQF360F-12S	90~264	12 (10.8~13.2)	30	89	
AQF360F-24S	90~264	24 (21.6~26.4)	15	91	
AQF360F-36S	90~264	36 (32.7~39.6)	10	92	
AQF360F-48S	90~264	48 (44~51)	7.5	93	
AQF360F-54S	90~264	54 (51.3~56.7)	6.66	93	



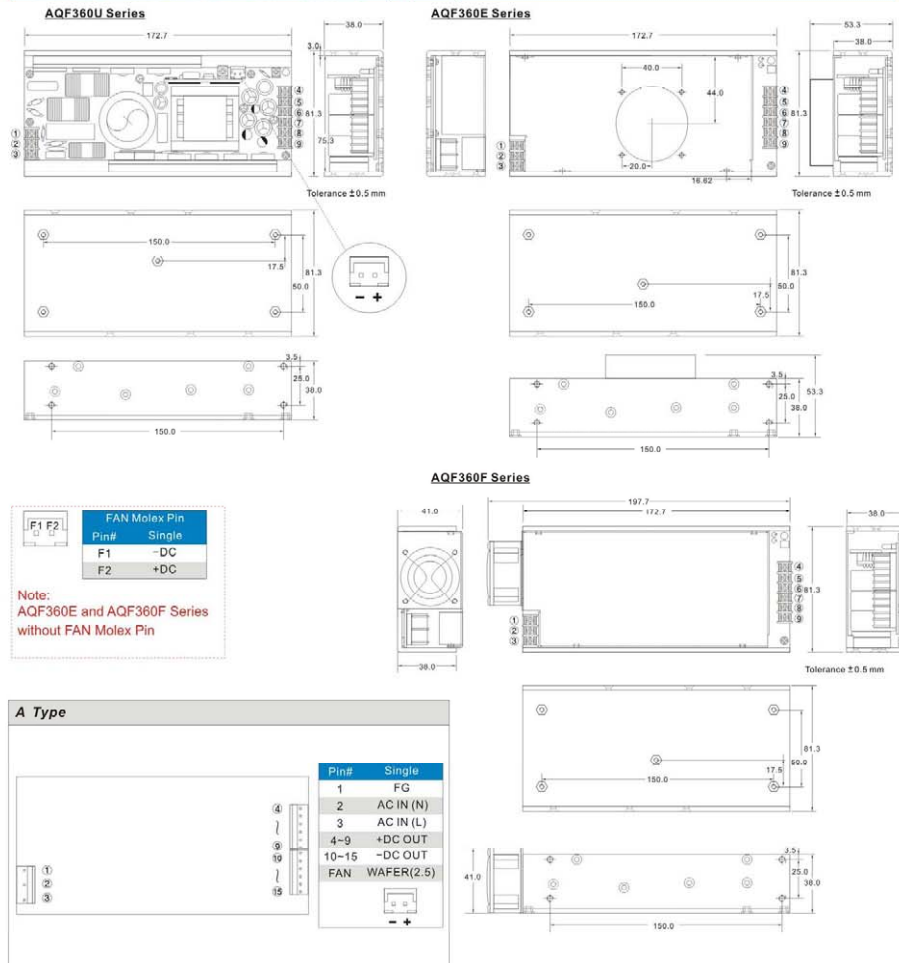
**Standard Type**

Pin#	Single
1	FG
2	AC IN (N)
3	AC IN (L)
4-6	+DC OUT
7-9	-DC OUT
FAN WAFER(2.5)	

Derating



Outline Dimensions & Pin Connections (Top View)



**AQFV480 SERIES**  
(CV Mode) 480 Watt

**NEW**



**Feature**  
 U Bracket and Enclosed Switching Power Supply  
 Universal Input: 90-264 VAC, 47-63Hz  
 Active P.F.C. Function, PF>0.95  
 300W Convection without FAN(only AQFV480U)  
 480W Convection with 18CFM FAN(only AQFV480U)  
 Cooling by Built-in DC FAN(only AQFV480E and AQFV480F)  
 Protections: Over Load / Over Voltage / Over Temperature / Short Circuit All by Auto-recovery  
 Built-in Remote ON/OFF Control  
 Built-in Remote Sense Function  
 Built-in DC OK Signal  
 Stand by 5V @ 0.6A  
 High Efficiency up to 92%  
 CE, UL Approval  
 2-Years Product Warranty

Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 120 ~ 370 VDC
Frequency	47 ~ 63 Hz

Output Specifications	
Characteristics	Conditions
Output Power	AQFV480U: Convection:280 to 300 Watt (max.) 18CFM FAN:480 Watt (max.) AQFV480E/F:480 Watt (max.)
Voltage Accuracy	±2% (Full Load and Nominal Vin)
Minimum Load	0% (at Full Load)
Line Regulation	±0.5% (LL to HL at Full Load) (typ.)
Load Regulation	±1% (5% to 100% at Full Load) (typ.)
Ripple & Noise (20MHz bandwidth)	12S:100mV / 24,36S:200mV / 48S:300mV (Vp-p) (max.)
Function 5V Stand by	5VSB: 5V@0.6A ; Tolerance ±10%, Ripple & Noise: 100m Vp-p (max.)
DC OK Signal	Turn ON: 4~6V ; Turn OFF: 0~1V
Remote Control	+RC / -RC: Power ON=open ; Power OFF=short
FAN Control	12VDC / 0.5A (max.)
Temperature Coefficient	±0.03% / °C (0~50°C) (max.)
Short Circuit Protection	Auto-recovery

General Specifications	
Characteristics	Conditions
Efficiency AQV480U (see table list)	Convection---Vin:115(V.AC): 88% to 90% Vin:230(V.AC): 90% to 92% 18CFM FAN---Vin:115(V.AC): 85% to 89% Vin:230(V.AC): 88% to 92%
AQV480E,F	Vin:115(V.AC): 85% to 89% (typ.) Vin:230(V.AC): 88% to 92% (typ.)
Frequency	62.5K Hz ±10% (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature	-20 °C to +70 °C (with Derating)
Storage Temperature	-25 °C to +85 °C
Humidity	95% RH (max.)

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	AQV480U: 177.8 x 106.5 x 45.0 mm 7.0 x 4.2 x 1.78 inches AQV480E: 177.8 x 106.5 x 60.3 mm 7.0 x 4.2 x 2.37 inches AQFV480F: 202.8 x 106.5 x 45.0 mm 7.98 x 4.2 x 1.78 inches
Weight	AQFV480U: 780 g AQFV480E: 950 g / AQFV480F: 1050 g
Case Material	AQFV480U: U Bracket AQFV480E/F: Enclosed

**AQV480U Single Output**

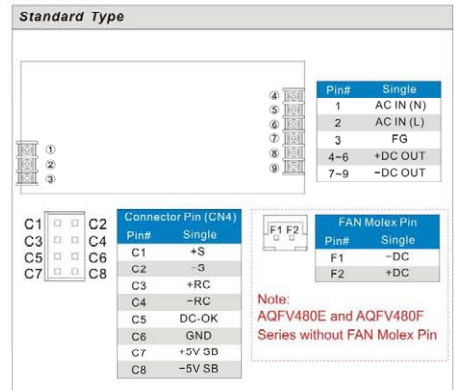
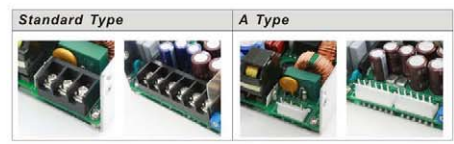
Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (A) max	Eff (%)
AQV480U-12S	90~264	12 (10.8~13.2)	23.33	40 88 / 90 85 / 88
AQV480U-24S	90~264	24 (21.6~26.4)	11.66	20 89 / 91 87 / 90
AQV480U-36S	90~264	36 (32.4~39.6)	8.33	13.33 90 / 92 89 / 92
AQV480U-48S	90~264	48 (43.2~50.4)	6.25	10 89 / 91 88 / 91

**AQV480E Single Output**

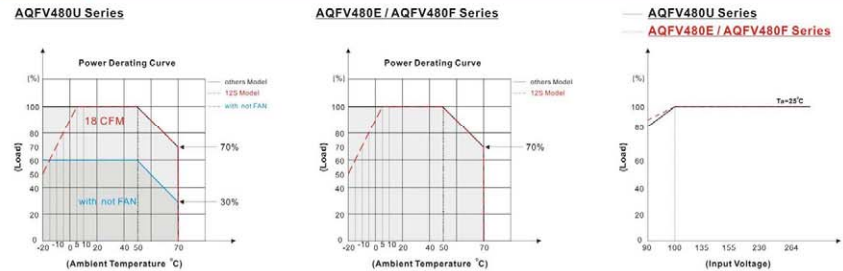
Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (A) max	Eff (%)
AQV480E-12S	90~264	12 (10.8~13.2)	40	85 / 88
AQV480E-24S	90~264	24 (21.6~26.4)	20	87 / 90
AQV480E-36S	90~264	36 (32.4~39.6)	13.33	99 / 92
AQV480E-48S	90~264	48 (43.2~50.4)	10	88 / 91

**AQV480F Single Output**

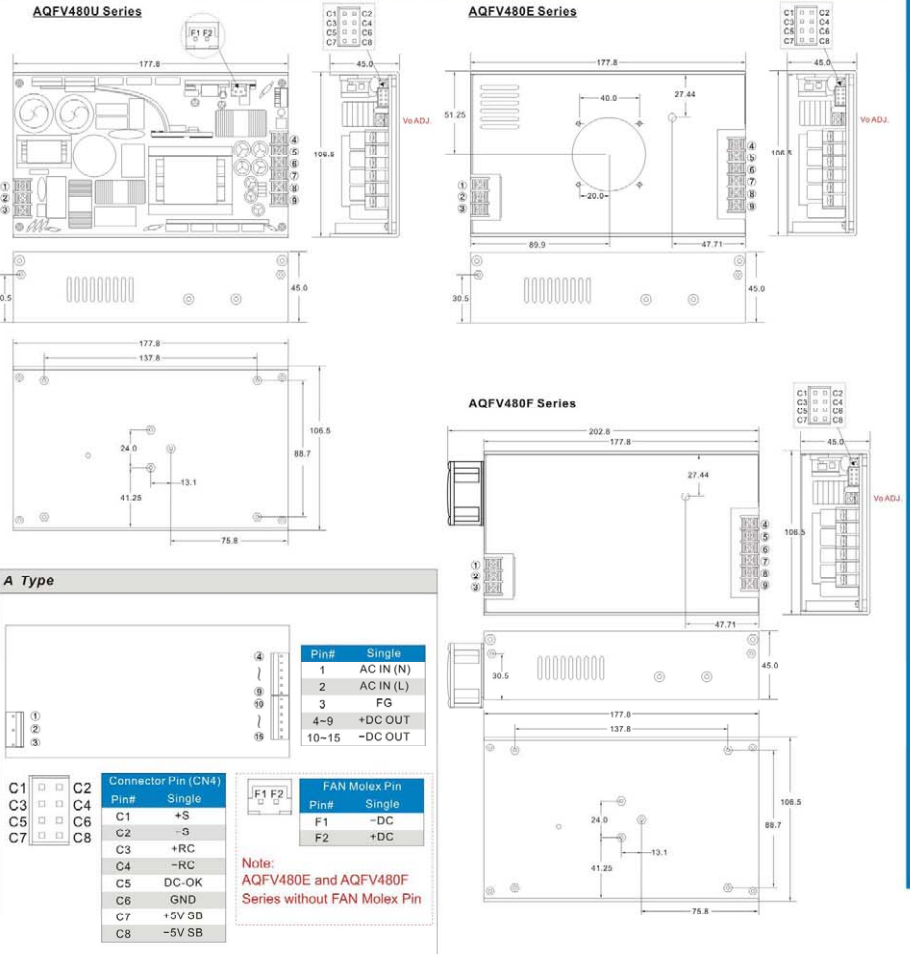
Model No.	Input Voltage (V.AC)	Output Voltage (V.DC)	Output Current (A) max	Eff (%)
AQV480F-12S	90~264	12 (10.8~13.2)	40	85 / 88
AQV480F-24S	90~264	24 (21.6~26.4)	20	87 / 90
AQV480F-36S	90~264	36 (32.4~39.6)	13.33	99 / 92
AQV480F-48S	90~264	48 (43.2~50.4)	10	88 / 91



**Derating**



**Outline Dimensions & Pin Connections (Top View)**



## PLF16 SERIES 16 Watt



IP67 CE

Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 277 VAC
Frequency	47 ~ 63 Hz

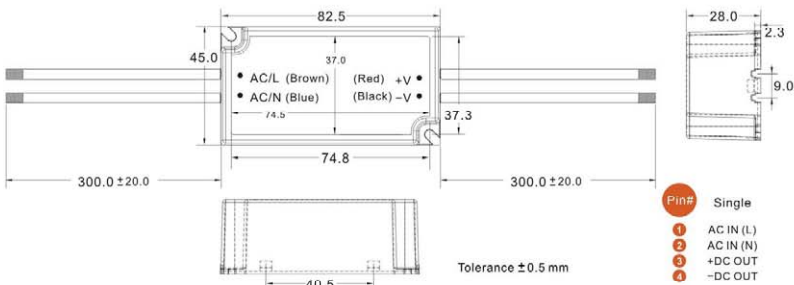
Output Specifications	
Characteristics	Conditions
Output Power	16.8 Watt (max.)
Current Regulation	±5% (at 115 / 230VAC) (typ.)
Ripple & Noise	3Vp-p (20MHz bandwidth) (max.)
Temperature Coefficient	±0.01% / °C (max.)
Short Circuit Protection	Auto-recovery

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	82% to 85% (typ.)
Isolation Voltage	4000 VAC (min.)
Isolation Resistance	10 <sup>10</sup> Ω (Input to Output) (min.)
Operating Temperature	-30 C to +70 C (with Derating)
Storage Temperature	-40 C to +85 C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	82.5 x 45.0 x 28.0 mm
Weight	180 g

### Outline Dimensions & Pin Connections

(Top View)



### NEW Preliminary

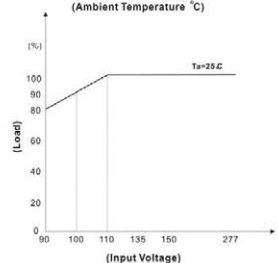
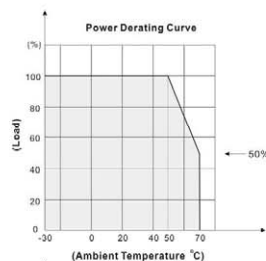
#### ---- Feature ----

Fully Isolated Plastic Case with IP67 Level  
 Universal Input: 90-277 VAC  
 With P.F.C. Function, PF>0.9  
 High Efficiency up to 85%  
 Turn-on Delay < 250ms  
 Protections: Over Load / Over Voltage / Short Circuit  
 High Reliability & Double Layered PCB  
 Ultra Compact Size: 3.25 x 1.77 x 1.102 Inches  
 2-Years Product Warranty

#### PLF16 Single Output

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (mA) max	Eff (%)
PLF16-1050	90~277	15.6 (11~15.6)	1050	82
PLF16-700	90~277	24 (18~24)	700	84
PLF16-350	90~277	48 (36~48)	350	85

#### Derating



## PLF25 SERIES 25 Watt



IP67 CE

SELV (except for PLF250-350)

Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 277 VAC
Frequency	47 ~ 63 Hz

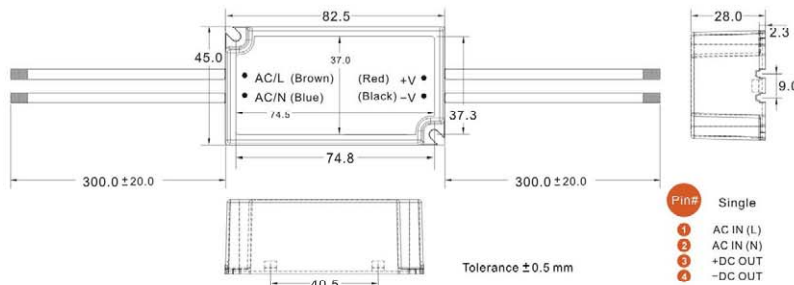
Output Specifications	
Characteristics	Conditions
Output Power	25.2 Watt (max.)
Current Regulation	±5% (at 115 / 230VAC) (typ.)
Ripple & Noise	3Vp-p (20MHz bandwidth) (max.)
Temperature Coefficient	±0.01% / °C (max.)
Short Circuit Protection	Auto-recovery

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	82% to 85% (typ.)
Isolation Voltage	4000 VAC (min.)
Isolation Resistance	10 <sup>10</sup> Ω (Input to Output) (min.)
Operating Temperature	-30 C to +70 C (with Derating)
Storage Temperature	-40 C to +85 C
Humidity	95% RH (max.)
Cooling	Free-air Convection

Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	82.5 x 45.0 x 28.0 mm
Weight	180 g

### Outline Dimensions & Pin Connections

(Top View)



### NEW Preliminary

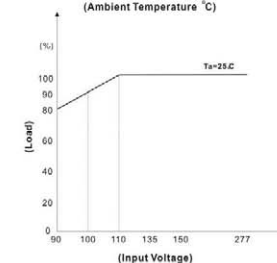
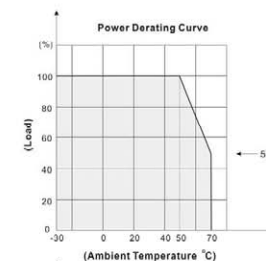
#### ---- Feature ----

Fully Isolated Plastic Case with IP67 Level  
 Universal Input: 90-277 VAC  
 With P.F.C. Function, PF>0.9  
 High Efficiency up to 85%  
 Turn-on Delay < 250ms  
 Protections: Over Load / Over Voltage / Short Circuit  
 High Reliability & Double Layered PCB  
 Ultra Compact Size: 3.25 x 1.77 x 1.102 Inches  
 2-Years Product Warranty

#### PLF25 Single Output

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Output Current (mA) max	Eff (%)
PLF25-1400	90~277	18 (12.6~18)	1400	82
PLF25-1050	90~277	24 (16.8~24)	1050	84
PLF25-700	90~277	36 (25.2~36)	700	85
PLF25-350	90~277	58 (45.5~58)	350	85

#### Derating



**PLF30 SERIES**  
30 Watt



**IP67 CE**

**NEW**

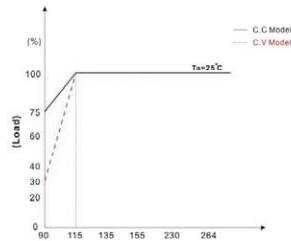
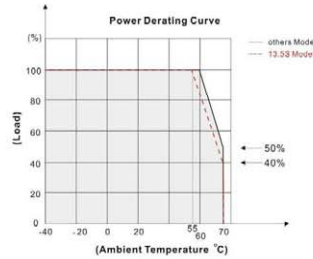
---- Feature ----

- Fully Isolated Plastic Case with IP67 Level
- Universal Input: 90-264 VAC, 47-63Hz
- With Constant Current & Constant Voltage (C.C+C.V mode)
- With P.F.C. Function, PF>0.9
- Free Air Convection
- Protections: Over Load / Over Voltage / Short Circuit
- High Reliability & Double Layered PCB
- Ultra Compact Size: 4.92 x 2.36 x 1.38 Inches
- 2-Years Product Warranty

PLF30 Single Output

Model No.	Input Voltage (V AC)	Output Voltage (V DC)	Output Current (mA) max	Minimum Load (mA) max	Eff (%)
PLF30-13.5S	90~264	13.5 (CC Mode) (11~13.5)	2100 (CC Mode)	1900	85
PLF30-24S	90~264	24 (17~24)	1400	1050	88
PLF30-48S	90~264	48 (33.5~48)	700	525	89

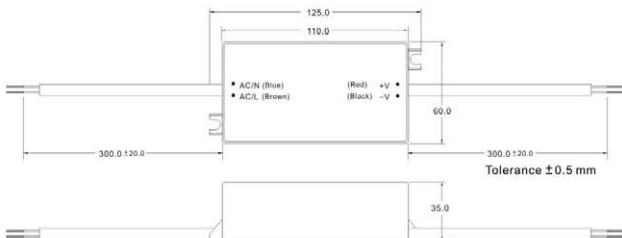
Derating



Input Specifications	
<b>Characteristics</b>	<b>Conditions</b>
Voltage Range	90 ~ 264 VAC
Frequency	50 / 60 Hz
<b>Output Specifications</b>	
<b>Characteristics</b>	<b>Conditions</b>
Output Power	33.6 Watt (max.)
Line Regulation	±4% (115-230 VAC) (typ.)
Load Regulation	+5% (typ.)
Ripple & Noise (20MHz bandwidth)	13.5S:2.4Vp-p (max.) 48S:4.8Vp-p (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Auto-recovery
<b>General Specifications</b>	
<b>Characteristics</b>	<b>Conditions</b>
Efficiency (see table list)	85% to 89% (typ.)
Isolation Voltage	4000 VAC (min.)
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature (with Derating)	-30 °C to +70 °C
Storage Temperature	-40 °C to +85 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection
<b>Physical Specifications</b>	
<b>Characteristics</b>	<b>Conditions</b>
Dimension (Tolerance ±0.5 mm)	125.0 x 60.0 x 35.0 mm
Weight	300 g

Outline Dimensions & Pin Connections

(Top View)



- Pin# Single
- 1 AC IN (N)
  - 2 AC IN (L)
  - 3 +DC OUT
  - 4 -DC OUT

**PLF60 SERIES**  
60 Watt



**IP67 CE**

**NEW**

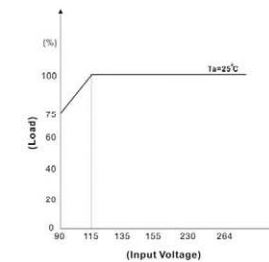
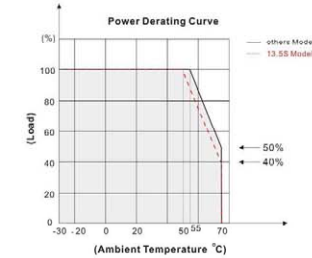
---- Feature ----

- Fully Isolated Plastic Case with IP67 Level
- Universal Input: 90-264 VAC, 47-63Hz
- With Constant Current & Constant Voltage (C.C+C.V mode)
- With P.F.C. Function, PF>0.9
- Free Air Convection
- Protections: Over Load / Over Voltage / Short Circuit
- High Reliability & Double Layered PCB
- Ultra Compact Size: 4.92 x 2.36 x 1.38 Inches
- 2-Years Product Warranty

PLF60 Single Output

Model No.	Input Voltage (V AC)	Output Voltage (V DC)	Output Current (mA) max	Minimum Load (mA) max	Eff (%)
PLF60-13.5S	90~264	13.5 (CC Mode) (11~13.5)	4200 (CC Mode)	3570	85
PLF60-24S	90~264	24 (17~24)	2400	1700	87
PLF60-28S(1400)	90~264	28 (21~28)	1400	1400	89
PLF60-28S(2100)	90~264	28 (21~28)	2100	1400	89
PLF60-48S	90~264	48 (33.5~48)	1050	825	89
PLF60-54S(700)	90~264	54 (38~54)	700	700	89
PLF60-54S(1050)	90~264	54 (38~54)	1050	700	89

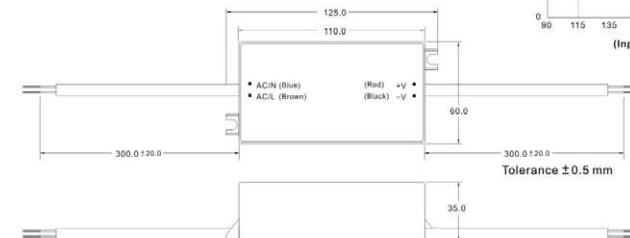
Derating



Input Specifications	
<b>Characteristics</b>	<b>Conditions</b>
Voltage Range	90 ~ 264 VAC
Frequency	50 / 60 Hz
<b>Output Specifications</b>	
<b>Characteristics</b>	<b>Conditions</b>
Output Power	60 Watt (max.)
Line Regulation	±4% (115-230 VAC) (typ.)
Load Regulation	+5% (typ.)
Ripple & Noise (20MHz bandwidth)	13.5S:4Vp-p (max.) 24S:4.5Vp-p (max.) others:5Vp-p (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Auto-recovery
<b>General Specifications</b>	
<b>Characteristics</b>	<b>Conditions</b>
Efficiency (see table list)	85% to 89% (typ.)
Isolation Voltage	4000 VAC (min.)
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature (with Derating)	-30 °C to +70 °C
Storage Temperature	-40 °C to +85 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection
<b>Physical Specifications</b>	
<b>Characteristics</b>	<b>Conditions</b>
Dimension (Tolerance ±0.5 mm)	125.0 x 60.0 x 35.0 mm
Weight	300 g

Outline Dimensions & Pin Connections

(Top View)



- Pin# Single
- 1 AC IN (N)
  - 2 AC IN (L)
  - 3 +DC OUT
  - 4 -DC OUT

**ZQF30 SERIES**  
30 Watt



**NEW**

---- Feature ----

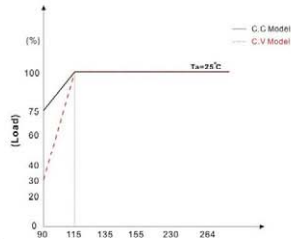
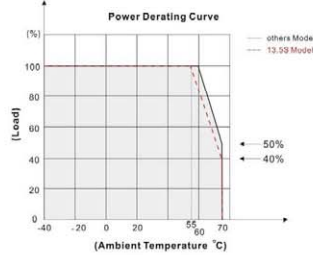
- Open Frame LED Power Supply
- Universal Input: 90-264 VAC
- With Constant Current & Constant Voltage (C.C+C.V mode)
- Dimming function: 0-10VDC & PWM Duty Controlled
- With P.F.C. Function, PF>0.9
- Free Air Convection
- Protections: Over Load / Over Voltage / Short Circuit
- High Reliability & Double Layered PCB
- Ultra Compact Size: 4.0 x 2.0 x 1.12 Inches
- 2-Years Product Warranty



→ ZQF30 Single Output

Model No.	Input Voltage (V AC)	Output Voltage (V DC)	Output Current (mA)	Minium Load (mA)	Eff (%)
ZQF30-13.5S	90~264	13.5 (11~13.5)	1700~2330	1700	85
ZQF30-24S	90~264	24 (18~24)	1050~1400	1050	88
ZQF30-48S	90~264	48 (36~48)	525~700	525	89

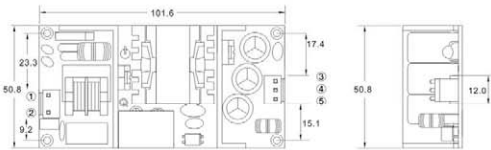
Derating



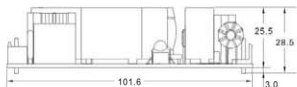
Input Specifications	
<b>Characteristics</b>	<b>Conditions</b>
Voltage Range	90 ~ 264 VAC
Frequency	50 / 60 Hz
Output Specifications	
<b>Characteristics</b>	<b>Conditions</b>
Output Power	33.6 Watt (max.)
Line Regulation	±4% (115-230 VAC) (typ.)
Load Regulation	+5% (Min-Max) (typ.)
Ripple & Noise (20MHz bandwidth)	13.5S,24S:2.4Vp-p (max.) 48S:4.8Vp-p (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Auto-recovery
General Specifications	
<b>Characteristics</b>	<b>Conditions</b>
Efficiency (see table list)	85% to 89% (typ.)
Isolation Voltage	3750 VAC (min.)
Isolation Resistance	10 <sup>10</sup> Ω (Input to Output) (min.)
Operating Temperature (with Derating)	-30 C to +70 C
Storage Temperature	-40 C to +85 C
Humidity	95% RH (max.)
Cooling	Free-air Convection
Physical Specifications	
<b>Characteristics</b>	<b>Conditions</b>
Dimension (Tolerance ±0.5 mm)	101.6 x 50.8 x 28.5 mm
Weight	165 g

Outline Dimensions & Pin Connections

(Top View)



Tolerance ±0.5 mm



- Pin# Single
- 1 AC IN (N)
  - 2 AC IN (L)
  - 3 +Dim
  - 4 +DC OUT
  - 5 -DC OUT

**ZQF30(R) SERIES**  
30 Watt



**NEW**

---- Feature ----

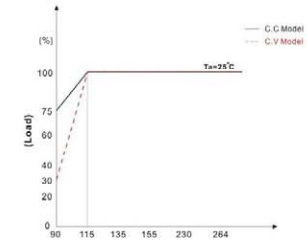
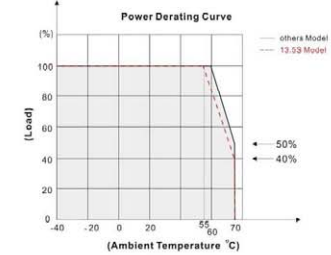
- Open Frame LED Power Supply
- Universal Input: 90-264 VAC
- With Constant Current & Constant Voltage (C.C+C.V mode)
- With P.F.C. Function, PF>0.9
- Free Air Convection
- Protections: Over Load / Over Voltage / Short Circuit
- High Reliability & Double Layered PCB
- Ultra Compact Size: 4.0 x 2.0 x 1.12 Inches
- 2-Years Product Warranty



→ ZQF30(R) Single Output

Model No.	Input Voltage (V AC)	Output Voltage (V DC)	Output Current (mA)	Minium Load (mA)	Eff (%)
ZQF30(R)-13.5S	90~264	13.5 (11~13.5)	2100 (1700~2330)	1700	85
ZQF30(R)-24S	90~264	24 (18~24)	1400 (1050~1400)	1050	88
ZQF30(R)-48S	90~264	48 (36~48)	700 (525~700)	525	89

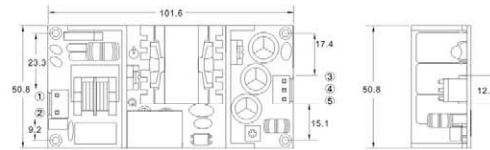
Derating



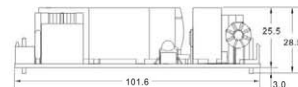
Input Specifications	
<b>Characteristics</b>	<b>Conditions</b>
Voltage Range	90 ~ 264 VAC
Frequency	50 / 60 Hz
Output Specifications	
<b>Characteristics</b>	<b>Conditions</b>
Output Power	33.6 Watt (max.)
Line Regulation	±4% (115-230 VAC) (typ.)
Load Regulation	+5% (Min-Max) (typ.)
Ripple & Noise (20MHz bandwidth)	13.5S,24S:2.4Vp-p (max.) 48S:4.8Vp-p (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Auto-recovery
General Specifications	
<b>Characteristics</b>	<b>Conditions</b>
Efficiency (see table list)	85% to 89% (typ.)
Isolation Voltage	3750 VAC (min.)
Isolation Resistance	10 <sup>10</sup> Ω (Input to Output) (min.)
Operating Temperature (with Derating)	-30 C to +70 C
Storage Temperature	-40 C to +85 C
Humidity	95% RH (max.)
Cooling	Free-air Convection
Physical Specifications	
<b>Characteristics</b>	<b>Conditions</b>
Dimension (Tolerance ±0.5 mm)	101.6 x 50.8 x 28.5 mm
Weight	165 g

Outline Dimensions & Pin Connections

(Top View)



Tolerance ±0.5 mm



- Pin# Single
- 1 AC IN (N)
  - 2 AC IN (L)
  - 3 NC
  - 4 +DC OUT
  - 5 -DC OUT

## ZQF60 SERIES

60 Watt



**NEW**

---- Feature ----

- Open Frame LED Power Supply
- Universal Input: 90-264 VAC
- With Constant Current & Constant Voltage (C.C.+C.V mode)
- Dimming function: 0-10VDC & PWM Duty Controlled
- With P.F.C. Function, PF>0.9
- Free Air Convection
- Protections: Over Load / Over Voltage / Short Circuit
- High Reliability & Double Layered PCB
- Ultra Compact Size: 4.0 x 2.0 x 1.12 Inches
- 2-Years Product Warranty

CE

→ ZQF60 Single Output

Model No.	I/P Voltage (V <sub>AC</sub> )	O/P Voltage (V <sub>DC</sub> ) (CC Mode)	Output Current (mA) max.	Minimum Load (mA) min.	EF (%)
ZQF60-13.5S	90-264	13.5 (11-13.5)	3570-4200	3570	85
ZQF60-24S	90-264	24 (17-24)	1700-2500	1700	87
ZQF60-28S	90-264	28 (21-28)	1400-2100	1400	89
ZQF60-48S	90-264	48 (33.5-48)	825-1250	825	89
ZQF60-54S	90-264	54 (38-54)	700-1100	700	89

Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC
Frequency	50 / 60 Hz

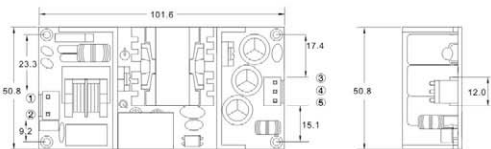
Output Specifications	
Characteristics	Conditions
Output Power	60 Watt (max.)
Line Regulation	±4% (115-230 VAC) (typ.)
Load Regulation	+5% (Min-Max) (typ.)
Ripple & Noise (20MHz bandwidth)	13.5S,24S:4Vp-p (max.) 24S,4.5Vp-p (max.) 28S,48S:5Vp-p (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Auto-recovery

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	85% to 89% (typ.)
Isolation Voltage	3750 VAC (min.)
Isolation Resistance	10 <sup>10</sup> Ω (Input to Output) (min.)
Operating Temperature	-30 °C to +70 °C (with Derating)
Storage Temperature	-40 °C to +85 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection

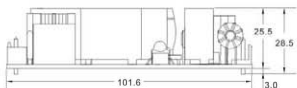
Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	101.6 x 50.8 x 28.5 mm 4.0 x 2.0 x 1.12 inches
Weight	165 g

Outline Dimensions & Pin Connections

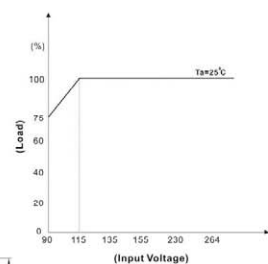
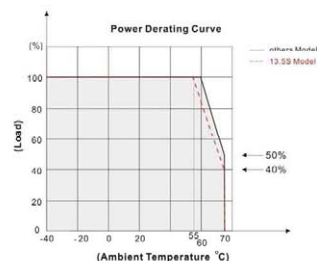
(Top View)



Tolerance ±0.5 mm



Derating



- Pin# Single
- 1 AC IN (N)
  - 2 AC IN (L)
  - 3 -Dim
  - 4 +DC OUT
  - 5 -DC OUT

## ZQF60[R] SERIES

60 Watt



**NEW**

---- Feature ----

- Open Frame LED Power Supply
- Universal Input: 90-264 VAC
- With Constant Current & Constant Voltage (C.C.+C.V mode)
- With P.F.C. Function, PF>0.9
- Free Air Convection
- Protections: Over Load / Over Voltage / Short Circuit
- High Reliability & Double Layered PCB
- Ultra Compact Size: 4.0 x 2.0 x 1.12 Inches
- 2-Years Product Warranty

CE

→ ZQF60(R) Single Output

Model No.	I/P Voltage (V <sub>AC</sub> )	O/P Voltage (V <sub>DC</sub> ) (CC Mode)	Output Current (mA) max.	Minimum Load (mA) min.	EF (%)
ZQF60(R)-13.5S	90-264	13.5 (11-13.5)	4200 (3570-4200)	3570	85
ZQF60(R)-24S	90-264	24 (17-24)	2400 (1700-2500)	1700	87
ZQF60(R)-28S(1400)	90-264	28 (21-28)	1400 (1400-2100)	1400	89
ZQF60(R)-28S(2100)	90-264	28 (21-28)	1400 (1400-2100)	1400	89
ZQF60(R)-48S	90-264	48 (33.5-48)	1050 (825-1250)	825	89
ZQF60(R)-54S(700)	90-264	54 (38-54)	700 (700-1100)	700	89
ZQF60(R)-54S(1050)	90-264	54 (38-54)	700 (700-1100)	700	89

Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC
Frequency	50 / 60 Hz

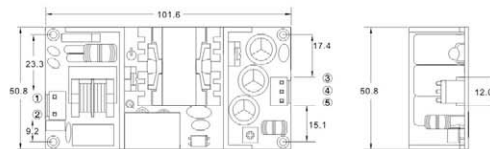
Output Specifications	
Characteristics	Conditions
Output Power	60 Watt (max.)
Line Regulation	±4% (115-230 VAC) (typ.)
Load Regulation	+5% (Min-Max) (typ.)
Ripple & Noise (20MHz bandwidth)	13.5S,24S:4Vp-p (max.) 24S,4.5Vp-p (max.) 28S,48S:5Vp-p (max.)
Temperature Coefficient	±0.02% / °C (max.)
Short Circuit Protection	Auto-recovery

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	85% to 89% (typ.)
Isolation Voltage	3750 VAC (min.)
Isolation Resistance	10 <sup>10</sup> Ω (Input to Output) (min.)
Operating Temperature	-30 °C to +70 °C (with Derating)
Storage Temperature	-40 °C to +85 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection

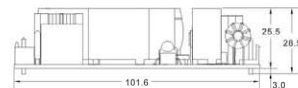
Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	101.6 x 50.8 x 28.5 mm 4.0 x 2.0 x 1.12 inches
Weight	165 g

Outline Dimensions & Pin Connections

(Top View)



Tolerance ±0.5 mm



- Pin# Single
- 1 AC IN (N)
  - 2 AC IN (L)
  - 3 NC
  - 4 +DC OUT
  - 5 -DC OUT

## ALF100 SERIES 100 Watt

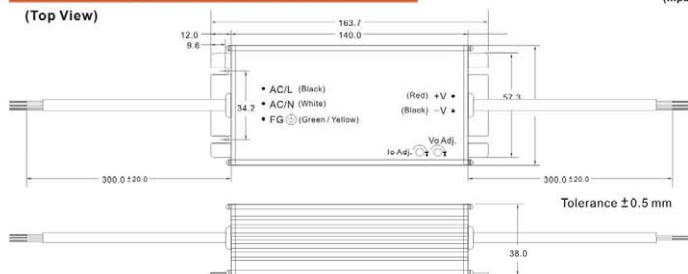


IP65 CE

Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 305 VAC or 120 ~ 430 VDC
Frequency	47 ~ 63 Hz
Output Specifications	
Characteristics	Conditions
Output Power	100 Watt (max.)
Voltage Accuracy	±2% (Full Load and Nominal Vin)
Minimum Load	0% (at Full Load)
Line Regulation	±1% (typ.)
Load Regulation	±1% (typ.)
Ripple & Noise (20MHz bandwidth)	12S,24S,36S:100mVp-p (max.) 48S,54S,200mVp-p (max.)
Temperature Coefficient	±0.02% / °C (0~50°C) (max.)
Short Circuit Protection	Auto-recovery
General Specifications	
Characteristics	Conditions
Efficiency (see table list)	90.5% to 92% (typ.)
Frequency	100K Hz (typ.)
Isolation Voltage	3750 VAC
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature	-30 °C to +70 °C (with Derating)
Storage Temperature	-40 °C to +85 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection
Vibration	10~500Hz, 5G 10min./1cycle, 60min. Each along X, Y, Z axes.
Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	163.7 x 71.0 x 38.0 mm
Weight	750 g

### Outline Dimensions & Pin Connections

(Top View)



NEW Preliminary

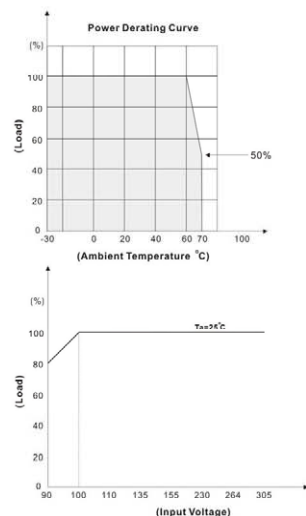
--- Feature ---

- IP65 Design for Indoor or LED Outdoor Installations
- Universal Input: 90-305 VAC or 120-430 VDC
- Built-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 Single Output

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Constant Current Range (VDC)	Output Current (mA)max	Current ADJ. Range (mA)	Voltage ADJ. Range (VDC)	EFF (%)
ALF100-12S 90~305	12	6~12	8333	4166~8333	10.8~13.2	90.5	
ALF100-24S 90~305	24	12~24	4166	2083~4166	21.6~26.4	92	
ALF100-36S 90~305	36	18~36	2777	1388~2777	32.4~39.6	92	
ALF100-48S 90~305	48	24~48	2083	1041~2083	43.2~50.4	92	
ALF100-54S 90~305	54	27~54	1852	926~1852	48.6~56.7	92	

### Derating



## ALF150 SERIES 150 Watt

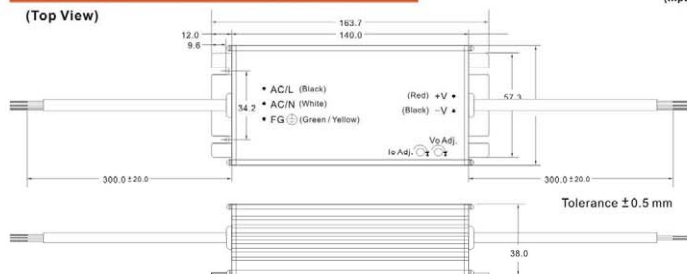


IP65 CE

Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 305 VAC or 120 ~ 430 VDC
Frequency	47 ~ 63 Hz
Output Specifications	
Characteristics	Conditions
Output Power	150 Watt (max.)
Voltage Accuracy	±2% (Full Load and Nominal Vin)
Minimum Load	0% (at Full Load)
Line Regulation	±1% (typ.)
Load Regulation	±1% (typ.)
Ripple & Noise (20MHz bandwidth)	12S,24S,36S:100mVp-p (max.) 48S,54S,200mVp-p (max.)
Temperature Coefficient	±0.02% / °C (0~50°C) (max.)
Short Circuit Protection	Auto-recovery
General Specifications	
Characteristics	Conditions
Efficiency (see table list)	90.5% to 93.5% (typ.)
Frequency	100K Hz (typ.)
Isolation Voltage	3750 VAC
Isolation Resistance	10 <sup>9</sup> Ω (Input to Output) (min.)
Operating Temperature	-30 °C to +70 °C (with Derating)
Storage Temperature	-40 °C to +85 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection
Vibration	10~500Hz, 5G 10min./1cycle, 60min. Each along X, Y, Z axes.
Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	163.7 x 71.0 x 38.0 mm
Weight	750 g

### Outline Dimensions & Pin Connections

(Top View)



NEW Preliminary

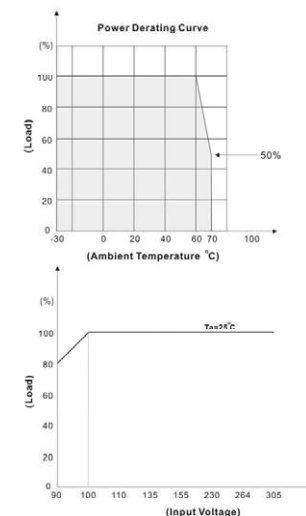
--- Feature ---

- IP65 Design for Indoor or LED Outdoor Installations
- Universal Input: 90-305 VAC or 120-430 VDC
- Built-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

### ALF150 Single Output

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Constant Current Range (VDC)	Output Current (mA)max	Current ADJ. Range (mA)	Voltage ADJ. Range (VDC)	EFF (%)
ALF150-12S 90~305	12	6~12	1250	6250~1250	10.8~13.2	90.5	
ALF150-24S 90~305	24	12~24	6250	3125~6250	21.6~26.4	92.5	
ALF150-36S 90~305	36	18~36	4166	2083~4166	32.4~39.6	93.5	
ALF150-48S 90~305	48	24~48	3125	1560~3125	43.2~50.4	92.5	
ALF150-54S 90~305	54	27~54	2777	1388~2777	48.6~56.7	92.5	

### Derating



# ALF240 SERIES

## 240 Watt



IP65 CE RoHS

**NEW**

---- Feature ----

- IP65 Design for Indoor or LED Outdoor Installations
- Universal Input: 100-240 VAC (Up to 277 VAC)
- Built-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

▶▶ ALF240 Single Output

Model No.	Input Voltage (VAC)	Output Voltage (VDC)	Constant Current Range (VDC)	Output Current (A)max	Current APL Range (A)	EFF (%)
ALF240-12S	90~264	12	6~12	16	8~16	90
ALF240-24S	90~264	24	12~24	10	5~10	90
ALF240-36S	90~264	36	18~36	6.66	3.33~6.66	92
ALF240-48S	90~264	48	24~48	5	2.5~5	93

Input Specifications	
Characteristics	Conditions
Voltage Range	90 ~ 264 VAC or 120 ~ 370 VDC (H Type up to 277 VAC)
Frequency	47 ~ 63 Hz

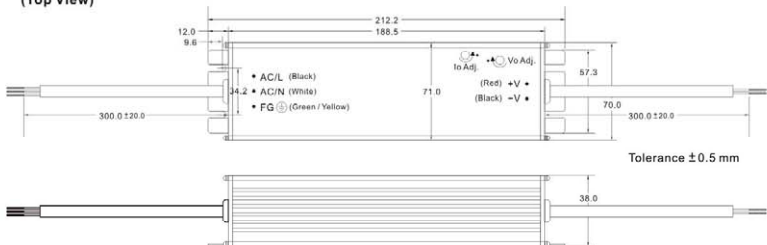
Output Specifications	
Characteristics	Conditions
Output Power	240 Watt (max.)
Voltage Accuracy	+2% (Full Load and Nominal Vin)
Minimum Load	0% (at Full Load)
Line Regulation	±1% (typ.)
Load Regulation	±1% (typ.)
Ripple & Noise	1% Vout (20MHz bandwidth) (max.)
Temperature Coefficient	±0.02% / °C (0~50°C) (max.)
Short Circuit Protection	Auto-recovery

General Specifications	
Characteristics	Conditions
Efficiency (see table list)	90% to 93% (typ.)
Frequency	80K Hz (typ.)
Isolation Voltage	3000 VAC (min.)
Isolation Resistance	10 <sup>10</sup> Ω (Input to Output) (min.)
Operating Temperature	-25 °C to +70 °C (with Derating)
Storage Temperature	-40 °C to +85 °C
Humidity	95% RH (max.)
Cooling	Free-air Convection
Vibration	10~500Hz, 5G 10min./1cycle, 60min. Each along X, Y, Z axes.

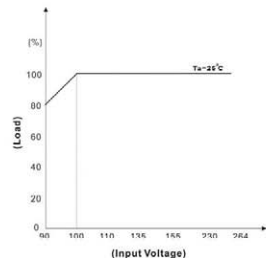
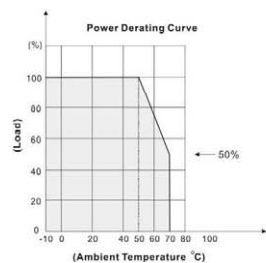
Physical Specifications	
Characteristics	Conditions
Dimension (Tolerance ±0.5 mm)	212.2 x 70.0 x 38.0 mm 8.35 x 2.76 x 1.50 inches
Weight	1010 g

Outline Dimensions & Pin Connections

(Top View)



Derating



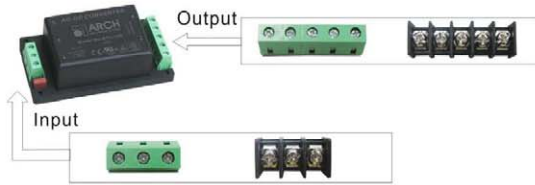
NOTE





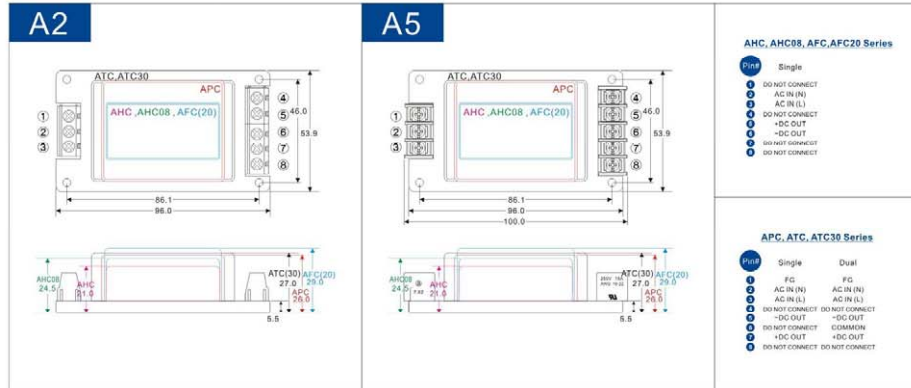
## Screw Terminal Dimensions & Pin Connections

► AC-DC Power Module

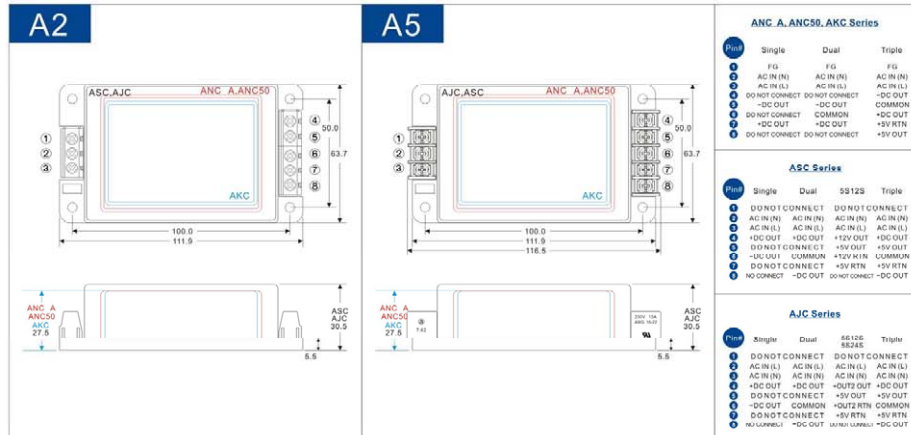


A2 (Input:3 PIN)	A5 (Input:3 PIN)
Suitable for: AHC(08) - APC - AFC(20) - ATC(20) - ANC A - AKC - ASC - AJC - ANC50	Suitable for: AHC(08) - APC - AFC(20) - ATC(20) - ANC A - AKC - ASC - AJC - ANC50

►► AHC, AHC08, AFC, AFC20, APC, ATC, ATC30 Series

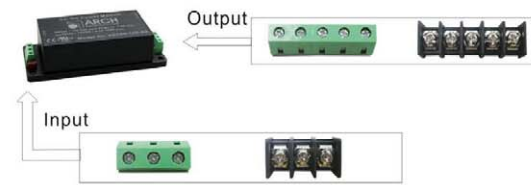


►► ANC A, AKC, ASC, AJC, ANC50 Series (AJC/AKC A2 Not Available in Europe)



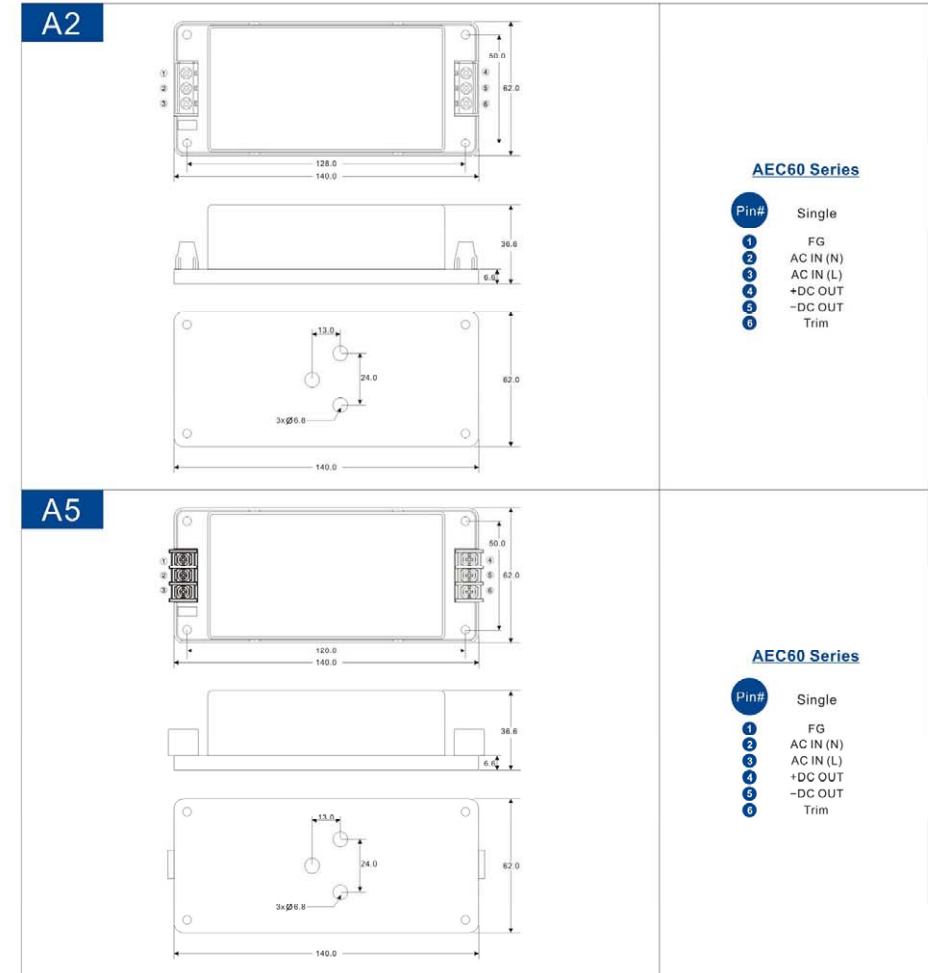
## Screw Terminal Dimensions & Pin Connections

► AC-DC Power Module



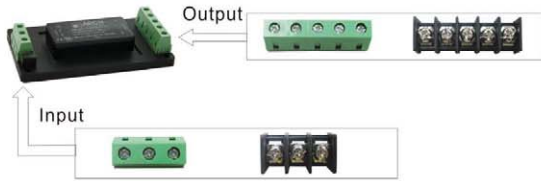
A2 (Input:3 PIN)	A5 (Input:3 PIN)
Suitable for: AEC60	Suitable for: AEC60

►► AEC60 Series



# Screw Terminal Dimensions & Pin Connections

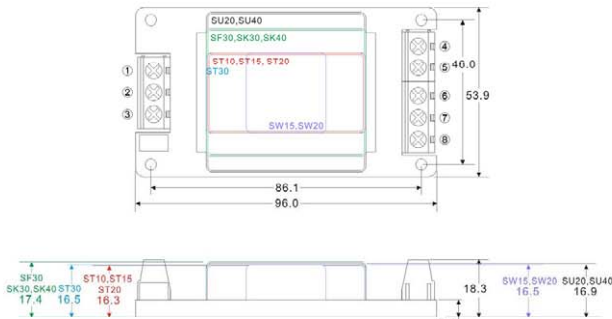
► DC-DC Converter



A2 (Input:3 PIN)	A5 (Input:3 PIN)
Suitable for: SF · SK · ST · SU · SW	Suitable for: SF · SK · ST · SU · SW

► SW, ST, SF, SK, SU Series

## A2



**ST10, ST15, ST20, SW15, SW20 Series**

Pin#	Single	Dual
1	CTRL	CTRL
2	-DC IN	-DC IN
3	+DC IN	+DC IN
4	-DC OUT	-DC OUT
5	+DC OUT	+DC OUT
6	NO CONNECT	NO CONNECT
7	NO CONNECT	COMMON
8	+DC OUT	+DC OUT

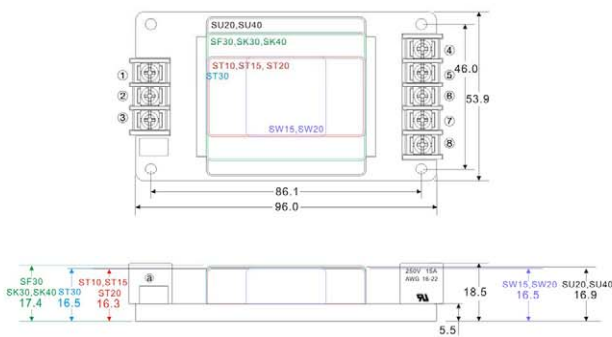
**ST30 Series**

Pin#	Single	Dual	24Vout
1	CTRL	CTRL	CTRL
2	-DC IN	-DC IN	-DC IN
3	+DC IN	+DC IN	+DC IN
4	TRIM	-DC OUT	NO CONNECT
5	-DC OUT	COMMON	-DC OUT
6	NO CONNECT	NO CONNECT	NO CONNECT
7	+DC OUT	COMMON	+V OUT
8	NO CONNECT	NO CONNECT	-DC OUT

**SF30, SK30, SK40, SU20, SU40 Series**

Pin#	Single	Dual	Triple
1	CTRL	CTRL	CTRL
2	-DC IN	-DC IN	-DC IN
3	+DC IN	+DC IN	+DC IN
4	TRIM	-DC OUT	NO CONNECT
5	-DC OUT	COMMON	-DC OUT
6	NO CONNECT	NO CONNECT	NO CONNECT
7	+DC OUT	COMMON	+V OUT
8	NO CONNECT	+DC OUT	+DC OUT

## A5



**ST10, ST15, ST20, SW15, SW20 Series**

Pin#	Single	Dual
1	CTRL	CTRL
2	-DC IN	-DC IN
3	+DC IN	+DC IN
4	-DC OUT	-DC OUT
5	+DC OUT	+DC OUT
6	NO CONNECT	NO CONNECT
7	NO CONNECT	COMMON
8	+DC OUT	+DC OUT

**ST30 Series**

Pin#	Single	Dual	24Vout
1	CTRL	CTRL	CTRL
2	-DC IN	-DC IN	-DC IN
3	+DC IN	+DC IN	+DC IN
4	TRIM	-DC OUT	NO CONNECT
5	-DC OUT	COMMON	-DC OUT
6	NO CONNECT	NO CONNECT	NO CONNECT
7	+DC OUT	COMMON	+V OUT
8	NO CONNECT	+DC OUT	-DC OUT

**SF30, SK30, SK40, SU20, SU40 Series**

Pin#	Single	Dual	Triple
1	CTRL	CTRL	CTRL
2	-DC IN	-DC IN	-DC IN
3	+DC IN	+DC IN	+DC IN
4	TRIM	-DC OUT	NO CONNECT
5	-DC OUT	COMMON	-DC OUT
6	NO CONNECT	NO CONNECT	NO CONNECT
7	+DC OUT	COMMON	+V OUT
8	NO CONNECT	+DC OUT	+DC OUT

# Din Rail Accessory

► AC-DC Power Module

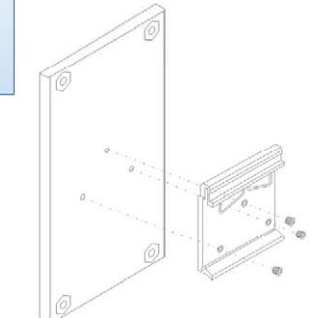
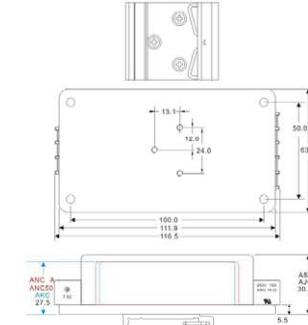
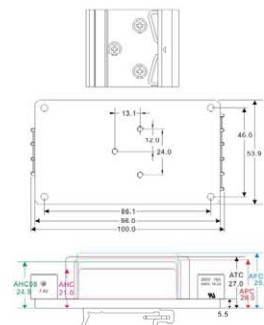


AC-DC Power Module (please refer to [www.archcorp.com.tw](http://www.archcorp.com.tw) for detail spec.)

Series No.	O/P Watt	I/P Voltage	O/P Voltage (Vdc)	O/P Type	Isolation Voltage	Operating Temperature	Safety
AHC-A2-DN AHC-A5-DN	5W	90-264Vac	3.3 · 5 · 12 · 15 · 24	Single	3000Vac	-25~70°C or -40~70°C	UL · CE · RoHS
APC-A2-DN APC-A5-DN	5W	90-264Vac	3.3 · 5 · 12 · 15 · 24 ±5 · ±12 · ±15	Single Dual	3000Vac	-25~70°C or -40~70°C	UL · CE · TUV · RoHS
AHC00-A2-DN AHC00-A5-DN	8W	90-264Vac	3.3 · 3.8 · 5 · 8 · 9 · 12 · 14 · 15 · 24 5/3.3 · 8/5 · 12/5 · 12/7.5	Single Dual	3000Vac	-40~70°C	UL · CE · RoHS
AFC-A2-DN AFC-A5-DN	10W	90-264Vac	3.3 · 5 · 12 · 15 · 24	Single	3000Vac	-25~70°C or -40~70°C	UL · CE · CB RoHS
ATC-A2-DN ATC-A5-DN	10W	90-264Vac	3.3 · 5 · 12 · 15 · 24	Single Dual	3000Vac	-25~70°C or -40~70°C	UL · CE · TUV · RoHS
ANC A-A2-DN ANC A-A5-DN	15W	90-264Vac	5 · 12 · 15 · 24 ±5 · ±12 · ±15 5 / ±12 · 5 / ±15	Single Dual Triple	3000Vac	-25~70°C or -40~70°C	UL · CE · TUV · RoHS
AKG-A2-DN AKG-A5-DN	20W	90-264Vac	3.3 · 5 · 7.5 · 9 · 12 · 15 · 24 ±5 · ±12 · ±15 5 / ±12 · 5 / ±15	Single Dual Triple	3000Vac	-25~70°C	UL · CE · RoHS
AFC20-A2-DN AFC20-A5-DN	20W	90-264Vac	3.3 · 5 · 12 · 15 · 24	Single	3000Vac	-40~70°C	UL · CE · RoHS
ATC30-A2-DN ATC30-A5-DN	30W	90-305Vac	3.3 · 5 · 12 · 15 · 24 ±5 · ±12 · ±15	Single Dual	3000Vac	-40~70°C	UL · CE · TUV · RoHS
ASC-A2-DN ASC-A5-DN	30W	90-264Vac	3.3 · 5 · 12 · 15 · 24 ±5 · ±12 · ±15 · 5/12 5 / ±12 · 5 / ±15	Single Dual Triple	3000Vac	-40~70°C	UL · CE · CD · TUV · RoHS
AJC-A2-DN AJC-A5-DN	40W	90-264Vac	3.3 · 5 · 9 · 12 · 15 · 24 ±5 · ±12 · ±15 · 5/12 · 5/24 5 / ±12 · 5 / ±15	Single Dual Triple	3000Vac	-40~70°C	UL · CE · RoHS
ANC50-A2-DN ANC50-A5-DN	50W	90-305Vac	3.3 · 5 · 12 · 15 · 24 ±5 · ±12 · ±15	Single Dual	3000Vac	-40~70°C	UL · CE · TUV · RoHS
AEC60-A2-DN AEC60-A5-DN	60W	85-285Vac	5 · 9 · 12 · 15 · 24 · 48	Single	3000Vac	-40~70°C	UL · CE · RoHS

► AHC(08), AFC(20), APC, ATC(30) Series

► ANC, A, ANC50, AKG, ASC, AJC Series



► AEC60 Series

