

AFCH25 SERIES

25 Watts

KEY FEATURES

- Ultra Compact Size: 2.07" x 1.08"
- Universal Input Range 90-305VAC, 47-440Hz
- I/O Isolation 4000VAC
- Operating Ambient Temperature Range -40°C to +70°C
- No Load Power Consumption < 0.1W
- High Efficiency up to 88%
- Screw Terminal For Optional
- EMC Compliant without External Components
- Safety Approval to UL / IEC / EN 62368-1, IEC / EN 60950, IEC / EN 60335-1, IEC / EN 61558-2-16
- 3-Year Product Warranty



ELECTRICAL SPECIFICATIONS

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

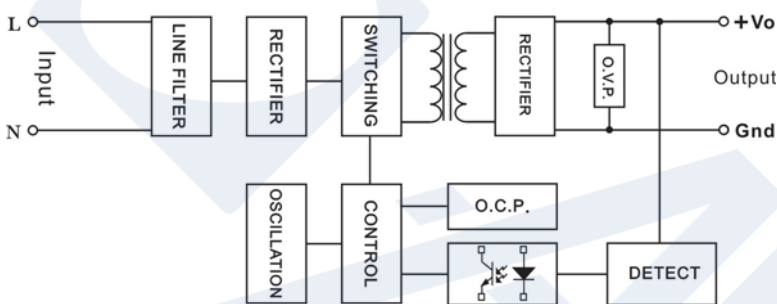
Model No.	AFCH25-5.1S	AFCH25-12S	AFCH25-15S	AFCH25-24S
Max Output Wattage (W)	20W	25W	25W	25W
Input	Voltage			
	90-305 VAC or 120-430 VDC			
	Frequency (Hz)			
	47-440 Hz			
	Current (Full load)			
490 mA max. (115 VAC) / 320 mA max. (230 VAC)				
Inrush Current (<2ms, Cold Start)				
30 A max. (115 VAC) / 60 A max. (230 VAC)				
Leakage Current				
0.25 mA max. (230 VAC)				
Output	Voltage (V.DC.)			
	5.1V			
	12V			
	15V			
	24V			
	Voltage Accuracy			
	±2%			
	Current (mA) max			
	3922			
2083				
1666				
1042				
Maximum Capacitive Load				
2000uF				
680uF				
220uF				
220uF				
Minimum Load				
0%				
Line Regulation (LL-HL) (typ.)				
±1%				
Load Regulation (5-100%) (typ.)				
±3%				
±2%				
Ripple & Noise				
120mV max (Vp-p)				
150mV max (Vp-p)				
160mV max (Vp-p)				
240mV max (Vp-p)				
Efficiency (at 230 VAC)				
84%				
88%				
88%				
87%				
Hold-up Time (typ)				
36 ms (at 230VAC)				
Protection	Over Power Protection			
	Hiccup technique, auto-recovery			
	Over Voltage Protection			
Zener diode clamp				
Short Circuit Protection				
Hiccup mode, indefinite (automatic recovery)				
Isolation	Input-Output (V.AC)			
4000V				
Environment	Operating Temperature			
	-40°C...+70°C (with derating)			
	Storage Temperature			
	-40°C...+85°C			
	Temperature Coefficient			
	±0.05%/°C			
	Humidity			
95% RH				
MTBF				
>400,000 h @ 25°C (MIL-HDBK-217F)				
Vibration				
IEC60068-2-27 (10-500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes)				
Shock				
IEC60068-2-6				
Physical	Dimension (L x W x H)			
	2.07 x 1.08 x 0.93 Inches (52.5 x 27.5 x 23.5 mm) Tolerance ±0.5 mm			
	Case Material			
	Plastic resin (flammability to UL 94V-0)			
Weight				
55 g				
Cooling Method				
Free air convection				
Safety	Agency Approvals			
UL / IEC / EN 62368-1, IEC / EN 60950, IEC / EN 60335-1, IEC / EN 61558-2-16				
EMC	EMI (Conducted & Radiated Emission)			
	EN 55032 class B			
EMS (Noise Immunity)				
EN 55035				

NOTE

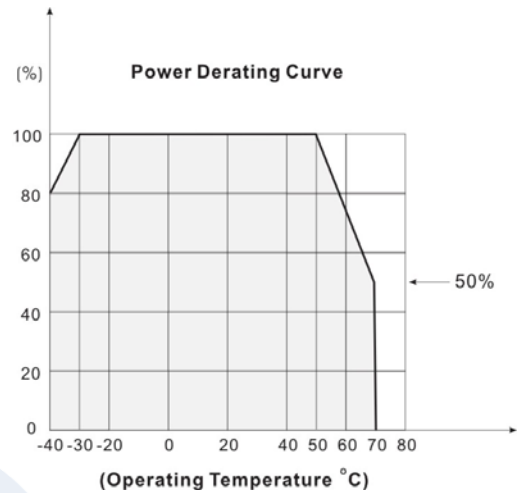
1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. Please refer to our PDF file "AC-DC Application" on our website: www.archcorp.com.tw
3. **CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.**

BLOCK DIAGRAM

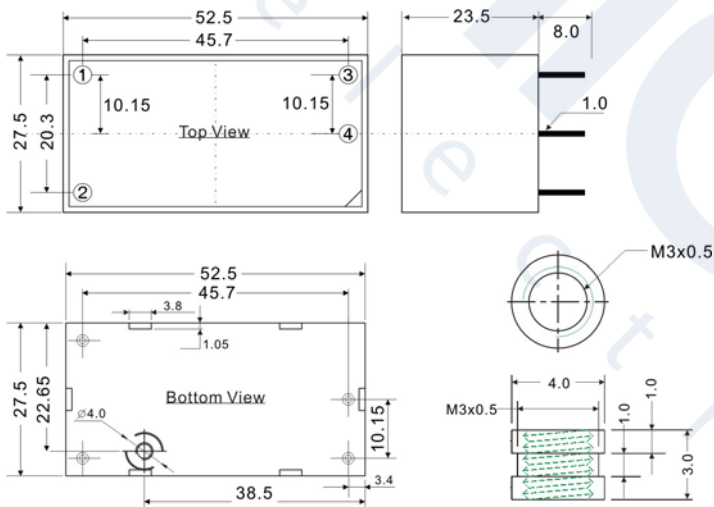
Single Output



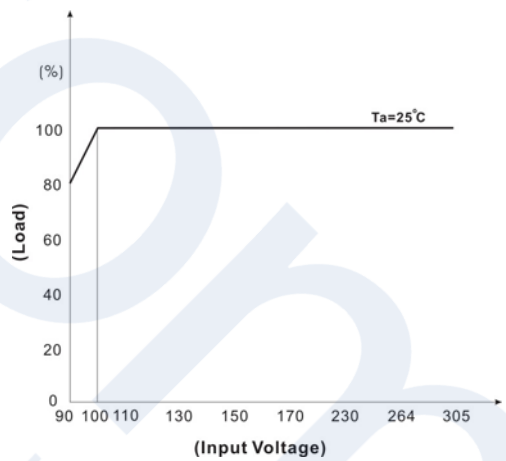
DERATING



MECHANICAL DIMENSION (Top View)



Maximum Torque 1.2 (kgf.cm) (1.21 N.m)



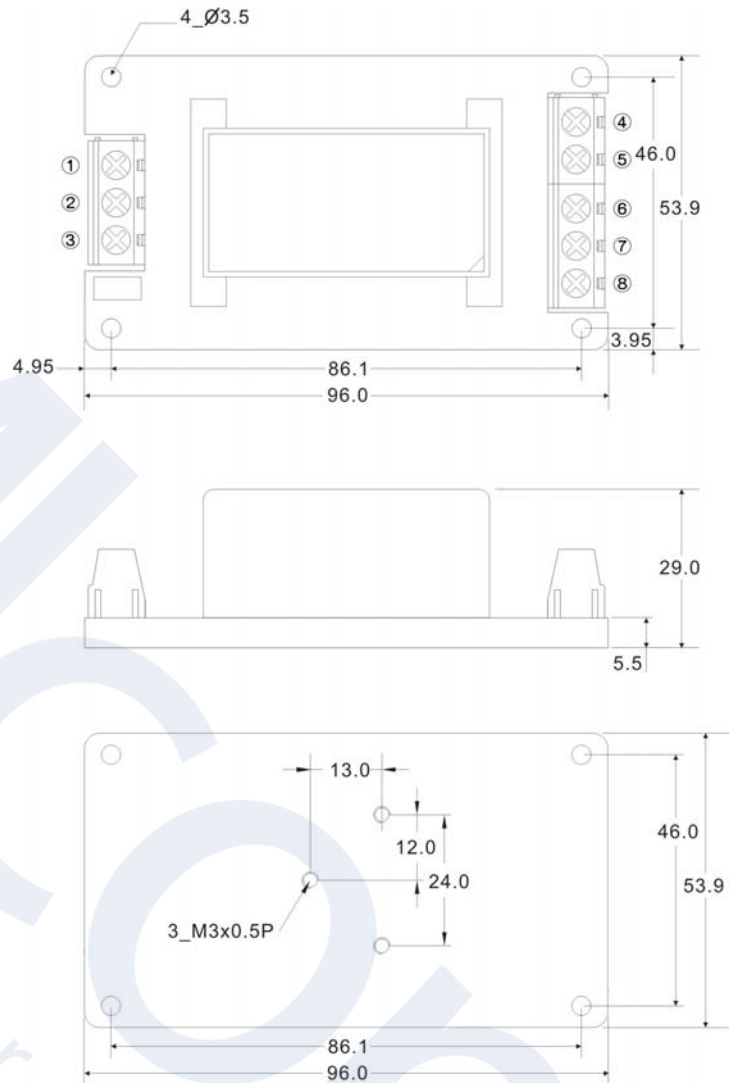
PIN#	Single
1	AC IN (L)
2	AC IN (N)
3	+DC OUT
4	-DC OUT

SCREW TERMINAL

AFCH25-A2



PIN#	Single
1	NO CONNECT
2	AC IN (L)
3	AC IN (N)
4	NO CONNECT
5	+DC OUT
6	-DC OUT
7	NO CONNECT
8	NO CONNECT



KEY FEATURES

- Ultra Compact Size: 2.53" x 1.78"
- Universal Input Range 90-305VAC, 47-440Hz
- I/O Isolation 4000VAC
- Operating Ambient Temperature Range -40°C to +85°C
- No Load Power Consumption < 0.1W
- High Efficiency up to 88%
- Screw Terminal For Optional
- EMC Compliant without External Components
- Safety Approval to UL / IEC / EN 62368-1, IEC / EN 60950, IEC / EN 60335-1, IEC / EN 61558-2-16
- 3-Year Product Warranty


ELECTRICAL SPECIFICATIONS

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

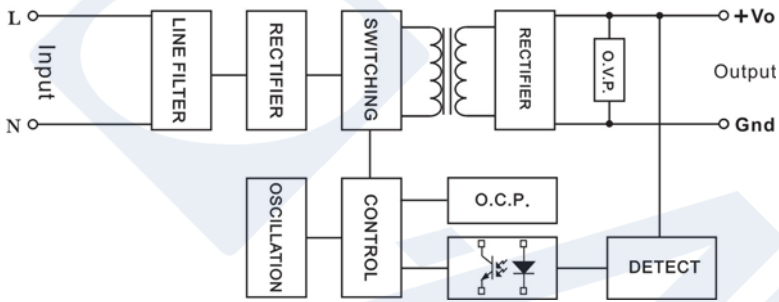
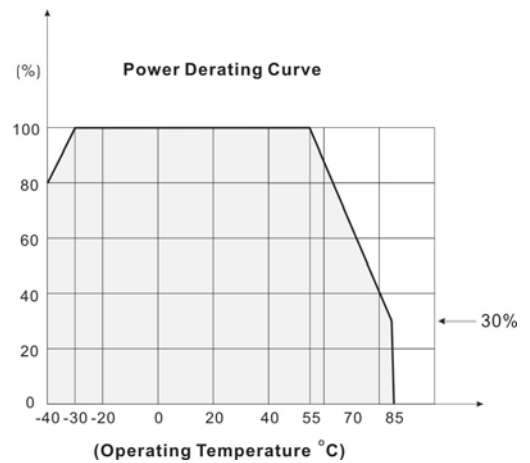
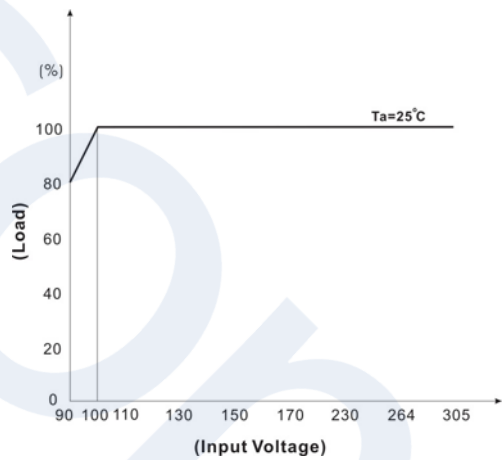
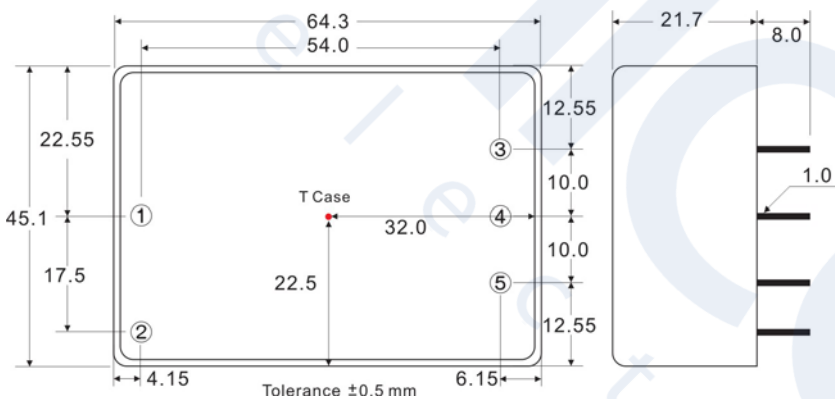
Model No.	ATCH30-5.1S	ATCH30-12S	ATCH30-15S	ATCH30-24S
Max Output Wattage (W)	23.46W	30W	30W	30W
Input	Voltage			
	90-305 VAC or 120-430 VDC			
	Frequency (Hz)			
	47-440 Hz			
	Current (Full load)			
600 mA max. (115 VAC) / 400 mA max. (230 VAC)				
Inrush Current (<2ms, Cold Start)				
30 A max. (115 VAC) / 60 A max. (230 VAC)				
Leakage Current				
0.25 mA max. (230 VAC)				
Output	Voltage (V.DC.)			
	5.1V			
	12V			
	15V			
	24V			
	Voltage Accuracy			
	±2%			
	Current (mA) max			
	4600			
	2500			
2000				
1250				
Maximum Capacitive Load				
6800uF				
1600uF				
1200uF				
470uF				
Minimum Load				
0%				
Line Regulation (LL-HL) (typ.)				
±1%				
Load Regulation (0-100%) (typ.)				
±3%				
±2%				
Ripple & Noise				
120mV max (Vp-p)				
150mV max (Vp-p)				
150mV max (Vp-p)				
240mV max (Vp-p)				
Efficiency (at 230 VAC)				
84%				
88%				
87%				
86%				
Hold-up Time (typ)				
36 ms (at 230VAC)				
Protection	Over Power Protection			
	Hiccup technique, auto-recovery			
	Over Voltage Protection			
Zener diode clamp				
Short Circuit Protection				
Hiccup mode, indefinite (automatic recovery)				
Isolation	Input-Output (V.AC)			
4000V				
Environment	Operating Temperature			
	-40°C...+85°C (with derating)			
	Storage Temperature			
	-40°C...+85°C			
	Temperature Coefficient			
	±0.02%/°C			
	Humidity			
95% RH				
MTBF				
>400,000 h @ 25°C (MIL-HDBK-217F)				
Vibration				
IEC60068-2-27 (10-500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes)				
Shock				
IEC60068-2-6				
Physical	Dimension (L x W x H)			
	2.53 x 1.78 x 0.85 Inches (64.3 x 45.1 x 21.7 mm) Tolerance ±0.5 mm			
	Case Material			
	Plastic resin (flammability to UL 94V-0)			
Weight				
106 g				
Cooling Method				
Free air convection				
Safety	Agency Approvals			
UL / IEC / EN 62368-1, IEC / EN 60950, IEC / EN 60335-1, IEC / EN 61558-2-16				
EMC	EMI (Conducted & Radiated Emission)			
	EN 55032 class B			
EMS (Noise Immunity)				
EN 55035				

NOTE

1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. Please refer to our PDF file "AC-DC Application" on our website: www.archcorp.com.tw

BLOCK DIAGRAM

Single Output


DERATING

MECHANICAL DIMENSION (Top View)


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

SCREW TERMINAL

ATCH30-A2



PIN#	Single
1	NO CONNECT
2	AC IN (N)
3	AC IN (L)
4	NO CONNECT
5	-DC OUT
6	NO CONNECT
7	+DC OUT
8	NO CONNECT

