

ASDT240-23XXHF



RoHS

3-Year Warranty

- Universal 85 - 277VAC or 120 - 390VDC Input voltage
- Operating ambient temperature range: -40°C to +85°C, full load at 60°C
- High efficiency, high reliability
- Transient peak current function: 6 times rated current for 15ms
- Up to 200% (PN) dynamic power for 5s
- Continuous static power margin of up to 125% (PN)
- Support 5+1 bus high precision parallel current sharing
- Active PFC, PF>0.98
- Support DC OK, AC OK, remote control function
- Support ModBus communication protocol
- Double-sided conformal coating, salt-spray proof, explosion-proof
- Operating altitude up to 5000m
- OVC III (design refer to EN62477, 2000m)
- OVC II
- Pollution degree 2
- 5 years warranty
- Output short circuit, over-current, over-voltage, over-temperature protection, input under voltage protection
- Safety according to ATEX, IECEx increased safety type explosion-proof certification
- Safety according to ANSI/ISA 71.04-2013 G3

Description

ASDT240-23XXHF features with energy saving, high performance, high reliability, high efficiency. With 200% peak load capacity is enough to support heavy loads such as DC motors or capacitive loads, up to 95% efficiency can greatly improve power supply reliability and service life. With good EMC performance and compliant with international standards of IEC/EN/UL/BS EN62368, GB4943, IEC/EN/UL61010, EN61558, EN62477, IEC60079, GB3836, NB/T31017 for EMC and safety. The power supply meets the "ec" increased safety and "nC" isolation short-circuit n-type explosion-proof certification and is suitable for explosive environment where the equipment protection level is Gc in zone 2. It is widely used in wind power industry, ships, DCS, industrial control equipment, imachine control, instrumentation, LED, power, security, 5G communication, new energy and other industries.

Selection Guide

Certification	Part No.*	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range (V)	Efficiency at 230VAC (%) Typ.	Max. Capacitive Load (μF)
/	ASDT240-2324HF	240	24V/10A	24-28	94.5	50000
	ASDT240-2348HF		48V/5A	48-55	95	25000

Note: *When the output voltage rises, the total power of the product should not exceed the rated power.

Input Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Voltage Range	Rated input (Certified voltage)		100	--	240	VAC
	AC input		85	--	277	
	DC input		120	--	390	VDC
Maximum Input Voltage	Lasts for 2h without damage		--	--	305	VAC
Input Voltage Frequency			47	--	63	Hz
Input Switching Voltage			65	--	80	VAC
Input Turn-off Voltage			55	--	70	
Input Current	115VAC		--	--	3	A
	230VAC		--	--	1.5	
Inrush Current	115VAC	Cold start	--	10	--	
	230VAC		--	15	--	
Power Factor	115VAC		0.98	--	--	--
	230VAC		0.95	--	--	
THD	115VAC, rated load		--	3.5	--	%
Start-up Delay Time	115VAC/230VAC, rated load		--	--	2000	ms
Input Fuse	Built-in fuse		--	8	--	A
Hot Plug			Unavailable			

Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Full load range		--	±1.0	--	%
Line Regulation	Rated load		--	±0.25	--	
Load Regulation	0% - 100% load		--	±0.5	--	
Power Consumption*	230VAC, rated load	24V	--	13.9	--	W
		48V	--	12.6	--	
Ripple & Noise*	20MHz bandwidth, peak-to-peak value	24V	--	--	80	mV
		48V	--	--	120	
Hold-up Time	115VAC/230VAC		20	--	--	ms
DC OK Signal	Resistive load		30VDC/1A Max.			
Short Circuit Protection			Hiccup mode, constant current operation(constant current time adapts with different load conditions), output off for 5s, long-term short-circuit protection, self-recover			
Static power	115VAC/230VAC		125%Io (typ.), work for a long time at room temperature			
Dynamic power			200% Io working 5s (min.), the off time adapts with different load conditions, long-term protection, self-recover			
Transient Peak Current Function			600% Io working 15ms 3 times (typ.), long-term short-circuit protection, self-recover			
Over-voltage Protection	24V		≤35VDC (Output-off or clamping, self-recover)			
	48V		≤60VDC (Output-off or clamping, self-recover)			
Over-temperature Protection*	230VAC, rated load, self-recover	Over-temperature protection start	--	--	95	℃
		Over-temperature protection release	60	--	--	

Note:

- *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor, please refer to Enclosed Switching Power Supply Application Notes for specific information;
- *Over-temperature protection: Put the product into a high temperature box. After the ambient temperature stabilizes, increase the temperature slightly (3℃ to 5℃), and the load remains unchanged. After the product reaches thermal equilibrium, increase the temperature until the product triggers over-temperature protection;
- *Power consumption curve, over-current protection mode and short circuit protection mode see product characteristic curve.

General Specifications

Item		Operating Conditions		Min.	Typ.	Max.	Unit	
Isolation Test*	Input -	Electric strength test for 1min., leakage current <5mA (Isolation Test for need to remove the screw at the mark shall *)		2500	--	--	VAC	
	Input - output			4000	--	--		
	Output -			500	--	--		
Insulation Resistance	Input -	Environment temperature: 25±5℃ Relative humidity: < 95%, non-condensing Test voltage: 500VDC		500	--	--	MΩ	
	Input - output				--	--		
	Output -				--	--		
Operating Temperature				-40	--	+85	℃	
Storage Temperature				-40	--	+85		
Operating Humidity		Non-condensing		10	--	95	%RH	
Storage Humidity				20	--	90		
Switching Frequency*		PFC		60	--	70	kHz	
		DC-DC		40	--	130		
Power Derating		Operating temperature derating @AC input	-40℃ to -30℃		2	--	--	% / °C
			+60℃ to +75℃		2.5	--	--	
			+75℃ to +85℃	25CFM	2.25	--	--	
		Operating temperature derating @DC input	-40℃ to -30℃		2	--	--	
			+60℃ to +75℃		2.5	--	--	
			+75℃ to +85℃	25CFM	2.25	--	--	
		Input voltage derating	85VAC - 100VAC		1	--	--	%/VAC
			120VDC - 140VDC		1	--	--	%/VDC
Leakage Current		240VAC	Touch current		<0.5mA			
Safety Standard				UL61010-1 safety approved & EN62368-1, BS EN62368-1(Report) Design refer to IEC/UL62368-1, IEC/EN61010-1, GB4943.1, EN61558-1, EN62477-1, IEC60079-0, IEC60079-7, IEC60079-15, GB3836.1, NB/T31017, ANSI/ISA 71.04-2013				
Safety Class				CLASS I				
MTBF		MIL-HDBK-217F@25℃		>702,000h				
		MIL-HDBK-217F@40℃		>524,000h				
OVC				III				
Warranty		Ambient temperature: <40℃		5 years				

Note:

- ① Remove the screw at the mark when the product is subjected to withstand voltage test; ② The gas discharge tube built into the device effectively protects the power supply against damage by asymmetric disturbance variables (eg EN 61000-4-5). Each power supply continuous withstand voltage test will cause extremely high load to the power supply. Therefore, unnecessary loading or damage to the power supply due to excessive test voltage should be avoided. If necessary, disconnect the gas discharge tube built into the device to use a higher test voltage. After successful completion of the test, reconnect the gas discharge tube. Please refer to the "ASDT240-xyyyHF" series power supply application manual" for specific operation methods;
- * The power supply has two converters with two different switching frequencies, Intermittent operation mode will be entered in light load or no load.

Functional Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Remote control	Voltage between ON/OFF and SGND	Power on	0	--	0.8	VDC
		Power off	4	--	20	
DC OK Relay	Operation voltage	24V	--	21.6	--	V
		48V	--	43.2	--	
	Release voltage	24V	--	19.2	--	
		48V	--	38.4	--	
AC OK signal	Input voltage 85 - 305VAC		3	--	5	VDC
Current Sharing Accuracy	When multiple units are connected in parallel, the sub-modules shunt more than 50% of the rated load of a single power supply		--	±5	--	%
LED signal	Main output status indicator	Normal output	LED ON			
		200%Io > Load > 125%Io	Green light flashing			
		Power off (No AC power), under-voltage protection, remote off, short circuit/over-current protection, output voltage backflow	LED OFF			
RS485-A, RS485-B	Based on ModBus communication protocol		RS485 communication			
Note:1. *Please refer to SADT240-xyyyHF Series Power Supply Application Manual for related functions, LED signal, control logic and usage instructions.;						
2. *When multiple prototypes are working in uniform current, the output voltage deviation of each prototype working separately shall not exceed 100mV.						

Environmental Characteristics

Item	Operating Conditions	Standard
High and Low Temperature Working	+85℃, -40℃	GB2423.1, IEC60068-2-1
Sinusoidal Vibration	10 - 500Hz, 2g, three directions of X, Y, Z axis	GB2423.10, IEC60068-2-6
Salt Mist	+35℃, 5%NaCL, 48h	GB2423.17, IEC60068-2-11
Alternating Hot and Humid	+25℃, 95%RH - +60℃, 95%RH	GB2423.4, IEC60068-2-30
Low Temperature Storage	-40℃	GB2423.1, IEC60068-2-1
High Temperature Storage	+85℃	GB2423.2, IEC60068-2-2

Environmental Characteristics

Item	Operating Conditions	Standard
High Temperature Aging	+60℃	GB2423.2, IEC60068-2-2
Normal Temperature Aging	+25℃	GB2423.1, IEC60068-2-1
Temperature Shock	-40℃ to +85℃	GB2423.22, IEC60068-2-14
Temperature Cycle	-25℃ to +60℃	GB2423.22, IEC60068-2-14
Hot and Humid	+85℃, 85%RH	GB2423.50, IEC60068-2-67
High Temperature Elevation	+60℃, 54KPa	GB2423.26, IEC60068-2-41
Low Temperature Elevation	-25℃, 54KPa	GB2423.25, IEC60068-2-40
Constant Humid and Hot	+40℃, 95%RH	GB2423.3, IEC60068-2-78
Random Vibration	5 - 10Hz, ASD 0.3 - 10g ² /Hz, three directions of X, Y, Z axis	GB/T 4798.2-2008, IEC60721-3-2
Sinusoidal Vibration Response	10 - 150Hz, 1g, three directions of X, Y, Z axis	GB/T 11287-2000, IEC60255-21-1
Sinusoidal Vibration Endurance Test		
Sinusoidal Impulse Response	15g, pulse duration 11ms, three times in each direction of X, Y, Z axis	GB/T 114537-1993, IEC60255-21-2
Sinusoidal Impact Endurance Test		
Packaging Drop	1m, one corner, three edges and six sides	GB2423.8, IEC68-2-32

Mechanical Specifications

Case Material	Metal (AL5052, SUS304)
Dimensions	125.00mm × 130.00mm × 50.00mm
Weight	950g (Typ.)
Cooling Method	Free air convection

Electromagnetic Compatibility (EMC)

EMI	CE	General standard	CISPR32 EN55032 CLASS B	
		Industry/Light industry	IEC61000-6-3 AC port CLASS B, DC port CLASS A	
			IEC61000-6-4 AC port CLASS A	
		Classification society*	GD22-2015 10kHz - 30MHz, EMC1	
		Power station/Subsation	IEC61850-3 CLASS A	
		Railway	IEC62236-3-2 (EN50121-3-2) Output port CLASS A +20dB	
			IEC62236-4 (EN50121-4) Output port CLASS A +20dB	
			IEC62236-5 (EN50121-5) AC port CLASS A	
	RE	General standard	CISPR32 EN55032 CLASS B	
		Industry/Light industry	IEC61000-6-3 CLASS B	
			IEC61000-6-4 CLASS A	
		Classification society	GD22-2015 150KHz - 2GHz, EMC1	
		Power station/Subsation	IEC61850-3 CLASS A	
		Railway	IEC62236-3-2 (EN50121-3-2) CLASS B	
			IEC62236-4 (EN50121-4) CLASS B	
			IEC62236-5 (EN50121-5) CLASS B	
	Harmonic current	General standard	IEC/EN6100-3-2 Class A and Class D	
		Railway	IEC62236-3-2 (EN50121-3-2) 50Hz - 2KHz	
			IEC62236-4 (EN50121-4) 50Hz - 2KHz	
EMS	ESD	General Standard	IEC/EN 61000-4-2 Output port Contact ±8KV/Air ±15KV	perf. Criteria A
		Industry/Light industry	IEC61000-6-1 Contact ±4KV/Air ±8KV	perf. Criteria A
			IEC61000-6-2 Contact ±4KV/Air ±8KV	perf. Criteria A
		Wind power	NB/T 31017-2011 Contact ±6KV/Air ±8KV	perf. Criteria A
		Classification society	GD22-2015 Contact ±6KV/Air ±8KV	perf. Criteria A
		Power station/Subsation	IEC61850-3 Contact ±6KV/Air ±8KV	perf. Criteria A
			IEC61000-6-5 Contact ±6KV/Air ±8KV	perf. Criteria A

Electromagnetic Compatibility (EMC)

EMS	ESD	Railway	IEC62236-3-2 (EN50121-3-2) Contact $\pm 6\text{KV}/\text{Air } \pm 8\text{KV}$	perf. Criteria A
			IEC62236-4 (EN50121-4) Contact $\pm 6\text{KV}/\text{Air } \pm 8\text{KV}$	perf. Criteria A
			IEC62236-5 (EN50121-5) Contact $\pm 6\text{KV}/\text{Air } \pm 8\text{KV}$	perf. Criteria A
	RS	General standard	IEC/EN 61000-4-3 10V/m	perf. Criteria A
		Industry/Light industry	IEC61000-6-1 80M - 1GHz, 3V/m; 1.4G - 6GHz, 3V/m	perf. Criteria A
			IEC61000-6-2 80M - 1GHz, 10V/m; 1.4G - 2GHz, 3V/m; 2 - 2.7GHz, 1V/m	perf. Criteria A
		Wind power	NB/T 31017-2011 80M - 1GHz, 10V/m	perf. Criteria A
		Classification society	GD22-2015 80M - 2GHz, 10V/m	perf. Criteria A
		Power station/Substation	IEC61850-3 80M - 3GHz, 10V/m	perf. Criteria A
			IEC61000-6-5 80M - 1GHz, 10V/m; 1G - 2.7GHz, 3V/m; 2.7G - 6GHz, 1V/m	perf. Criteria A
		Railway	IEC62236-3-2 (EN50121-3-2) 80M - 1GHz, 20V/m; 1.4GHz - 2GHz, 10V/m; 2G - 2.7GHz, 5V/m; 2.7G - 6GHz, 3V/m	perf. Criteria A
			IEC62236-4 (EN50121-4) 80M - 800MHz, 10V/m; 800MHz - 1GHz, 20V/m; 1.4G - 2GHz, 10V/m; 2G - 2.7GHz, 5V/m; 5.1G - 6GHz, 3V/m	perf. Criteria A
			IEC62236-5 (EN50121-5) 80M - 800MHz, 10V/m; 800MHz - 1GHz, 20V/m; 1.4G - 2GHz, 10V/m; 2G - 2.7GHz, 5V/m; 5.1G - 6GHz, 3V/m	perf. Criteria A
	EFT	General standard	IEC/EN 61000-4-4 $\pm 4\text{KV}$	perf. Criteria A
		Industry/Light industry	IEC61000-6-1 DC input, output and signal control port: $\pm 0.5\text{KV}$, 5/100KHz, AC input and output port: $\pm 1\text{KV}$, 5/100KHz	perf. Criteria A
			IEC61000-6-2 DC input, output and signal control port: $\pm 0.5\text{KV}$, 5/100KHz, AC input and output port: $\pm 1\text{KV}$, 5/100KHz	perf. Criteria A
		Wind power	NB/T 31017-2011 Power source and PE: $\pm 4\text{KV}$, 5/100KHz, signal and control port: $\pm 2\text{KV}$, 5/100KHz (Capacitive coupling clamp)	perf. Criteria A
		Classification society	GD22-2015 $\pm 1\text{KV}$, 5KHz; $\pm 2\text{KV}$, 2.5KHz	perf. Criteria A
		Power station/Substation	IEC61850-3 AC, DC input output port, signal port, ground port: $\pm 2\text{KV}$	perf. Criteria A
			IEC61000-6-5 AC, DC input output port: $\pm 2\text{KV}$; signal port: cable < 3m: $\pm 2\text{KV}$, cable > 3m: $\pm 4\text{KV}$	perf. Criteria A
		Railway	IEC62236-3-2 (EN50121-3-2) Signal, control port: $\pm 2\text{KV}$, 5KHz (Capacitive coupling clamp), AC, DC input output port: $\pm 2\text{KV}$, 5KHz	perf. Criteria A
			IEC62236-4 (EN50121-4) Signal, control port: $\pm 2\text{KV}$, 5KHz	perf. Criteria A
			(Capacitive coupling clamp), AC, DC input output port: $\pm 2\text{KV}$, 5KHz, PE ground/shell: $\pm 1\text{KV}$, 5KHz	
			IEC62236-5 (EN50121-5) Signal, control port: $\pm 2\text{KV}$, 5KHz (Capacitive coupling clamp), AC, DC input output port: $\pm 4\text{KV}$, 5KHz, PE ground/shell: $\pm 1\text{KV}$, 5KHz	perf. Criteria A

Electromagnetic Compatibility (EMC)

EMS	Surge	General standard	IEC/EN 61000-4-5 AC input port: $\pm 4\text{KV}/\pm 6\text{KV}$	perf. Criteria A
		Industry/Light industry	IEC61000-6-1 DC input and output port: $\pm 0.5\text{KV}/\pm 1\text{KV}$, AC input and output port: $\pm 1\text{KV}/\pm 2\text{KV}$, signal and control port: $\pm 1\text{KV}$ common mode	perf. Criteria A
			IEC61000-6-2 DC input and output port: $\pm 0.5\text{KV}/\pm 0.5\text{KV}$, AC input and output port: $\pm 1\text{KV}/\pm 2\text{KV}$, signal and control port: $\pm 1\text{KV}$ common mode	perf. Criteria A
		Wind power	NB/T 31017-2011 AC, DC power source port: $\pm 1\text{KV}/\pm 2\text{KV}$	perf. Criteria A
		Classification society	GD22-2015 AC, DC power source port: $\pm 0.5\text{KV}/\pm 1\text{KV}$	perf. Criteria A
		Power station/Substation	IEC61850-3 AC, DC power source, signal port: $\pm 1\text{KV}/\pm 2\text{KV}$ power carrier communication port: $\pm 2\text{kV}/4\text{kV}$	perf. Criteria A
			IEC61000-6-5 Signal, control port: $\pm 1\text{KV}$ common mode (If the cable $< 10\text{m}$, no test is required), DC input and output port: $\pm 1\text{KV}/\pm 2\text{KV}$, AC input and output port: $\pm 2\text{KV}/4\text{KV}$	perf. Criteria A
		Railway	IEC62236-3-2 (EN50121-3-2) Battery port, AC input port: $\pm 1\text{KV}/\pm 2\text{KV}$ (42Ω output impedance)	perf. Criteria A
			IEC62236-4 (EN50121-4) DC power source, signal, control port: $\pm 1\text{KV}/\pm 2\text{KV}$ (42Ω output impedance), AC power source port: $\pm 1\text{KV}/\pm 2\text{KV}$	perf. Criteria A
			IEC62236-5 (EN50121-5) DC input and output, signal, control port: $\pm 1\text{KV}/\pm 2\text{KV}$, AC input and output port: $\pm 2\text{KV}/4\text{KV}$	perf. Criteria A
	CS	General standard	IEC/EN61000-4-6 10Vr.m.s	perf. Criteria A
		Industry/Light industry	IEC61000-6-1 AC input and output, signal, control port: 0.15M - 80MHz, 3V	perf. Criteria A
			IEC61000-6-2 AC input and output, signal, control port: 0.15M - 80MHz, 10Vr.m.s	perf. Criteria A
		Wind power	NB/T 31017-2011 0.15M - 80MHz, 10Vr.m.s	perf. Criteria A
		Classification society	GD22-2015 0.15M - 80MHz, 10Vr.m.s, Low frequency conduction immunity: AC input port, harmonic < 15 times 10%Un, harmonic = 15 - 100 times, from 10%Un to 1%Un, harmonic = 100 - 200 times, 1%Un; DC input port, 10%Un, 50 - 10kHz, apply power $\leq 2\text{W}$ (The applied voltage can be reduced)	perf. Criteria A
		Power station/Substation	IEC61850-3 AC, DC input, output, signal, control port, PE port: 0.15M - 80MHz, 10Vr.m.s	perf. Criteria A
			IEC61000-6-5 AC, DC input, output, signal, control port: 0.15M - 80MHz, 10Vr.m.s	perf. Criteria A
		Railway	IEC62236-3-2 (EN50121-3-2) AC/Battery input, signal, control port: 0.15M - 80MHz, 10Vr.m.s	perf. Criteria A
			IEC62236-4 (EN50121-4) AC, DC input, output, signal, control port: 0.15M - 80MHz, 10Vr.m.s	perf. Criteria A
			IEC62236-5 (EN50121-5) AC, DC input, output, signal, control port, PE port: 0.15M - 80MHz, 10Vr.m.s	perf. Criteria A

Electromagnetic Compatibility (EMC)

EMS	Voltage dips, short interruptions and voltage variations immunity	General standard	IEC/EN61000-4-11 0%, 70%		perf. Criteria B
		Industry/Light industry	IEC61000-6-1 0%, 0.5/1 period, 70%, 25/30 period @50/60Hz, 0%, 250/300 period @50/60Hz		perf. Criteria B and C
			IEC61000-6-2 0%,1 period, 0%, 250/300 period @50/60Hz, 40%, 10/12 period @50/60Hz		perf. Criteria B and C
		Power station/Subsation	IEC61850-3 AC input and output port: 100%, 5/50 period, DC input and output port: 100%, 0.05s		perf. Criteria B
			IEC61000-6-5 AC input and output port: 70%, 1 period, 40%, 50 period, 0%, 5 period, 0%, 50 period		perf. Criteria B
	Power frequency magnetic field	General standard	IEC/EN61000-4-8 100A/mcontinuous, 1KA/m 1s		perf. Criteria A
		Industry/Light industry	IEC61000-6-1 50/60Hz, 30A/m		perf. Criteria A
			IEC61000-6-2 50/60Hz, 30A/m		perf. Criteria A
		Power station/Subsation	IEC61850-3 100A/mcontinuous, 1KA/m 1s		perf. Criteria A
			IEC61000-6-5 100A/mcontinuous, 1KA/m 1s		perf. Criteria A
		Railway	IEC62236-4 (EN50121-4) 50Hz, 100A/m, DC 300A/m		perf. Criteria A
			IEC62236-5 (EN50121-5) 50Hz, 100A/m, DC 300A/m		perf. Criteria A
		Intercom interference test			MS-SOP-DQC-007

Note: 1. *perf. Criteria:
A: The equipment shall continue to operate as intended without operator intervention;
B: After the test, the equipment shall continue to operate as intended without operator intervention;
C: Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions;

Product Characteristic Curves

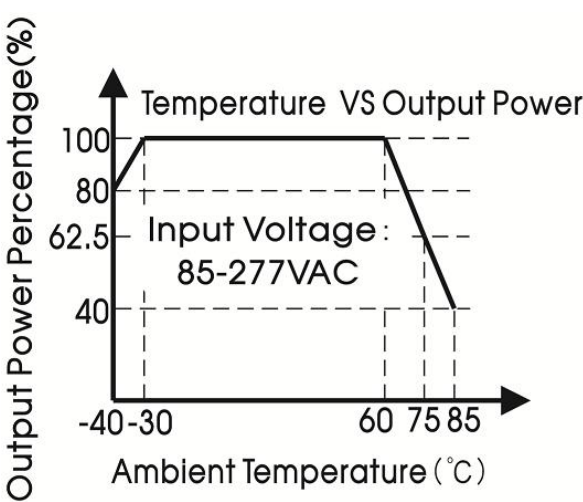


Figure 1

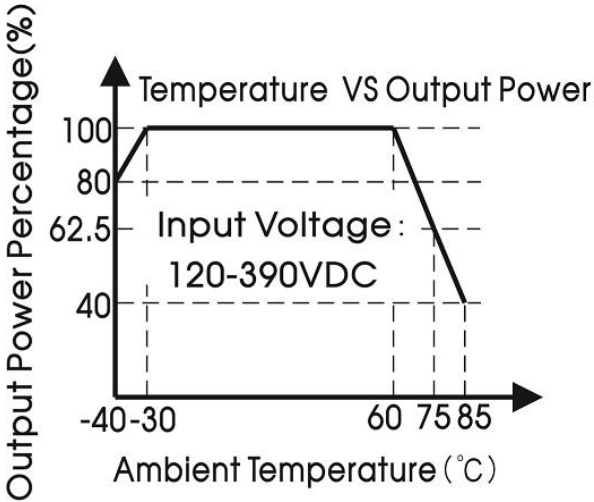


Figure 2

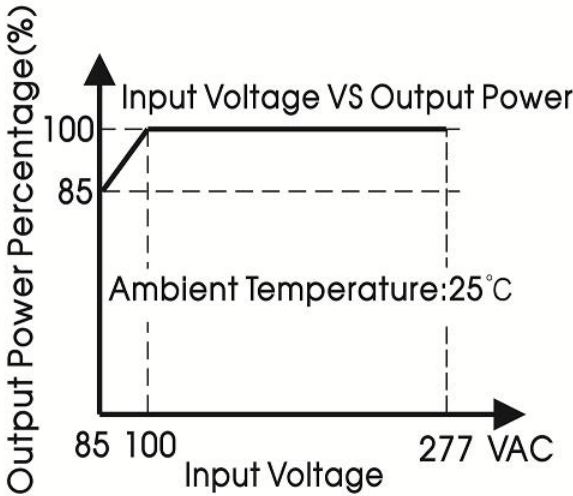


Figure 3

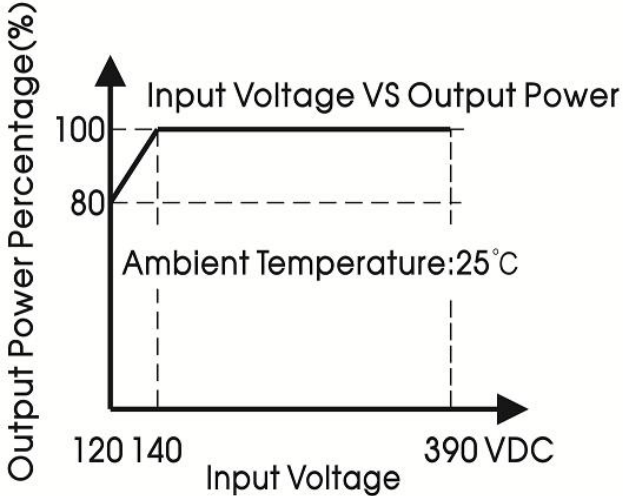


Figure 4

Over-current/ Short circuit protection curve

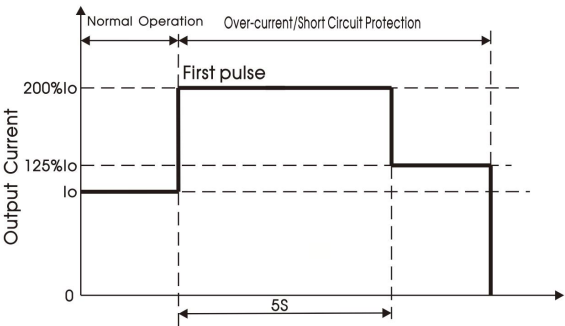


Figure 5

Transient peak current curve (Typ.)

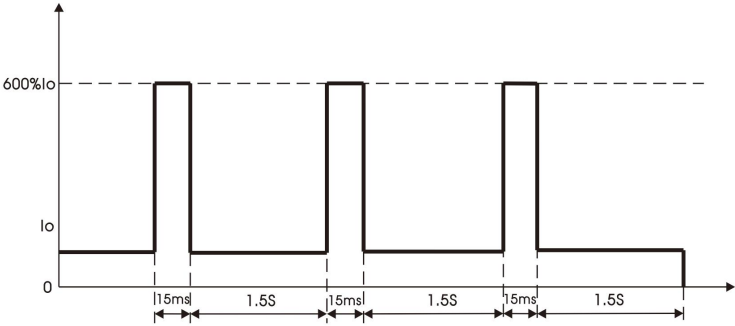


Figure 6

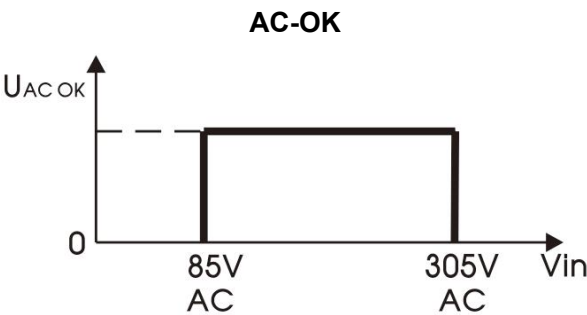


Figure 7

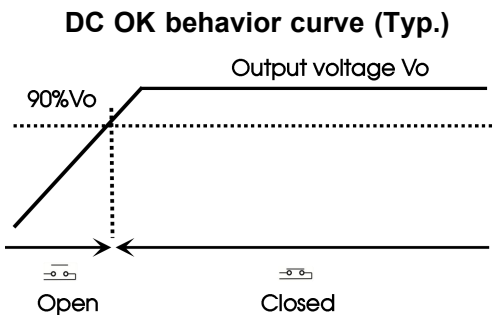


Figure 8

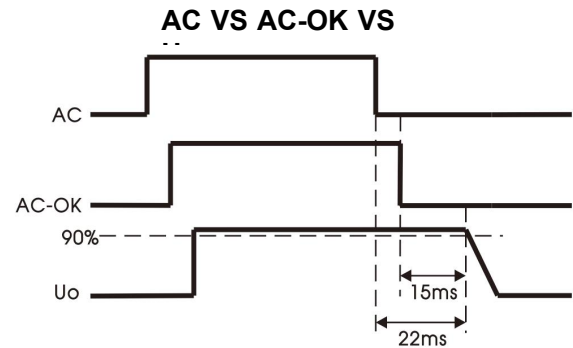


Figure 9

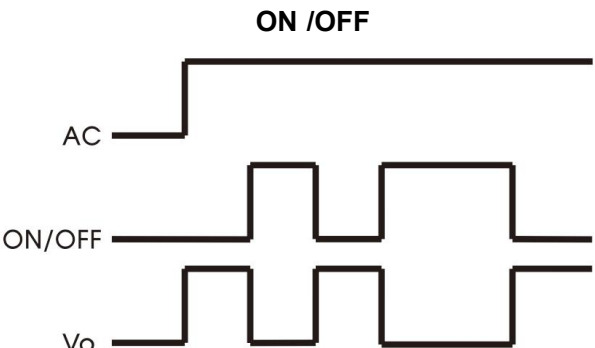


Figure 10

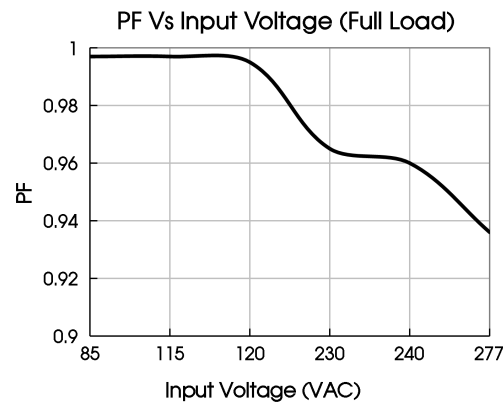


Figure 11

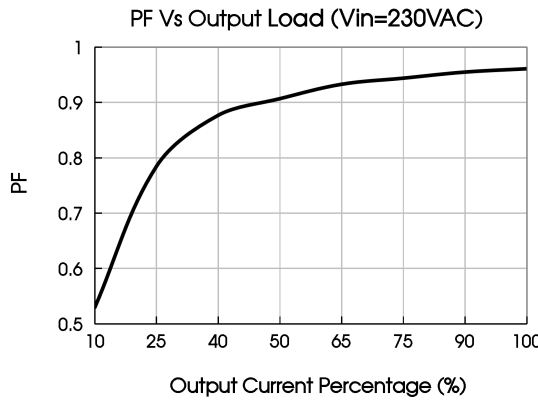


Figure 12

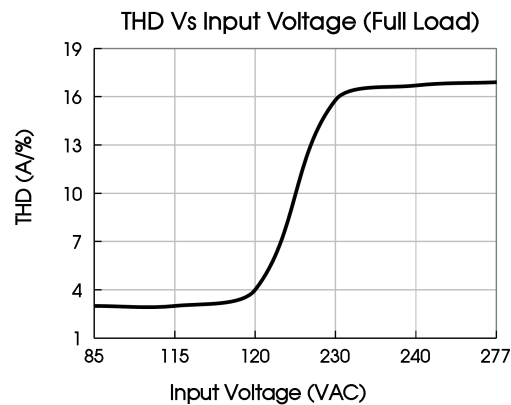


Figure 13

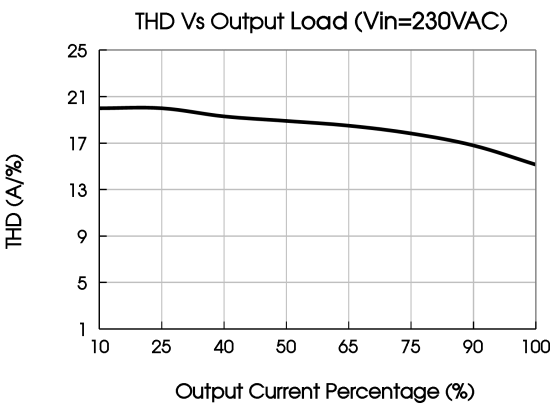


Figure 14

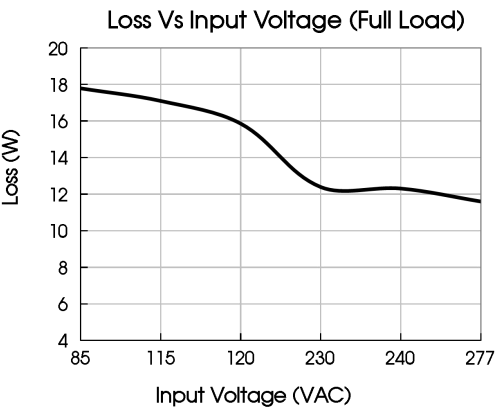


Figure 15

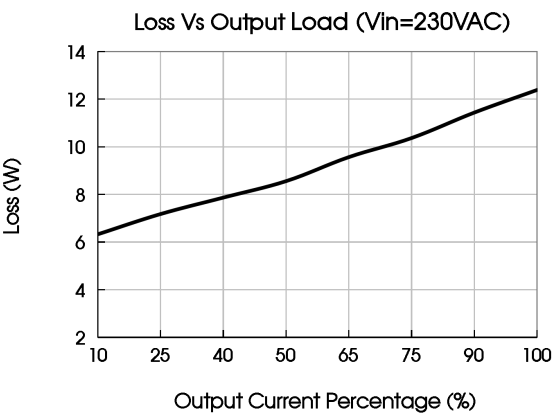


Figure 16

Note:1. All curves are for 24V output, measured at input 230VAC, 50Hz, output I_o , ambient temperature 25°C, unless otherwise stated;
2. With an AC input voltage between 85-100VAC and a DC input between 120 - 140VDC the output power must be derated as per the temperature derating curves;
3. FIG. 1, 2, 4 and 5 are carried out under the condition of 25 CFM at a high temperature of 75 ~ 85°C;
4. This product is suitable for applications using natural air cooling, for applications in closed environment please consult Mornsun FAE.

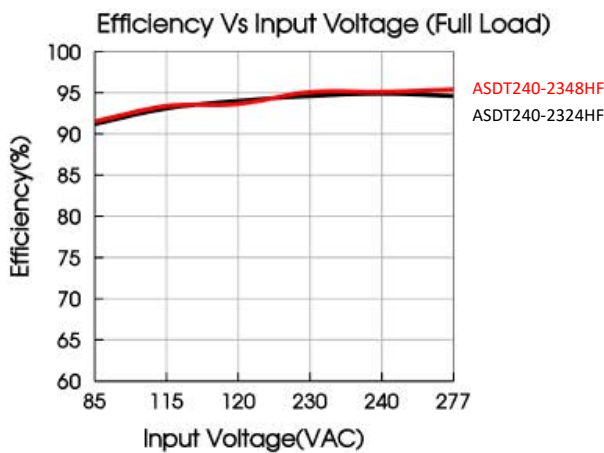


Figure 17

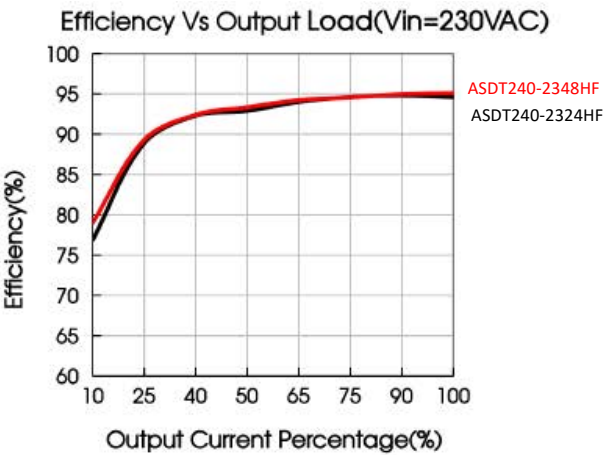
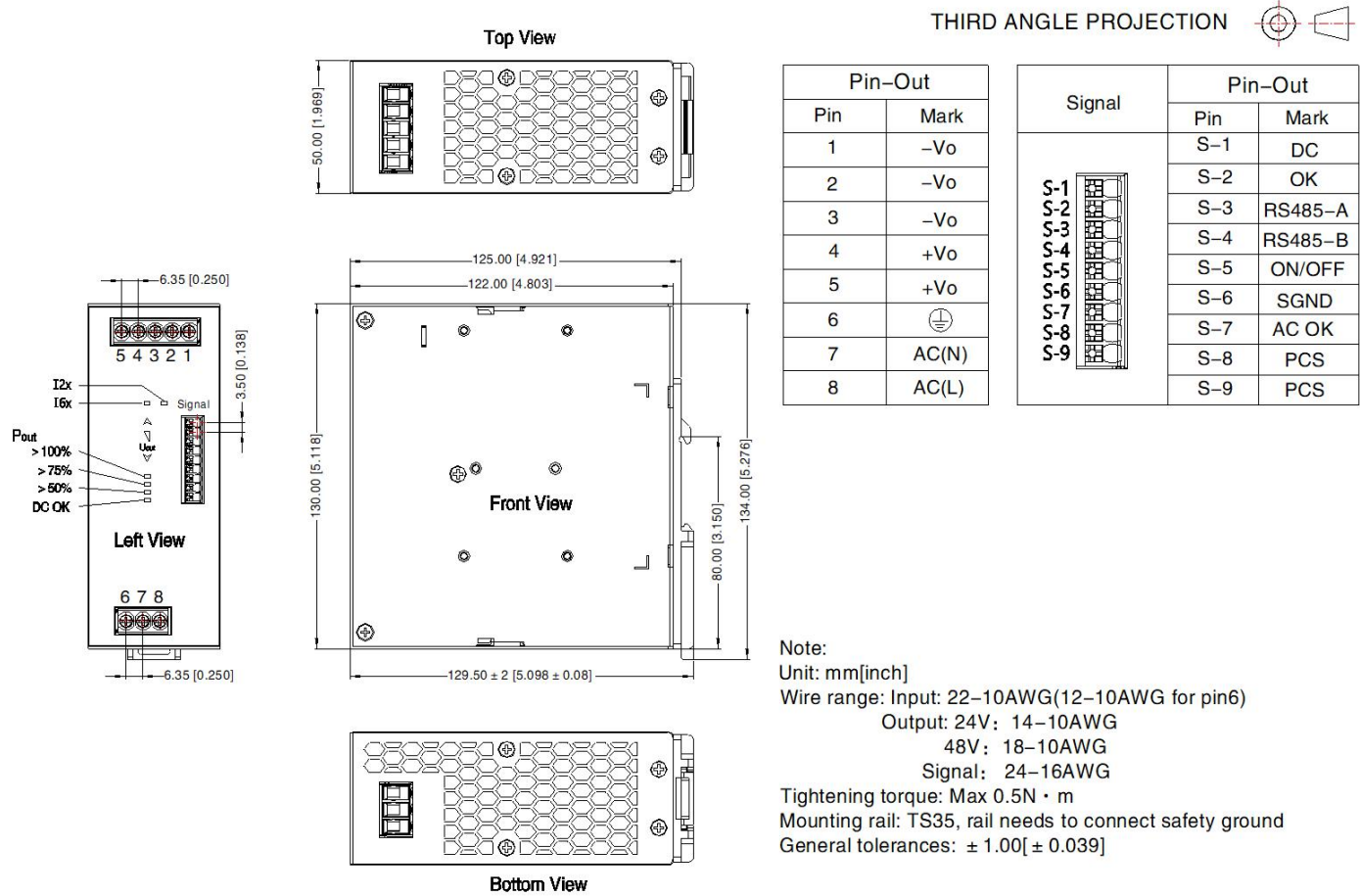


Figure 18

Dimensions and Recommended Layout



- Note:
1. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25°C, humidity <75% RH with nominal input voltage and rated output load;
 2. The room temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m;
 3. All index testing methods in this datasheet are based on our company corporate standards;
 4. In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability;
 5. We can provide product customization service, please contact our technicians directly for specific information;
 6. Products are related to laws and regulations: see "Features" and "EMC";
 7. The out case needs to be connected to PE () of system when the terminal equipment in operating;
 8. Key to adjust, △ key for voltage increase, ▽ key for voltage decrease;