

- Universal 85 - 264VAC or 120 - 370 VDC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -40°C to +70°C
- High efficiency up to 94%, high reliability
- DC OK function
- Active PFC
- 150% peak load output for 3 seconds
- DC ON output status indicator LED
- Output short circuit, over-current, over-voltage, over-temperature protection
- Operating altitude up to 5000m
- OVC II
- Indoor use
- Safety according to IEC/UL/BS EN 62368

ASDT120-10XXIF



RoHS

3-Year Warranty

Description

ASDT120-10XXIF series offer a high level of stability and immunity to noise, compliant with international IEC62368 standards for EMC and safety specifications meet IEC/EN/UL/BS EN 62368, UL61010. These light weight AC-DC converters also have an extremely compact design for space saving and are ideal for applications such as industrial control equipment, machinery, and all kinds of applications in a harsh environments.

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)
/	ASDT120-1012IF	120	12V/ 10A	11.8-14.0	93.5	80,000
	ASDT120-1024IF		24V/5A	23.5-28.0	94	50,000
	ASDT120-1048IF		48V/2.5A	47.0-53.0		30,000
	ASDT120-1055IF	121	55V/2.2A	52.0-56.0		

Input Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Voltage Range	Rated input (Certified voltage)		100	--	240	VAC
	AC input		85	--	264	
	DC input		120	--	370	VDC
Input Frequency	Rated AC input		50	--	60	Hz
	AC input		47	--	63	
Input Current	Rated Input		--	--	1.5	A
	115VAC		--	--	1.5	
	230VAC		--	--	0.75	
Inrush Current	115VAC	Cold start	--	15	--	
	230VAC		--	30	--	
Leakage Current	240VAC		<1mA			
Power Factor	115VAC		--	0.98	--	--
	230VAC		--	0.94	--	
Start-up Delay Time	230VAC		--	300	1000	ms
Hot Plug			Unavailable			

Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Full load range		--	±1	--	%
Line Regulation	Rated load		--	±0.5	--	
Load Regulation	0% - 100% load		--	±1	--	
Ripple & Noise*	20MHz bandwidth (peak-peak value)	12V/24V	--	--	100	mV
		48V/55V	--	--	200	
Stand-by Power Consumption			--	2	--	W
Hold-up Time			--	20	--	ms
DC OK Signal	Resistive load		30VDC/ 1A Max.			
Short Circuit Protection	Recovery time < 10s after the short circuit disappear.		Hiccup mode, constant current works 1s, turn off 10s, continuous, self-recovery			
Over-current Protection	230VAC, rated load	Normal temperature, high temperature	105% - 200% Io, self-recovery			
		Low temperature	≥105% full load after derating, self-recovery			
Over-voltage Protection	12V		≤18V (Hiccup, self-recovery after the abnormality is removed)			
	24V		≤35V (Hiccup, self-recovery after the abnormality is removed)			
	48V		≤60V (Hiccup, self-recovery after the abnormality is removed)			
	55V		≤63V (Hiccup, self-recovery after the abnormality is removed)			
Over-temperature Protection	230VAC, 70% load	Over-temperature protection start	--	90	--	℃
		Over-temperature protection release	60	--	--	

Note: 1.*The "Tip and barrel method " is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0. 1uF ceramic capacitor;
2.*DC OK Signal: When the output voltage is normal, the relay is connected. When the output voltage is abnormal (<90%Vo), the relay is disconnected.

General Specifications

Item		Operating Conditions		Min.	Typ.	Max.	Unit
Isolation Test	Input -	Electric strength test for 1min., leakage current <15mA		1500	--	--	VAC
	Input - output			3000	--	--	
	Output -			500	--	--	
Insulation Resistance	Input -	At 500VDC		50	--	--	M Ω
	Input - output			50	--	--	
	Output -			50	--	--	
Operating Temperature				-40	--	+70	℃
Storage Temperature				-40	--	+85	
Operating Humidity		Non-condensing		--	--	95	%RH
Storage Humidity				20	--	95	
Switching Frequency				--	100	--	KHz
Power Derating	Operating temperature derating	-40℃ to -25℃		3.34	--	--	% /℃
		+55℃ to +70℃	85VAC-164VAC	2.0	--	--	
		+60℃ to +70℃	165VAC-264VAC	3.0	--	--	
	Input voltage derating		85VAC-100VAC	0.67	--	--	%/VAC
Safety Standards		12V/24V/48V		EN62368-1 (Report) Design refer to IEC/UL/BS EN 62368-1, UL61010-1, UL61010-2-201			
		55V		Design refer to IEC/EN/UL/BS EN 62368-1, UL61010-1, UL61010-2-201			
Safety Class				CLASS I			
MTBF		MIL-HDBK-217F@25℃		> 300,000 h			

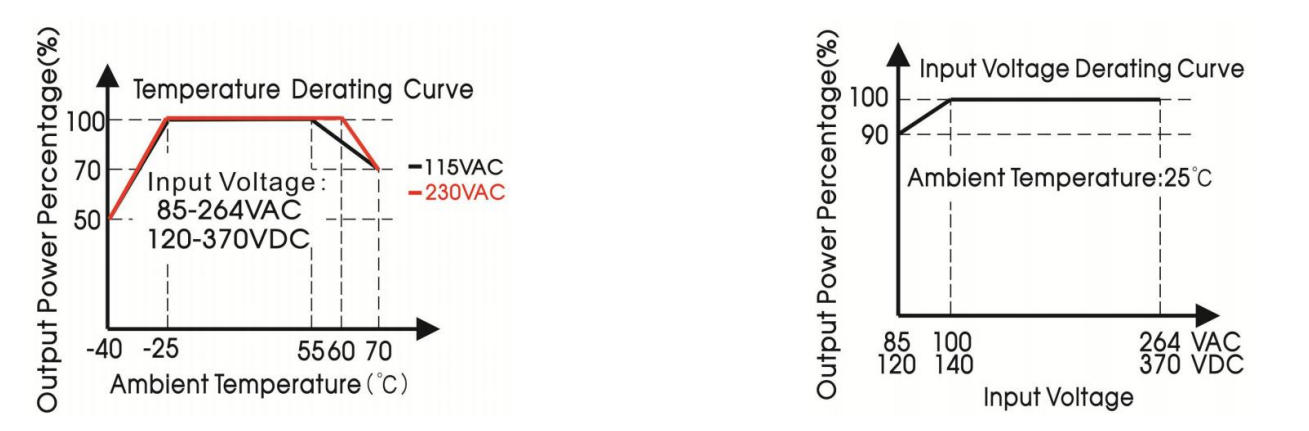
General Specifications

Case Material	Metal (AL5052, SPCC, SGCC)
Dimensions	110.00 x 32.00 x 124.00 mm
Weight	490g±10% (Typ.)
Cooling Method	Free air convection

Electromagnetic Compatibility (EMC)

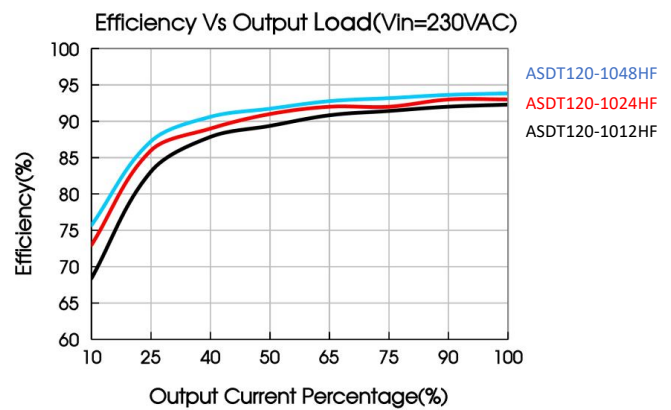
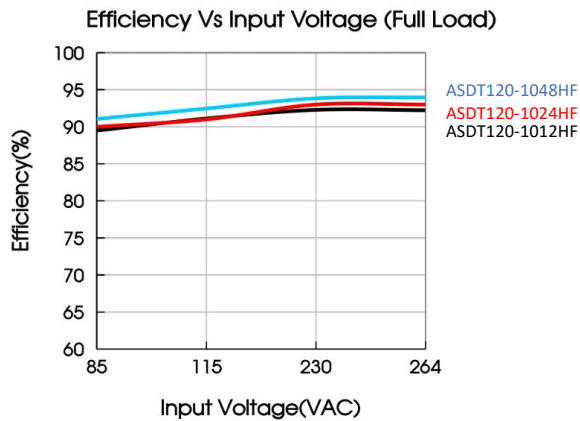
EMI	CE	CISPR32/EN55032 CLASS B		
	RE	CISPR32/EN55032 CLASS B		
	Harmonic current	IEC/EN61000-3-2 CLASS A and CLASS D		
EMS	ESD	IEC/EN 61000-4-2	Contact ±6KV/Air ±8KV	perf. Criteria A
	RS	IEC/EN 61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN 61000-4-4	±4KV	perf. Criteria A
	Surge	IEC/EN 61000-4-5	line to line ±2KV/line to ground ±4KV	perf. Criteria A
	CS	IEC/EN61000-4-6	10 Vr.m.s	perf. Criteria A
	Voltage dips, short interruptions and voltage variations immunity	IEC/EN61000-4-11	0%, 70%	perf. Criteria B

Product Characteristic Curves

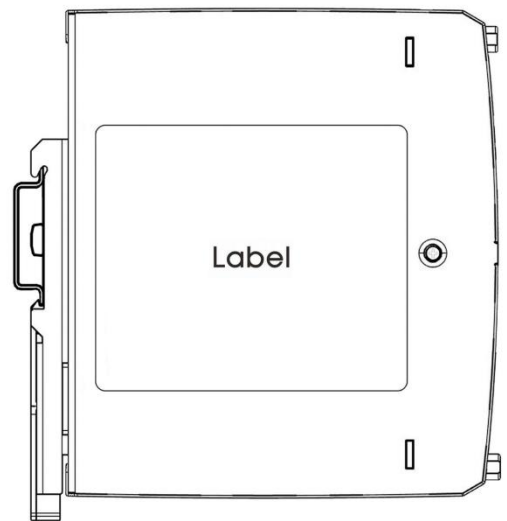
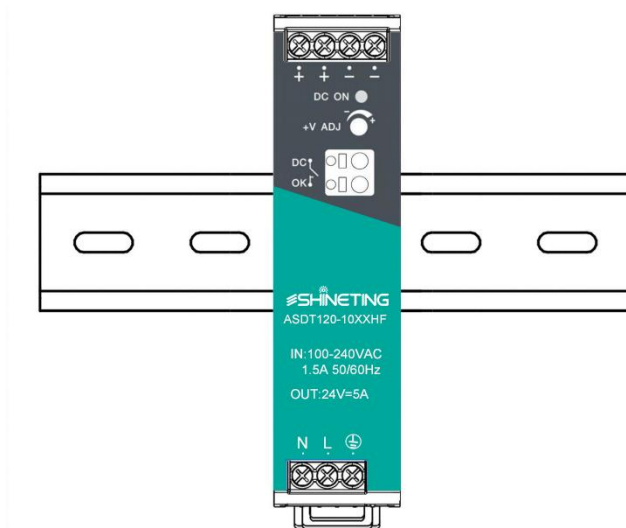


Note: 1. With an AC input voltage between 85 -100VAC and a DC input between 120-140VDC the output power must be derated as per the temperature derating curves;

Product Characteristic Curves

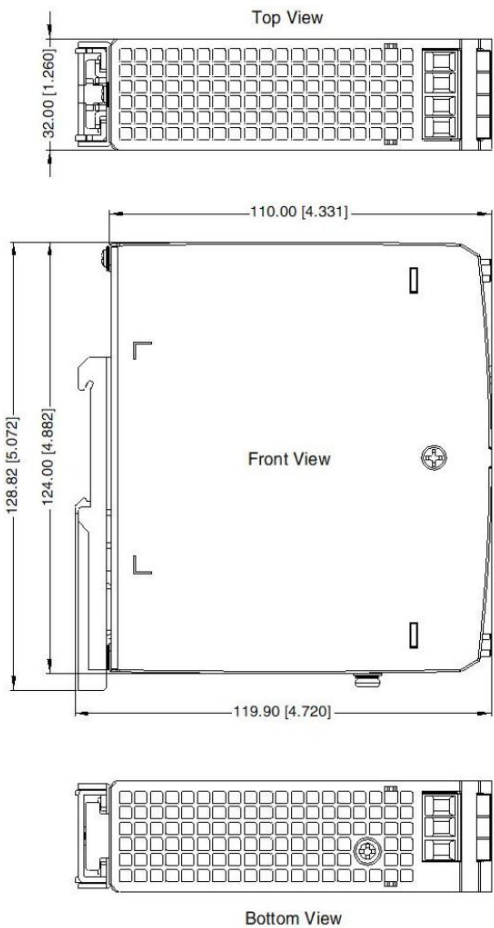


Installation Diagram



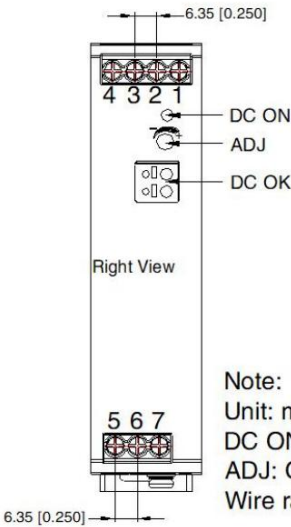
Note: Keep the following installation clearances: 20mm on top, 20mm on the bottom, 5mm on the left and right sides are recommended when the device is loaded permanently with more than 50% of the rated power. Increase this clearance to 15mm in case the adjacent device is a heat source (e.g. another power supply).

Dimensions and Recommended Layout



THIRD ANGLE PROJECTION

Pin-Out	
Pin	Function
1	-Vo
2	-Vo
3	+Vo
4	+Vo
5	AC(N)
6	AC(L)
7	⏏



Note:
Unit: mm[inch]
DC ON: Output status indicator LED
ADJ: Output adjustable resistor
Wire range: Input: 26-10AWG(12-10AWG for pin7)
Output: 12V: 16-10AWG
24V: 20-10AWG
48V、55V: 22-10AWG
DC OK: 24-16AWG
Tightening torque: 0.79 ± 0.079 N·m
Mounting rail: TS35, rail needs to connect safety ground
General tolerances: ± 1.00[± 0.039]



WARNING Risk of electrical shock, fire, personal injury or death:
AVERTISSEMENT Avertissement Risque de choc électrique, d'incendie, de blessures corporelles ou de décès :

- Do not use the power supply without proper grounding (Protective Earth). Use the terminal on the input block for earth connection and not one of the screws on the housing;
N'utilisez pas l'alimentation électrique sans mise à la terre appropriée (Terre protectrice). Utilisez le terminal sur le bloc d'entrée pour la connexion terrestre et non pas une des vis sur le boîtier;
- Turn power off before working on the device, protect against inadvertent re-powering;
Éteignez l'alimentation avant de travailler sur l'appareil, protégez-vous contre la réénergisation accidentelle;
- Make sure that the wiring is correct by following all local and national codes;
Assurez-vous que le câblage est correct en suivant tous les codes locaux et nationaux;
- Do not modify or repair the unit;
Ne modifiez pas ou ne réparez pas l'appareil;
- Do not open the unit as high voltages are present inside;
Ne modifiez pas ou ne réparez pas l'appareil;
- Use caution to prevent any foreign objects from entering the housing;
Faire preuve de prudence pour empêcher les objets étrangers d'entrer dans le logement;
- Do not use in wet locations or in areas where moisture or condensation can be expected;
Faire preuve de prudence pour empêcher les objets étrangers d'entrer dans le logement;
- Do not touch during power-on, and immediately after power-off, hot surfaces may cause burns;
Ne touchez pas pendant l'alimentation et, immédiatement après l'alimentation, les surfaces chaudes peuvent causer des brûlures.
- For ambient temperature ≤60℃, use ≥90℃ - copper wire only; for ambient temperature >60℃ to 85℃, use ≥105℃ - copper wire only; use only wires with a minimum dielectric strength of 300V (input) and 60V (output);
Température ambiante ≤60℃, utiliser ≥90℃ - seulement fils de cuivre; Température ambiante >60℃ et 85℃, utiliser ≥105℃ - seulement fils de cuivre; Uniquement pour l'utilisation de fils de cuivre d'une résistance d'isolation minimale de 300V (d'entrée) et 60V (de sortie).



Note:

1. Unless otherwise specified, parameters in this datasheet were measured under the conditions of $T_a=25^{\circ}\text{C}$, humidity<90% RH with nominal input voltage and rated output load;
2. The room temperature derating of $5^{\circ}\text{C}/1000\text{m}$ 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 the earth () of system when the terminal equipment in operating, see "Dimensions and Recommended Layout" ;
8. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
9. The output voltage can be adjusted by the output adjustable resistance ADJ, turn it up clockwise;
10. The units are Open Type Power Supplies, which need to be mounted in a fire, mechanically and electrically safe enclosure;
11. If the equipment is used in a manner not specified by manufacture, the protection provided by the equipment may be impaired.