



±12V DC Input Industrial PC ATX Switching Mode Power Supply

Series	Model No.	Output Watts	Input Voltage	Input range	Polarity protection
12	STC-12550	550 W continuous	±12V DC	±9V ~ ±18V DC	Fuse Protected
	STC-12460	460 W continuous			Fuse Protected
	STC-12400	400 W continuous			Fuse Protected
	STC-12320	320 W continuous			Protected (Max.50V DC)

* H version (Black color chassis)

ENVIRONMENTAL CONDITIONS:

- Cooling: Forced Air-cooling, 80x80x25 mm Fan x 1 pc
- Fan type: DC type, 2 x Ball Bearing, 4000 rpm, with Fan Control Card
- Fan Noise Level: 40 dBA (DELTA fan brand Official Data at 4000 rpm, 46.62 CFM) @ Full Load
- Fan Noise Level tested: 58 dBA @ Distance 1m (DELTA brand 4000 rpm, 46.62 CFM) @ Full Load / **STC-12400 & STC-12460**
- Fan Noise Level tested: 75 dBA @ Distance 1m (SUNON brand 6200 rpm, 65.9-74 CFM) @ Full Load / **STC-12550**
The fan control PCB is optional
- Fan brand: DELTA, NMB, SUNON, SUNON IP68 (for H version) with the same specification
- Operating Temp.: 0°C~+50°C Full Load
- Operating Temp.: -20°C~+60°C Full Load / **H version**
- Operating Humidity: 20%~85% RH Non condensing
- Operating Humidity: 90% RH Non condensing / **H version**
- Output power: 100% @ +50°C, 70% @ +60°C, 50% @ +70°C
- Output power: 100% @ +60°C, 70% @ +65°C, 50% @ +70°C / **H version**
- Storage Temperature: -20°C~+80°C
- Storage Humidity: 10%~90% RH. (Non condensing)
- Operating Altitude: 10M Below Sea level to 3000M Above Sea level

DC INPUT CHARACTERISTICS:

- Input connector type 85A/600V 2-Pins M5 Nickel Plated Terminal (HD-151-02P-C) with cover / **STC-12400, STC-12460, STC-12550**
- Input connector type 30A/300V UL Approved Gold plated brass 1.2t/ 3-Pin Terminal / **STC-12320**
- Input Current 40A/79A(**550W**) 33.2A/66.4A(**460W**) 28.9A/57.7A(**400W**) 23.8A/48.1A(**320W**)
@Full Load High & Low Line
- Inrush Current Less than 90A Cold start @25°C ambient

DC OUTPUT CHARACTERISTICS:

Output Voltage	Regulation			Output Current								Ripple & Noise
	Load	Line	Cross	550W		460W		400W		320W		
				Min.	Max	Min.	Max	Min.	Max.	Min..	Max.	
+5V	±5%	±1%	±5%	1A	30A	1A	30A	1A	30A	0A	30A	50mV
+12V				1A	41A	1A	35A	1A	30A	0A	25A	120mV
+3.3V				0A	22A	0A	22A	0A	22A	0A	15A	50mV
-5V										0A	1A	50mV
-12V	±8%			0A	0.3A	0A	0.3A	0A	0.3A	0A	0.3A	120mV
+5VSB	±5%			0A	2.5A	0A	2.5A	0A	2.5A	0A	3A	50mV
+5VSB OVP on board				Yes		Yes		Yes				
Maximum continuous combined load on +3.3 V & +5V DC output shall not exceed				150		150		150		175		Watts
Maximum continuous combine load on +3.3V & +5V * +12V DC should not exceed				520		430		370		290		
Maximum continuous total DC output power shall not exceed				550		460		400		320		

OVERALL PERFORMANCE:

- ▶ Efficiency: 65% typical @12V DC Full Load @50°C / **STC-12320**
- ▶ Efficiency: 70% typical @12V DC Full Load @50°C / **STC-12400, STC-12460**
- ▶ Efficiency: 50% typical @12V DC Full Load @50°C / **STC-12550**
- ▶ Efficiency: 68% typical @14V DC Full Load @50°C / **STC-12550**
- ▶ Hold up time: The output voltage stays regulated for at least 16ms with 100% load after loss of DC input
- ▶ Rise time: The output voltage rise from 10% to 90% with full load shall be in 20ms maximum
- ▶ Power Good Signal: TTL Compatible signal, on delay 100~500ms, off delay 1ms min.
- ▶ Short Circuit Protection (SCP): All output equipped with SCP (shutdown and latch off protection)
- ▶ Over Power Protection (OPP): Peak power protected to 130%±10% of continuous rated power (shutdown and latch off)
- ▶ Over Voltage Protection (OVP): +3.3V @ 4.5V & +5V @ 6V and +12V DC @ 15.6V DC

*** All the power supply tested must be 4AWG 1M in length from the input power sources**

RELIABILITY:

- ▶ MTBF: >90,000 hours @max. Load, 12V DC & 25°C ambient
- ▶ Safety Standards: Meet IEC60950-1, EN60950-1
- ▶ Safety Approved:
- ▶ EMI Compatibility (EMC): EN55032:2015/AC:2016, CISPR32:2015, EN61000-3-2:2014, EN61000-3-3:2013, EN55024:2010 +A1:2015

ISOLATION:

- ▶ INPUT and OUTPUT are isolated by transformers and optical couplers
- ▶ Dielectric Withstand: INPUT to OUTPUT: 500V DC for 60 seconds
- ▶ Dielectric Withstand: INPUT to FRAME GROUND: 500V DC for 60 seconds
- ▶ Leakage Current: <0.005µA @12V DC

Output Device Connector Specific:

- ▶ ATX 24 pin x 1 Molex 29-01-2240 or equivalent
- ▶ HDD, DVD 4 pin x 2 Molex 8981-04P or equivalent
- ▶ FDD 4 pin x 1 AMP 171822-4 or equivalent
- ▶ Serial ATA x 4 Molex 675820000 or equivalent
- ▶ CPU EPS 8(4+4) pin x 2 Molex 39-01-2080 or equivalent
- ▶ PCIe (6+2) x 1

Standard Output Cable Length:

550 mm / 21.65 Inches

PCB specific:

▶ 2 Layer	STC-12320
▶ 4 Layer	STC-12400, STC-12460, STC-12550
▶ Copper:	3 Oz each layer
▶ Thickness:	1.6 mm
▶ Material:	FR4
▶ PCB material origin:	Taiwan

Power Chassis Dimension:

140(L) x 150(W) x 86(H) mm / 5.51(L) x 5.9(W) x 3.38(H) Inches

Net Weight:

2 kg / 4.4 lbs / STC-12320

2.3 kg / 5.07 lbs / STC-12400, STC-12460, STC-12550

Gross Weight:

2.5 kg / 5.51 lbs / STC-12320

2.8 kg / 6.17 lbs / STC-12400, STC-12460, STC-12550

Packing Detail:

8 pcs

Measurement of Carton:

0.054 m³ / 1.92 Cuft

Temperature Derivative curve for STC-12400H, STC-12460H:

PSII-140mm STC-12400H
STC-12460H

Operating Load Power (%)

