SDY600T1 Series 600 Watts

Single Output, Active PFC, RoHS Compliant Switchmode Open Frame Power Supply

Features:

- Universal Input 100 – 240 VAC
- Power Factor Corrected to EN61000-3-2 Class D
- Optional N+1 Active Current Sharing
- 12 VDC – 60 VDC Output
- Over-Current Protection
- Over-Voltage Protection
- 4 Mechanical Options
- RoHS Compliant

Input Voltage: 90-264 VAC, 47~63Hz.

Inrush Current: 70A Max @ 230VAC with full load cold start.

PFC: Active Power Factor Correction meets EN61000-3-2 class D. 0.98 @ 230VAC, Full Load.

Transient Response: Returns to within 1% in less than 2.5mS for a 50% load change and the peak transient does not excess 5%.

Overshoot: Turn-on & off overshoot < 5% over nominal voltage.

Efficiency: 70 – 85% Typical

Turn On Delay: 1.5 second maximum at 230 VAC.

Hold Up Time: 20mS min. at 80% of full load.

Adjustability: Output user adjustable +/-5% minimum.

Remote On-Off: Designated as **RSW** on CN3, requires a low signal to inhibit output.

Remote Sense: Designated as **RS+** and **RS-** on CN3, voltage compensates for up to 0.5V line drop (not for current share model).

LED display: Bi-color **LED1** emit Green for Power On; And emit Orange when protection is enable or RSW is applied a low signal.

Power Good: Designated as **PG** on the CN3 and TTL high 100-500mS after regulation. It goes low at least 1mS before loss of regulation for Power on Reset signal.

Current Sharing: Designated as **CSH** on the CN3, optional single wired for forced current sharing function and parallel up to 4 units within 10% accuracy at full load.

Current Monitor: Designated as **CMN** on the CN3 is a 0.5V to 3VDC output voltage to represent 0% to 100% output current.

Input Fusing Protection: a T10A/250V fuse is inserted in primary.

Input Voltage Protection: Power shut down under 80 +/-5Vac, and recovered over 86Vac.

Short Circuit Protection: Trip without damage and auto-recovery.

Over-Power Protection: Fold back mode 110-140% and auto-recovery.

Over Voltage Protection: Unit latching down when output exceed 130% and recycle AC input to reset.

Over-Temperature Protection: Unit protected of excessive operating ambient 85°C, and automatic recovery.

Operating Temperature: 0 to 70°C ambient, de-rating at 2.5% per degree from 50°C to 70°C.

Storage Temperature: -20 to 85°C.

Operating Humidity: 5% to 90% RH, Non-condensing.

Storage Humidity: 5% to 95% RH, Non-condensing.

Vibration: 5 ~ 50 Hz, acceleration 7.35 m/s*s on X,Y and Z Axis.

Emissions: FCC Part 15, CISPR 22 class B, Conducted.

Safety Regulation: Approved to UL60950-1, CSA C22.2 No. 60950-1- 03, TUV EN60950-1, CE Mark (LVD) EN61000-3-2,3 & IEC61000-4 Series Regulations and CB.

Leakage Current: 3.5mA max. @ 240Vac.

HI-POT Withstand Voltage: 1500 VAC input line to chassis (10mA DC cut off current); Isolating 3000VAC primary to secondary windings; Primary to core 1500VAC. All for 3 sec.

Grounding Test: Apply 25 A from ground pin of the three prong plug to the far most earth. Max allowable resistance 0.1 ohm.

MTBF: 100,000 Hrs (according to MIL-HBK-217F) at 30°C.

Cooling:
SD**U**600T1: U- Channel with 25 CFM forced airflow to achieve max power.
SD**C**600T1: U- Channel with cover, with 25 CFM forced airflow to achieve max power.
SD**E**600T1: Enclosed with side built-in fan.
SD**F**600T1: Enclosed with top built-in fan.

Enclosure:
SD**U**600T1: 8(L) x 4.33(W) x 2.5(H) inches
SD**C**600T1: 8(L) x 4.33(W) x 2.56(H) inches
SD**E**600T1: 9.17(L) x 4.25(W) x 2.5(H) inches
SD**F**600T1: 8(L) x 4.33(W) x 3.4(H) inches

Burn in: 45°C ±5°C for 1 hour @230Vac with full load.

Weight: Enclosed Type: 1500g; U-Chassis Type: 1400g.

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Output Voltage and Current Chart

Model Number**	Preset Voltage	Available Voltages	Max. Output Current	Max. Output Power	Ripple & Noise
SDY600T1XXR	12 VDC	12 - 14 VDC	50 A	600 Watts	±1%
SDY600T1XXR	15 VDC	15 - 19 VDC	40 A	600 Watts	±1%
SDY600T1XXR	24 VDC	20 - 26 VDC	30 A	600 Watts	±1%
SDY600T1XXR	36 VDC	27 - 36 VDC	22.22 A	600 Watts	±1%
SDY600T1XXR	40 VDC	37 - 47 VDC	16.22 A	600 Watts	±1%
SDY600T1XXR	48 VDC	48 - 60 VDC	12.5 A	600 Watts	±1%

** To Determine Part Number:

- Repace "*XX*" with Desired Output Voltage (12VDC = "12", 48VDC = "48", etc.)
- Repace "Y" with Desired Case Code:

  Type **U**: U-Chassis

  Type **C**: U-Chassis with Cover

  Type **E**: Enclosed with Side Built-In Fan

  Type **F**: Enclosed with Top Built-In Fan
- Conformal Coating (Optional): Order as SDY600T1*XX***C**R
- Current Sharing N+1 Redundancy (Optional): Order as SDY600T1*XX* R**N**
- Input Connector: For Enclosure w. Side Fan (SD**E**600T1*XX* R): IEC320-C14 Inlet or 3-Position Barrier Strip.

  For U-Channel (SD**U**600T1XXR), Cover (SD**C**600T1XXR), & Enclosure w. Top Fan (SD**F**600T1XXR): Crimp Style PCB Header (7-Pin, 5 Used) or 3-Position Barrier Strip.
- Output Connector: 20-Pin Crimp Style PCB Header or 8-Position Barrier Strip.

  For Crimp Style PCB Header (or IEC320-C14 Input), Order as: SDY600T1*XX* R (Unchanged)

  For Barrier Strip, Order as: SDY600T1*XX* **A**R

  Example: SDE600T1*XX* R indicates an Enclosed, Side Fan Case and Crimp Style PCB Header
  SDC600T1*XX* **AC**R**N** indicates a U-Chassis Case with Case Cover, with Barrier Strip, Current Sharing, and Conformal Coating.

Pin Connection: SDY600T1XXR

Pin	Input: Molex 7-Pin Terminal
1-2	Neutral
3	N/C
4-5	Line
6	N/C
7	Ground
Pin	Output: Molex 20-Pin Terminal
1-10	Output
11-20	Return

Pin Connection: SDY600T1XXAR

Pin	Output: 8-Position Barrier Strip
1-4	Output
5-8	Return

NOTES:

AC Input Connector (CN1): Enclosed Type: IEC320 or equivalent Snap-in mounting type or DINKLE Terminal block Part No. DT-35-A02W-03 (3 pin). U-Chassis Type: Mating Molex Part No. 09-91-0700 or equivalent (7 pin. 5 used) or Howder Terminal block Part No. HD-121-3P.

Output Connector (CN2): Mating Molex Part No. 09-91-2000 (20 pin) or Howder Terminal block Part No. HD-121-8P (8 pin).

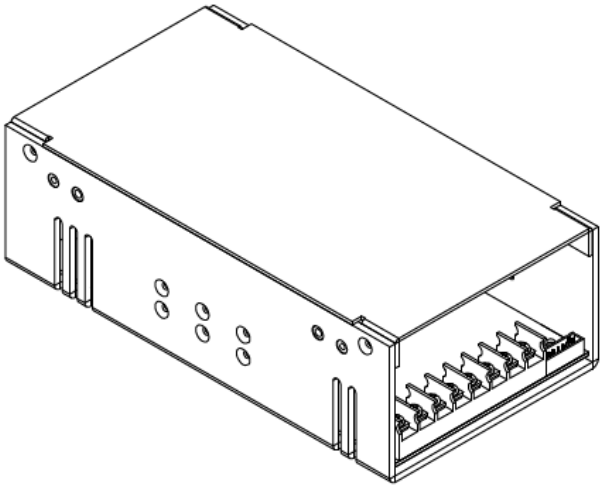
Logic signal connectors (CN3): Mating JST XHP-7 or equivalent (CHYAO SHIUNN JS-001-07).

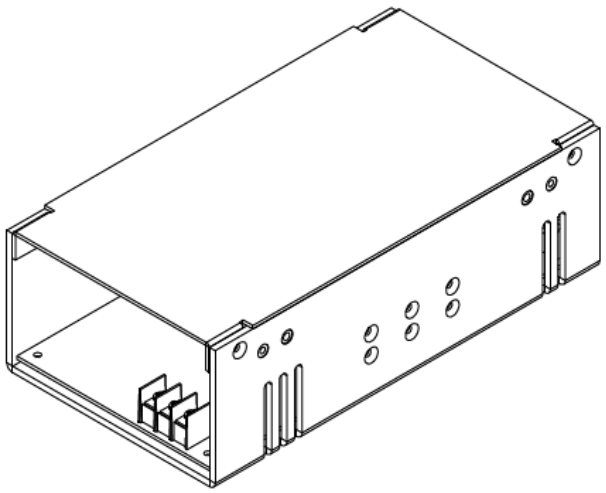
Fan Drive: 12VDC/500mA Mating JST XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02).

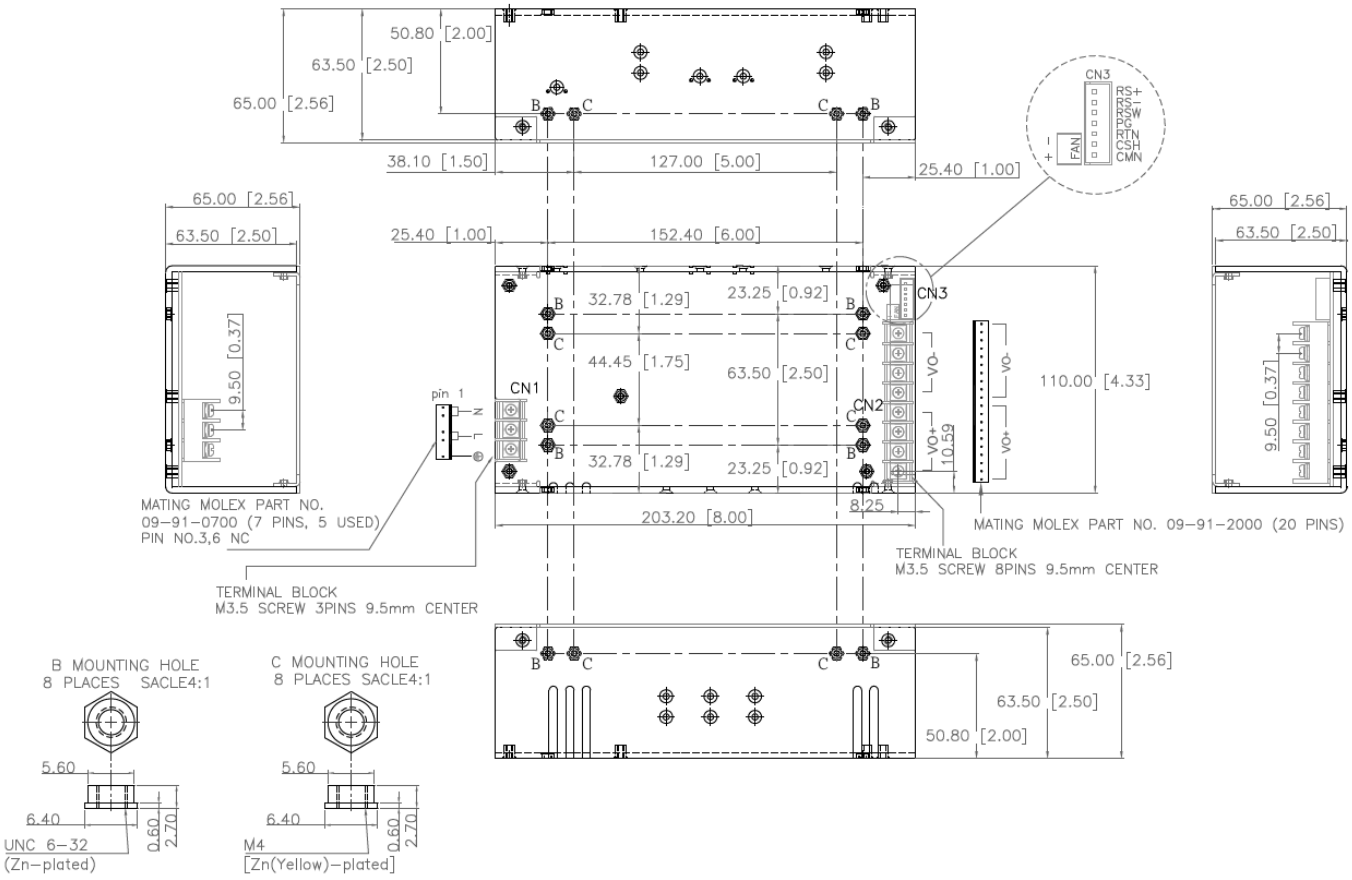
Mounting Inserts: 6-32, M4 4 Places individually with maximum penetration 0.2 inch on bottom side and 0.25 inch on both side.

Type **U**: U-Chassis Case
Order as: SD**U**600T1*XX*R

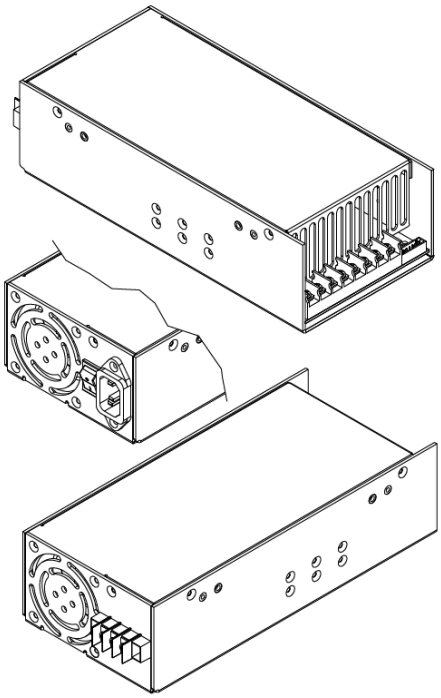
Type **C**: U-Chassis Case w/ Cover
Order as: SD**C**600T1*XX*R

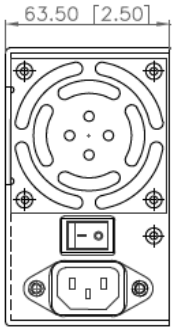




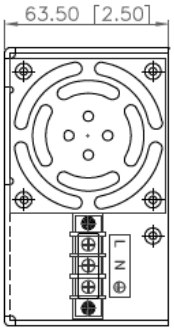


Type **E**: Enclosed Case w/ Side Fan
Order as: SD**E**600T1*XX*R



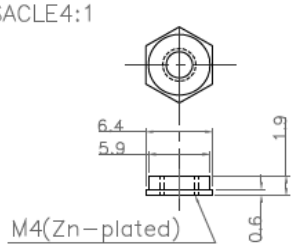


IEC320 or EQU.

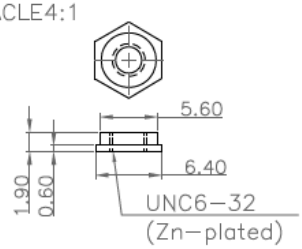


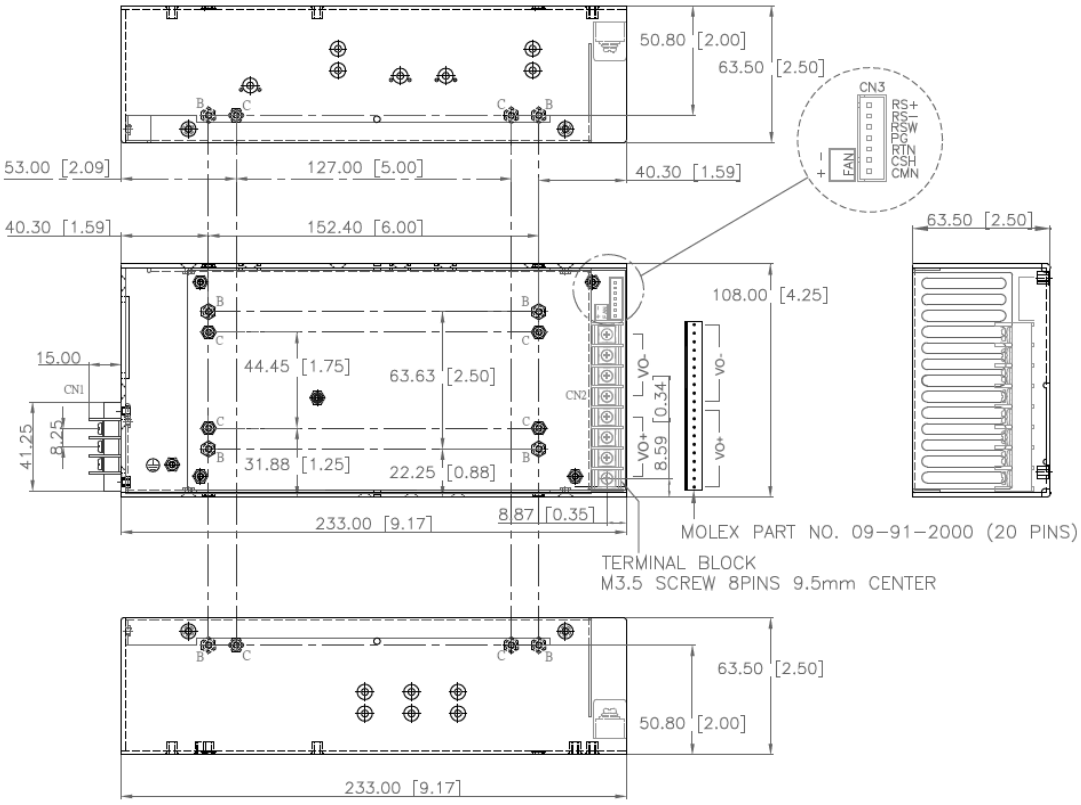
TERMINAL BLOCK
M3 SCREW
3PINS 8.25mm CENTER

C MOUNTING HOLE 8 PLACE
SACLE4:1



B MOUNTING HOLE 8 PLACE
SACLE4:1





Type **F**: Enclosed Case w/ Top Fan
Order as: SD**F**600T1*XX*R