SDY400T1 Series

Single Output, Switch Mode Power Supply
Active PFC, RoHS Compliant

Features:

- Universal Input 100 – 240 VAC
- Power Density: 7.15 watts/cu in.
- Power Factor Corrected to EN61000-3-2 class D
- 12 VDC – 55 VDC Output
- Over-Current Protection, Over-Voltage Protection
- Remote Sense & Remote On/Off
- Peak Power 700W within 500uS Duty Duration
- 3 Mechanical Options
- RoHS Compliant

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

Input Current: 5A at 90 VAC full load.

Inrush Current: 35A Max @ 230 VAC with full load cold start.

PFC: Active Power Factor Correction meets EN61000-3-2 class D.

Fan Drive: 12VDC/400mA is available to drive an external fan.

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: 80% minimum (Measuring at 230 VAC and full load).

Turn On Delay: 1 second maximum at 120 VDC.

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

Adjustability: Output user adjustable ±5% minimum.

Remote Sense: Designated as **V1S+** (Pin 1) and **V1S-** (Pin 2) on the CON3. Voltage compensates for up to 0.5V line drop.

Remote on-off: Defined **INH** (Pin 4) on CON3, requiring a TTL low signal to inhibit output.

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

Power Good: Designated as **PG** on CON3 will go high 100- 500mS after regulation and goes low 1mS before loss regulation.

Input Circuit Protection: One 250V/ 8A fuse inserted.

Input Voltage Protection: Power shut down under 80 ±5 VAC, and recovered over 86 VAC.

Over-Power Protection: Hiccup mode 110-140%; Auto-recovery.

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

Leakage Current: 1.5mA @ 240 VAC.

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

Storage Temperature: -20°C 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.

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.

Enclosure:
SD**E**400T1: 8(L) X 4(W) X 2(H) inches;
SD**U**400T1 & SD**C**400T1: 7(L) x 4(W) x 2(H) inches.

Cooling:
SD**E**400T1: Self cooled by built-in fan;
SD**U**400T1 & SD**C**400T1: 22cfm forced air flow to achieve maximum power.

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

Weight:
SD**E**400T1: 1050g.
SD**U**400T1 & SD**C**400T1: 950g.

Output Voltage and Current Chart

Model Number**	Preset Voltage	Output Voltage Range	Max. Output Power/Current Type U & C (Forced Air) Type E	Efficiency	Ripple & Noise
SDY400T1*XX*R	12 VDC	12 - 15 VDC	33.34 A	80%	±1%
SDY400T1*XX*R	18 VDC	16 - 21 VDC	25 A	80%	±1%
SDY400T1*XX*R	24 VDC	22 - 30 VDC	18.19 A	80%	±1%
SDY400T1*XX*R	36 VDC	31 - 41 VDC	12.9 A	80%	±1%
SDY400T1*XX*R	48 VDC	42 - 55 VDC	9.53 A	80%	±1%

** To Determine Part Number:

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

  Type **U**: U-Chassis @ 400 Watts Max. Output Power with 22CFM Airflow Cooling

  Type **C**: U-Chassis with Cover @ 400 Watts Max. Output Power with 22CFM Airflow Cooling

  Type **E**: Enclosed with Side Built-In Fan @ 400 Watts Max. Output Power
- Conformal Coating (Optional): Order as SDY400T1*XX***C**R
- Input Connector: For Enclosure w. Fan (SD**E**400T1XXR): IEC320-C14 Inlet or 3-Position Barrier Strip. For U-Channel (SD**U**400T1XXR) & Cover (SD**C**400T1XXR): Crimp Style PCB Header (5-Pin, 3 Used) or 3-Position Barrier Strip.
- Output Connector: 14-Pin Crimp Style PCB Header or 6-Position Barrier Strip.

  For Crimp Style PCB Header, Order as: SDY400T1*XX*R (Unchanged)

  For 6-Position Barrier Strip, Order as: SDY400T1*XX***A**R

  Example: SD**E**400T1*24*R indicates a 24VDC Unit with an Enclosed, Side Fan Case and 14-Pin Crimp Style PCB Header.

  SD**U**400T1*48***AC**R indicates a 48VDC Unit with U-Chassis Case, 6-Position Barrier Strip, and Conformal Coating.

Pin Connection: SDY400T1*XX*R

Pin	Input: 5-Pin Crimp Terminal
1	Ground
2	No Pin
3	Neutral
4	No Pin
5	Line
	Output: 14-Pin Crimp Terminal
1 - 7	V Output (+)
8 - 14	Return (-)

Pin Connection: SDY400T1*XX*AR

Pin	6-Position Barrier Strip
1 - 3	V Output (+)
4 - 6	Return (-)

AC Input Connector (CON1):
SD**U**400T1 & SD**C**400T1: Mating Molex Part No. 09-91-0500 equivalent (5 pin, 3 used), or M3, 3 pins terminal block 8.25mm center.
SD**E**400T1: IEC320 or equivalent Snap-in mounting type or M3.5, 3 pins terminal block 8.25mm center.

Output Connector (CON2):
Mating Molex 14 pins (09-91-2000), or Howder (HD-121-6P) M3.5, 6 pins terminal block, 9.5MM Center.

Output Pin Assignment:
(See table above).

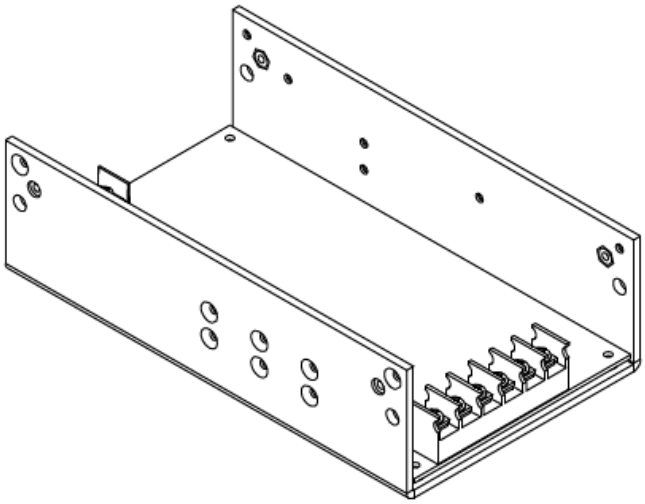
Logic signal connectors (CON3):
Mating JST XHP-5 or equivalent (CHYAO SHIUNN JS-2001-05).
Mating Pins: JST SXH-002T-P0.6 for AWG 30 to 26.

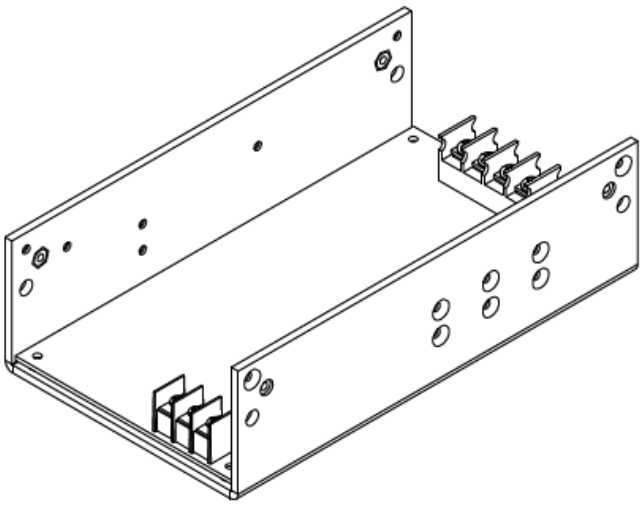
Mounting Inserts:
4 Places 6-32. Max. Penetration 0.13” on bottom side and 4 places 0.25” on both side.

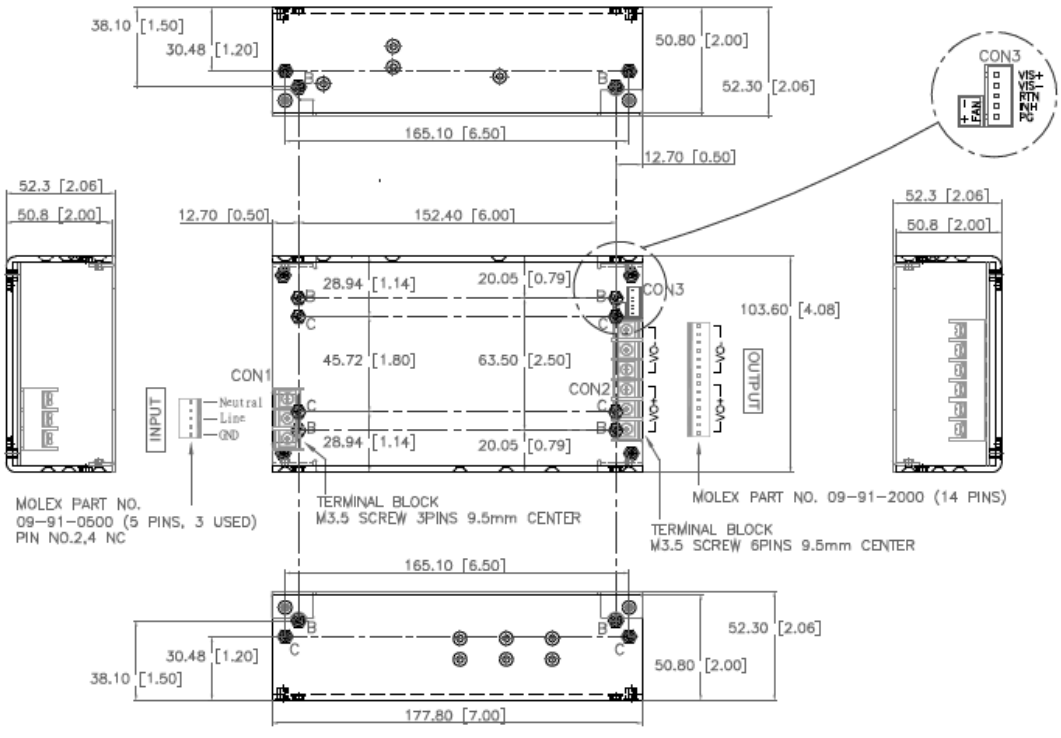
Fan Drive:
Mating JST XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02).

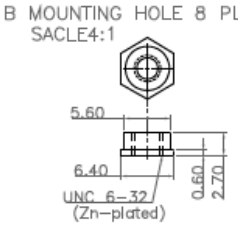
Type **U**: U-Chassis Case
Order as: SD**U**400T1*XX*R

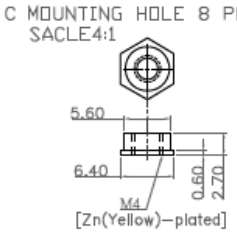
Type **C**: U-Chassis Case with Cover
Order as: SD**C**400T1*XX*R











Type **E**: Enclosed Case w/ Side Fan
Order as: SD**E**400T1*XX*R