

## 400W

### Single Output Series



U Series (U-Chassis Type): 8(L) x 5(W) x 1.6(H) inches.  
E Series (Enclosed Type): 9(L) x 5(W) x 1.6(H) inches.

### PRODUCT SPECIFICATIONS:

**Input Voltage:** 90-264Vac full range, 47~63Hz.  
**Input Current:** 6.35A at 90VAC full load.  
**Inrush Current:** 35A Max @ 230VAC with full load and cold start.  
**PFC:** Active power factor correction meet 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 exceed 5%.  
**Overshoot:** Turn-on/off not exceed 5% over nominal voltage.  
**Efficiency:** 70% for 3.3V, 75% for 5V, 80% for 12V and 83% minimum for others output @ 230V and full load.  
**Turn On Delay:** 1 second maximum at 120 VAC.  
**Hold Up Time:** 20mS min. at 80% of full load.  
**Adjustability:** Output user adjustable +/-5% minimum.  
**Remote Sense:** Designated **RS+** and **RS-** on the CN3. (Not available for current sharing models)  
**Remote On-Off:** Designated as **RSW** on the CN3, requires a low signal to inhibit output.  
**Power Supply On:** Green LED designated as **LED 1** on the PCB.  
**LED display:** Bi-color green **LED** in front panel (RL0402E only); Any protection occurred or RSW applied low signal will emit orange.  
**Power Good:** Designated as **PG** on the CN3 will go high 100-500mS after regulation and goes low 1mS before loss of regulation.  
**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 for current sense for a 0.5V to 3VDC to represent 0% to 100% output current.  
**Margin:** Designated as **MAG** on the CN3 providing 50% of output voltage remote adjustment by applying 0.4 ~ 5V signal on **MAG**.  
**AC Fail (optional):** Designated as **ACF** on the CN3 to monitor the input voltage, when input goes under 80 +/- 5VAC the signal will go low (0V) and then go high (+5V) once reappears over 86VAC.  
**Input Circuit Protection (primary):** Two T8A/250V fuses inserted.  
**Over-Power Protection:** C.C. mode 110-140% and auto-recovery.

### FEATURES:

- ◆ Both Medical & ITE Safety Approvals
- ◆ Optional N+1 Forced Active Current Sharing
- ◆ Power Factor Corrected to EN61000-3-2 class D
- ◆ Providing Peak Power 700W within 500uS duty duration
- ◆ U-Chassis & Enclosed with built-in fan Mechanical Options
- ◆ 1U height size and High power density: 6.25 watts/cu inches
- ◆ Current Monitoring and Remote Voltage adjustment (Margin)



**Input Voltage Protection:** Power shut down under 80 +/-5Vac, and recovered over 86Vac.  
**Over-Voltage Protection:** Latching down will occur when output voltage exceed 130% and recycle AC input to reset.  
**Short Circuit Protection:** Trip without damage and auto-recovery.  
**Over Temperature Protection:** Protected in the event of excessive operating ambient 85 degree, and automatic recovery.  
**Switching Frequency:** 30KHZ fixed frequency.  
**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 degrees C.  
**Operating Humidity:** 5% to 90% RH, Non-condensing.  
**Storage Humidity:** 5% to 95% RH, Non-condensing.  
**Vibration:** Frequency 5 to 50 Hz, acceleration +/-7.35 M/(SxS) on X,Y and Z Axis.  
**Emissions:** FCC Part 15, CISPR 22 class B, Conducted.  
**Safety Regulation:** Approved to UL60950-1/ 60601-1, CSA C22.2 No. 60950-1-03/ 601.1-M90, TUV EN60950-1/ 60601-1, CE Mark (LVD) EN61204-3/ 60601-1-2/ 61000-3-2,3 & IEC61000-4 Series Regulations and CB.  
**Leakage Current:** Medical degree 300uA; ITE degree 1.5mA;  
**Hi-POT Test:** 1500 Vac between input line and chassis (2mA DC cut off current); 4000Vac between primary and secondary windings; Primary to core 1500VAC. All for 3 sec.  
**Grounding Test:** Apply 40 A from ground pin to the earthed connection point. Maximum allowable resistance is 0.1ohm.  
**MTBF:** 100000 Hrs (according to MIL-HBK-217F) at 30°C.  
**Cooling:** :U Series: U-Chassis @400W max. with 23CFM airflow or 250W max. under convection cooling.  
E Series: Enclosed with side built-in fan @400W max.  
**Burn in:** 45 +/- 5 degree C for 1 hour @230Vac with full load.  
**Enclosure:** U Series: 8(L) x 5(W) x 1.6(H) inches.  
E Series: 9(L) x 5(W) x 1.6(H) inches.  
**Weight:** U Series: 1.3KG; RL0402E Series: 1.6KG.

## OUTPUT VOLTAGE / CURRENT RATING CHART: Measured at output power connector.

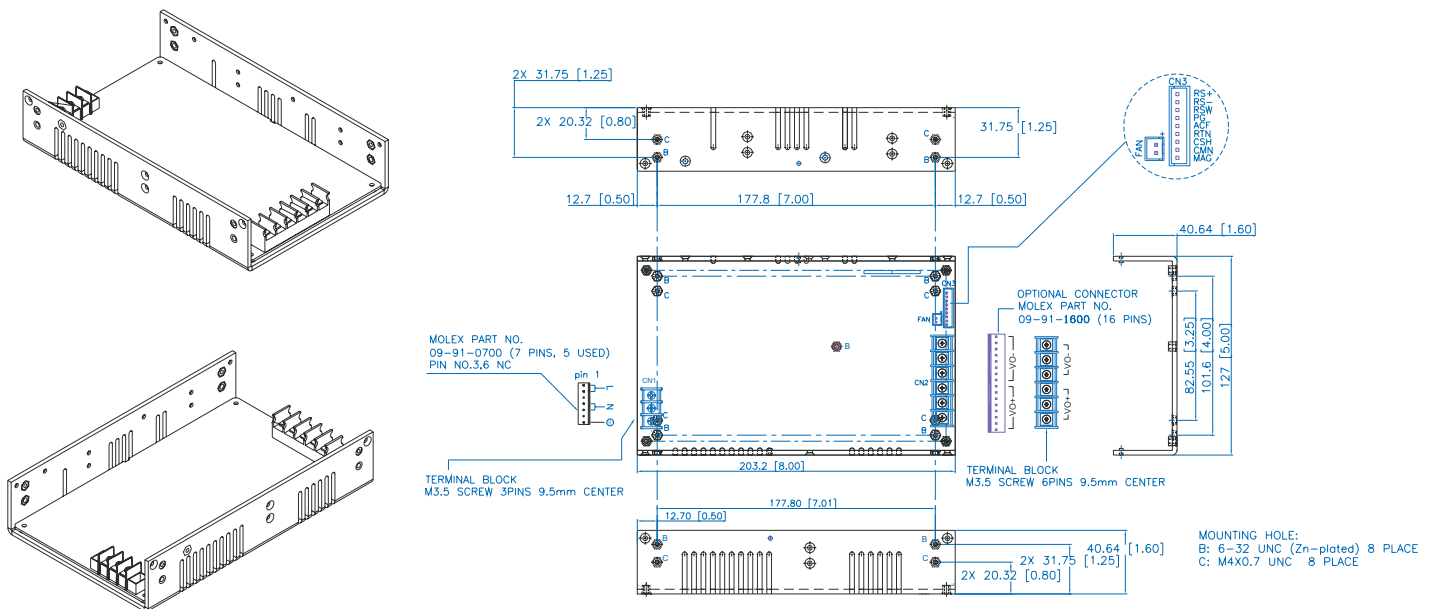
Model	Output Range	Preset Voltage	Max. Output Power or Current		Total Regulation	Ripple & Noise
			Type U (Convection)	Type U (with forced air) & E		
x1200U-M03z	2~3.3V	3.3V	45A	60A	+/-1%	+/-1%
x1300U-M05z	5~6V	5V	45A	60A	+/-1%	+/-1%
x1400U-M12z	12~15V	12V	250W	400W	+/-1%	+/-1%
x1400U-M18z	16~21V	18V	250W	400W	+/-1%	+/-1%
x1400U-M24z	22~30V	24V	250W	400W	+/-1%	+/-1%
x1400U-M36z	31~41V	36V	250W	400W	+/-1%	+/-1%
x1400U-M48z	42~58V	48V	250W	400W	+/-1%	+/-1%

### NOTE:

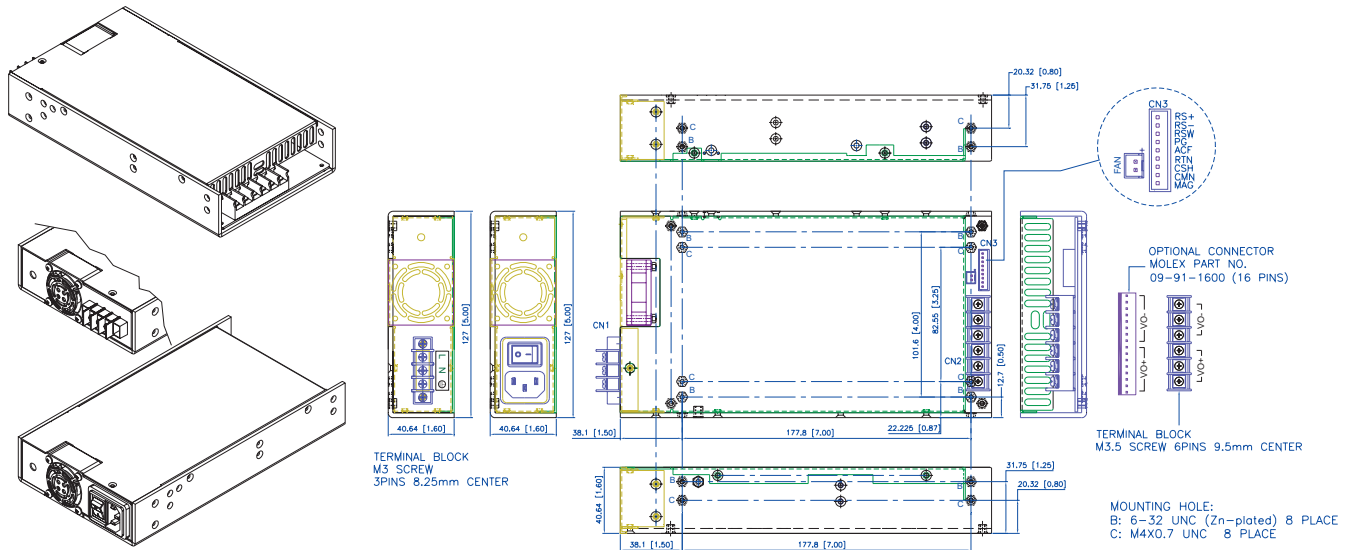
- \* x1400U-y. x=U (U-Chassis Type) or E (Enclosed with built-in Fan).or y= 03, 05, 12, 18, 24, 36 or 48. z = blank or S where S denote forced current sharing option (OR-ring diode).
- \* U series: 400W max. with 23CFM airflow or 250W max. under convection cooling; (Option: TopCover)
- \* E series: 400W max. with built-in fan flow.
- \* All output ranges are covered in agency certifications and preset output voltage for each model as above listings.
- \* Providing peak power to 700W within 500uS for all models, longer duty duration need contact manufacture.
- \* 1% minimum load is required to maintain the ripple and regulation.
- \* Output is fully isolated.

### OUTLINE DRAWING:

U series (U-ChassisType): 8(L)x5(W)x1.6(H) inches; Weight: 1.3kg; Option: TopCover.



**E Series (Enclosed with built-in Fan Type): 9(L) x 5(W) x 1.6(H)inches; Weight: 1.6kg.**



**I/O Connector pin assignment:**

**Input Connector(CN1):**

U Series: mating Molex Part No. 09-91-0700 equivalent(7 pin, 5 used), or Howder Terminal block Part No. HD-121-3P.  
E Series: IEC320 or equivalent Snap-in mounting type or DINKLE Terminal block Part No. DT-35-A02W-03 (3 pin).

**Output Connector (CN2):** Mating Molex 16 pins (09-91-1600), or Howder (HD-121-6P) M3.5, 8 pins terminal block, 9.5MM Center.

**Output Pin Assignment:** (See right table).

**Logic signal connectors (CN3):**

Mating JST XHP-9 or equivalent (CHYAO SHIUNN JS-2001-09) Mating Pins: JST SXH-002T-P0.6 for AWG 30 to 26.

**Mounting Inserts:** 6-32, M4 4 Places individually with maximum penetration 0.15 inches on bottom side and 0.25 inch on both side.

	Molex	Howder
VO+	(Pins 1-8)	(Pins 1-3)
VO-	(Pins 9-16)	(Pins 4-6)