

iStarUSA™

400W AC-DC PFC MEDICAL & ITE DEGREE POWER SUPPLY CP-M0402DU DUAL OUTPUT SERIES



CP-M0402DU Series (U-Chassis Type): 8(L) x 5(W) x 1.6(H) inches.

FEATURES:

- ◆ Both Medical & ITE Safety Approvals
- ◆ Power Factor Corrected to EN61000-3-2 class D
- ◆ 3.3/ 5/ 12/ 24V Dual Output Optional Combinations
- ◆ U-Chassis Type drive max 250W under air convection
- ◆ U-Chassis with built-in fan Mechanical Options
- ◆ 1U height size and High power density: 6.25 watts/cu 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: 75% minimum (Measuring at 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.

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:

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.

Input Circuit Protection (primary): Two T8A/250V fuses inserted.

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

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

Over-Voltage Protection: Latching down will occur when output voltage exceed 130% and recycle AC input to reset.

Over Temp. Protection: Protected at ambient 85C; Auto-recovery.

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

Warranty: 2 years.

MTBF: 100000 Hrs (according to MIL-HBK-217F) at 30°C.

Cooling: :CP-M0402DU Series: U-Chassis @400W max. with 23CFM airflow or 250W max. under convection cooling.

Burn in: 45 +/- 5 degree C for 1 hour @230Vac with full load.

Enclosure: CP-M0402DU Series: 8(L) x 5(W) x 1.6(H) inches.

Weight: CP-M0402DU Series: 1.3KG.

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

| Model Number | Output Voltage | Max. Output Current | | Total Regulation | Ripple & Noise |
|----------------|----------------|---------------------|----------|------------------|----------------|
| | | Convection | 22.95CFM | | |
| CP-M0402DU0312 | V1: +3.3V | 30A | 40A | +/- 5% | +/-1% |
| | V2: +12V | 16.7A | 25A | +/- 5% | +/-1% |
| CP-M0402DU0324 | V1: +3.3V | 30A | 40A | +/- 5% | +/-1% |
| | V2: +24V | 8.34A | 12.5A | +/- 5% | +/-1% |
| CP-M0402DU0512 | V1: +5V | 30A | 40A | +/- 5% | +/-1% |
| | V2: +12V | 16.7A | 25A | +/- 5% | +/-1% |
| CP-M0402DU0524 | V1: +5V | 30A | 40A | +/- 5% | +/-1% |
| | V2: +24V | 8.34A | 12.5A | +/- 5% | +/-1% |
| CP-M0402DU1224 | V1: +12V | 16.7A | 25A | +/- 5% | +/-1% |
| | V2: +24V | 8.33A | 12.5A | +/- 5% | +/-1% |

NOTE:

* CP-M0402DUy Series where y = **0312, 0324, 0512, 0524, and 1224**

* 10% minimum load is required for all outputs to maintain the ripple and regulation. Output is fully isolated.

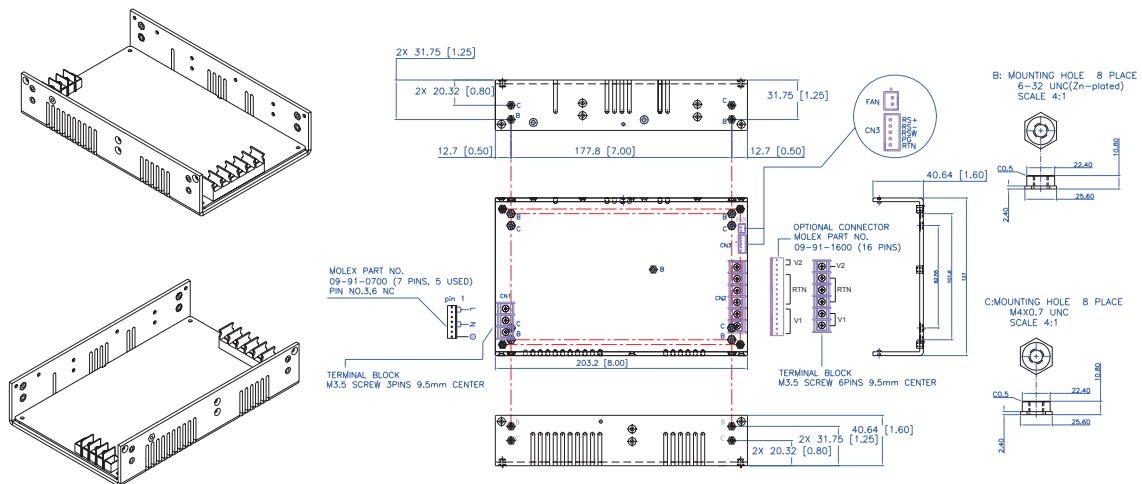
* Total combined power of V1 and V2:

CP-M0402DU1224: 400W Max. with 22.95CFM forced air and 250W convection cooling.

Other CP-M0402DUy: 300W Max. with 22.95CFM forced air and 200W convection cooling.

OUTLINE DRAWING:

CP-M0402DU Series (U-Chassis Type): 8(L) x 5(W) x 16(H)inches; Weight: 1.3kg; Option: Top Cover.



I/O Connector pin assignment:

AC Input Connector(CN1):

CP-M0402DU Series: Mating Molex Part No. 09-91-0700 or equivalent (7 pin, 5 used) or Howder Terminal block (HD-121-3P).

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 below table).

Logic signal connectors (CN3):

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: 6-32, M4 4 Places individually with maximum penetration 0.15" on bottom side and 0.25" on both side.

| | V1 | V2 | RTN |
|--------|----------|------------|-----------|
| MOLEX | PINS 1-6 | PINS 14-16 | PINS 7-13 |
| HOWDER | PINS 1-2 | PINS 6 | PINS 3-5 |