

### 400 Watts Single Output Models

- 8.00 x 5.00 x 1.60" U-Frame Package
- 9.00 x 5.00 x 1.60" End-Mount Fan Package

### Features:

- Universal AC Input (90~264 VAC)
- Active PFC for EN61000-3-2 Class D Compliance
- Peak Loads up to 700 Watts for 500 $\mu$ s
- Low Profile for 1U High Applications
- Remote Sense, Remote on/off, Power Good, Current Monitor, and Remote Margin
- Optional Current Share & AC Fail Functions
- 12V Aux Fan Output
- International mEDICAL Safety Approvals
- 2 Year Warranty

### INPUT:

Input Voltage	90~264 VAC (Universal)
Input Frequency	47-63Hz
Inrush Current	35A @ 230 VAC Cold Start
Input Current	6.35A @ 90 VAC (max)
Input Protection	Dual Fuse - 8A / 250VAC
Undervoltage Lockout	Shutdown when AC falls below 80 VAC $\pm$ 5V
Hold-Up Time	20ms @ 80% Load
Leakage Current	<300 $\mu$ A @ 240 VAC Maximum
Power Factor	EN61000-3-2 Class D Compliant

### OUTPUT:

Adjustment Range	$\pm$ 5%
Minimum Load	1% to maintain Regulation
Regulation	$\pm$ 1% max
Ripple & Noise	$\pm$ 1% typ. pk-pk @ 20MHz
Overload Protection	110-140% of max power (Hiccup Mode)
Over Voltage	Latching before 130% of nominal
Short Circuit Protection	Trip without damage & auto-recovery
Transient Response	recovers <2500 $\mu$ s following a 50% load change
Overshoot	Turn-on & off overshoot < 5% over nominal voltage
Turn-On Delay	2 Second maximum at 120VAC

### STATUS & CONTROL:

Remote Sense	Compensates for <250mV Drop
Remote on/off	Low Signal Inhibits Output
AC Fail (optional)	Goes Low when AC falls below 80 VAC
Power Good	Low signal >1ms before loss of DC Regulation
Current Monitor	0.5~3.0VDC Signal for 0~100% Load
Remote Margin	0.4~5.0VDC Signal for 50~100% Voltage
Aux 12V Fan Output	12V @ 160 mA to drive fans
Current Share (optional)	Parallel up to 4 units with $\pm$ 10% accuracy

### GENERAL:

Efficiency	70~83% typical (230 VAC / Full Load)
Operating Temperature	0-70°C, derate linearly to 50% Load at 70°C
Storage Temperature	-20°C to +85°C
Over-Temp Protection	>85°C Shutdown (Ambient)
Cooling	23 cfm airflow required for full load
Operating Humidity	5-90% RH, Non-Condensing
Vibration	5 ~ 50 Hz, acceleration 7.35 m/s*s on X,Y and Z Axis
MTBF	>100k Hrs (according to MIL-HBK-217F) at 30°C

### EMC:

Electrostatic Discharge	EN61000-4-2, $\pm$ 4KV Contact / $\pm$ 8KV Air Discharge
Radiated Susceptibility	EN61000-4-3, 26-1000MHz, 10V/M, 80% AM
EFT / Bursts	EN61000-4-4, $\pm$ 2KV
Surges	EN61000-4-5, $\pm$ 2KV Line-Earth, $\pm$ 1KV Line-Line
Conducted Immunity	EN61000-4-6, 0.15-800MHz, 10V, 80% AM
Voltage Dips	EN61000-4-10, 95% Dip & 10ms, 30% Dip & 500ms
Voltage Interruptions	EN61000-4-11, 95% reduction, 5s
Fluctuations & Flicker	EN61000-3-3

### APPROVALS:

Emissions	EN55011 "B", FCC Part 15 Subject J Class B
Safety Approvals	UL/cUL 6060601-1 CSA 22.2 No. 601.1-M90 TUV EN60601-1 CB IEC60950-1 CE Mark (LVD)

**Output Specifications:**

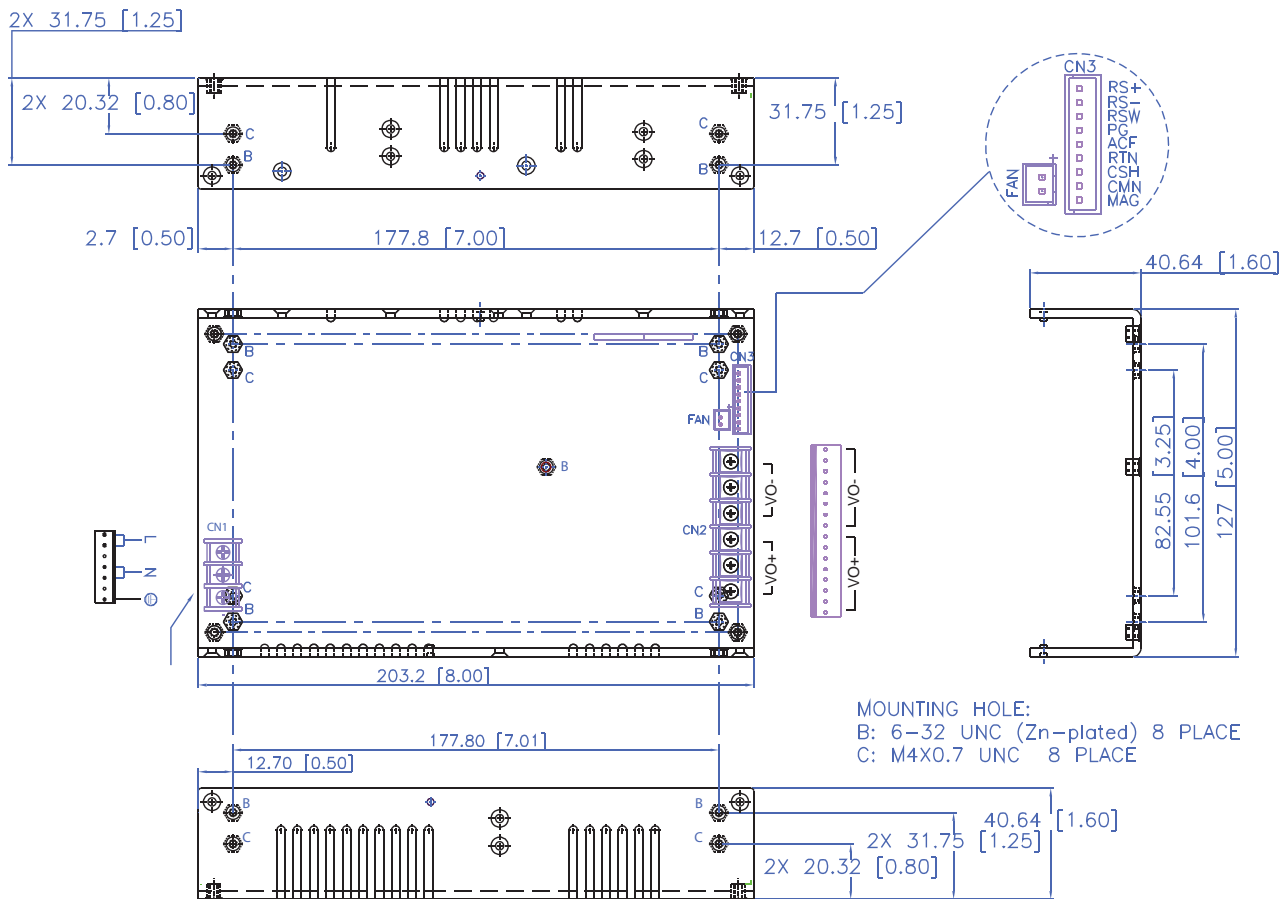
Model:	Vout	22 cfm Airflow	Convection Cooled	Factory Setpoint Range
APS400Mx-03	3.3V	60.00A	45.00A	2.0 ~ 3.3 VDC
APS400Mx-05	5.0V	60.00A	45.00A	5.0 ~ 6.0 VDC
APS400Mx-12	12V	33.33A	20.83A	12 ~ 15 VDC
APS400Mx-18	18V	22.22A	13.89A	16 ~ 21 VDC
APS400Mx-24	24V	16.67A	10.42A	22 ~ 30 VDC
APS400Mx-36	36V	11.11A	6.94A	31 ~ 41 VDC
APS400Mx-48	48V	8.33A	5.21A	42 ~ 58 VDC

• Replace "x" with the options below to designate preferred mechanical package:

U = U-Frame Package      E = Enclosed Type    + Add Suffix to designate Input Connector: "A" = Terminal Block | "B" = IEC-320 with Switch

- Add the suffix "E" to designate Top Cover for U-Frame Models
- Consult APS for any Output Voltage within the specified Factory Setpoint Ranges above (All safety approvals are maintained)
- Default Connections are Terminal Block (no suffix required):
  - Add the Suffix "C" to designate Molex Output Connector for Enclosed Models
  - Add the Suffix "T" to designate Terminal Block Input / Molex Output Connector for U-Frame Models
  - Add the Suffix "H" to designate Molex Input & Output Connectors for U-Frame Models
- Add the Suffix "I" to designate Current Share Option
- Input Connector (CN1): mating Molex Part No. 09-91-0700 equivalent (7 pin, 5 used), or Howder Terminal block Part No. HD-121-3P or IEC-320 Inlet.
- Output Connector (CN2): Mating Molex 16 pins (09-91-1600), or Howder (HD-121-6P) M3.5, 8 pins terminal block, 9.5MM Center.
- 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.

**U-FRAME PACKAGE (OPTION "U"):**



- 400 Watt Medical Power Supply
- Single Output Models

### END-MOUNT FAN PACKAGE (OPTION "E"):

