V SERIES

High Reliability Switchers
Single & Quad Outputs
120-600 Watts

FEATURES

- ***Single and quad output, 120-600 watts***
- ***Ultra-low cost open frame switchers***
- ***Dual loop regulation system***
- ***Fast stock delivery***
- ***200K - 1 million hours MTBF***
- ***80% typical efficiency***

SINGLE OUTPUT

Max Power	Output	Model
120W	5V @ 25A	V120AXX
120W	12V @ 10A	V120BXX
120W	15V @ 8A	V120CXX
120W	24V @ 5A	V120DXX
180W	5V @ 36A	V180AXX
180W	12V @ 15A	V180BXX
180W	15V @ 12A	V180CXX
180W	24V @ 7.5A	V180DXX
250W	5V @ 50A	V250AXX
250W	12V @ 21A	V250BXX
250W	15V @ 17A	V250CXX
250W	24V @ 11A	V250DXX
270W	5V @ 54A	V270AXX
270W	12V @ 22A	V270BXX
270W	15V @ 18A	V270CXX
270W	24V @ 12A	V270DXX
360W	5V @ 72A	V360AXX
360W	12V @ 30A	V360BXX
360W	15V @ 24A	V360CXX
360W	24V @ 15A	V360DXX
500W	5V @ 100A	V501AXX
500W	12V @ 42A	V501BXX
500W	15V @ 33A	V501CXX
500W	24V @ 21A	V501DXX
600W	5V @ 120A	V601AXX
600W	12V @ 50A	V601BXX
600W	15V @ 40A	V601CXX
600W	24V @ 25A	V601DXX

Replace the "XX" with the sum of the Option Codes.

Other voltages, e.g. 2V, 3.3V, 28V and 48V available on special order.

OPTIONS

Option Code	Function
00	None
01	OVP protects all auxiliaries
02	Power Fail Monitor
04	Thermal Shutdown
08	Cover
16	Logic Inhibit

Replace the "XX" with the sum of the Option Codes.

DESCRIPTION

V Series World Class switching power supplies are a family of single and quad output models designed for a wide variety of commerical and industrial applications. These industrial workhorses have demonstrated MTBF ratings greater than 500,000 hours. A proprietary proportional drive circuit prevents excess switch saturation and permits higher switching frequency operation. This makes possible increased reliability and a compact size.

One of the unique features of the V Series is a dual loop regulation system. This system provides a tightly regulated main output and eliminates cross regulation in the auxiliaries.

QUAD OUTPUT

Max Power	Output 1	Output 2	Output 3	Output 4	Model
225W	5V @ 30A	+12V @ 6(12)A	-12V @ 4A	-5V @ 4A	V225AXX
225W	5V @ 30A	+12V @ 6A	-12V @ 4A	+24V @ 4(8)A	V225BXX
225W	5V @ 30A	+15V @ 6(12)A	-15V @ 4A	-5V @ 4A	V225CXX
225W	5V @ 30A	+15V @ 6A	-15V @ 4A	+24V @ 4(8)A	V225DXX
225W	5V @ 30A	+12V @ 6(12)A	-12V @ 4A	+12V @ 4A	V225EXX
325W	5V @ 45A	+12V @ 8(16)A	-12V @ 6A	-5V @ 4A	V325AXX
325W	5V @ 45A	+12V @ 8A	-12V @ 6A	+24V @ 4(8) A	V325BXX
325W	5V @ 45A	+15V @ 8(16)A	-15V @ 6A	-5V @ 4A	V325CXX
325W	5V @ 45A	+15V @ 8A	-15V @ 6A	+24V @ 4(8)A	V325DXX
325W	5V @ 45A	+12V @ 8(16)A	-12V @ 6A	+12V @ 4A	V325EXX

Important Notes:

1. *Numbers in parentheses are peak ratings for a short duration service such as motor starting.*
2. *Output 1 is floating and can be either polarity.*
3. *Quads require 10% of maximum power distributed among auxiliary outputs for optimum performance.*
4. *Outputs can operate to no load with slight increase in specifications.*
5. *For agency certifications, units must be purchased with 04 Option.*

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Manufacturing facilities ISO 9001-2000 registered.

V SERIES SPECIFICATIONS

INPUT
90-132 VAC or 180-264 VAC, 47-440 Hz. Consult factory for 400 Hz. operation.

EMISSIONS
FCC 2070 Part 15, Class A/EN 55022, Class A Conducted. EN 60 555-3/EN 61000-3-3, Voltage Fluctuations.

IMMUNITY
EN 61000-4-2, Electrostatic Discharge.
IEC 1000-4-3, Radiated Field.
IEC 1000-4-4, Electrical Fast Transients.
EN 61000-4-5, Level 3 Surge.
IEC 1000-4-6, Conducted Field.

INPUT SURGE
17 amps peak from cold start for models up to 250 watts or less, 68 amps for other models, from nominal 110 or 220 VAC.

EFFICIENCY
80% typical.

HOLDUP TIME
20 milliseconds after loss of nominal AC power.

OUTPUTS
See table of models.

LINE REGULATION
±0.1% for line change from nominal to min. or max. rating with 20% min. load on the measured output. Singles to no load.

LOAD REGULATION
5V main/singles ±0.2%
-5V aux. ±3%
±12V aux. ±2%
±15V aux. ±2%
+24V aux. ±1.5%
for load change from 60% to 20% or 100% max. rating. Singles to no load.

CROSS REGULATION
±0.2% for load change on the main 5V output from 75% to 50% or 100% max. rating with 20% min. load on the measured output. Not applicable to singles.

CENTERING
5V main/singles ±5% trim adj.
1st and 2nd aux. ±5% trim adj. tracking
3rd aux.: -5V ±3%, +12V ±2%, +24V ±1%
with all outputs loaded to 50% max. ratings and output #2 set precisely at its rated value.

RIPPLE & NOISE
1% or 100 mV, pk.-pk., 20 MHz bandwidth.

OPERATING TEMPERATURE
0-70°C. Derate 2.5%/°C above 50°C.

COOLING

Models	Forced Air
V120, V180, V225, V250, V270, V360	30 CFM
V325, V501, V601	60 CFM

TEMPERATURE COEFFICIENT
5V main/singles ±0.02%/°C
Auxiliaries ±0.05%/°C

DYNAMIC RESPONSE
Peak transient less than ±2% or ±200 mV for step load change from 75% to 50% or 100% max. ratings.

RECOVERY TIME
Less than 400 microseconds on main/singles output.
Less than 50 microseconds on post regulated auxiliaries.

SAFETY
Units meet UL 1950/60950, CSA 22.2 No. 60950-00, EN 60 950, IEC 950.

DIELECTRIC WITHSTAND
3750 VRMS input to ground.
3750 VRMS input to output.
700 VDC output to ground.

SPACING
8 mm primary to secondary. 4 mm primary to grounded circuits.

LEAKAGE CURRENT
0.75 mA at 115 VAC, 60 Hz. input.

AC INPUT UNDERVOLTAGE
Proprietary proportional drive and low voltage lockout protects against damage for undervoltage operation.

SOFT START
Units have soft start feature to protect critical components.

OVERVOLTAGE PROTECTION
Standard on main output/singles. Optional on auxiliaries.

REVERSE VOLTAGE PROTECTION
All outputs are protected up to load ratings.

OVERLOAD
Outputs short circuit protected by current foldback with automatic recovery. Post regulators have individual current foldback protection.

REMOTE SENSING
On 5V main/singles which are fully isolated from all auxiliaries.

SHOCK
MIL-STD 810-E Method 516.4, Procedure I.

VIBRATION
MIL-STD 810-E Method 514.4, Category 1, Procedure I.

OPTIONS

POWER FAIL MONITOR *(CODE 02)*
Optional monitor provides a TTL signal 2 ms. min. prior to loss of output power with outputs fully loaded from 100VAC/200VAC line loss.

THERMAL SHUTDOWN *(CODE 04)*
Optional circuit cuts off supply in case of local over temperature. Unit resets automatically when temperature returns to normal.

COVER *(CODE 08)*
Option cover for safety and EMI. Place fan for comparable flow as in uncovered units.

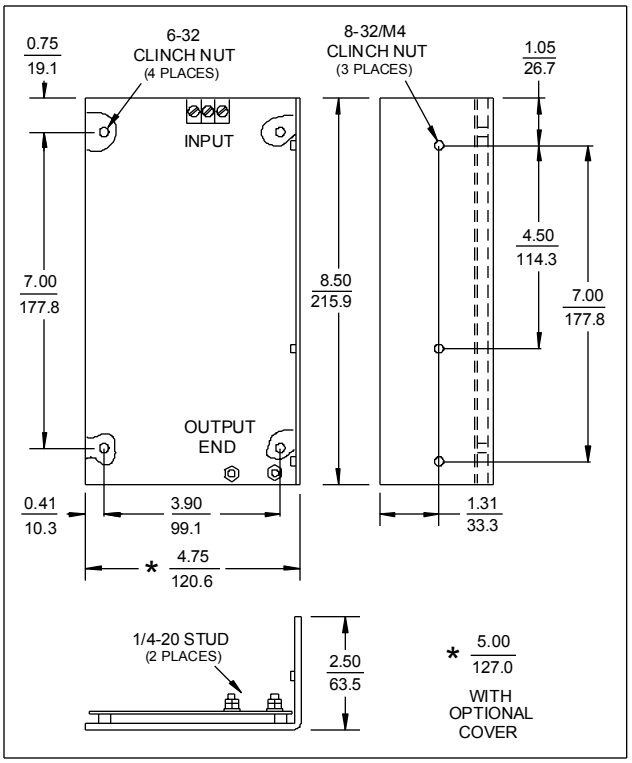
INHIBIT *(CODE 16)*
Optional TTL logic inhibit input.

AUTO RANGER
Model AR-1 accessory provides automatic operation at specified input ranges without strapping.

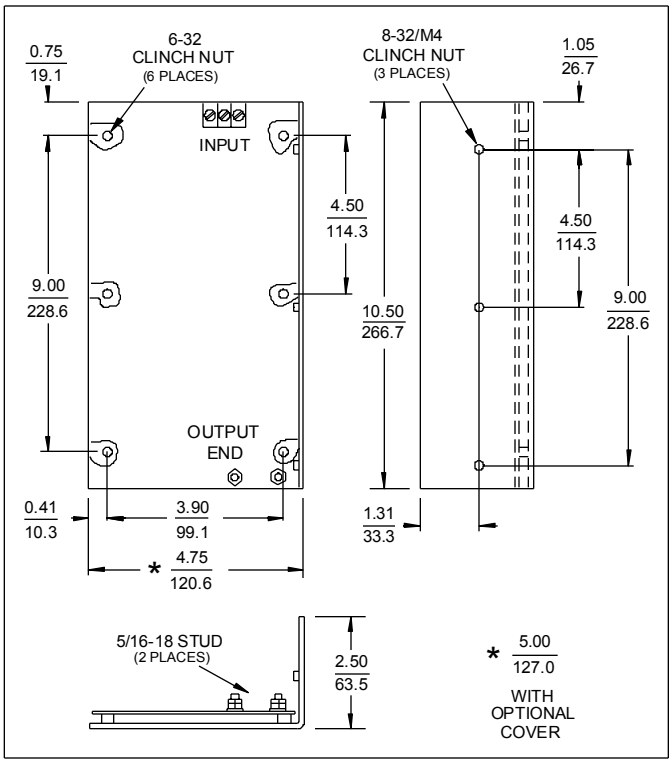
Specifications subject to change without notice.

DIMENSIONS INCHES / MM

SERIES V120, V180, V250.



SERIES V270, V360, V501, V601.



SERIES V225, V325.