

ABC450 SERIES



FEATURES

- 450 W (with airflow), 300 W (without airflow)
- 4.0 x 6.5 x 1.6 inch (101.6 x 165.0 x 41.0 mm)
- Universal AC input
- Conducted EMI EN 55022-B, FCC Part 15 Level B
- 5 V s/b and 12 V fan outputs standard
- Side Fan or Top Fan mounting option product
(-S or -T to be added to model number)
- Current Sharing option product
(-I to be added to model number)
- ITE Safety Agency Approvals
- RoHS Compliant
- CE marked LVD

APPLICATIONS

- Instrumentation
- Lighting
- Industrial Applications
- Test and Measurement
- Robotics
- Renewable Energy
- Data Comm.
- Applied Computing
- Process Control
- Wireless

TECHNICAL DATA:

INPUT

PARAMETER	DESCRIPTION/CONDITION	CRITERION
Input Voltage	Universal Input	90 - 264 VAC 120 - 390 VDC
Input Frequency		47 to 63 Hz
Input Current	120 VAC 230 VAC	4.5 A 2.3 A
No Load Power	120 VAC 230 VAC	0.4 W 0.8 W
Inrush Current (Cold Start)	120 VAC 230 VAC	40 A 75 A
Input Protection	Dual fusing, in AC Line and AC Neutral	T8A / 250 V
Power Factor	120 VAC 230 VAC	0.98 0.95

OUTPUT

PARAMETER	DESCRIPTION/CONDITION	CRITERION
Power	Steady state depending upon output voltage: Peak power for 24 V & 30 V models: for 48 V model for 5 seconds: Maximum duty cycle 10%.	155 W to 450 W 475 W 500 W
Efficiency (Full Load)	120 VAC 24 V, 48 V, 30 V 12 V, 15 V 5V	88% 86% 83% typical
	230 VAC 24 V, 48 V, 30 V 12 V, 15 V 5 V	90% 86% 83% typical
Voltage Adjustment	V1	± 3 %
Hold Up Time	120 VAC 230 VAC	10 ms 10 ms
Transient Response	<10%, 50 to 100% load change, 50 Hz, 50% duty cycle, 0.1 A / μ Sec,	recovery time < 5 mS
Rise Time	From 10% to 90% of V1 nominal rating	<100 mSec
Set Point Tolerance		±0.5%
Over Voltage Protection	Unit will latch off until AC is cycled (V1 only)	>114% min
Over Current Protection		120 to 150%
Short Circuit Protection	Hiccup mode	+5Vs/b shall remain normal
Over Temperature Protection	Automatic recovery	130°C primary heat sink +/-5%

OTHER SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	CRITERION
Isolation Voltage	Input to Output Input to Earth	4242 VDC 2121 VDC
Switching Frequency	PFC converter: Variable Resonant converter: Variable	45-160 kHz typical 35-250 kHz, 90 kHz typical
Reliability	MTBF according to Bellcore TR-332	>250 kh
Operating Temperature	See derating charts below	-20 to 70°C
Storage Temperature		-40 to 85° C
Humidity	Non Condensing	95% HR
Altitude	Operating: Non-Operating:	10,000 ft. 40,000 ft.

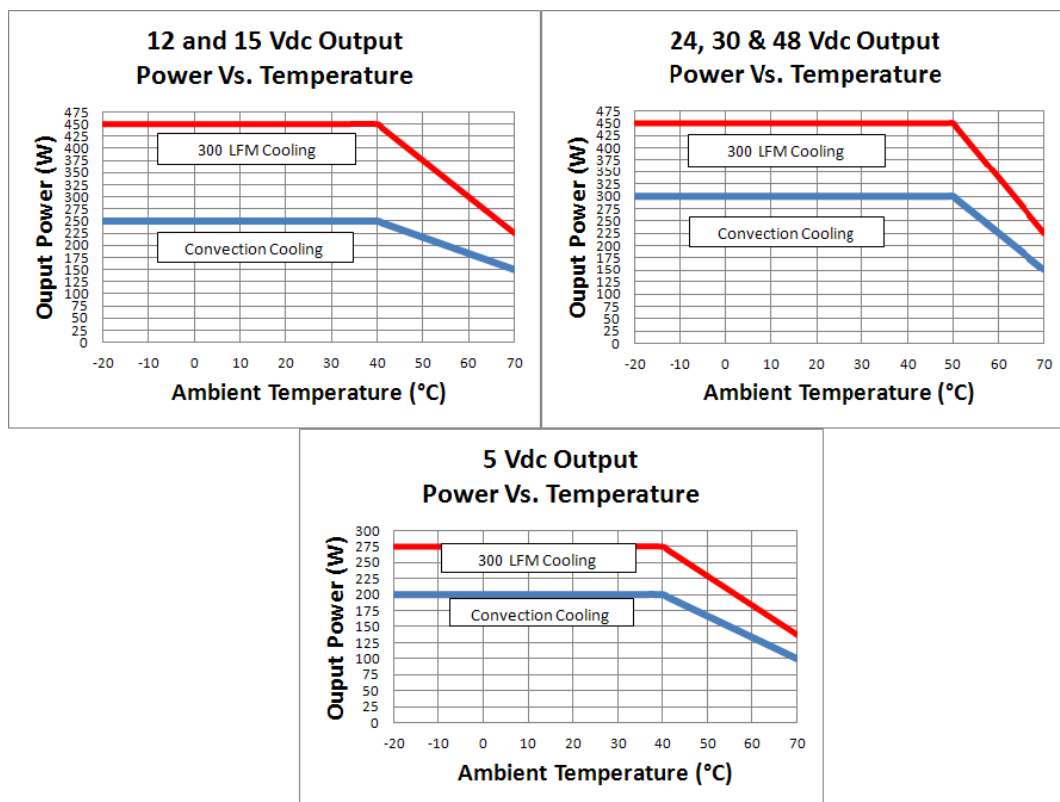
SIGNALS

PARAMETER	DESCRIPTION/CONDITION
DC OK	Goes high approximately 100 mSec after V1 reached regulation limit. Upon failure this TTL signal goes low after V1 drops more than 5% of nominal (10% for 5 V output). Signal has a 10 k pull-up resistor between the signal and the +5 Vs/b.
Remote Sense	Compensates for 200 mV of cable drop.
I-Share Signal	Allows sharing of 2 or more power supplies within +/-10%. Current sharing with internal OR-ing diodes /MOSFETS for redundancy. A defective supply that is connected to the output voltage bus will have no adverse effect on the operation of the remaining functional supply/ies.
DC OK	Signal goes high approximately 100 ms after V1 output reaches 90% of nominal rating.
Remote Inhibit	Inhibit V1 with high/open between pins 9 and 10. Apply active low between pins 9 and 10 to enable output. Unit shipped with pin 9 shorted to pin 10. Does not inhibit the 5 Vs/b output.

ENVIRONMENTAL

PARAMETER	DESCRIPTION/CONDITION	CRITERION
Conducted Emissions:	EN55022-B, CISPR22-B, FCC PART15-B	
Static Discharge	EN61000-4-2	Level 3
RF Field Susceptibility	EN61000-4-3	Level 3
Fast Transients/Bursts	EN61000-4-4	Level 3
Radiated Emissions	EN55022-B, CISPR22-B, FCC PART15-B	To be controlled in end system
Surge Susceptibility	EN61000-4-5	Level 3
Harmonic Current	EN61000-3-2	Class D

Figure 1 - Output Power Vs. Temperature



SAFETY APPROVALS

PARAMETER	DESCRIPTION/CONDITION
Agency Approvals	EN60950-1 IEC60950-1 2 nd UL60950 2 nd CSA-22.2 No 60950-01 2 nd Class 1 SELV
CE mark	Complies with LVD Directive

MECHANICAL

PARAMETER	DESCRIPTION/CONDITION
Weight	900g (1.98 lbs)
Dimensions	101.6 x 165.0 x 41.0 mm (4.0 x 6.5 x 1.6 inch)

Figure 2 - Dimensions Drawing (Without Fan Mounting)

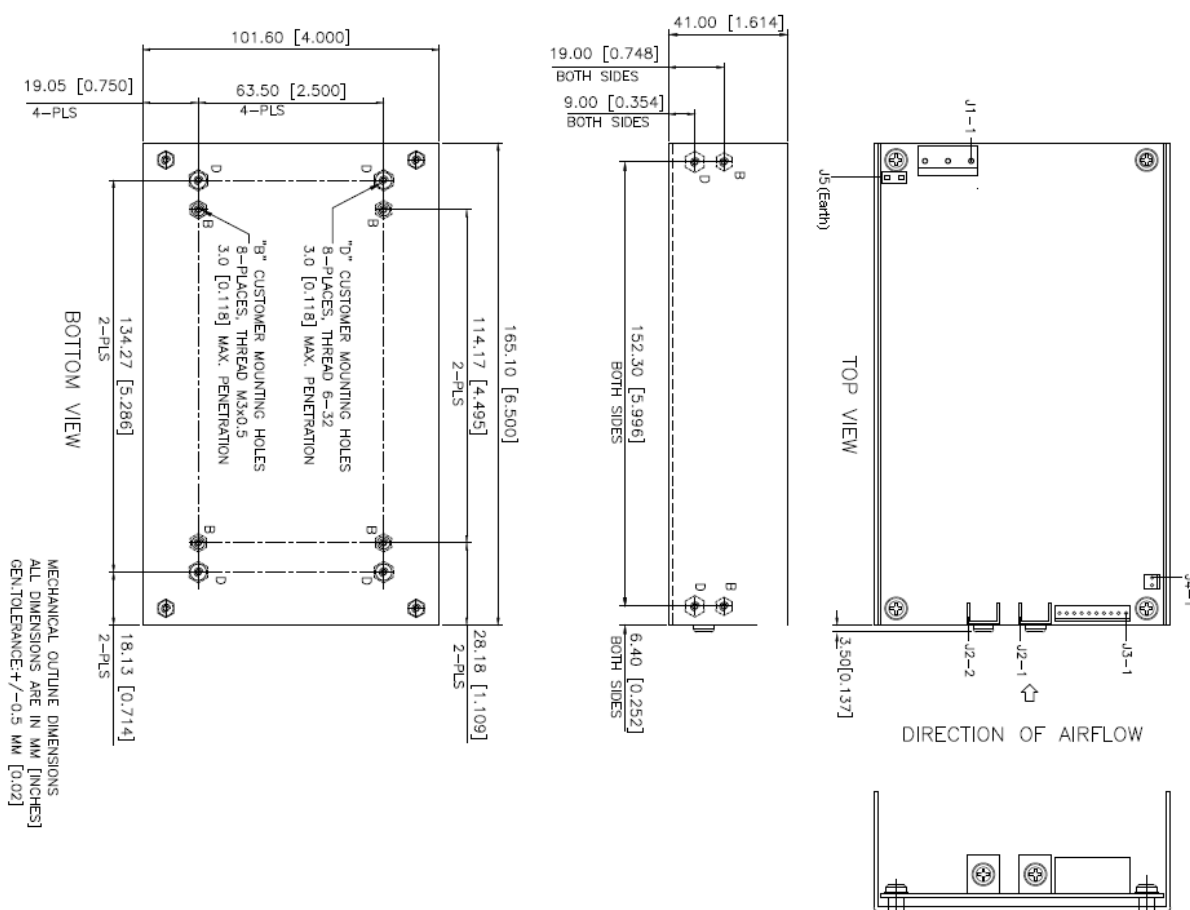


Figure 3 - Dimensions Drawing (With Top Fan Mounting)

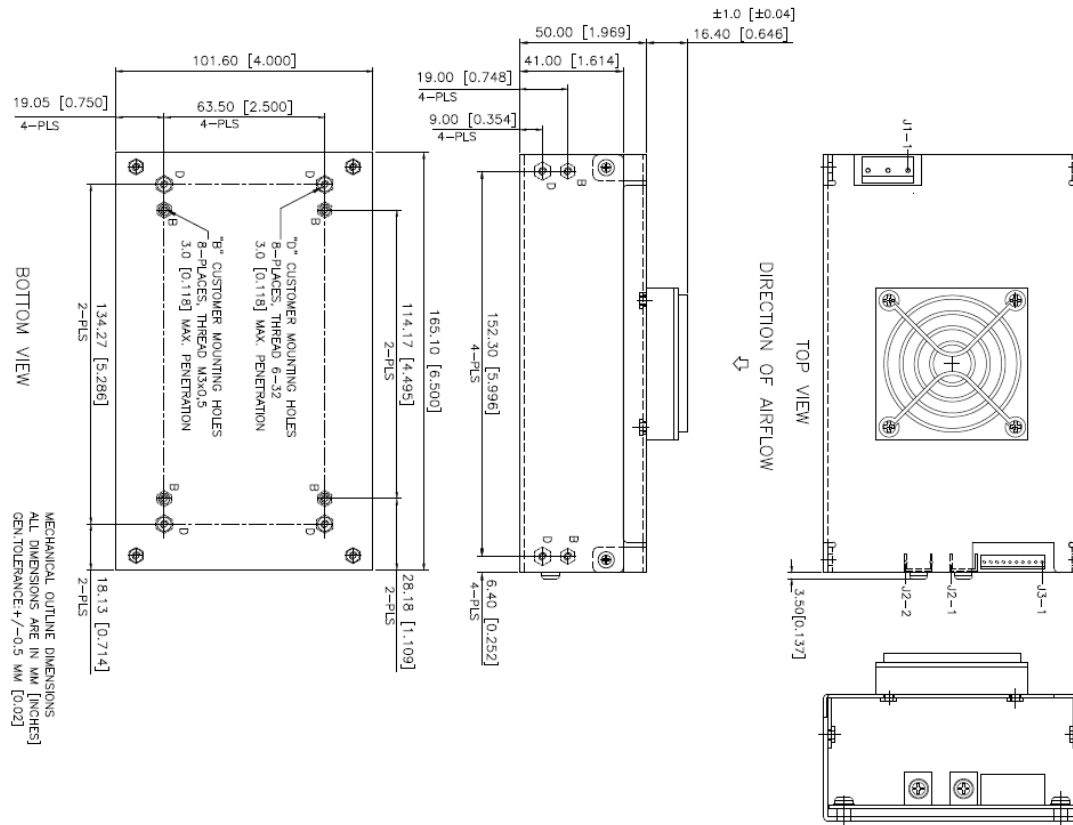
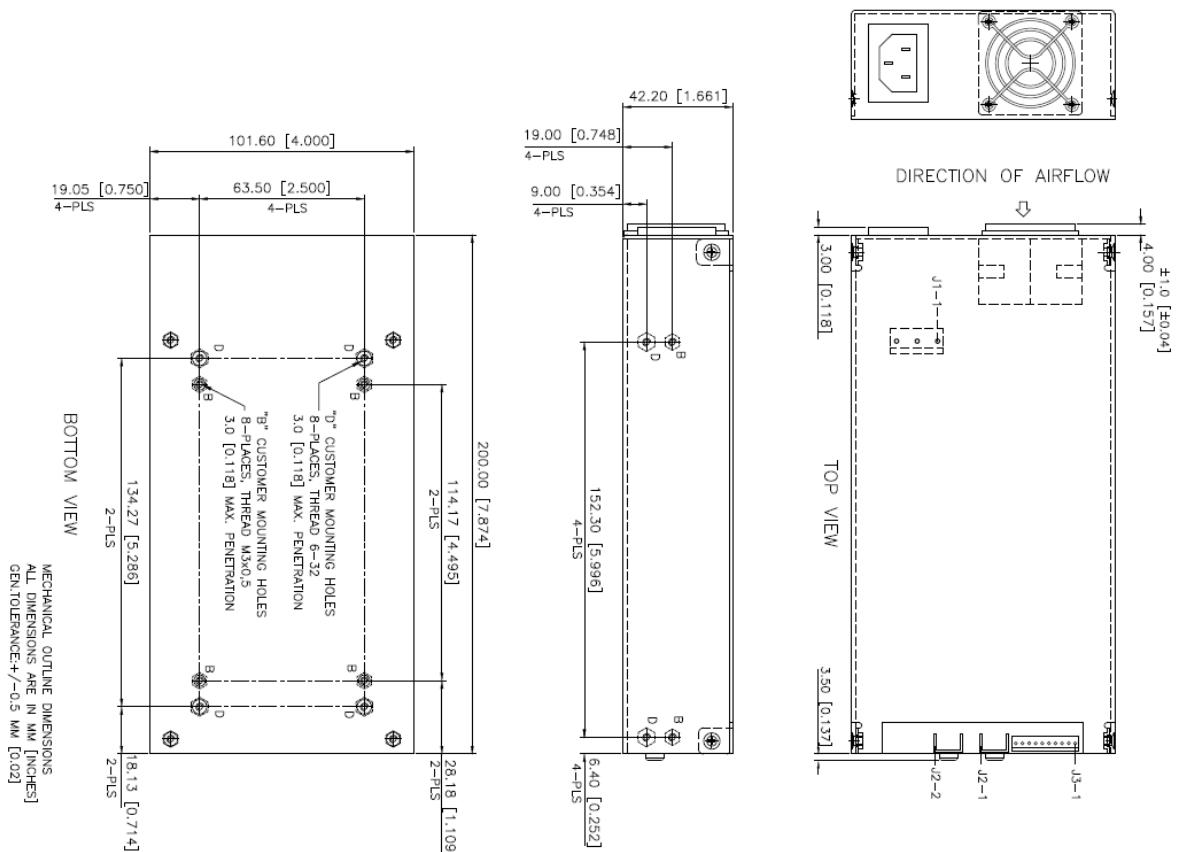


Figure 4 - Dimensions Drawing (With Side Fan Mounting)



CONNECTOR & PIN DESCRIPTION

CONNECTOR	PIN	DESCRIPTION / CONDITION		MANUFACTURER / PN
AC Input Connector*	J1	Pin 1 Pin 3 Pin 5	AC line AC neutral Earth	Mating Connector: Tyco 1-1123722-5 Mating Pin: Tyco 1318912-2
DC Output Connector	J2	Lug 1 Lug 2	+V1 Return (2 lugs, each with a 6-32 pan head screw.)	J2 = 6-32 screw terminal. Mating part no: MOLEX 19141-0058/0063/0083 or equivalent
Signals	J3	Pin 1 Pin 2 Pin 3 Pin 4 Pin 5 Pin 6 Pin 7 Pin 8 Pin 9 Pin 10	NC Power Fail DC OK Return +5Vs/b +Remote Sense -Remote Sense I-Share Return Inhibit	Mating Connector: Molex 22-01-2087 Pins Molex 08-50-0113
Fan	J4	Pin 1 Pin 2	+12 V Return	Mating Connector: Molex 22-01-2025 Pins = 08-50-0113
Earth	J5			Molex: 19705-4301 Mating: 190030001

* 5 position connector with pins 2 and 4 removed.

ORDERING INFORMATION

PRODUCT FAMILY	VOLTS (VDC)	MAX LOAD CONVECTION (3)	MAX LOAD 300 LFM (3)	MINIMUM LOAD (A)	RIPPLE & NOISE (2)	TOTAL REGULATION	PRODUCT FAMILY
ABC450-1T05G	5	31.0 A	55.0 A	0	2%	± 3.5%	ABC450-1T05G
ABC450-1T12G	12	20.83 A	37.5 A	0	2%	± 3.5%	ABC450-1T12G
ABC450-1T15G	15	16.66 A	30.0 A	0	2%	± 3.5%	ABC450-1T15G
ABC450-1T24G	24	12.30 A	18.75 A	0	2%	± 3.5%	ABC450-1T24G
ABC450-1T30G	30	10.0 A	15.0 A	0	2%	± 3.5%	ABC450-1T30G
ABC450-1T48G	48	6.25 A	9.37 A	0	2%	± 3.5%	ABC450-1T48G
Vfan (all models)	12	0.5 A	0.5 A	0	10%	± 30%	Vfan (all models)
V s/b (all models)	5	1.5 A	2.0 A	0	5%	± 5%	V s/b (all models)

Notes:

1. Peak current rating on V1 is 120% of max, lasting < 30 Sec with max of 10% duty cycle.
2. Ripple is peak to peak with 20MHz bandwidth and 10uF (Tantalum capacitor) in parallel with a 0.1uF ceramic capacitor at rated line voltage and load ranges.
3. Combined output power of V1 plus fan supply and standby supply should not exceed max, power rating.
4. Standby output voltage tolerance including set point.
5. Fan supply output voltage tolerance including set point accuracy, line and load regulation is +/-30% and needs min. 1% load on V1 output to be within regulation band. Ripple and noise is less than 10%.
6. Specifications are for nominal input voltage, 25°C unless otherwise stated.
7. Power supply is shipped with J3 housing, pins 9 and 10 shorted to enable V1, main output.
8. Derate output power linearly to 80% from 90 Vac to 80 Vac input.
9. For ordering Side Fan or Top Fan mounting option product add -S or -T suffix with the model name.
10. Specifications subject to change without notice.
11. Air flow over long edge (either direction) required for air flow rating. See mechanical drawing below.
12. Warranty 2 years.

NUCLEAR AND MEDICAL APPLICATIONS - Products are not designed or intended for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems.

TECHNICAL REVISIONS - The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.