C&D TECHNOLOGIES

Product Data Sheet

500 WATT AC/DC POWER SUPPLY

KX500



DESCRIPTION

The KX500 is a compact 500 watt Power Factor Corrected, multiple output power supply. All outputs are fully isolated and regulated. The main +5V output delivers 80A with remote sensing. Five outputs allow this one power supply to fill all system voltage requirements, including fan and disk drive applications. Both Power Fail Warning and DC OK signals are standard features as well as Remote Inhibit.

FEATURES

- **Active Power Factor Correction to EN61000-3-2**
- **High Current Auxiliary Outputs**
- **FCC/CISPR Class B EMI Filter**
- **Fully Isolated Outputs**
- **Compact Size: 10" x 5.0" x 2.0"**
- **Three and Five Output Models**
- **Optional Fan Mounted On Cover**
- **Remote Inhibit**
- **DC OK Signal**
- **Power Fail Warning**
- **UL/CSA/TUV Approved**
- **CE Mark**

AGENCY APPROVALS

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Input Specifications

Parameter	Conditions	Min	Typ	Max	Units
Operating Range	47-63Hz	90		264	VAC
Inrush Current					
	120VAC, cold start at 25°C			40	APK
	240VAC, cold start at 25°C			80	APK
Efficiency	Nominal line and full load		75		%
Power Factor*				0.99	

*Harmonic Correction meets IEC 1000-3-2 (formerly IEC 555-2)

Remote Sense
Remote Sense is provided on Output #1 and will compensate for 0.3V of line drop. Remote Sense leads are protected against open, short, and reversal.

Remote On/Off
The power supply is turned on with a TTL logic level '1' (or open) signal and turned off by a switch closure or TTL logic level '0' referenced to (-) sense terminal. Consult the factory for other options.

Over Voltage Protection
Output #1: 6.25V, ±0.75 V_{DC}.
Output #2: 14.0V ±1V_{DC}. (Output #2 12V)
17.0V ±1V_{DC}. (Output #2 15V)
The power supply will latch off until AC power is cycled.

Over Current Protection
Individual current limit on all outputs. Automatic recovery upon fault removal.

Reverse Voltage Protection
All outputs are protected to rated load.

Transient Response
The peak output voltage excursion on the main output will not exceed 2% and will recover within 1% in 50 mSec for a 25% load step change. On outputs #2-5, the peak output voltage excursion will not exceed 1% for a 25% load step change.

Output Isolation
All outputs are fully isolated.

Power Fail Signal
Upon AC input voltage removal, the power fail signal drops to logic level '0' at least 5msec before loss of DC output. Upon AC input turn-on, signal remains low until outputs are in regulation. Consult the factory for other options.

DC Power Good Signal
The signal drops to logic level '0' by a ±10% loss of regulation on any output, common with Output #1 (-) sense. Consult the factory for other options.

Over Temperature Protection
Internal thermal switch turns off power supply if overheating occurs and automatically restarts. Automatic restart when temperature drops below threshold.

Safety
UL Recognized: UL File Number 14675 (1950 & 1012)
CSA Certified: CSA File Number LR9070-154C
(C22.2 No. 234-M90, Level 6)
TUV License Number: R9576025 (EN60950) (IEC950)

Cooling
The unit is designed to operate with 30 CFM of airflow.

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Output Voltages and Maximum Rated Loads

MODEL NUMBER	OUTPUT #1		OUTPUT #2		OUTPUT #3		OUTPUT #4		OUTPUT #5	
	V_{OUT}	I_{MAX}	V_{NOM}	I_{MAX}	V_{NOM}	I_{MAX}	V_{NOM}	I_{MAX}	V_{OUT}	I_{MAX}
KX500-F3A	± 5V	80A	± 12V	20A	± 12V	20A	-	-	-	-
KX500-F3B	± 5V	80A	± 15V	20A	± 15V	20A	-	-	-	-
KX500-F5C	± 5V	80A	± 12V	20A	± 12V	20A	± 24V	3A	±5V	6A
KX500-F5D	± 5V	80A	± 12V	20A	± 12V	20A	± 12V	6A	±5V	6A
KX500-F5E	± 5V	80A	± 15V	20A	± 15V	20A	± 24V	3A	±5V	6A
KX500-F5F	± 5V	80A	± 15V	20A	± 15V	20A	± 12V	6A	±5V	6A
KX500-F5G	± 5V	80A	±15V	20A	±15V	20A	±5V	6A	±5V	6A

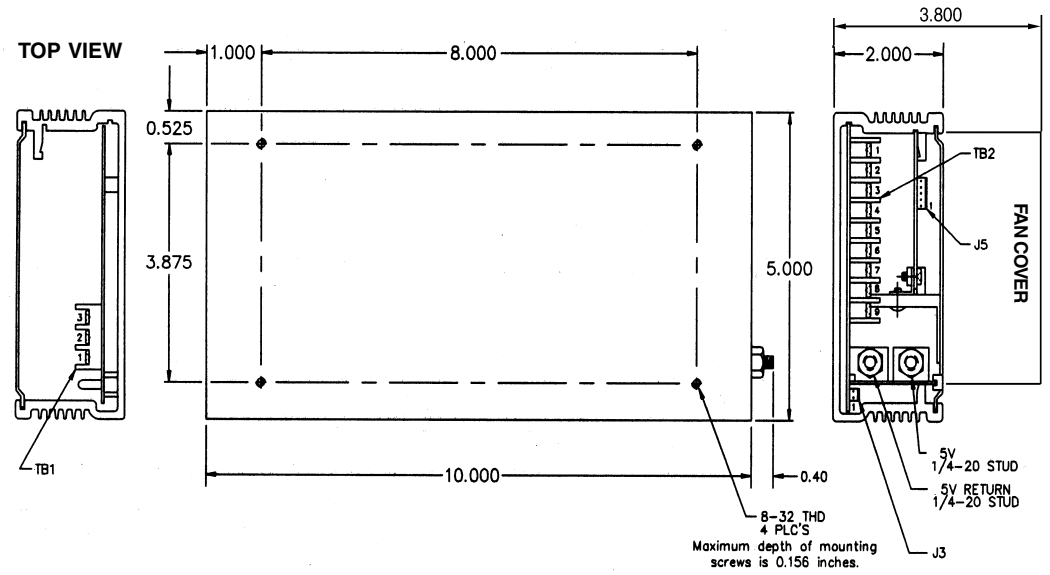
Note: Maximum current ratings are for 10sec maximum. Total power not to exceed 500 watts.

Output Specifications

Parameter	Limits		
Regulation	**Main Output**	**Outputs #2 - 5**	**Output #4 (24V)**
Line	± 0.1%	±0.2%	±0.5%
Load	±0.2%	±0.4%	±0.4%
Cross	±0.2%	±0.2%	±0.5%
Minimum Load			
Output #1	5.0A		
Outputs#2 & #3	1.0A		
Outputs #4 & #5	0.0A		
Hold-Up Time	20mSec at Full Load		

Parameter	Conditions	Min	Typ	Max	Units
Voltage Adustment Range	Nominal line on all outputs		±5		%
PARD	20 MHz bandwidth			1	% P-P or 100mV P-P whichever is smaller
Temperature					
Operating	300 CFM airflow, all line & load conditions	0		40	°C
	Derates 10W/°C	40		60	°C
	Derates 20W/°C	60		70	°C
Storage		-20		+70	°C
Humidity Range	Non-condensing	0		95	%
Temperature Coefficient (T_C)	After half hour warm-up			± 0.02	%/°C
	Output #4 with 24V option			±0.11	%/°C

Mechanical



NOTES:
All measurements are in inches
FAN MOUNTED ON COVER ADDS 1.80". A 1.3" FAN IS ALSO AVAILABLE.
COOLING: The KX500 is designed to operate with 30 CFM airflow.
SHOCK AND VIBRATION: The KX500 meets the requirements of MIL STD-810D. (Vibration-Method 514.3 Procedure I; Shock-Method 516.3 Procedure I).
WEIGHT: Approximately 5 lbs.

Pin Specifications

Terminal Block 1		Terminal Block 2	
POS	**FUNCTION**	**POS**	**FUNCTION**
1	AC Line	1	+V4
2	AC Neutral	2	-V4
3	Ground	3	+V5
		4	-V5
		5	+V3
		6	-V3
		7	+V2
		8	-V2 & -FAN
		9	+ FAN OUTPUT

Connector Specifications

J3 Connector		J3 Connector	
PIN	**FUNCTION**		**Molex No.**
1	+ Sense	Connector	22-05-3021
2	- Sense		

J5 Connector		J5 Connector	
1	AC Power Good		**Molex No.**
2	Signal Common	Connector	22-28-1050
3	DC Power Good		
4	Remote Inhibit		
5	Remote Inhibit Rtn.		

Model Number Specification

KX500 - * B * L H H N

Base Model

Output Voltage Configuration (see table on pg. 3 for options)

"B" denotes Class B EMI compliance (standard feature)

Cover Options: C denotes plain cover; F denotes cover w/integral fan N denotes no cover

N denotes no active current sharing available

H denotes that a logic level "1" indicates DC OK (transition to "0" on loss of output regulation)

H denotes that a logic level "1" indicates AC present. (transition to "0" on loss of AC power)

L denotes that a logic level "1' (or open) enables the power supply (short to signal common - or -sense inhibits the output)

Standard Options are shown, consult factory for other available options.