



**Murata Power Solutions**

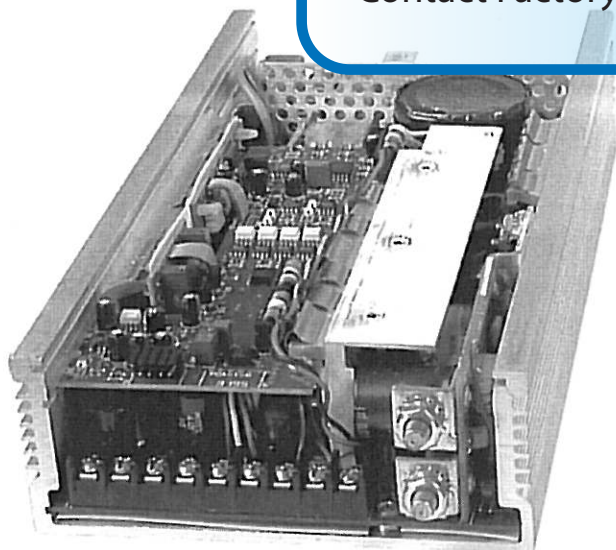
# 500 WATT AC/DC POWER SUPPLY

## **OBSOLETE PRODUCT**

Contact Factory for Replacement Model

### **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,  $\pm 0.75 V_{DC}$ .

Output #2: 14.0V  $\pm 1V_{DC}$ . (Output #2 12V)

17.0V  $\pm 1V_{DC}$ . (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  $\pm 10\%$  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.

## Output Voltages and Maximum Rated Loads

| MODEL NUMBER | OUTPUT #1        |                  | OUTPUT #2        |                  | OUTPUT #3        |                  | OUTPUT #4        |                  | OUTPUT #5        |                  |
|--------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|              | V <sub>OUT</sub> | I <sub>MAX</sub> | V <sub>NOM</sub> | I <sub>MAX</sub> | V <sub>NOM</sub> | I <sub>MAX</sub> | V <sub>NOM</sub> | I <sub>MAX</sub> | V <sub>OUT</sub> | I <sub>MAX</sub> |
| 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               |

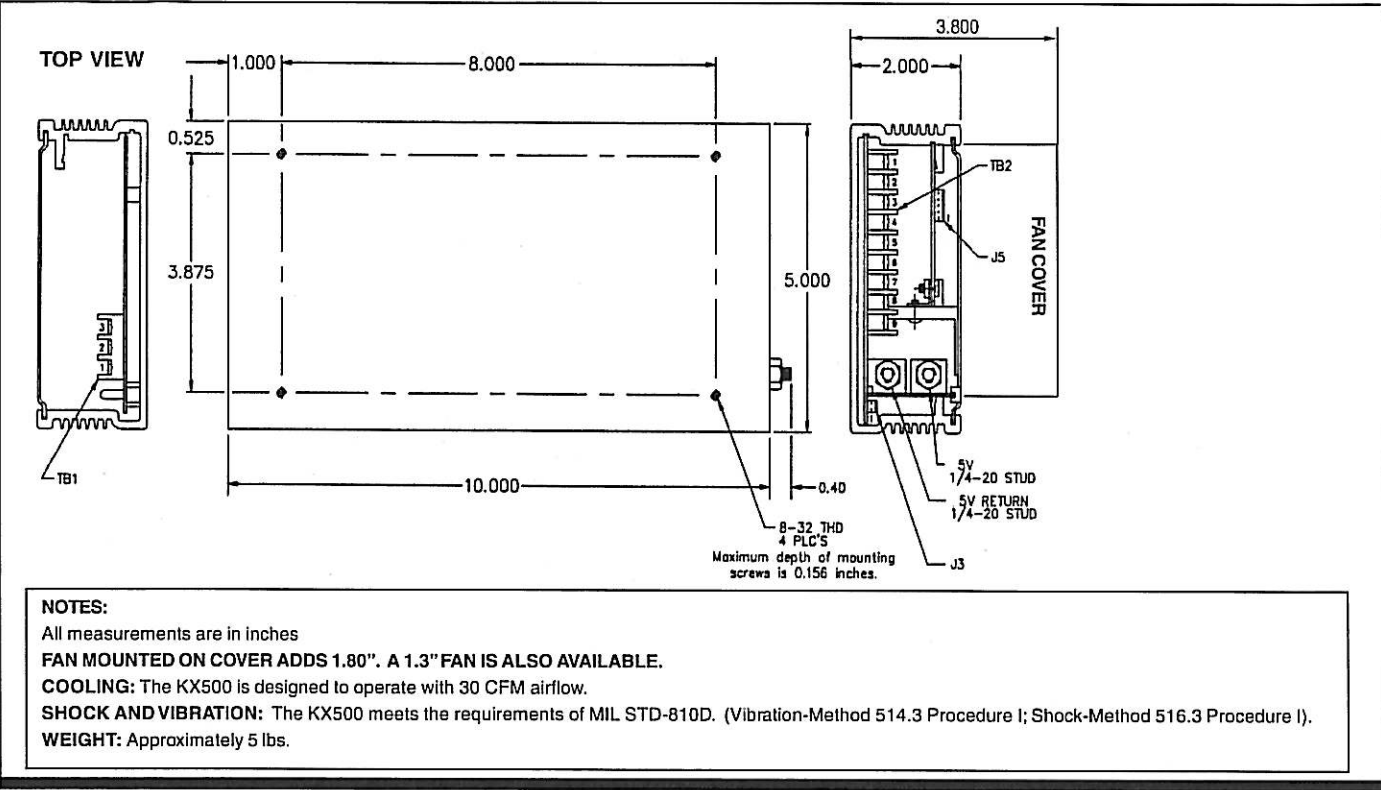
Note: Maximum current ratings are for 10sec maximum. Total power not to exceed 500 watts.

## Output Specifications

| Parameter       | Limits              |                |                 |
|-----------------|---------------------|----------------|-----------------|
|                 | Main Output         | Outputs #2 - 5 | Output #4 (24V) |
| Regulation      |                     |                |                 |
| 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 Adjustment Range     | Nominal line on all outputs                 |     | ±5  |        | %   |
| PARD                         | 20 MHz bandwidth                            |     |     | 1      | % P-P or<br>100mV P-P<br>whichever is smaller |
| Temperature<br>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 (Tc) | After half hour warm-up                     |     |     | ± 0.02 | %/°C  |
|                              | Output #4 with 24V option                   |     |     | ±0.11  | %/°C  |

Mechanical



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 |

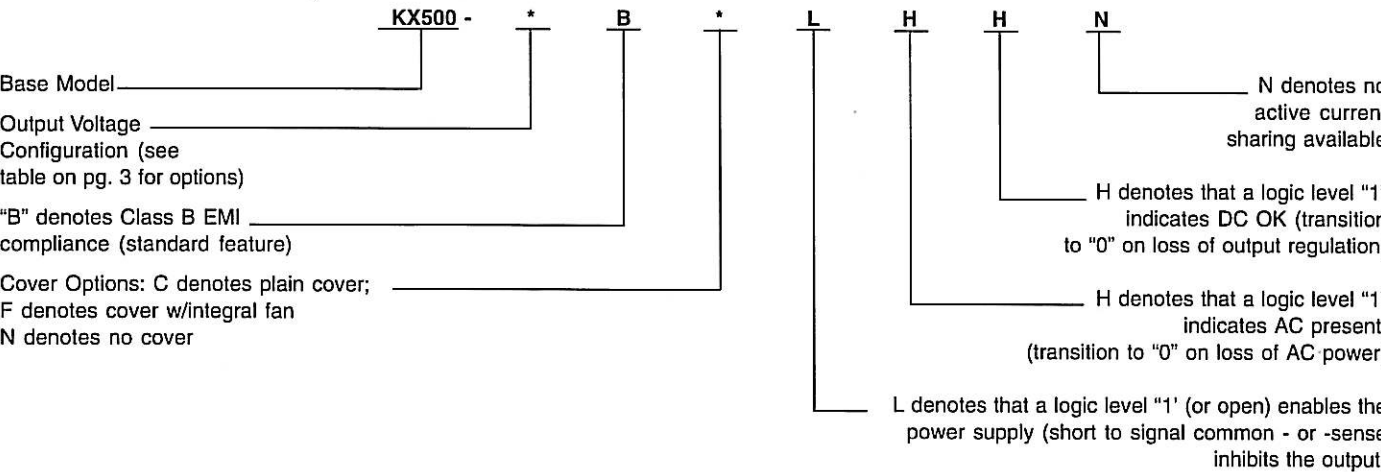
Connector Specifications

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

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

Model Number Specification



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