

# MW170KB

Universal 10 – 15 Watt Series

Medical Switch-Mode Power Supply



3 Year Warranty

- 100-240VAC Universal Input
- Desktop and Wall-Plug Style with Interchangeable Blades\* ( Kit sold separately)
- 3.3V to 24V Single Output Models, up to 15W
- Modified and Custom Designs
- Regulated Output with Low Ripple
- Impact-Resistant Polycarbonate Enclosure
- No load Power Consumption < 0.50W
- Designed to meet EISA Requirements (see page 3 for details).



International Safety Standard Approvals



## Specifications

All Specifications are typical at nominal input, full load at 25°C unless otherwise stated.

### Output Specifications

|                                  |                |  |
|----------------------------------|----------------|--|
| Line and Load Voltage Regulation | Excluding Cord | Line: +/-1%<br>Load: +/-5%                                   |
| Ripple                           |                | 1% Vp-p max.   |
| Transient Response               |                | 0.5mS for 50% Load Change, typical.                          |
| Protection                       |                | Overcurrent Protection (Hiccup).<br>Short Circuit Protection |

### Input Specifications

|                     |                 |  |
|---------------------|-----------------|--|
| Input Voltage Range | Universal Input | 100-240VAC, -10%, +10%                         |
| Line Frequency      |                 | 47-63Hz  |
| Input Current       | 90 VAC          | 0.4A, max.                                     |
| Protection          |                 | Internal Primary Current Fuse, Inrush Limiting |

### Environmental Specifications

|                     |                       |   |
|---------------------|-----------------------|---|
| Thermal Performance | Operating Temperature | 0° C to 40° C full load, no derating, convection cooling, Non-vented case |
| Relative Humidity   | Non-condensing        | 5% to 95%   |
| Altitude            |                       | 0 to 10,000 feet  |

### General Specifications

|                                |   |
|--------------------------------|---|
| Topology                       | Switching - Fixed Frequency Flyback   |
| Efficiency                     | Designed to meet EISA Requirements - see page 3   |
| Hold-up Time @ 115VAC          | 18mS, min.  |
| Dielectric Withstand           | 4,000VAC or 5,656VDC Primary-Secondary;<br>1,500VAC or 2,150VDC Primary - F.G;<br>500VDC Secondary - F.G. |
| Storage Temp.                  | -30° C to 85° C   |
| Approvals and Safety Standards | UL60601-1<br>IEC/EN60601-1<br>EMC: EN60601-1-2/<br>EN55024  |
| MTBF                           | 100,000 Calculated Hours  |
| Case and Dimensions            | Desktop Style:<br>3.3"L x 1.81"W x 1.26"H<br>84.6mm L x 46mm W x 33mm H                                   |
| Case Material                  | Black 94V0 Polycarbonate  |
| Cord and Connectors            | 18AWG, 1,800mm 2 conductor. (5V, 6V model: 1,500mm). Ault #3 connector. Other connectors are available.   |

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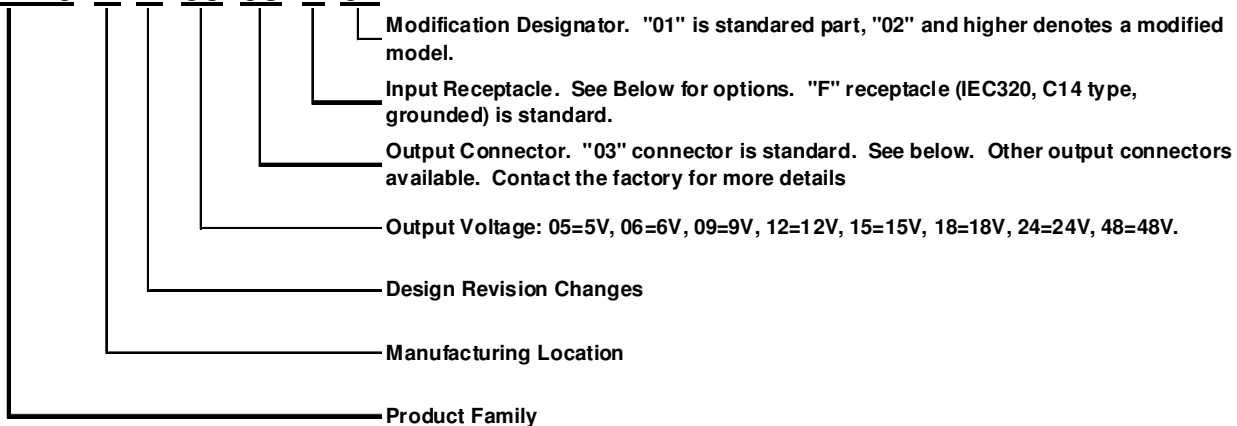
## OUTPUT PARAMETERS

| Model Number   | Volts (V) | Output Current (max) | Max Watts | Ripple (Vp-p max) |
|----------------|-----------|----------------------|-----------|-------------------|
| MW170KB0503F01 | 5 V       | 2.00 A               | 10.0 W    | 50mV              |
| MW170KB0603F01 | 6 V       | 1.67 A               | 12.0 W    | 60mV              |
| MW170KB0903F01 | 9 V       | 1.50 A               | 13.5 W    | 90mV              |
| MW170KB1203F01 | 12 V      | 1.20 A               | 15.0 W    | 120mV             |
| MW170KB1503F01 | 15 V      | 1.00 A               | 15.0 W    | 150mV             |
| MW170KB1803F01 | 18 V      | 0.84 A               | 15.0 W    | 180mV             |
| MW170KB2403F01 | 24 V      | 0.63 A               | 15.12 W   | 240mV             |

Note: Part numbers above include #3 output connector and IEC320 C14 grounded input receptacle. See below for other options.

## Model Number Key

**MW170 K B 05 03 F 01**



## Input Receptacle Options

| DESKTOP OPTIONS                  |                                    |                                 | WALL-PLUG OPTIONS                             |                                     |                        |                                   |                           |
|----------------------------------|------------------------------------|---------------------------------|---|-------------------------------------|------------------------|-----------------------------------|---------------------------|
|                                  |                                    |                                 |   |                                     |                        |                                   |                           |
| IEC320<br>C14<br>Grounded<br>(F) | IEC320<br>C18<br>Ungrounded<br>(Q) | IEC320<br>C8<br>"Shaver"<br>(N) | N. America<br>Japan<br>Interchangeable<br>(B) | N. America<br>Japan<br>Fixed<br>(C) | Europe<br>Fixed<br>(M) | United<br>Kingdom<br>Fixed<br>(G) | Australia<br>Fixed<br>(E) |

- Notes: 1. For Desktop options, choose the applicable letter above.  
 2. For Wall-plug options, choose the applicable letter above. The model will then be fitted only with the receptacle chosen. The North American blade version (B) will be an interchangeable blade. The other options (C), (M), (G), and (E), will be fixed blades molded in the case.  
 3. Blade Kit is available which will include one each of a EU, UK, and Aust blade. Kit part number is KT1027K. Can be used with (B) version only, to allow blades to be interchanged.

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## 2007 Energy Independence and Security Act - EISA

The Energy Independence and Security Act of 2007 was passed in December of 2007 and addresses minimum efficiency standards and standby levels for Class A external power supplies that are 250 Watts and under. This law stipulates that external power supplies manufactured on July 1, 2008 and beyond meet certain minimum efficiency and standby criteria as defined below.

### Minimum Efficiency Criteria:

Active mode is defined as when a power supply's input is connected to a line voltage AC and it's output is connected to a DC or AC load, drawing a portion of the product's power output. Depending upon the power rating for the power supply, it must meet the minimum efficiency criteria outlined below.

### Energy-Efficiency Criteria for Active Mode:

Output Power on Adapter Label

0 to < 1 Watt  
> 1 watt to ≤ 51 watts  
> 51 watts

Minimum Average Efficiency Percentage

≥ 0.50 \* output power on the label  
≥ [0.09 \* Ln (output power on adapter label)] + 0.50  
≥ 0.85

### Energy Consumption Criteria for No Load Mode:

The power supply must also meet a requirement for when its input is connected to line voltage AC but its output is not connected to a load. Depending upon the power output of the supply, it must keep its energy consumption below the following values:

Output Power on Adapter Label

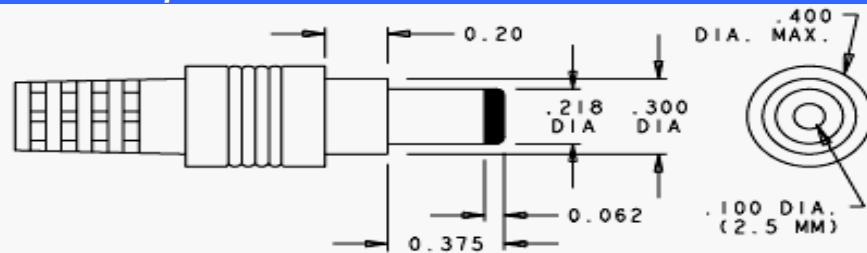
0 to < 250 Watts

Maximum Power Consumption in No-Load Mode

≤ 0.50 watts

## Output Connector Information

# 3



- Notes:
1. Center Contact = Positive
  2. Connector is Switchcraft 760 plug or equivalent.
  3. Suggested Mating Connector is Switchcraft 712A jack or equivalent.
  4. Other output connector options are available. Contact your local representative for details.