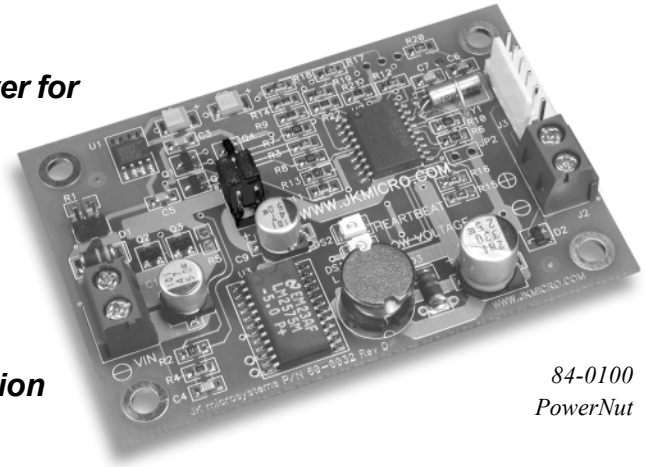
PowerNut

- ***Programmable PIC based Power Controller for:***
  - Automatic wake-up (power on/off) of downstream devices
  - Low Voltage detection and reporting
  - Use as "smart" relay
- ***Provides either regulated 5VDC or "raw" power for downstream devices***
- ***5V high-efficiency switching regulator***
- ***Switched 5-30VDC up to 1A***
  (or 7-30VDC when using onboard regulator)
- ***Simple Clocked Serial Interface***
- ***Onboard screw-terminals for power connection***
- ***Compact footprint dimensions (2" x 3" x .6")***
- ***Consumes approx. 180µA***



84-0100
PowerNut

The new ***PowerNut*** simplifies the design of power sensitive applications by controlling the input power to a single board computer or other device. The ***PowerNut*** provides developers with voltage regulation, power on/off time scheduling and voltage monitoring features on a platform smaller than a credit card.

This new accessory can control supply voltage from sources such as solar panels or batteries to downstream devices at up to 1A. The ***PowerNut*** can provide either regulated 5VDC using its onboard 7-30VDC regulator or it can furnish power directly from the source (5-30VDC) to downstream devices. By sending commands to the ***PowerNut***, the main controller has the ability to monitor the input voltage and turn off power to itself (or another device) for a specified period of time.

Additionally, the ***PowerNut*** can also be used as a "smart" solid-state relay to control power to subsystems that do not contain the primary system controller. Using an ultra-low quiescent current regulator and a low-power PIC processor, the ***PowerNut*** never sleeps and its clocked serial port can be used to wake up downstream devices. The PIC's built-in analog to digital converter can also be used for low battery detection.

A typical application would be a remote, power sensitive, system that is required to perform a periodic task. Sending commands to the PowerNut, the primary controller can power down for period of time, and then automatically wake up. This allows any single-board controller, regardless of its power management capabilities, to be used.

For **$39** in single quantity, the ***PowerNut*** enables JK microsystems' line of cost-effective, embedded x86 single board computers to be utilized in many applications with tight power budgets.

The ***PowerNut Development Kit*** (99-0100) includes a ***PowerNut*** controller, Connector Kit, LED, Setup Guide, Schematic and CD with utilities, sample programs and documentation.

JK microsystems, Inc.

1403 5th St. Suite D, Davis, CA 95616 ***Phone (530)297-6073***
http://www.jkmicro.com ***Fax (530)297-6074***

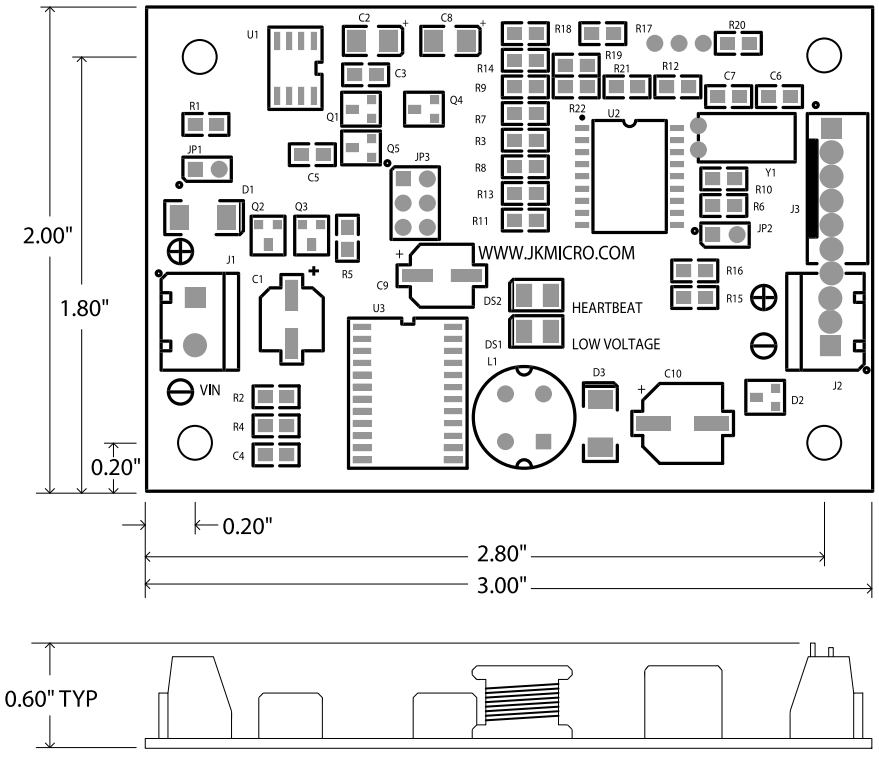
PowerNut

Specifications

Processor	*Low-power PIC, 32768 Hz*
Supply Voltage	*5-30 VDC if not using the on-board 5 volt switching regulator*
	7-30 VDC otherwise
Current Consumption	*Downstream shutoff: 180µA max (58 to 100µA typical)*
with no load attached	*Downstream active, on-board 5V disabled, Vin=5V, 3.3mA*
	Downstream active, on-board 5V disabled, Vin=30V, 7.5mA
	Downstream active, on-board 5V active, Vin=7V, 11mA
	Downstream active, on-board 5V active, Vin=30V, 15mA
Operating Temperature	*-20 to +85°C*
Humidity	*5 - 90% non-condensing*
Physical dimensions	*2" x 3" x 0.6" (50.80mm x 76.20mm x 1.58mm)*

Connectors and Jumpers

JP1 Enable/disable for reverse polarity protection
JP2 Reserved for future expansion
JP3 Downstream Configuration Jumpers
J1 Power Input Connector
J2 Power Output Connector location



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