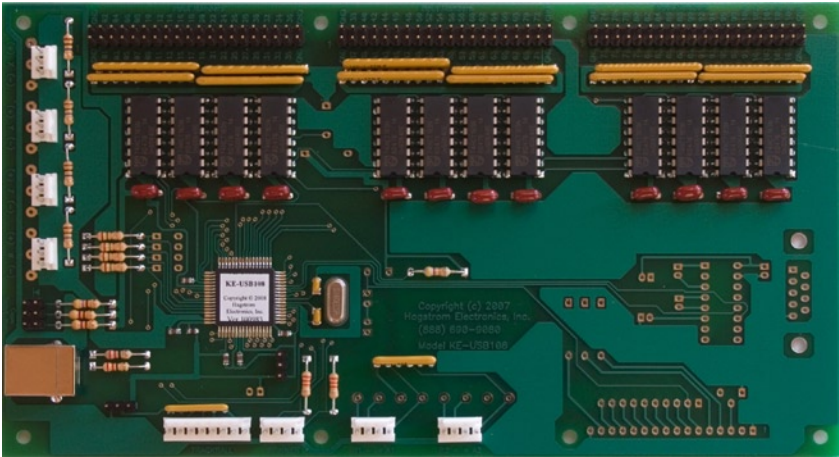


# **KE-USB108 Keyboard Encoder**

*Programmable USB Keyboard, Joystick and Mouse Interface  
with Rotary Encoder, Potentiometer, Trackball and Spinner Inputs*



The KE-USB108 Keyboard Encoder is a product designed to interface push buttons, switches, potentiometers and other signals to the computer's USB port. Devices connected to the KE-USB108 input headers produce keystrokes, mouse buttons and joystick button presses that appear to the PC as if they were entered from a standard USB keyboard, mouse, or joystick.

In addition to the 108 individual inputs there are several other specialized ports. These additional inputs feature two rotary encoders, four potentiometers, a trackball and a spinner. See the KE-USB108 Features Chart on the next page for more detail.

The KE-USB108 is programmed through the USB port of the PC using the programming application included with the unit. Once programmed, the configuration is stored on the unit in non-volatile memory.

The KE-USB108 features a powerful extended macro capability that allows up to 64 keystrokes when an input is activated and again up to 64 keystrokes when an input is deactivated.

## **KE-USB108 Features**

- Provides all necessary communication to the PC, so it will properly boot the PC without any other keyboard device attached.
- Uses a standard USB A-B male/male cable to attach to the PC.
- Full speed USB interface assures quick response to input actions.
- Provides up to 62 simultaneous repeating keystrokes. (62 Keystrokes may be “on” at one time).
- Programmable. The 108 input pins can be individually programmed to emulate any key from the standard keyboard as well as mouse button and joystick button actions.
- Assign a macro function to a single key input. Ctrl, Alt, Shift, or a combination of those keys can be combined with a keystroke. (Ex: Shift+F1, Ctrl+F1, etc.)
- Extended macros allow up to 64 keystrokes to be sent when a switch is activated, and up to 64 keystrokes to be sent when that switch is released, allowing up to 128 keystrokes combined upon a single input activation and release.
- Includes easy-to-use Windows PC application to configure the KE-USB108.
- Configuration stored in non-volatile memory. The KE-USB108 maintains the configuration, even with power off.
- Rotary Encoder inputs to produce a single programmable keystroke for each direction turned.
- Potentiometer inputs for the X, Y, Z and Rx axis to produce standard joystick axis movement.
- Trackball input provides conversion of those signals to X and Y mouse movement. Trackball inputs are jumper selectable for active low or active high signals.
- Spinner input allows conversion of those signals to X or Y mouse movement, or mouse wheel movement. Spinner inputs are jumper selectable for active low or active high signals.
- The KE-USB108, will operate with any or all of the input ports used. Connect to individual 108 inputs, rotary encoders, potentiometers, trackball or spinner. Use only the devices needed for a particular application.
- Provides 2x3 Header for connection of CAPS, NUM and SCROLL Status LEDs.
- The KE-USB108 is powered directly from the USB port. No external power supply is required.

**Order Toll Free: 888-690-9080**

# KE-USB108 Input Guide

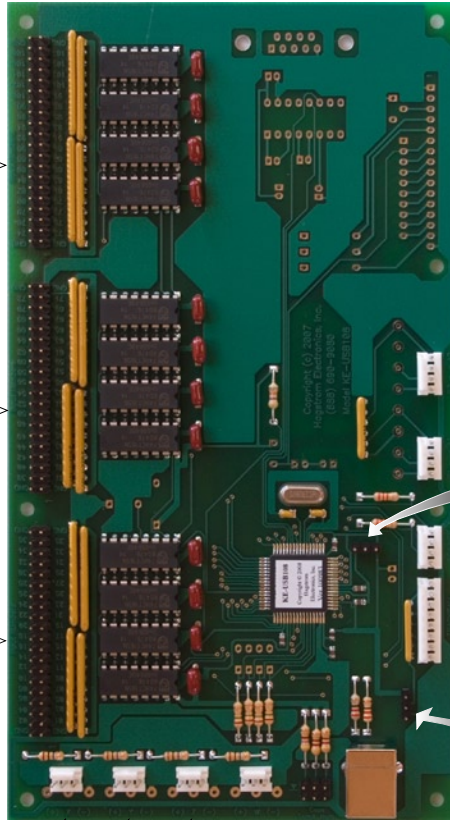
I/O Header for inputs 73-108  
Dual Row .100" spaced pins (2x20 header). \*



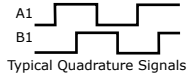
I/O Header for inputs 37-72  
Dual Row .100" spaced pins (2x20 header). \*



I/O Header for inputs 1-36  
Dual Row .100" spaced pins (2x20 header). \*



2 Quadrature Rotary Encoder Inputs  
4 position MTA header .100" spaced pins. \*



Spinner active high or low jumper select.

Spinner Header and Trackball Header to emulate mouse movement. \*

Trackball active high or low jumper select.

X, Y, Z & Rx Joystick Potentiometer Headers  
3 position MTA header .100" spaced pins. \*



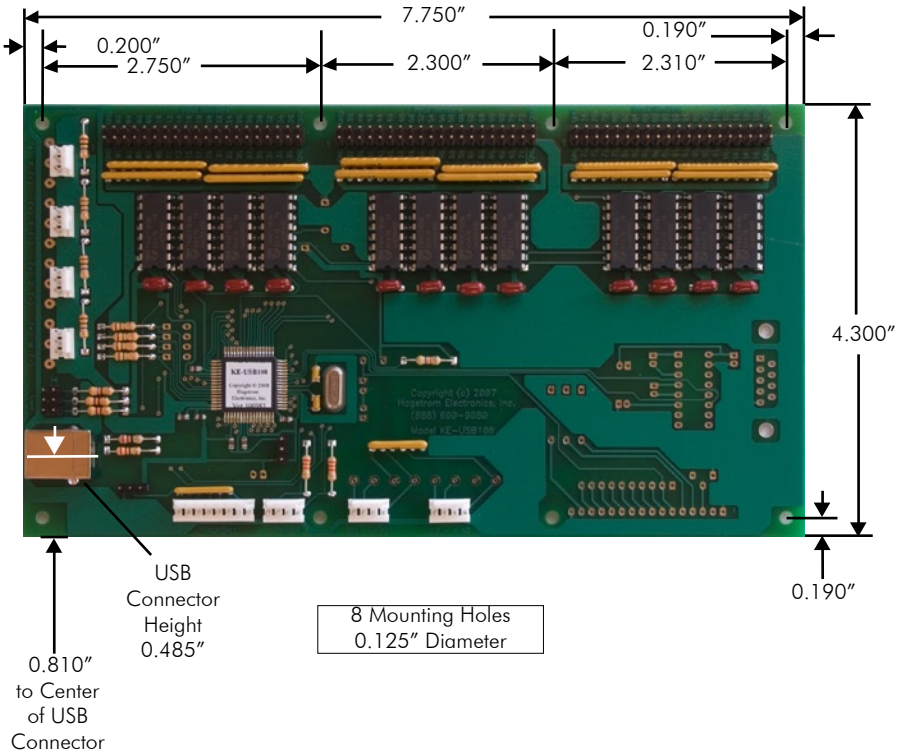
**Full Speed USB**  
To PC USB Port

2x3 Header for Connection of CAPS, NUM, SCROLL Status LEDs



\* See page 44 for recommended accessories for connecting your devices to the KE-USB108.

## KE-USB108 Specifications



Note: All dimensions are in inches.

<b>Operating Voltage</b>	5 Volts DC +/-5%, Supplied from USB port.
<b>Operating Current</b>	100 ma maximum
<b>Operating Temperature</b>	0 to 70 Degrees C
<b>Input Header</b>	108 individual inputs divided between three 2 x 20 headers. .025" square pins spaced at .100"
<b>Required Input Current</b>	0.20 ma sink current typical
<b>Input Active Time</b>	The input must be active for at least 20 msec to be considered valid.

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