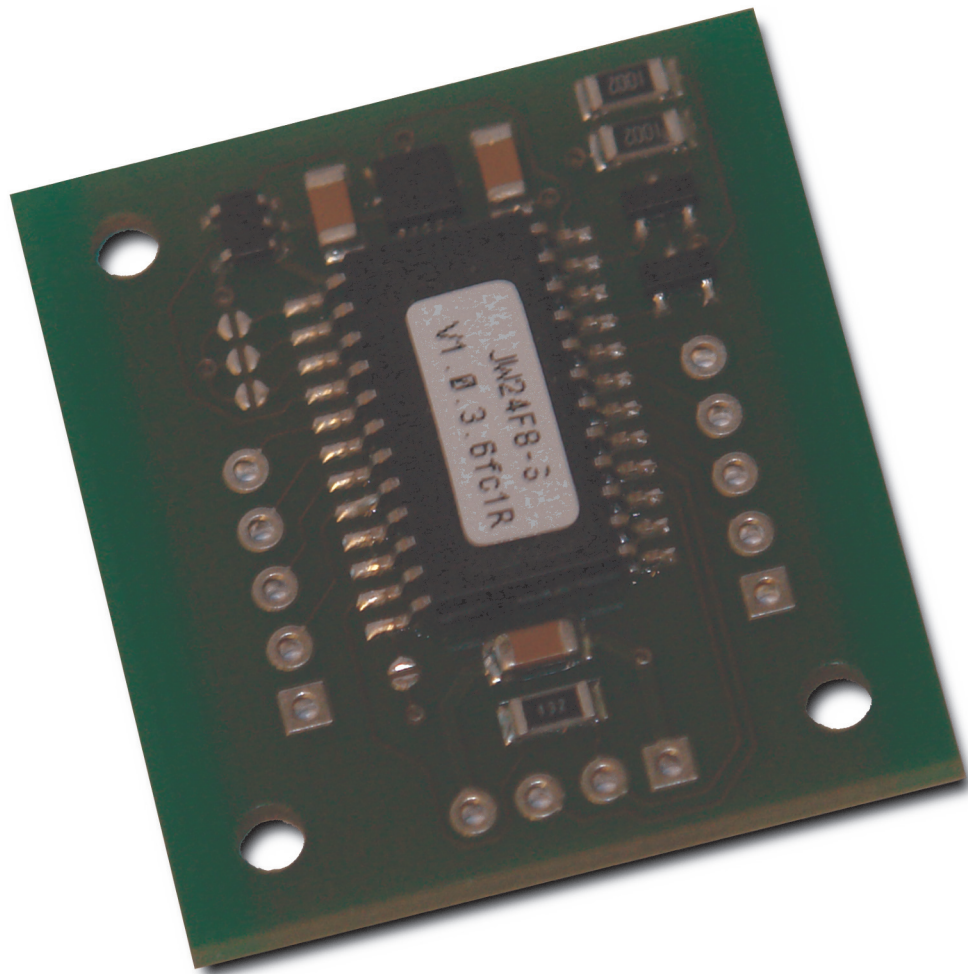


# Code Mercenaries

Hard- und Software GmbH

Pressrelease

JoyWarrior24F8 - Acceleration sensor module with USB





## Code Mercenaries

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### Acceleration sensor module with USB

Code Mercenaries releases a three axis acceleration sensor with USB interface at low cost. JoyWarrior24F8 is available as a complete ready to use module based on a MEMS sensor, measuring with 10 bit resolution in a range of  $\pm 2g$ ,  $\pm 4g$ , or  $\pm 8g$  at 125 values per second. The USB interface allows for easy use with any computer. Software support is available for MacOS X, and Windows, Linux is under preparation. A configuration tool for setting the sensor parameters and a calibration tool as well as sample code is part of the software support. A low mass of less than 5g and small form factor of just 30x33x5mm allows use in many applications. The modules can be used to measure acceleration or tilt angle as well as low frequency vibration. With a unit price of Euro 16.55 at 100 a whole lot of new applications is possible.

### Technical overview

- USB Low Speed interface (USB 1.1/2.0)
- X, Y, Z axis at 10 bit resolution each
- 125 values per second
- Range  $\pm 2g$ ,  $\pm 4g$ ,  $\pm 8g$  software selectable
- 8 inputs for buttons or other digital signals
- Identifies as a Joystick
- 30 x 33 x 5mm
- <5g mass
- Power supplied via USB
- Software support for MacOS X, Linux, and Windows



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### **Functional Overview**

The JoyWarrior24F8 modules work as joystick devices. This allows easy access to the acceleration data via the joystick API of the respective operating system and eliminates the requirement of a device specific driver. By using the system drivers software installation is reduced to a minimum. Direct access to the detailed sensor data and setting of sensor parameters is possible via a virtual second interface. A software tool is available that allows direct access to the sensor parameters and sample code is provided to allow the end user to write their own software. A calibration program is provided to compensate mechanical tolerances due to mounting. In addition to the sensor data eight digital inputs are available that can be used for buttons or other digital signals.

### **Applications**

A resolution down to 4mg (about 1 degree in tilt angle measurement) and 125 samples per second make the JoyWarrior24F8 attractive for many measurement and instrumentation applications. The compact size and low mass make it possible to integrate the modules in test setups or production devices or machines.

Use as a human input device for industrial as well as gaming applications is also possible. A version specialized for cursor control is described in the next paragraph. A variant working as a mouse replacement for cursor control is going to be released soon.



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### About us and our products

Code Mercenaries is a supplier for the industrial input device and peripheral market since 1998. The keyboard controller family "KeyWarrior", combined keyboard and mouse controller family "KeyWarrior Combo", and mouse controller family "MouseWarrior" serve as basis for a significant number of the European industrial input device manufacturers. During the last few years we also saw a significant number of design wins in North America.

A small but vital customer base are the manufacturers of products for the disability market and other speciality input devices.

The joystick controller family "JoyWarrior" serves a broad range of customers from industrial machine/vision control, professional and semiprofessional simulator control, to hobby and model building. A good option for front panel design is the joystick/mouse hybrid controller MW24J8 which is switch selectable to work as a mouse or joystick allowing cursor control or data input. Applications for the IO-Warrior are very diverse. Basically only the number of pins and the data rate put limits on the use of IO-Warrior. It is used in laboratory setups, test equipment as well as in hobby projects or full scale device production either as the core of a device or "just" the interface to USB. IO-Warrior chips control robots and telescopes, do quality control on production lines, take measurements in labs, control switches and displays in front panels or simulator cockpits, or work as the USB interface in many kinds of products.

Our philosophy is to provide complete solutions that allow our customers to concentrate on their own strength in developing their end products. The necessary know how for controlling interfaces like the USB or PS/2 is encapsulated in our chips so that the device manufacturer does not need to care about these details but rather can concentrate on what they can do best. Like a manufacturer does not need to care about details of USB but can fully devote their engineering to creating rugged and reliable keyboards.