



TOKYO DEVICES

IWS600-KY

General Purpose USB Infrared Motion Detector (Virtual Keyboard Type)

Revision 1.0



The IWS600-KY is a pyroelectric infrared sensor that operates as a virtual USB keyboard. It responds to movements of people or heat sources up to 5 meters away. Simply by plugging it into a computer's USB port, it becomes operational without the need for installing any dedicated software, allowing for immediate use. It can be integrated into various research and applications, such as security and assisted living.

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1. Specifications

- Sensor: Panasonic Pyroelectric Infrared Sensor
- Detection Distance: Approx. 5m
- Power Supply: USB bus power 5.0V ($\pm 10\%$)
- Power Consumption: Approx. 2mA avg
- USB Communication: Low speed (1.5Mbps), Universal HID Keyboard
- Compatible Operating Systems: Windows XP, Vista, 7, 8, 10 or later, Linux
- Enclosure Dimensions: (see Figure 4)
 - W70.4mm x H22mm x D35.4mm
 - Mounting M3 flange holes $\phi 3.5\text{mm} \times 2$ locations

2. About Pyroelectric Infrared Sensors

Pyroelectric infrared sensors detect infrared variations when an object with a different temperature moves within a wide area, such as a human body. Unlike sensors that emit light, such as LEDs, these sensors do not emit any light themselves. This technology is widely used for applications like intrusion detection and lighting systems that activate when someone approaches.

3. How to Use

Connect the mini USB connector on the side of the IWS600-KY to the USB port of your computer using a USB cable. Upon connection, the power will automatically turn on. The IWS600-KY operates as a virtual USB keyboard. When detection occurs, the "H" key (left shift key + H key) is pressed, and when no detection is present, the "L" key (left shift key + L key) is pressed. If nothing is detected, no keys are pressed. Refer to Figure 1 for timing details.

The sensor's response range is approximately 41 degrees to 47 degrees. Please refer to Figures 2 and 3 for more information.

4. Precautions

For the first 30 seconds after powering on, the output may randomly alternate between "H" and "L" (as shown in the Two period in Figure 1). This behavior is a specification of the sensor module installed and is not indicative of a malfunction. After more than 30 seconds post power-on, the output will stabilize.

As a similar product to the IWS600-KY, the IWS600-CM type allows for retrieval of sensor values through control commands, offering more flexibility for integration into applications. For more information, please search "IWS600-CM" on the internet.

It is not possible to connect multiple IWS600-KY units to a single computer. If you need to connect multiple devices, consider the IWS600-CM model, which supports multiple connections.

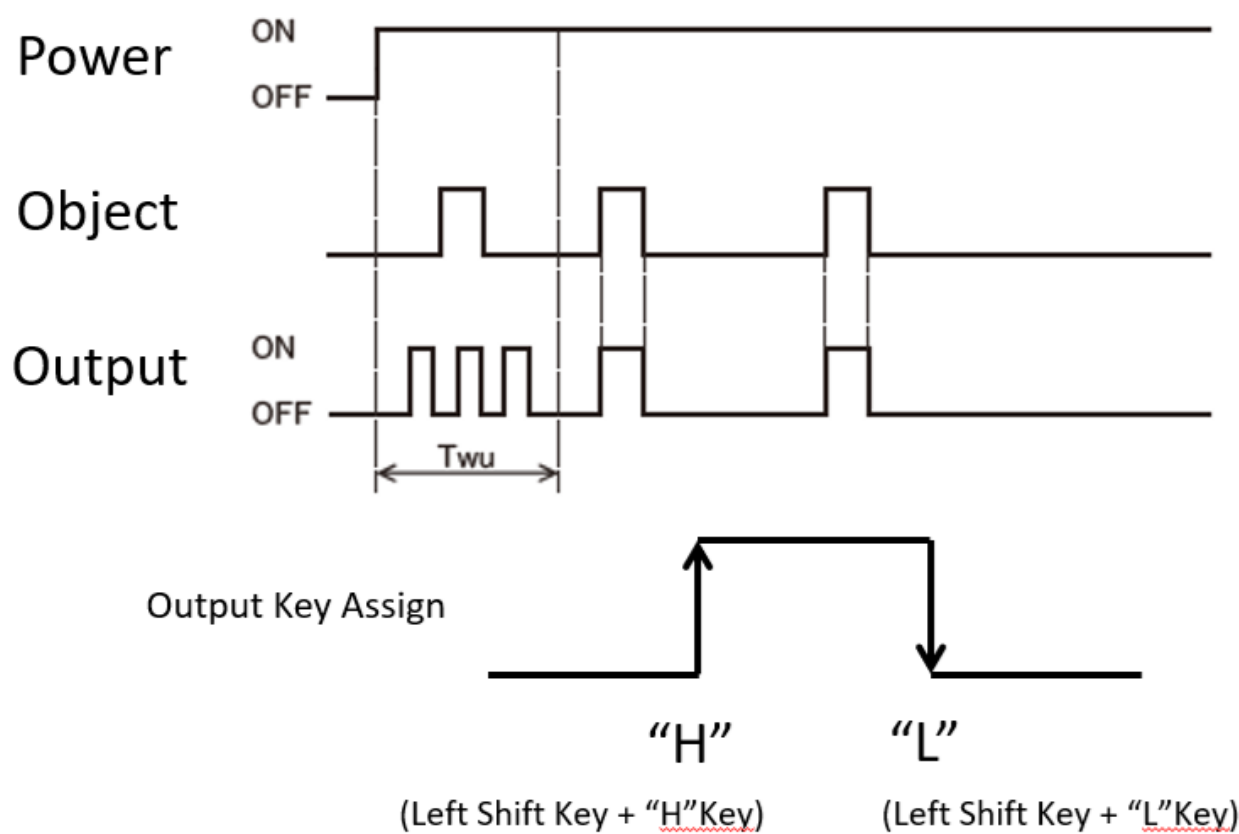


Figure 1 Sensor Output Timing Chart ※ T_{wu} = Circuit Stabilization Time (30 sec max)

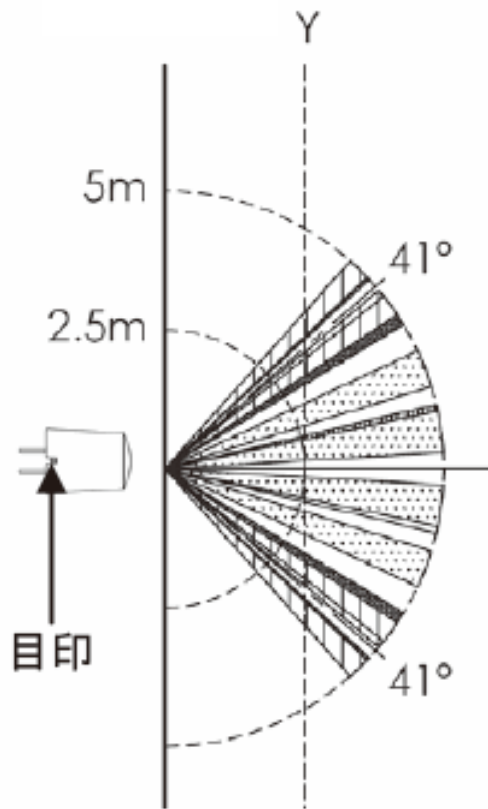


Figure 2 Vertical Response Range

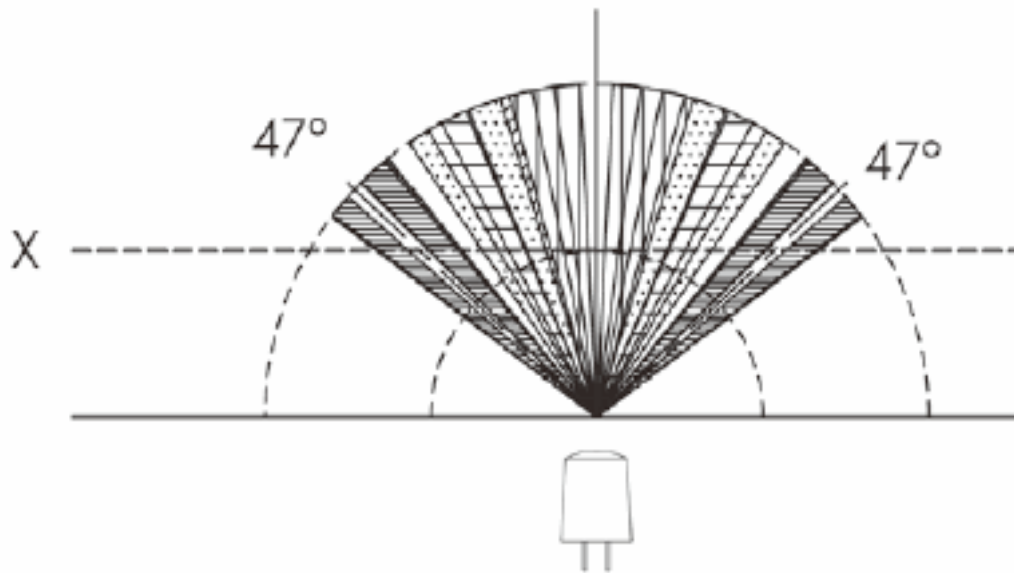


Figure 3 Horizontal Response Range

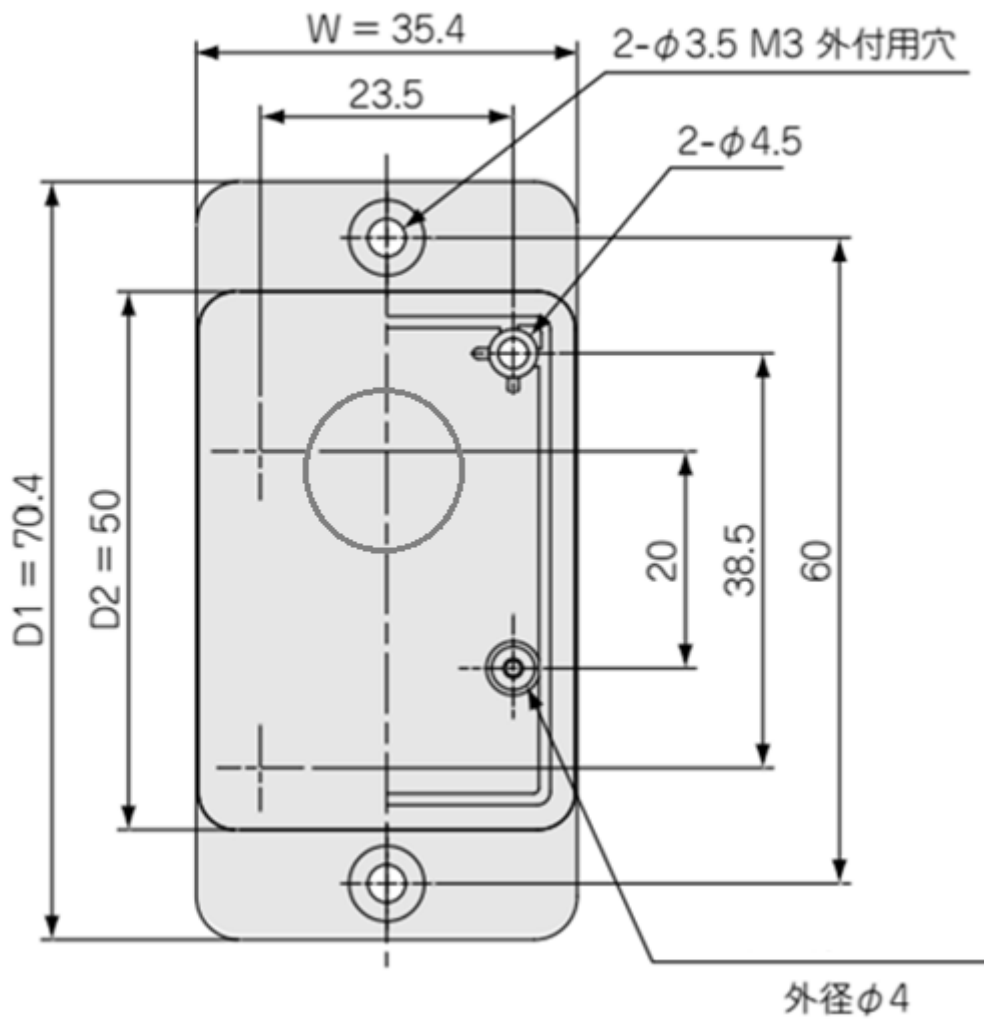


Figure 4 Enclosure Dimensions & Screw Hole Specifications

5. Product Customization Services

Tokyo Devices offers customization of circuit board exteriors, functionalities, and performance based on customer needs. For more details, please check the "Customization" on the Tokyo Devices website.

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