Infrared Ba
with Goggle

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SKU: PH_IMP_44

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Categories: Comp
Modules

Tags: Arduino Eye
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Sensor, Hands-Free
Sensor, Interactive
Eye Blink Sensor, IR

Assistive Sensor, Robotics Eye Blink Sensor, Smart Sensor for Eye Movement, Wearable Eye Blink Sensor

Product Description

The **IR-Based Eye Blink Sensor** is an innovative device designed to detect eye movements, specifically eye blinks, using infrared technology. It utilizes an infrared emitter and detector to monitor the presence or absence of a reflection from the eye. When the eye blinks, the reflection changes, triggering the sensor to send a signal. This sensor is ideal for creating hands-free control systems and monitoring applications, such as in assistive technologies or robotics. The IR-based sensor is highly sensitive, lightweight, and easy to integrate into various electronic projects, making it perfect for both beginners and professionals.

Uses:

- **Assistive Technology:** Can be used in communication devices for individuals with physical disabilities, allowing users to control devices like computers or mobile phones with eye blinks.
- **Hands-Free Control Systems:** Ideal for controlling home automation systems, lights, or appliances using eye movements, providing convenience for users with limited mobility.
- **Robotics and Automation:** Integrated into robots or automated systems to detect eye movements for user interaction or safety features.
- **Monitoring and Surveillance:** Used in security systems to detect signs of fatigue or attention loss in drivers, helping prevent accidents.
- **Interactive Games:** Incorporated into gaming systems to detect eye blinks, adding an exciting element to gameplay where players can control the game with eye movements.

Examples:

1. Anti Sleep alarm with driver safety using UNO SMD

2. Anti sleep Alarm with vibrator using IC 358

3. Smart Vehicle for Driver Safety Using Multiple Sensors

4. Alcohol & Eye Blink Sensing based Vehicle Accident Prevention System using Arduino UNO & LCD

For More Examples Visit Our YouTube Channel Project Hub .

Specification Details

Technology Used Infrared (IR) Sensor

Detection Method Eye Blink Detection via Infrared Reflection

Operating Voltage 3.3V - 5V

Sensor Type Passive Infrared (PIR) or Active IR (Emitter and Detector)

Sensitivity High sensitivity to eye blink detection

Output Type Digital Output (High/Low or Logic Level)

Response Time Fast response (milliseconds) for quick eye blink detection

Power Consumption Low power consumption (ideal for battery-powered projects)

Detection Range 5cm to 30cm (depending on the ambient light and setup)

Mounting Type Surface mount, small footprint for easy integration

Size Compact and lightweight for portability

Operating Temperature -10°C to 50°C (depending on the model)

Applications Assistive technology, hands-free control systems, robotics, gaming

Integration Compatibility Compatible with microcontrollers like Arduino, Raspberry Pi, etc.

Response Action Detects eye blink as a trigger for control or monitoring actions

Output Interface Digital (GPIO) or Analog (depending on the sensor version)

Accuracy Detects blink with high accuracy and minimal false triggers

Reliability Long-lasting with minimal wear (due to no mechanical parts)

Ease of Use Easy to integrate into projects with basic wiring and programming

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* Product Images are shown for illustrative purposes only and may differ from actual product.
