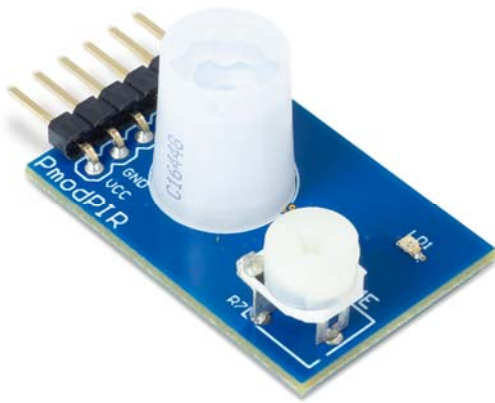


Pmod PIR Reference Manual

The Digilent Pmod PIR (Revision B) is a Passive Infrared Sensor for monitoring movement at low power. With the EKMC1601111, you can detect movement up to 5 meters away.



Features

- Optimized low-power modes
 - High sensitivity center for small movements of small objects
 - Normal sensitivity center for larger movements of large objects
 - Detect movement up to 5 meters away.
 - 6-pin Pmod connector with GPIO interface
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Functional Description

The Pmod PIR is designed to digitally report movement up to 5 meters away.

Specifications

Parameter	Min	Max	Units
Motion detected pulse width	~15	~75	ms
Circuit stability time	30		s

Interfacing with the Pmod

The Pmod PIR communicates with the host board via the GPIO protocol.

Quick Data Acquisition

Here is the process for getting motion data from the Pmod PIR in pseudo GPIO code:

1. Power on the Pmod PIR and wait at least 30 s for circuit to stabilize.
2. Poll state of pin 1 on the J1 header to see when motion has been detected by the Pmod PIR.

Pinout Table Diagram

Header J1		
Pin	Signal	Description
1	Motion Detected	Pin toggles high when motion is detected by the sensor

2	NC	NC
3	NC	NC
4	NC	NC
5	GND	Power Supply Ground
6	VCC	Power Supply (3.3V/5V)

The on-board potentiometer can be adjusted to alter the sample frequency.

The Pmod PIR is an ideal Pmod to use in long term motion sensing application. As a very low power Pmod between measurements, long term data to measure motion can easily be collected.

VDD for the Pmod PIR must be within 3 V and 6 V to ensure that the on-board chips operate correctly; however, it is recommended that Pmod is operated at 3.3 V.

Circuit stability time when voltage is applied is 30 seconds.

Physical Dimensions

The pins on the pin header are spaced 100 mil apart. The PCB is 1.2 inches long on the sides parallel to the pins on the pin header and 0.8 inches long on the sides perpendicular to the pin header. Height is .55 inches on the sensor.

Additional Information

The schematics of the Pmod PIR are available [here](#). Additional information about the passive infrared sensor can be found in the [datasheet here](#). Additional information about the multivibrator IC can be found in the [datasheet here](#).

Example code and more specific information on how to use the Pmod PIR can be found on its [Resource Center](#).

If you have any questions or comments about the Pmod PIR, feel free to post them under the appropriate section (“Add-on Boards”) of the [Digilent Forum](#).