



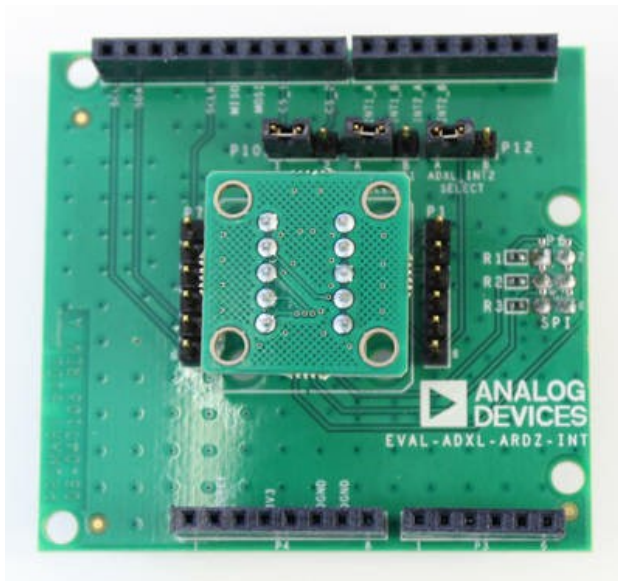
This version (26 Jan 2018 21:46) was **approved** by Brandon.  
 The [Previously approved version](#) (23 Jan 2018 01:40) is available. 🇺🇸

## EVAL-ADXL372-ARDZ Shield

The [ADXL372](#) is an ultralow power, 3-axis,  $\pm 200$  g MEMS accelerometer that consumes 22  $\mu$ A at a 3200 Hz output data rate (ODR). The ADXL372 is designed to be used in internet of things (IoT) applications such as:

- Impact and shock detection
- Asset health assessment
- Portable Internet of Things (IoT) edge nodes
- Concussion and head trauma detection

In addition to its ultralow power consumption, the ADXL372 has many features to enable impact detection while providing system level power reduction. The device includes a deep multimode output first in, first out (FIFO), several activity detection modes, and a method for capturing only the peak acceleration of over threshold events.



Two additional lower power modes with interrupt driven, wake-up features are available for monitoring motion during periods of inactivity. In wake-up mode, acceleration data can be averaged to obtain a low enough output noise to trigger on low g thresholds. In instant on mode, the ADXL372 consumes 1.4  $\mu$ A while continuously monitoring the environment for impacts. When an impact event that exceeds the internally set threshold is detected, the device switches to normal operating mode fast enough to record the event.

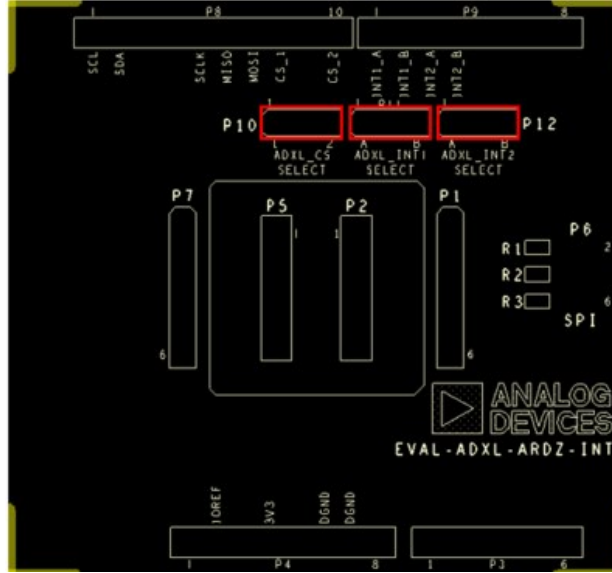
The [EVAL-ADXL372-ARDZ](#) Shield is designed to be compatible with the Arduino Uno R3 form factor.

## Connectors and Jumper configuration

The [EVAL-ADXL372-ARDZ](#) Shield has three jumpers to increase flexibility when stacking systems together. Each jumper and its purpose is described below.

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## ADXL\_CS\_SELECT(P10)

Configuration	Function
	Routes ADXL372 CS pin to CS_1
	Routes ADXL372 CS pin to CS_2

## ADXL\_INT1\_SELECT(P11)

Configuration	Function
	Connects ADXL372 INT1 pin to INT1_A
	Connects ADXL372 INT1 pin to INT1_B

## ADXL\_INT2\_SELECT(P12)

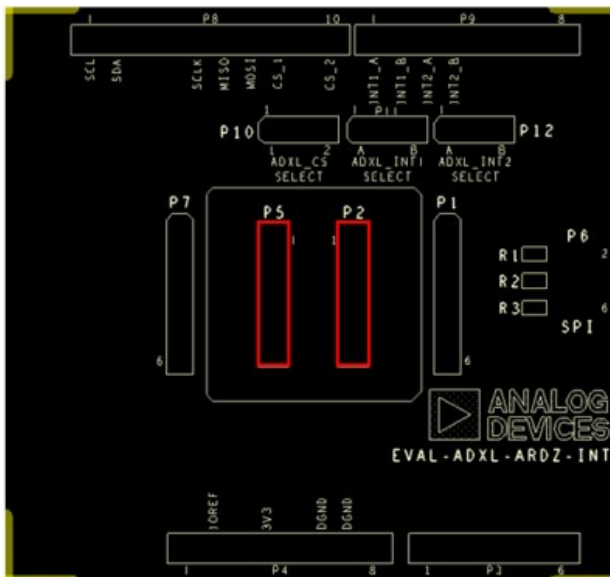
Configuration	Function
	Connects ADXL372 INT2 pin to INT2_A
	Connects ADXL372 INT2 pin to INT2_B

## Connecting/Mounting ADXL372

### Direct Mounting (P5 and P2)

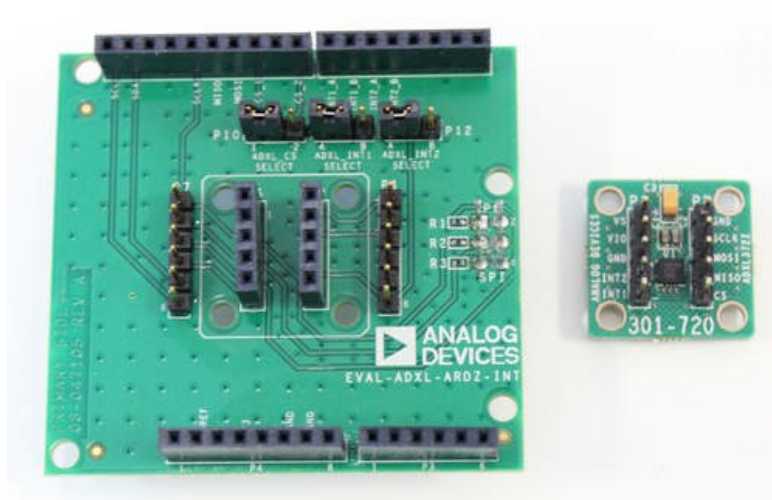
Connectors P5 and P2 are designed to be directly interfaced with the EVAL-ADXL372Z-PIN. This creates a mechanically strong connection and allows for the Arduino shield to directly include the ADXL372 sensor. Be careful when connecting the EVAL-ADXL372Z-PIN with the EVAL-ADXL-

ARDZ-INT to make sure that all the signals from the correct pin of connectors P5 and P2.

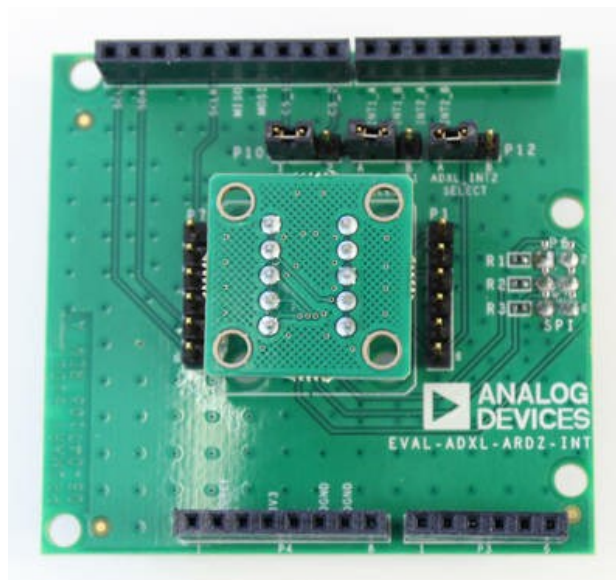


Pin Number	P5 Signal Name	P2 Signal Name
PIN 1	DGND	+3.3V
PIN 2	SCLK	IOREF
PIN 3	MOSI	DGND
PIN 4	MISO	INT2
PIN 5	CS	INT1

1.

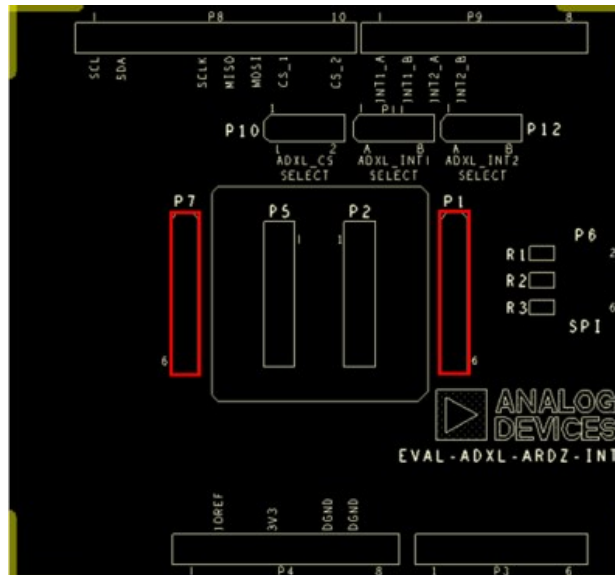


2.



Ribbon Cable Connection (P7 and P1)

Connectors P7 and P1 are designed to interface with the EVAL-ADXL372Z-PIN via a ribbon cable. This allows for remote mounting the sensor when you can't have the rest of the electronics on the unit being sensed. Because this is a cabled over option you could also use other Digital output accelerometer devices with the EVAL-ADXL-ARDZ-INT such as the ADXL346/46 or the ADXL355/57. Be careful when connecting the EVAL-ADXL372Z-PIN with the EVAL-ADXL-ARDZ-INT to make sure that all the signals go to the correct pin of connectors P7 and P1.



Pin Number	P7 Signal Name	P1 Signal Name
PIN 1	SCLK	+3.3V
PIN 2	MOSI	IOREF
PIN 3	MISO	DGND
PIN 4	CS	DATA_RDY
PIN 5	SDA	INT1
PIN 6	SCL	INT2

## Schematics, PCB Layout, Bill of Materials

### EVAL-ADXL-ARDZ-INT Design & Integration Files

- [Schematics](#)
- [PCB Gerber Files](#)
- [Bill of Materials](#)
- [Assembly Drawing](#)



### EVAL-ADXL372Z-PIN Design & Integration Files

- [Schematics](#)
- [PCB Gerber Files](#)
- [Bill of Materials](#)
- [Assembly Drawing](#)

## Software examples

- [ADICUP3029 + ADXL372 Bluetooth Demo](#)
- [Arduino Uno + ADXL372 Demo](#)

*End of Document*

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