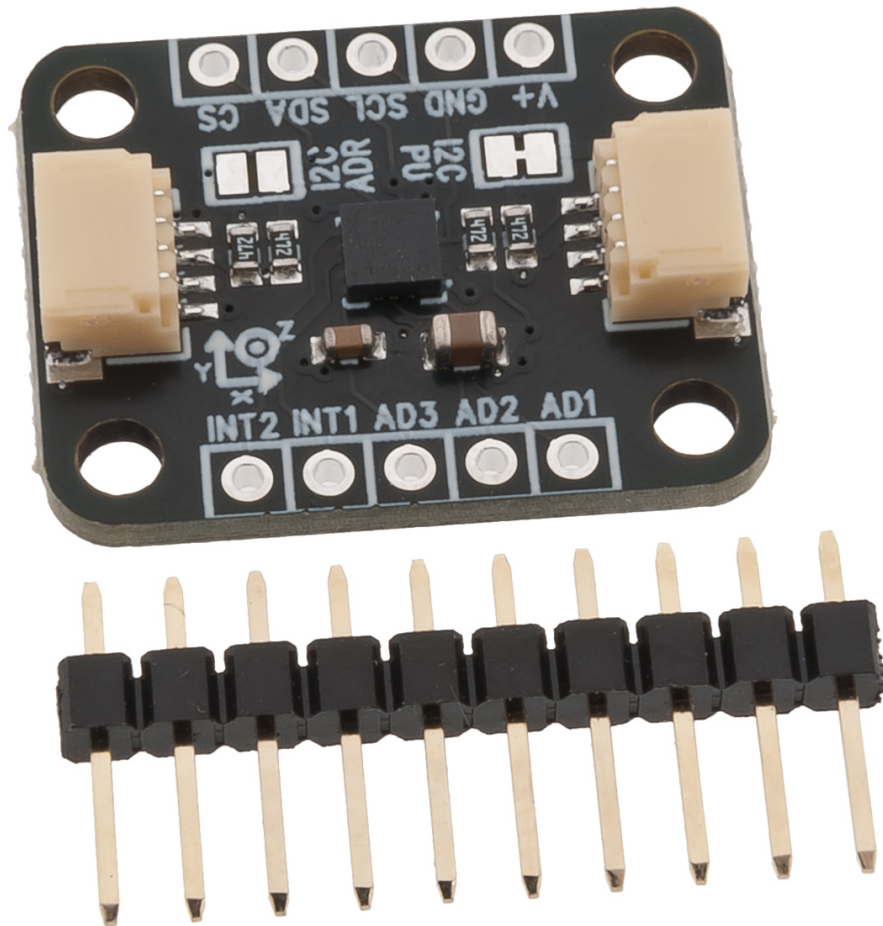


EKM029 LIS3DH 3-axis Accelerometer QWIIC

Part.no: [41036175](#) ↗



Breakout board with QWIIC connectors for the low-power 3-axis accelerometer from ST. The accelerometer has high resolution outputs for three spatial axis (x, y, z), temperature and also three (ADC3 is shared with internal temperature sensor) additional ADC channels that can be used for connecting external, analog sensors and digitize their outputs together with the internal outputs from the accelerometer.

LIS3DH is the perfect choice for any application where movement or direction needs to be detected and/or measured. Two interrupts are available for the connected host and can generate triggers when movement is detected or when the sensor detects a free fall event.

The module provides access to all pins from the sensor, including I2C interface (QWIIC and pin header), SPI interface, ADC inputs, interrupt and address pins. I2C access is provided through two JST-SH QWIIC connectors for easy wiring.

Two solder jumpers provides access to the two address pins (A0 and A1). Simply short either or both pins to change the I2C address. Up to four devices can be wired to the same I2C bus.

Included parts:

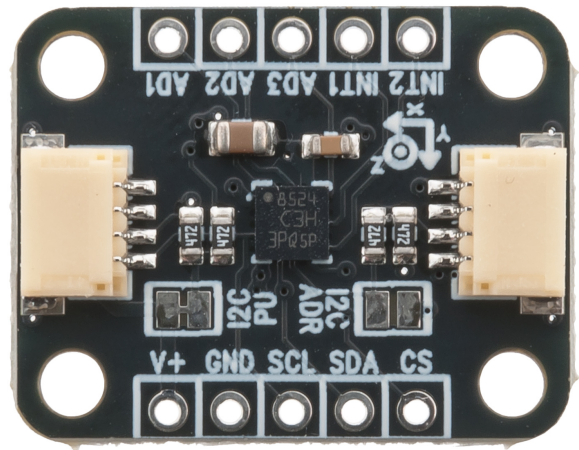
- 1x 2.54 mm header

Functions

- Ultra-low power mode 2uA
- ± 2 - $\pm 16g$ sensing range
- Interrupt pins
- ADC pins for external signals
- QWIIC connectors

Specifications

- Supply voltage: 1.7 - 3.6 VDC
- Sensing range: $\pm 2g$, $\pm 4g$, $\pm 8g$, $\pm 16g$
- Data rate: 1Hz - 5.3kHz
- Output resolution: 16-bit
- Mounting holes: $\varnothing 2.5$ mm / 18 x 13 mm
- Dimensions: 23 x 18 mm

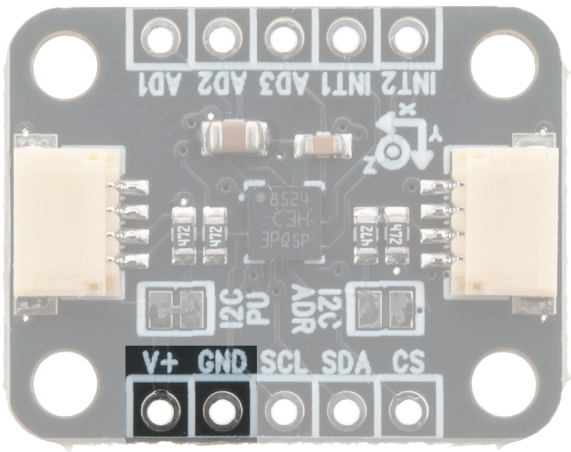


Connections

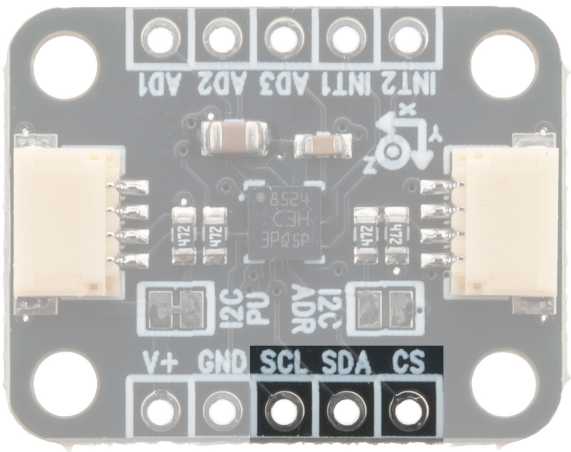
Power input

The board should be supplied with a voltage between 1.7 and 3.6VDC, 3.3V nominally.

When connecting the module using the QWIIC connectors, these pins can instead be used as a 3.3V output.



I2C / SPI pins



SCL, SDA and CS are all pulled high using 4.7k resistors. Pullups for SCL and SDA can be disabled by severing the I2C PU solder jumper.

Pin	SPI function	I2C function
SCL	Serial clock.	Serial clock.
SDA	Serial data.	Serial data.
CS	Chip Select. Active low.	Not used. Must be left unconnected for I2C.

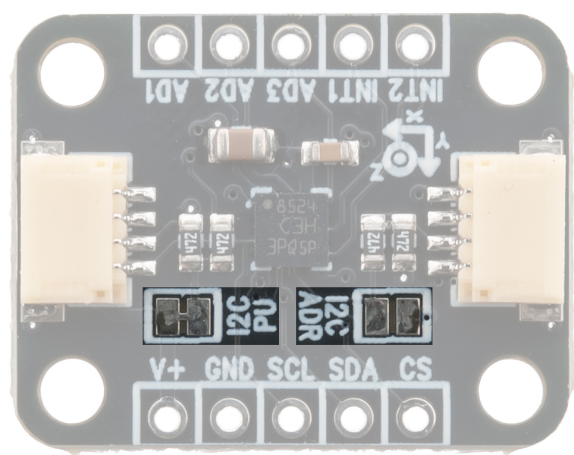
Interrupt pins

The two interrupt pins can be used to alert a connected host of different events. Both pins are fully programmable via I2C/SPI. See detailed usage on pg. 41 in [LIS3DH datasheet](#).

Both pins are push-pull type and will output a logic high when an event is detected.

The analog voltage range on the ADC inputs are limited and should stay within 0.8V - 1.6V (1.2V center). Voltage outside of this range will be clipped. The inputs can however withstand the full supply voltage without

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Datasheet & Example code

- [LIS3DH Datasheet](#)
 - [Arduino library](#)
 - [Arduino example code](#)
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Mechanical dimensions

