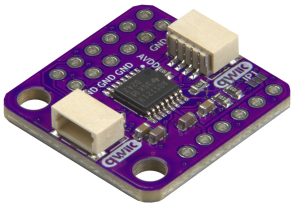
PRODUCT DATASHEET



Soldered ADC 24-bit ADS1219 4-channel with PGA breakout

333380

The ADS1219 24-bit ADC provides high-precision analog measurement with 4 channels, ideal for sensor data logging and microcontroller integration.

Full product documentation, files and tutorials: **solde.red/333380**

CORE ATTRIBUTES

SKU **333380**

DIMENSIONS **22.0 × 22.0 × 4.6 mm**

BARCODE **732388641208**

DESCRIPTION

The Soldered ADC 24-bit ADS1219 4-channel with PGA breakout adds precision analog measurement to any I2C host. Built around the Texas Instruments ADS1219, a 24-bit delta-sigma converter that samples at up to 1000 SPS with each conversion fully settling on its own, it reaches up to 20 bits of effective resolution at slower data rates. This provides quiet, clean readings usually expected from a much larger instrument. Whether you're logging sensor data, building a battery tester, or reading a load cell, this compact 22 × 22 mm board handles the measurement and sends the result directly to your NULA board, Arduino, or any other microcontroller over I2C.

TECHNICAL DETAILS

- **ADC:** Texas Instruments ADS1219, 24-bit delta-sigma
- **Channels:** 4 single-ended or 2 differential (AIN0-AIN3)
- **Data rates:** up to 1kSPS
- **Effective resolution:** 19.6 bits @ 20 SPS, gain 1 (17.7 bits noise-free)
- **Programmable gain:** 1 or 4
- **Full-scale range:** ±2.048 V (gain 1) / ±0.512 V (gain 4)
- **LSB size:** 244.14 nV (gain 1) / 61.04 nV (gain 4)
- **Interface:** I2C
- **I2C address:** 0x40 default
- **Supply voltage:** 2.3-5.5 V (AVDD and DVDD)
- **Supply current:** 315 µA
- **Connectors:** 2 × Qwiic; 3 × 6-pin headers
- **Operating temperature:** -40 °C to +125 °C (ADS1219)
- **Board size:** 22 × 22 mm, 4.6 mm
- **Mounting:** 2 × 3.2 mm holes (M3), 16 mm apart

SPECIFICATIONS

INTERFACE	I2C, Analog
QWIIC COMPATIBLE	Yes
I2C ADDRESS DEFAULT	0x40
I2C ADDRESS CHANGEABLE	Yes
BREADBOARD COMPATIBLE	Yes
MEASUREMENT TYPES	Voltage
MEASUREMENT RANGE	+/-2.048 V
MEASUREMENT ACCURACY	24-bit ADC resolution
IC PART NUMBER	ADS1219
SUPPLY VOLTAGE MIN V	2.3
SUPPLY VOLTAGE MAX V	5.5
LOGIC LEVEL	3V3 Or 5V
OPERATING CURRENT (MA)	0.315 mA

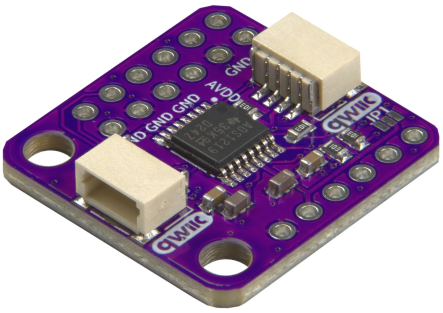
DOCUMENTS

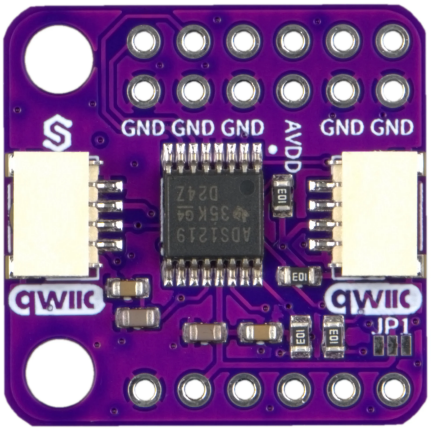
Main IC Datasheet · EN	https://cms.soldered.com/products/333380/documents/ic-datasheet/333380_ic-datasheet_e8fc6d.pdf

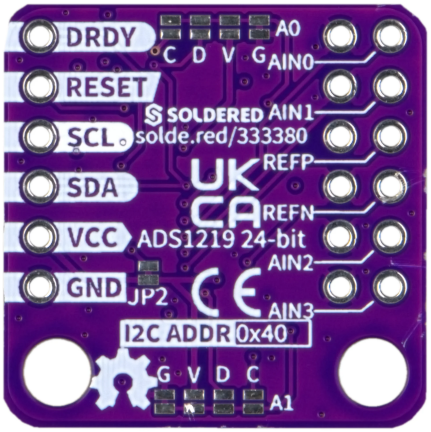
LINKS

Arduino Library	https://github.com/SolderedElectronics/Soldered-ADS1219-Arduino-Library
Full Documentation	https://docs.soldered.com/ads1219/overview/
Hardware Details	https://docs.soldered.com/ads1219/hardware/
Arduino Library Documentation	https://docs.soldered.com/ads1219/arduino/single-shot/
Arduino: Get Started	https://docs.soldered.com/ads1219/arduino/getting-started/
mim_package	https://checkmim.com/packages/solderedelectronics+Soldered-ADS1219-MicroPython-Library
MicroPython Module	https://github.com/SolderedElectronics/Soldered-ADS1219-MicroPython-Library

GALLERY




GND GND GND
AVDD
GND GND
qwiic
qwiic
JP1


DRDY
RESET
SCL
SDA
VCC
GND
A0
C D V G
AIN0
SOLDERED
AIN1
solde.red/333380
REFP
UK
CA
REFN
ADS1219 24-bit
AIN2
JP2
AIN3
I2C ADDR 0x40
G V D C
A1