# XinaBox Datasheet SX01 - Advanced Universal Analog Input



## Contents

## Overview

This xCHIP forms part of the sensor modules, used for digital signal acquisition.

The converter is based on a successive approximation register architecture with an internal track-and-hold circuit that can handle input frequencies up to 11MHz. The ADC081C021 operates from a single supply which also serves as the reference. The device features an I$^2$C-compatible serial interface that operates in all three speed modes, including high speed mode (3.4MHz). The ADC's Alert feature provides an interrupt that is activated when the analog input violates a programmable upper or lower limit value. The device features an automatic conversion mode, which frees up the controller and I$^2$C interface. In this mode, the ADC continuously monitors the analog input for an "out-of-range" condition and provides an interrupt if the measured voltage goes out-of-range.

## Product Highlights

- Universal Analog Input, Accepts from 0 - 3.3V DC
- Screw Terminal for easy connection
- Screw terminal position available for implementation of voltage divider network
- Analog-to-digital converter

## Applications

- Test Equipment
- Peak Detection
- System Monitoring

## Specifications

- I$^2$C-Compatible 2-Wire Interface Which Supports Standard (100kHz), Fast (400kHz), and High Speed (3.4MHz) Modes.
- Out-of-Range Alert Function
- Automatic Power-Down Mode While Not converting
- Resolution: 8 bits
- Conversion Time 1 µs (Typ)
- NL & DNL: ±0.2 LSB (Max)
- Throughput Rate: 188.9 ksps (Max)
- Temperature range −40°C to +105°C

## External Links
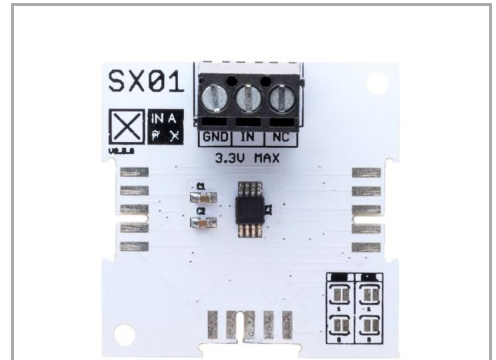
**Documents**

- ADC081C021 From Texas Instruments (http://www.ti.com/lit/ds/symlink/adc081c021.pdf)

**Shop**

- Buy SX01 (https://xinabox.cc/collections/sensors/products/SX01)

**GitHub**

- SX01 on GitHub (https://github.com/xinabox/xSX01)

---

### SX01 - Advanced Universal Analog Input (ADC081C021)



Front
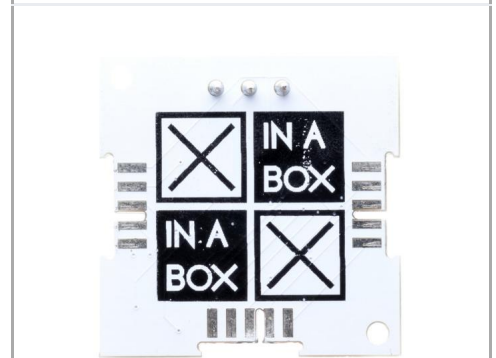


Back

| ⊠CHIP | |
|---|---|
| **Main Category** | Sensor |
| **Sub Category** | Universal |
| **Introduced** | 1 January 2017 |
| **Current version** | 1.0.0 |
| **Current version date** | 1 January 2017 |
| **Dimensions** | |
| **Size** | 2x2U (32x32mm) |
| **Weight** | 4.3 g |
| **Height** | 12.3/1.6/0 mm |
| **Non-⊠BUS Connections** | |
| **North** | Terminal block |
| **Main Chip Set** | |
| **Main Chip** | ADC081C021 |
| **I²C Configuration** | |
| **Default Address** | 0x50 |
| **Alternative Addresses** | 0x51; 0x52; 0x54; 0x55; 0x56; 0x58; 0x59; 0x5A |
| **Change Setting** | Solder |