XinaBox Datasheet SU01 - Advanced Universal Digital Input

SU01 - Advanced Universal Digital Input (ADC081C021)

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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

- Analog-to-digital converter
- Screw Terminal for easy connection
- It is equipped with a on board voltage divider to provide a wide input range from 3.3 to 24 V

Applications

- Test Equipment
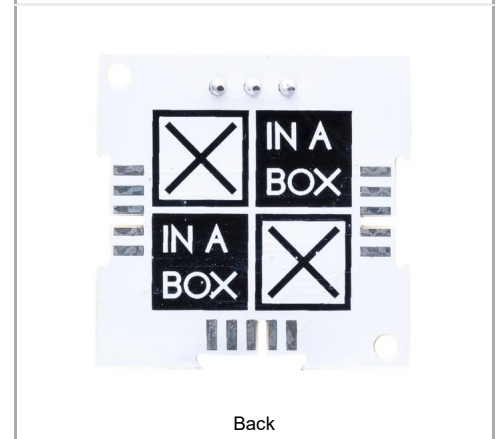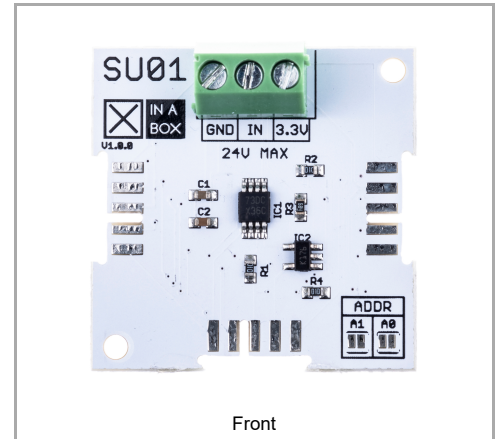- Peak Detection
- System Monitoring

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

GitHub

- SU01 on GitHub (https://github.com/xinabox/xSU01)

⊠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	4.4 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