



AK-DS2482S-100

Reference manual

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About this document

Revision history

The table below displays the revision history for the chapters in this manual.

Chapter	Date	Revision	Changes made
All	December 2016	1.0	First publication

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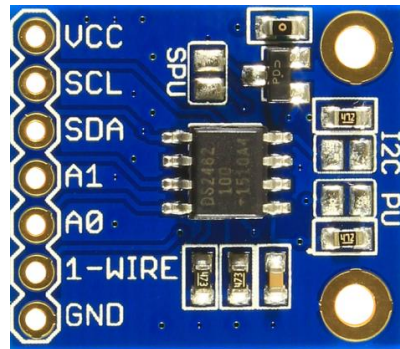
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Board Description

The AK-DS2482S-100 board is an I2C to 1-Wire bridge with bidirectional protocol conversion, used to interface a wide range of 1-Wire devices, like EEPROMs, sensors and the classic iButton (ex Dallas Button) from Maxim Integrated.

Hardware overview

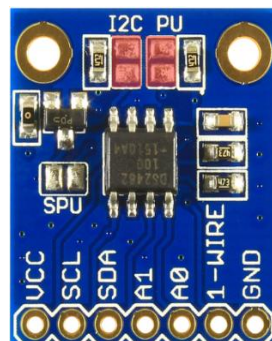


Pin name	Pin mode	Description
VCC	Power	2.9V to 5.5V DC voltage
SCL	Output	I2C bus clock
SDA	Input/Output	I2C bus data
A0	Input	Address select 0 - internally pulled down with a 47K resistor
A1	Input	Address Select 1 - internally pulled down with a 47K resistor
1-Wire	Input/Output	1-Wire data bus
GND	Power	Common ground

Usage

I2C Pull-Up resistors

The AK-DS2482S-100 board has two solder jumpers to enable the 4K7 pull-up resistors on the I2C bus lines. The pads are highlighted with red in the following picture. Join the pads with solder to enable the pull-ups.

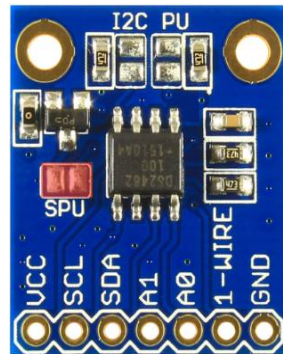


Activating the Strong Pull-Up (SPU)

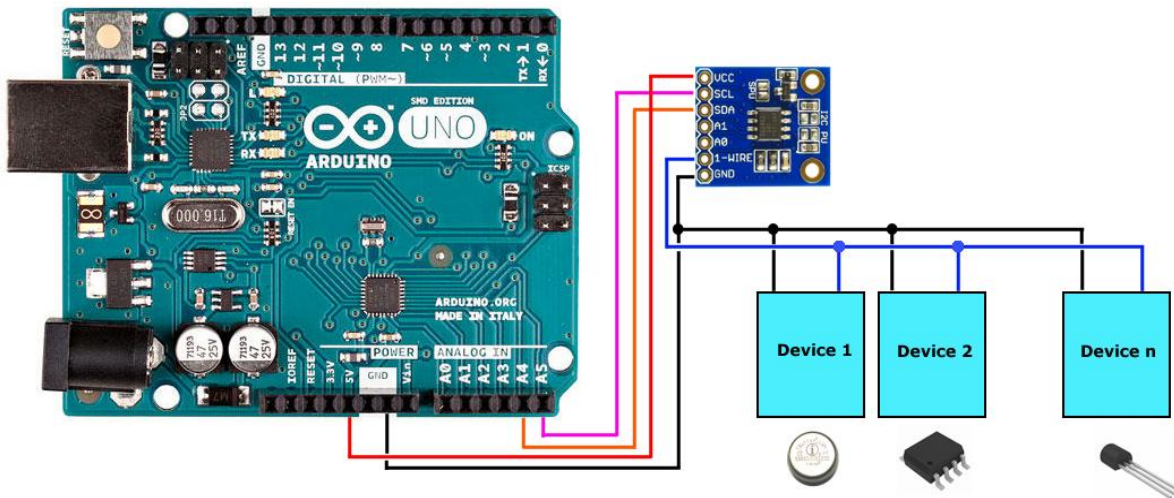
If required by connected slave devices, a strong pull-up on the 1-Wire line can be enabled. For example, some EEPROM devices require additional power to operate while powered through the 1-Wire bus. In this case, the DS2482-100 IC can control an external MOSFET to supply additional power to the bus using a Strong Pull-Up.

The AK-DS2482S-100 board includes the external MOSFET on-board, and also has a jumper solder to enable the Strong Pull-Up if required.

The SPU pad is highlighted in the picture here below. Join the pad with solder to enable the Strong Pull-Up



Example Connection Using an Arduino UNO



All 1-wire devices must be connected in parallel. Each device has a unique identification number, and responds only when the device is selected. Since the 1-Wire protocol is only a transport protocol, each 1-Wire slave device has intrinsic communication and protocol data characteristics. Please refer to the slave device datasheet.

Board dimensions

All dimensions are in millimeters

