

MEAS MS5805 PERIPHERAL MODULE

Digital Pressure Digital Component Sensor (DCS) Development Tools

The MS5805 peripheral module provides the necessary hardware to interface the MS5805 digital barometric pressure and temperature sensor to any system that utilizes a Digilent Pmod™ compatible expansion ports configurable for I²C communication. The MS5805 sensor is a self-contained pressure and temperature sensor that is fully calibrated during manufacture. The sensor can operate from 1.5V to 3.6V. The sensor module includes a high-linearity pressure sensor and an ultra-low power 24-bits $\Delta\Sigma$ ADC with internal factory-calibrated coefficients.

Performance

- 10mbar to 2000mbar pressure range
- -40°C to 85°C temperature range
- Very low power consumption
- Operates from 1.8V to 3.6V
- High resolution module 20cm
- Fast conversion time – 0.5 ms typical

Specifications

- Measures pressure from 300mbar to 1200mbar
- Measures temperature from -40°C to 125°C
- I²C communication
- Fully calibrated
- Fast response time
- Very low power consumption

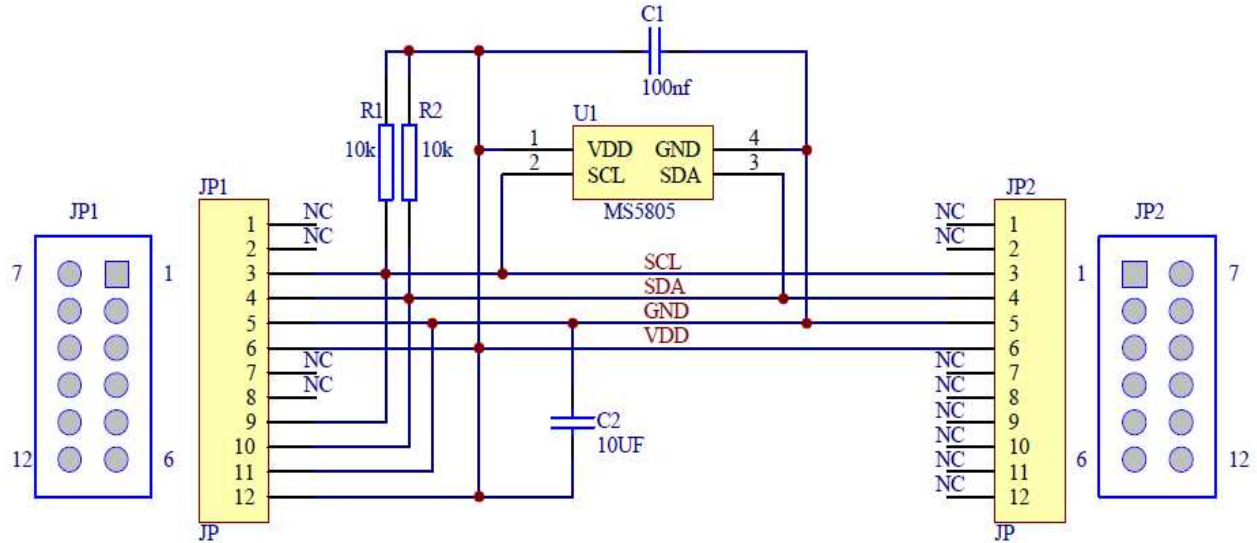
Features

- 12-pin connector compatible with Digilent Pmod™
- I²C interface
- Secondary 12-pin connector allows daisy chain
- FPGA bare metal drivers available for download
- μ C C code drivers available for download
- 24-bits resolution for pressure
- 24-bits resolution for temperature
- Parameters stored on chip

MS5805 PERIPHERAL MODULE

Digital Pressure Sensor

Schematic



Connector Pin Assignments (I²C Communications)

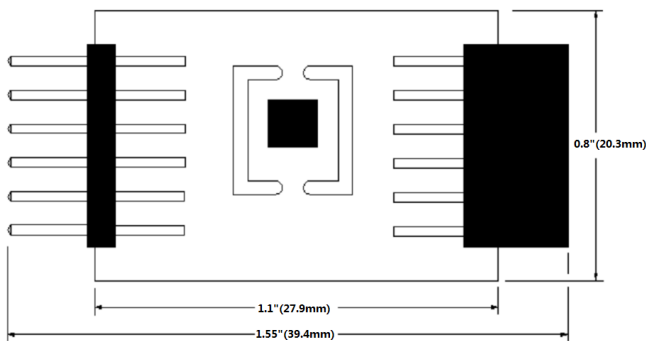
System Plug (Table 1)

Connector J1		
Pin No.	Signal	Description
1	N/C	Not Connected
2	N/C	Not Connected
3	SCL	I ² C Serial Clock
4	SDA	I ² C Serial Data
5	GND	Ground
6	Vdd	Power Supply
7	N/C	Not Connected
8	N/C	Not Connected
9	SCL	I ² C Serial Clock
10	SDA	I ² C Serial Data
11	GND	Ground
12	Vdd	Power Supply

Expansion Socket (Table 2)

Connector J2		
Pin No.	Signal	Description
1	N/C	Not Connected
2	N/C	Not Connected
3	SCL	I ² C Serial Clock
4	SDA	I ² C Serial Data
5	GND	Ground
6	Vdd	Power Supply
7	N/C	Not Connected
8	N/C	Not Connected
9	N/C	Not Connected
10	N/C	Not Connected
11	N/C	Not Connected
12	N/C	Not Connected

Dimensions(mm)



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Digital Pressure Sensor

Detailed Description

I²C Interface:

The peripheral module can interface to the host in one of two ways. It can plug directly into a Digilent Pmod™ compatible port (configured for I²C) through connector J1, or in this case, other I²C boards can attach to the same I²C bus through connector J2.

I²C Interface (Daisy Chaining Modules)

Alternatively, the peripheral module can connect to other I²C-based Digilent Pmod™ modules through the expansion J2 connector. Connector J1 provides connection of the module to the Digilent Pmod™ host. The pin assignments and functions adhere to the Digilent Pmod™ standard as shown in Table 1. The J2 connector allows the module to be connected through a daisy-chain from another I²C module and/or provide I²C and power connections to other I²C modules on the same bus. See Table 2.

External Control Signals

The IC operates as an I²C slave using the standard 2 wire I²C connection scheme. The IC is controlled either by the host (through the Digilent Pmod™ connector). In cases where one or more of the SCL and SDA signals are driven from an external source, resistors R1, R2 provide pull-up. However, this also increases the apparent load to the external driving source. If the external source is incapable of driving these loads, they should be removed.

Reference Material

- Detailed information regarding operation of the IC:
[MEAS MS5805 Datasheet](#)

Ordering Information

Description	Part Number
MS5805 PERIPHERAL MODULE	DPP104Z000

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