

✓ RoHS

MEAS MS8607 PERIPHERAL MODULE

Digital Pressure and Humidity Digital Component Sensor (DCS) Development Tools

The MS8607 peripheral module provides the necessary hardware to interface the MS8607 digital pressure, relative humidity and temperature sensor to any system that utilizes a Digilent Pmod™ compatible expansion ports configurable for I²C communication. The MS8607 sensor is a self-contained pressure, humidity and temperature sensor that is fully calibrated during manufacture. The sensor can operate from 1.5V to 3.6V. The MS8607 is ideal for weather station applications embedded into compact devices and any applications in which pressure, humidity and temperature monitoring is required.

Performance

- Pressure range: 300 to 1200 mbar
- 0% to 100% relative humidity range
- -40°C to 125°C temperature range
- Operates from 1.5V to 3.6V
- Absolute Pressure accuracy ± 2 mBar (25°C)
- Absolute Humidity accuracy $\pm 3\%$ RH (25°C, 20-80%RH)
- Absolute Temperature accuracy ± 1 °C (-20...+85°C)

Specifications

- Operating pressure range: 300 to 1200 mbar
- Measures relative humidity from 0% to 100%
- Measures temperature from -40°C to 125°C
- Extended pressure range 10 to 2000 mbar
- Fast response time
- I²C communication
- Very low power consumption

Features

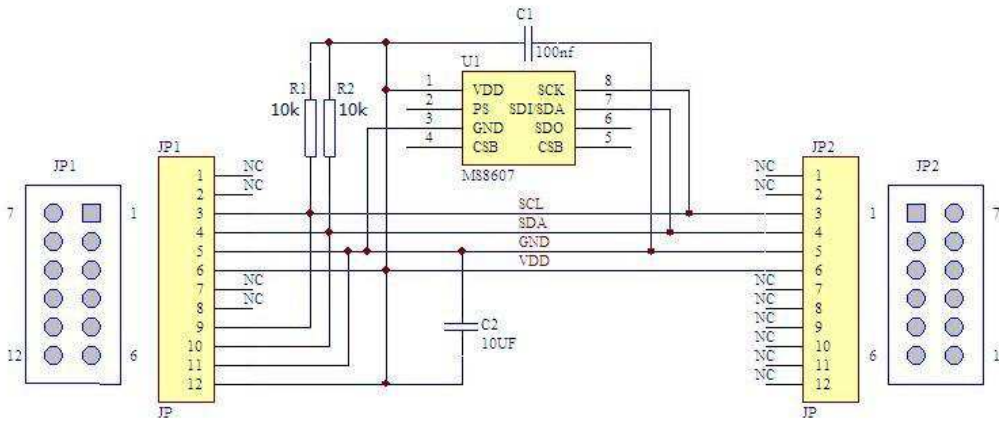
- 12-pin connector compatible with Digilent Pmod™
- I²C interface
- Secondary 12-pin connector allows daisy chain
- FPGA bare metal drivers available for download
- μ C C code drivers available for download
- 24 bit resolution for pressure
- 24 bit resolution for temperature
- Parameters stored on chip

Digilent Pmod™ is a trademark.

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Schematic



Connector Pin Assignments (I²C Communications)

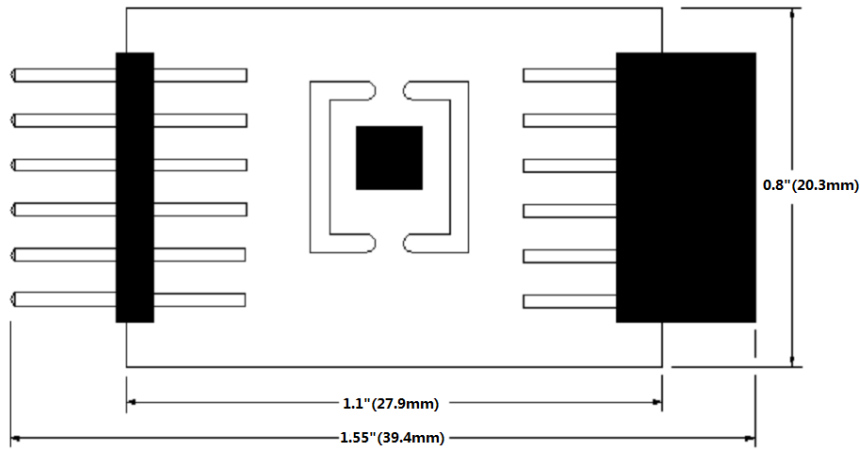
System Plug (Table 1)

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



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 to other I²C boards that have a Digilent Pmod™ compatible expansion connector.

I²C Interface (Daisy Chaining Modules)

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 additional Digilent Pmod™ modules to be connected in a daisy-chain fashion. See Table 2.

External Control Signals

The module operates as an I²C slave using the standard 2 wire I²C connection scheme. The module is controlled 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 could be removed from the board.

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Ordering Information

Description	Part Number
MEAS MS8607 PERIPHERAL MODULE	DPP901Z000

Reference Material

- Detailed information regarding operation of the IC:
MEAS MS8607 Datasheet
- Detailed information regarding the single port mother board driver:
MEAS MS8607 for MicroZed Driver
- Complete software sensor evaluation kit for the single port mother board:
MEAS MS8607 for MicroZed Software
- Detailed information regarding the multiple port mother board driver:
MEAS MS8607 for ZedBoard Driver
- Complete software sensor evaluation kit for multiple port mother board:
MEAS MS8607 for ZedBoard Software

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