

bus. To change the PmodCMPS from idle mode back into Single Measurement or Continuous Measurement mode, the user must write to the Mode Register (0x02).

When reading data from the PmodCMPS, all six data registers, corresponding to the upper and lower bytes of each Cartesian coordinate direction, must be read. Since the internal register address pointer automatically increments after a register has been successfully read, it is possible to read from all six registers with a single command. An example how this might look is given below:

Command byte									Address byte								
0	0	1	1	1	1	0	1	(ACK)	0	0	0	0	0	0	1	1	(ACK)
MSB X									LSB X								
SX	SX	SX	SX	sb	MSB	b9	b8	(ACK)	b7	b6	b5	b4	b3	b2	b1	b0	(ACK)
MSB Z									LSB Z								
SX	SX	SX	SX	sb	MSB	b9	b8	(ACK)	b7	b6	b5	b4	b3	b2	b1	b0	(ACK)
MSB Y									LSB Y								
SX	SX	SX	SX	sb	MSB	b9	b8	(ACK)	b7	b6	b5	b4	b3	b2	b1	b0	(STOP)

Table 1. Command and address bytes.

Note: SX stands for a sign extension of the sign bit (sb).

2.1 Pinout Description Table

Header J1			Header J2		
Pins	Signal	Description	Pin	Signal	Description
1 & 5	SCL	Serial Clock	1	DRDY	Data Ready
2 & 6	SDA	Serial Data	2	GND	Power Supply Ground
3 & 7	GND	Power Supply Ground	Jumper JP1		
4 & 8	VCC	Power Supply (3.3V)	Loaded State	SDA line uses a 2.2kΩ pull-up resistor	
			Jumper JP2		
			Loaded State	SCL line uses a 2.2kΩ pull-up resistor	

Table 1. Connector J1: Pin descriptions as labeled on the Pmod.

The PmodCMPS also offers a self test mode to help calibrate any data that is being received from the module.

Any external power applied to the PmodCMPS must be within 2.16V and 3.6V; therefore, when using Pmod headers on Digiilent system boards, the supply voltage must be at 3.3V.

3 Physical Dimensions

The pins on the pin header are spaced 100 mil apart. The PCB is 0.8 inches long on the sides parallel to the pins on the pin header and 0.8 inches long on the sides perpendicular to the pin header.