v52-Series Communication protocol

Read Example (Full Measurement)

Byte#		0			1						
Send By Master		0x50			0xAA				0x51		
	S	101000	0	A	10101010	A	P	S	101000	1	A
		Adress(0x28)	W		Command				Adress(0x28)	R	

Byte#	0		1		2		3		4		5		6		
Receive from Slave		A	[15:8]	A	[7:0]	A		A	[15:8]	A	[7:0]	A		A	P
	Status		Pressure Data				xx		Temperature Data				xx		

Pressure conversion:

	Raw Readout (Byte 2&3)
At 0 Pressure	6553
At FS Pressure	58982

Formula: (RawData – 6553) / (58982-6553) * FS Pressure

Example with 52DL-007P at 7 Psi: (58982-6553) / (52429) * 7 = 7Psi

Temperature conversion:

TempData / 65535 * 125 – 40 = °C

Status Byte:

Standard status byte: 0x40 (0x68 also acceptable). In case of other status byte please contact support.

Bit#	7	6	5	4	3	2	1	0
Meaning	0	Power	Busy	Mode		Memory Error	Connection Error	Math Saturation

Example code:

```
#include <Wire.h> // i2c library
#include <stdio.h>

byte Address = 0x28; //52-Series adress found on Datasheet or I2C Scanner

void setup() {
 Serial.begin(9600);
 Wire.begin(); //start communication for i2c
}

void loop() {
 Wire.beginTransmission(Address);
 Wire.write(0xAA);
 Wire.endTransmission();
 Wire.requestFrom(Address, 6); // requesting to read all 6 bytes from the Sensor adress
 //put the output in variable c
 byte c1 = Wire.read(); //read 6 bytes and define variable for them
 byte c2 = Wire.read();
 byte c3 = Wire.read();
 byte c4 = Wire.read();
 byte c5 = Wire.read();
 byte c6 = Wire.read();

 unsigned short c = (c2 << 8) + c3; //Byte 2 & 3 for Pressure output
 unsigned short d = (c5 << 8) + c6; //Byte 5 & 6 for Temperature output
 float p, t; //p = Pressure output, t = Temperature output

 p = (float)(c - 6553) / 52429 * 482.63301051; // 7psi = 482.63301051mBar: insert Range of your
Version there

 t = (float)d / 65535 * 125 - 40; //Formula for Temp. calculation: 16-bit temperature output / 65535
* 125 - 40 = temperature(degC)

 Serial.print("Pressure(mBar):");
 Serial.print(p);
 Serial.print('\n');
 Serial.print("Temperature(°C):");
 Serial.print(t);
 Serial.print('\n');
 Serial.print("Status: 0x");
 Serial.print(c1, HEX);//c1 is Status Byte
 Serial.print('\n');
 Serial.print('\n');
 delay(500);
}
```

Angst+Pfister
Sensors and Power

We are here for you. Addresses and Contacts.

Headquarter Switzerland:

Angst+Pfister Sensors and Power AG
Thurgauerstrasse 66
CH-8050 Zurich
Phone +41 44 877 35 00
sensorsandpower@angst-pfister.com

Office Germany:

Angst+Pfister Sensors and Power Deutschland GmbH
Edisonstraße 16
D-85716 Unterschleißheim
Phone +49 89 374 288 87 00
sensorsandpower.de@angst-pfister.com

Scan here and get an overview of personal contacts!

sensorsandpower.angst-pfister.com