

## Digital output mathematical model A and B coefficient calculation

Mathematical model:  $P=A*(ADC/8388608)+B$ , in which P is the pressure value, A and B are the compensation coefficients, and ADC is the data composed of 3 registers 06, 07 and 08.

					ADC full scale is 2^23=	8388608
Min. pressure value:	120		Min. output:	0.1	ADC=	838861
Max. pressure value:	1080		Max. output:	0.9		7549747
Coefficient A=	1200			Coefficient B=	0	

For example: pressure 120-1080Kpa corresponds to output target value 0.1-0.9

Then A=1200, B=0

Then  $P=1200*(ADC/8388608)$

When the ADC data obtained is 838861,  $P=120kpa$

When the obtained ADC data is 7549747,  $P=1079.9999kpa$

When the ADC data obtained is 4194304,  $P=600kpa$

Note: Mathematical model is  $P=A*(ADC/8388608)+B$ .

### Key Steps for Utilization:

Calibration: Confirm the pressure range and corresponding output range(which must be the same as the configuration when you calibrated). Fill these values in a calibration table. This step enables the automatic calculation of the coefficients.

Documentation: Provide with the mathematical model and the calculated coefficients A and B.

Operation: Input chip data into the model as follows to derive pressure readings.