AN02: Sensor Performance over Entire Operating Temperature Range

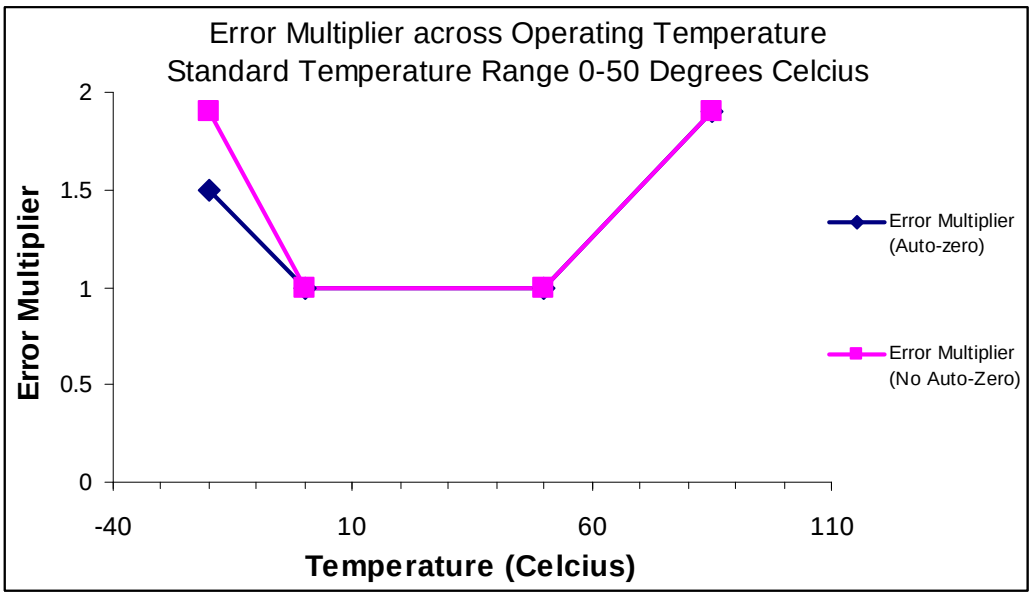
Senphire Ltd products have their accuracy specified with a best fit straight line definition across a compensated temperature range. However the operating range of these sensors is always wider than the compensated temperature range. In such cases an error multiplier is used to obtain the worst case performance of these sensors.

Note that this only applies to the compensated-amplified range of pressure sensors which are listed below.

Compensated and Amplified Pressure Sensors

- CCD 53 Series
- CCD 54 Series
- MAP 36 Series
- SLP 33 Series
- SLP 35 Series
- SPD 34 Series
- STX 13 Series

Senphire products are specified with a compensated temperature range of 0-50 °C and an operating temperature range of -20 to 85 °C as standard. In such a case the error multiplier chart will be as shown below:



The error multiplier increases linearly from 1x to 1.9x from 0°C to -20°C and from 50°C to 85°C. For low temperatures the error multiplier can be reduced to 1x to 1.5x from 0 to -20 with the implementation of a auto-zero function.

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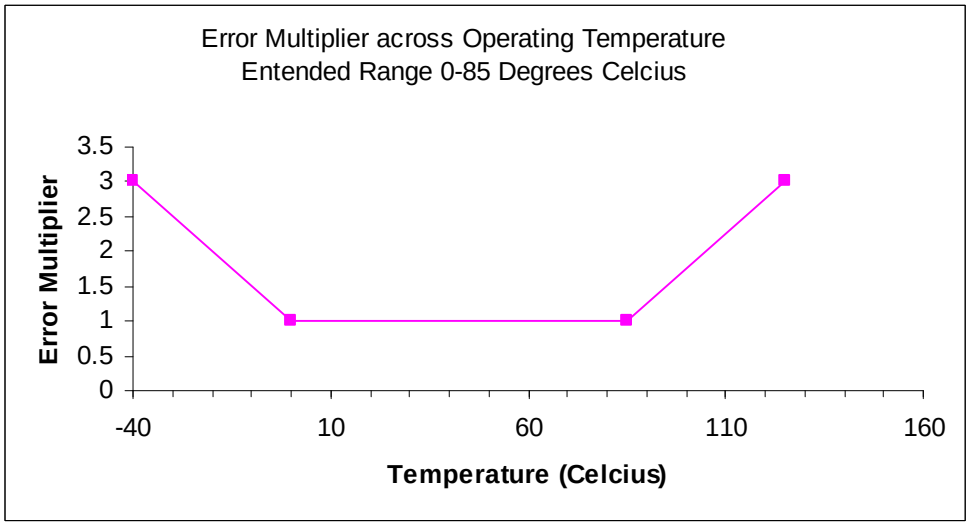
Sensor Performance over Entire Operating Temperature Range

Senphire products can also be specified with an optional extended compensated temperature range of 0-85 °C and an operating temperature range of -40 to 125 °C as standard. In such a case the error multiplier chart will be as shown below:



Note that the error multiplier increases linearly from 1x to 3x from 0°C to -40°C and from 85°C to 125°C.

The extended compensated temperature range is only available for pressure sensors with ranges of 5 psi and above.

For more information please contact your local distributor or our technical support department:

support@senphire.com

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