

Articles in this section ▼

RM3100 Not Affected by Temperature Change

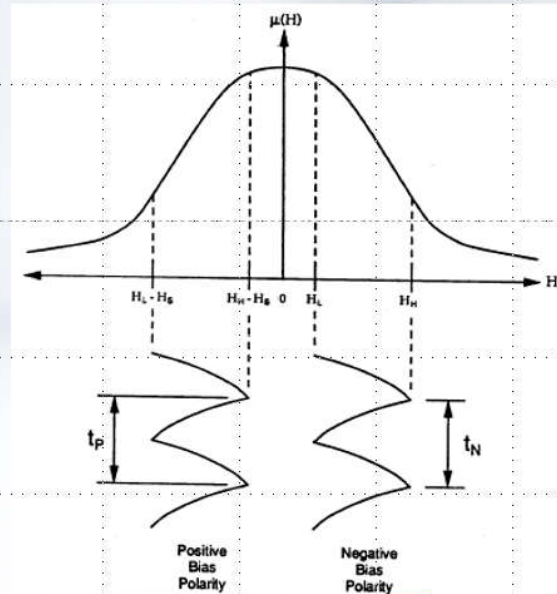
 Betty Zhang
 4 months ago · Updated

[Follow](#)

The RM3100 itself is not affected by temperature fluctuation because its LR oscillation circuit takes measurement twice with positive and negative sensor bias. The difference of two measurements as output cancels out temperature effect. See the following slide for your reference. Once RM3100 is integrated into a host device, the magnetic distortion sources introduced by the host device is affected by temperature changes, and that in turn will cause fluctuation in magnetic fields. RM3100 measures magnetic fields and surely its measurement will reflect the change. Therefore, the host device should still need to implement some level of temperature compensation.

Zero-Offset Concept *Drawing from the 2nd Patent*

- Measurement is taken twice with positive and negative sensor bias
- The difference of the two measurements is:
 - **Always** zero offset
 - **Always** perfectly symmetrical
 - Monotonic vs. increasing field, very stable vs. temperature and age.
- This is the approach implemented with PNI's ASIC



An overview of PNI's magneto-inductive technology can be found here,
<https://www.pnicorp.com/download/pni-magneto-inductive-technology-overview/>.

Was this article helpful?

Yes

No

2 out of 2 found this helpful

Have more questions? [Submit a request](#)

Return to top ^

Related articles

[ANY SAMPLE CODE OR DRIVER CODE AVAILABLE?](#)

[HOW TO READ RM3100 OUTPUT?](#)

[WHAT IS THE MAXIMUM SAMPLE OR DATA RATE?](#)

[HOW TO EVALUATE RM3100?](#)

[WHAT IS THE RELATIONSHIP BETWEEN CYCLE COUNT AND GAIN?](#)