



17 Typical Sample Test Data – ARW & In Run Bias

Please find below typical 100Hz sample test data for Angle Random Walk (ARW) Noise and In-Run Bias from a production LandMark™ 10 AHRS “LN Series” for user reference with 75°/sec rate range gyros and 2g linear range accelerometers. The charts below depict X, Y and Z gyro ARW noise as well as in run bias plots for the X, Y and Z channel gyros and accelerometers for SN200+ type of units. The data was taken for 5 minutes after a 5 minute warm-up period at ambient temperature. The test conditions should be similar to what a user should likely have during initial setup. If the user is not obtaining laboratory test data similar to the data plots and charts below please contact the factory for consultation and assistance.

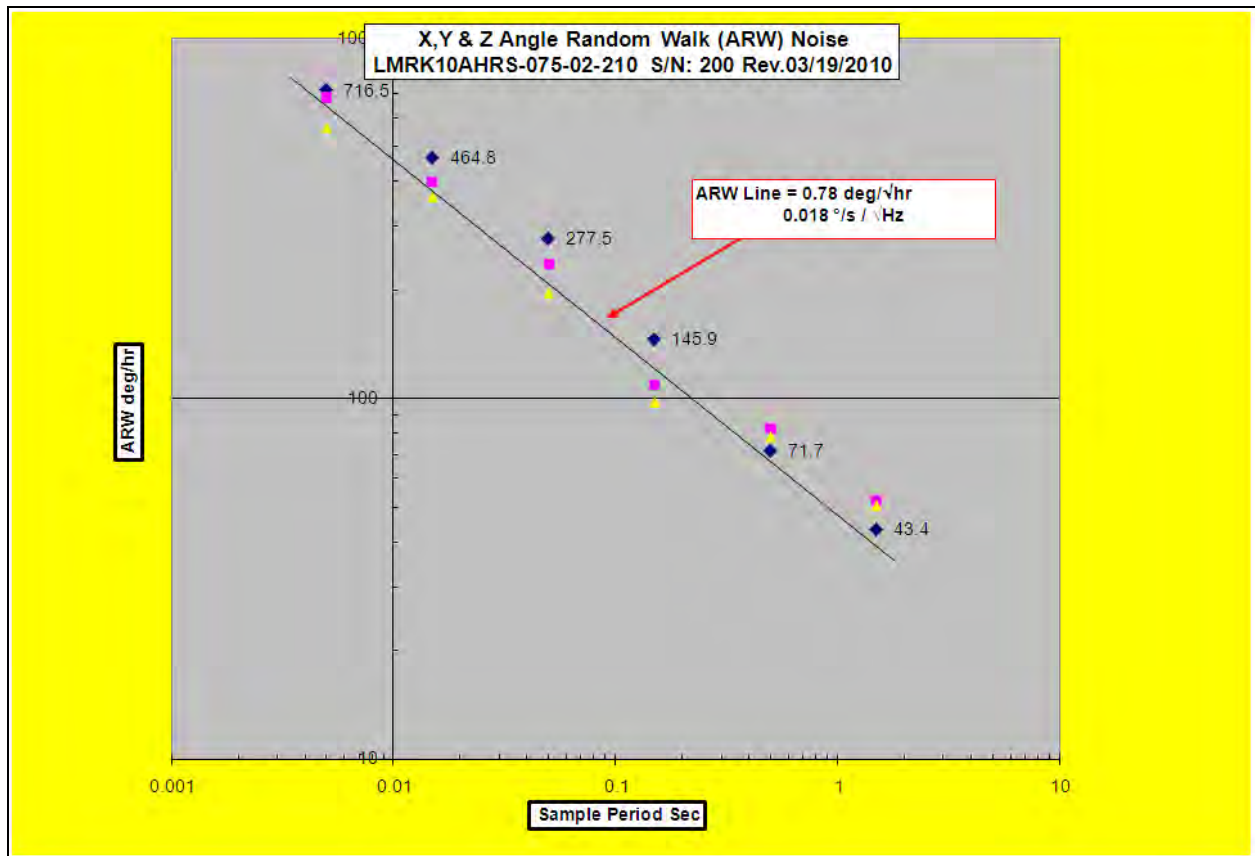


Figure 53: X, Y, Z Gyro Angle Random Walk (ARW) Noise



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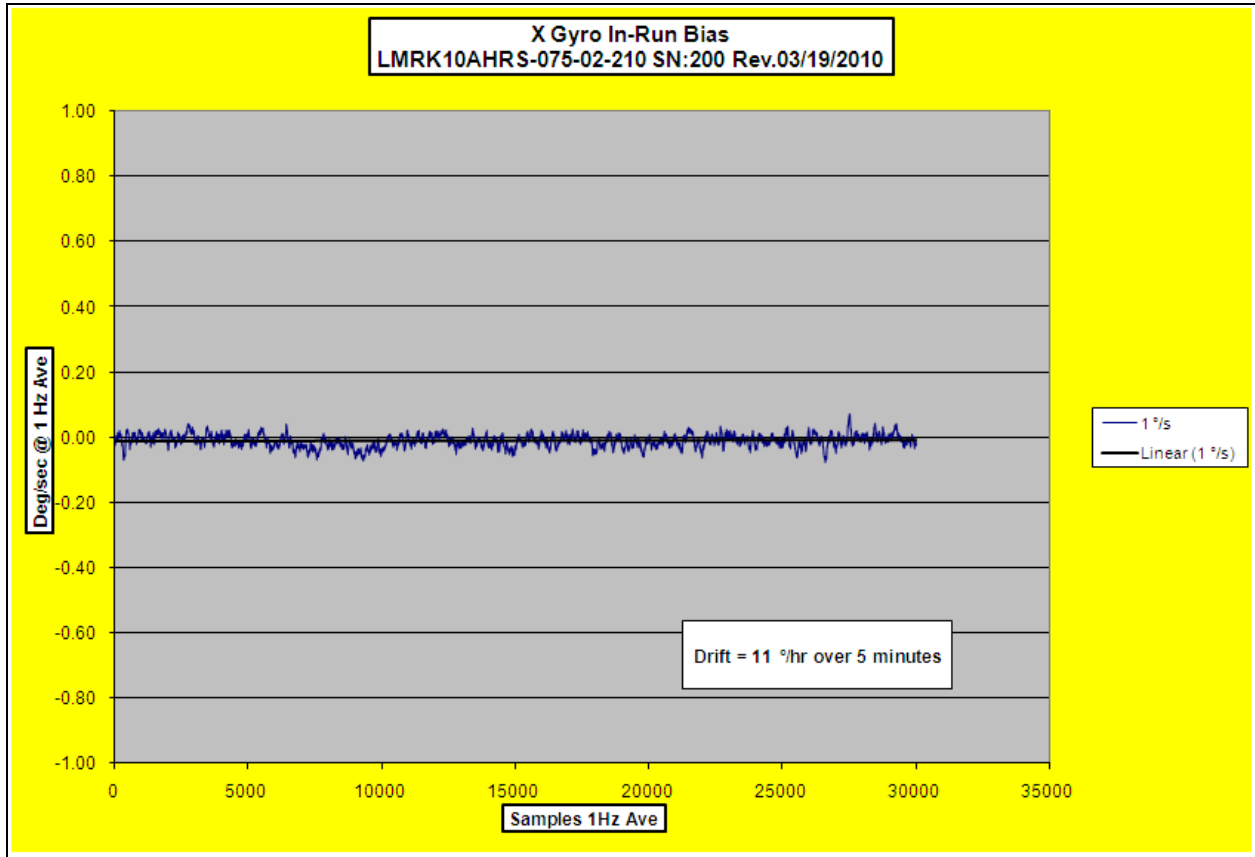


Figure 54: X Gyro In-Run Bias

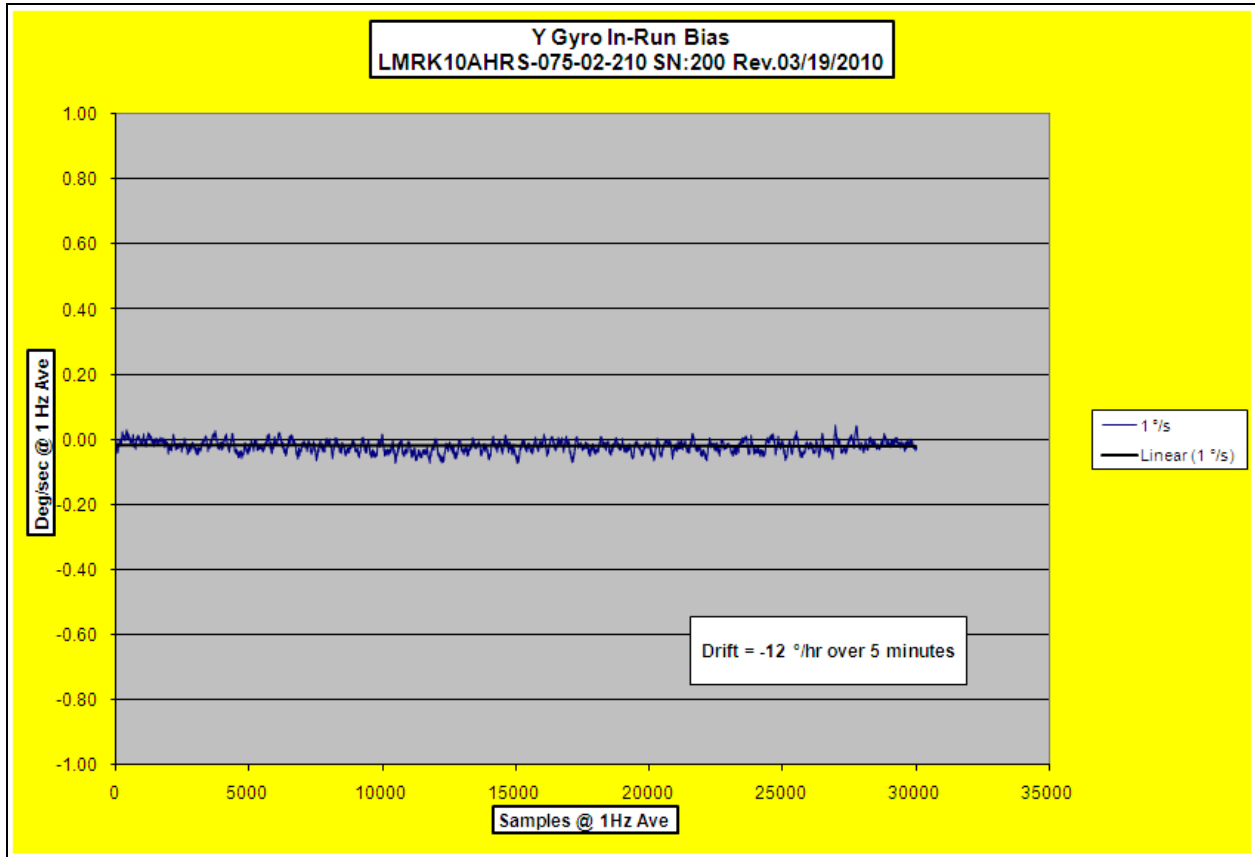


Figure 55: Y Gyro In-Run Bias

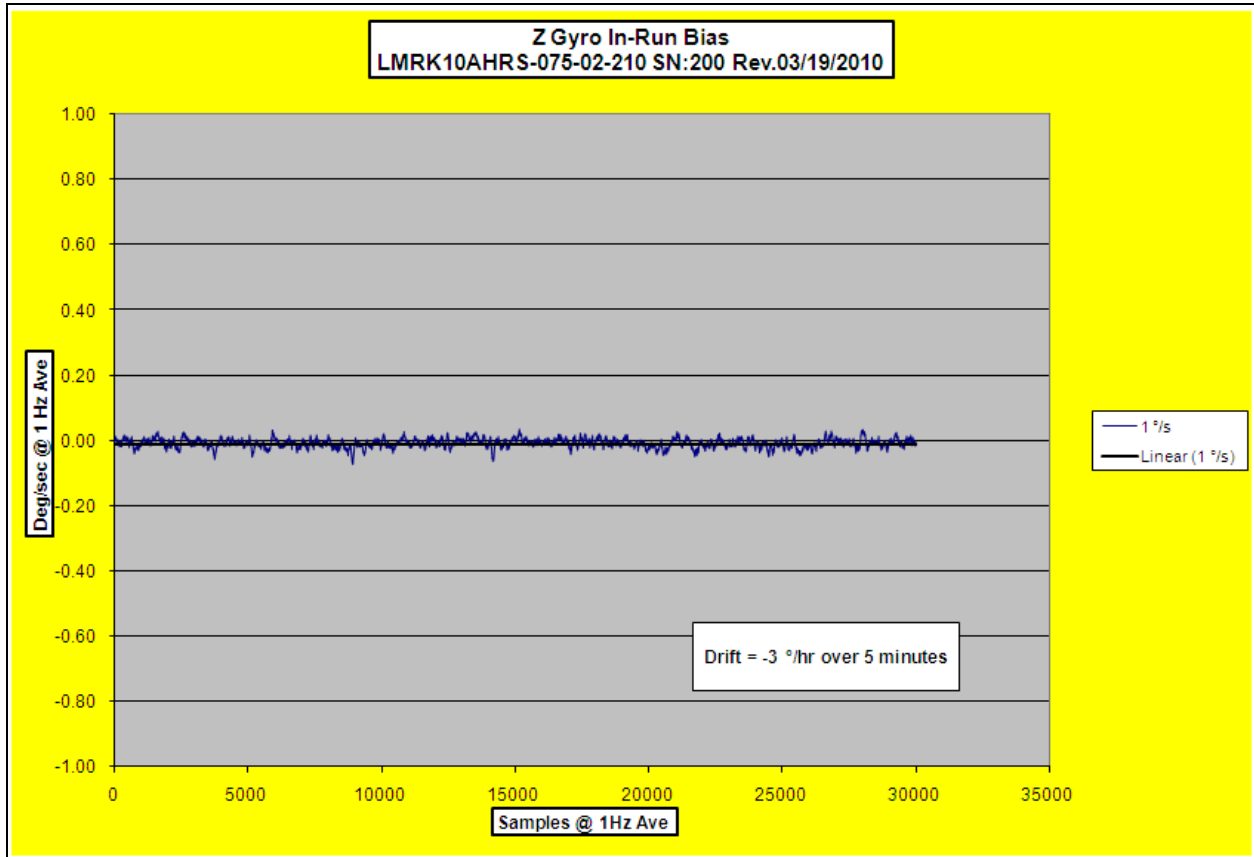


Figure 56: Z Gyro In-Run Bias

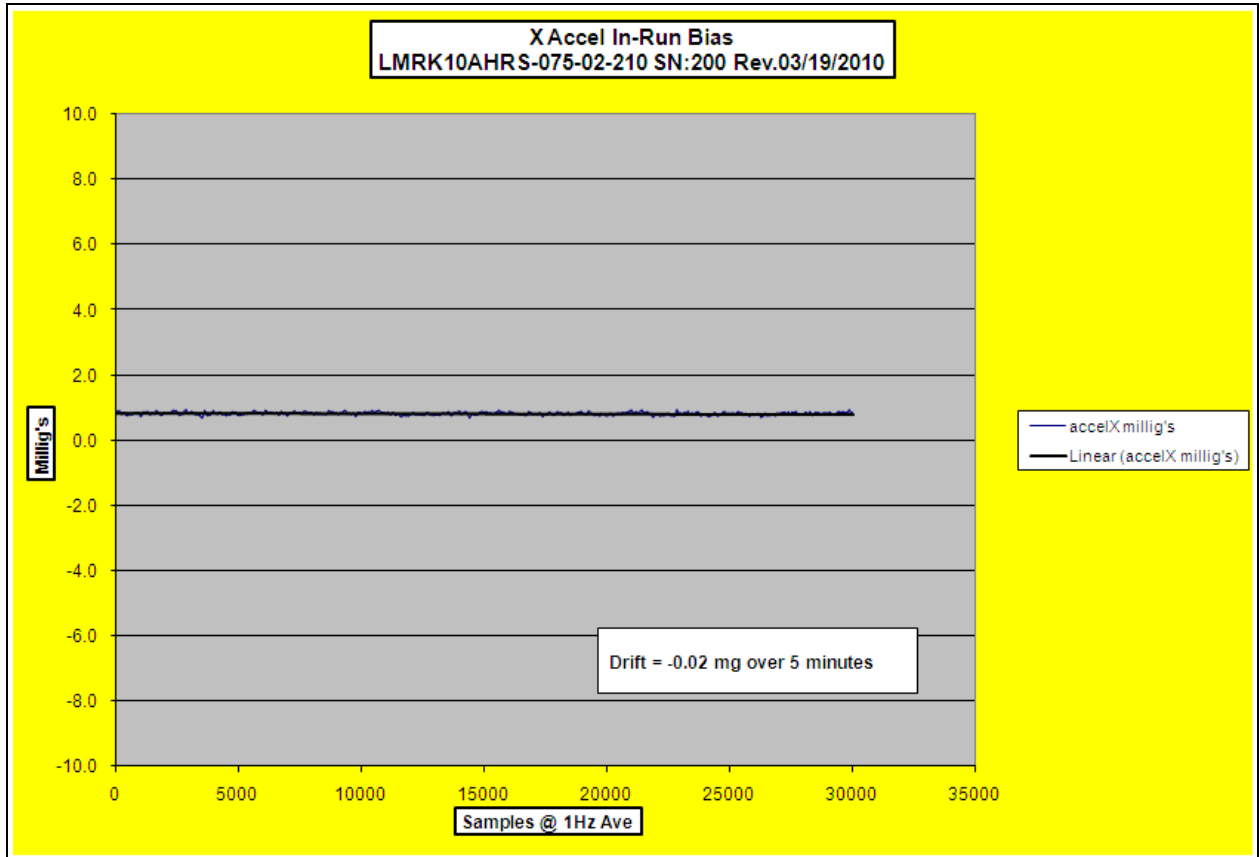


Figure 57: X Accel In-Run Bias

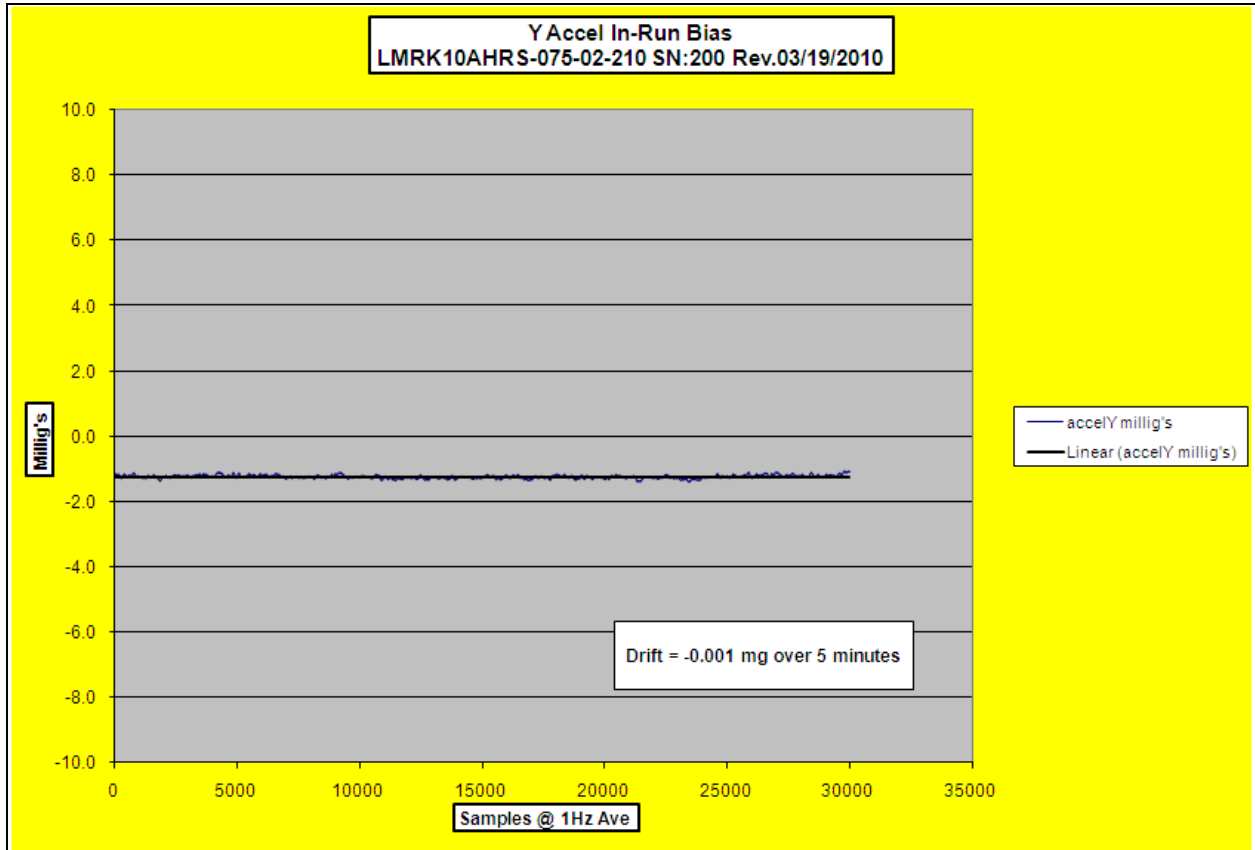


Figure 58: Y Accel In-Run Bias

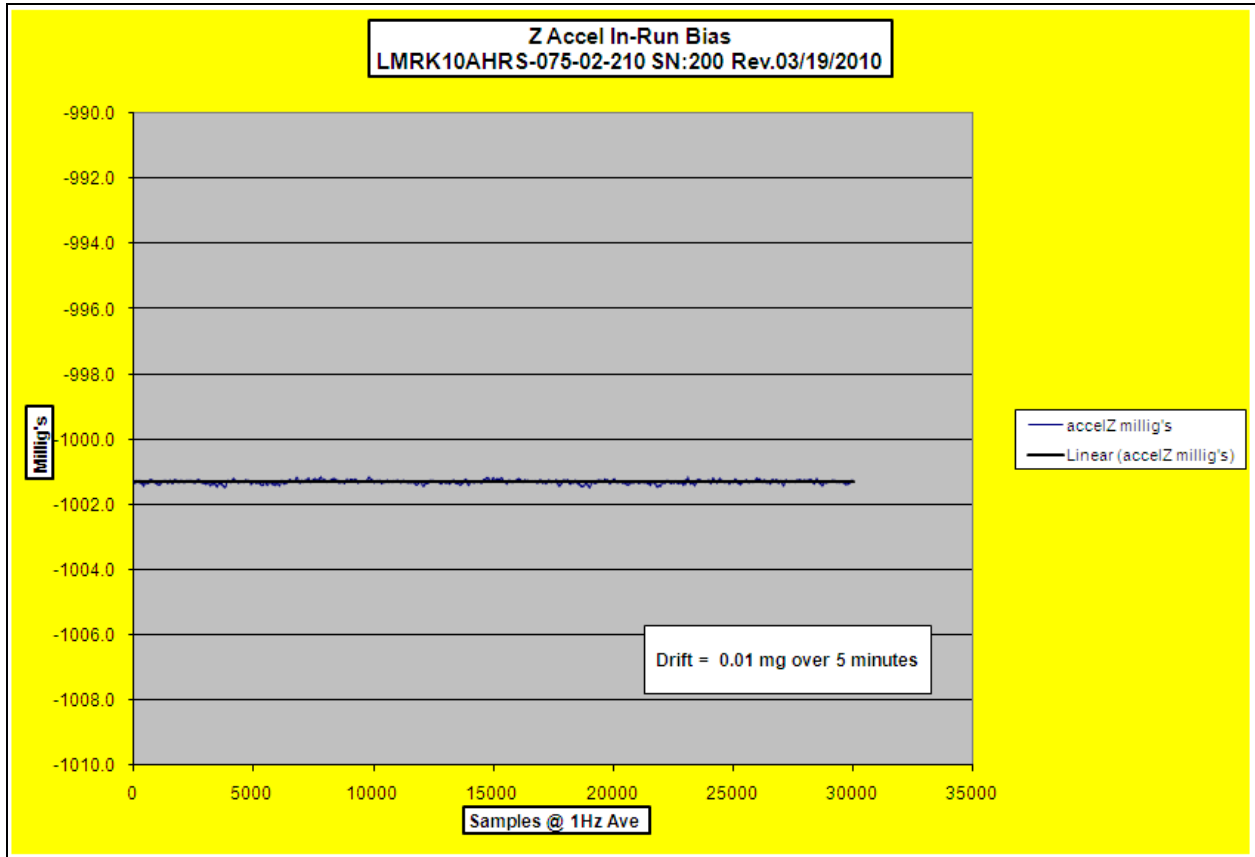


Figure 59: Z Accel In-Run Bias



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18 Typical Test Data – Bias and Scale Factor over Temperature

Please find below typical 100Hz sample test data for Scale Factor and Bias Over Temperature from a production LandMark™ 10 AHRS “LN Series” for user reference with 75°/sec rate range gyros and 2g linear range accelerometers.

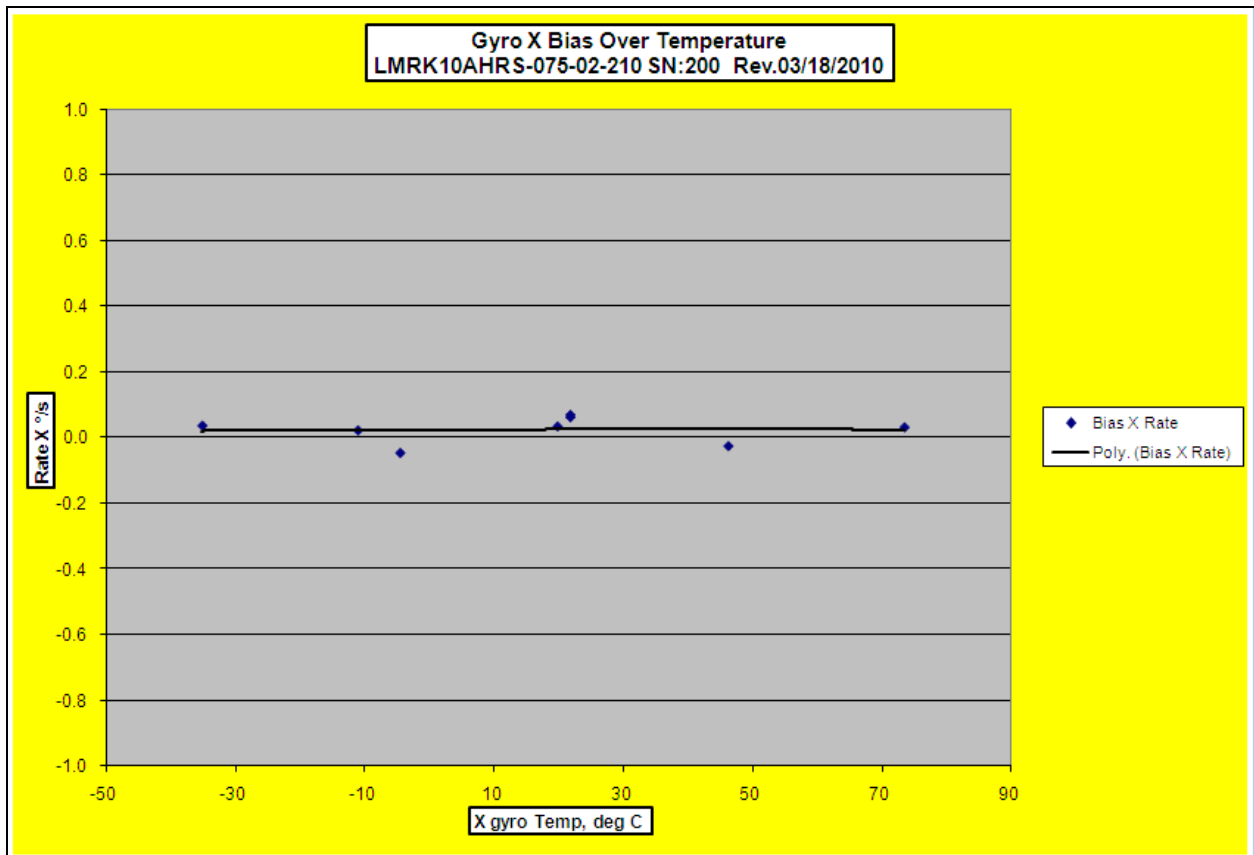


Figure 60: Rate X Bias Over Temperature



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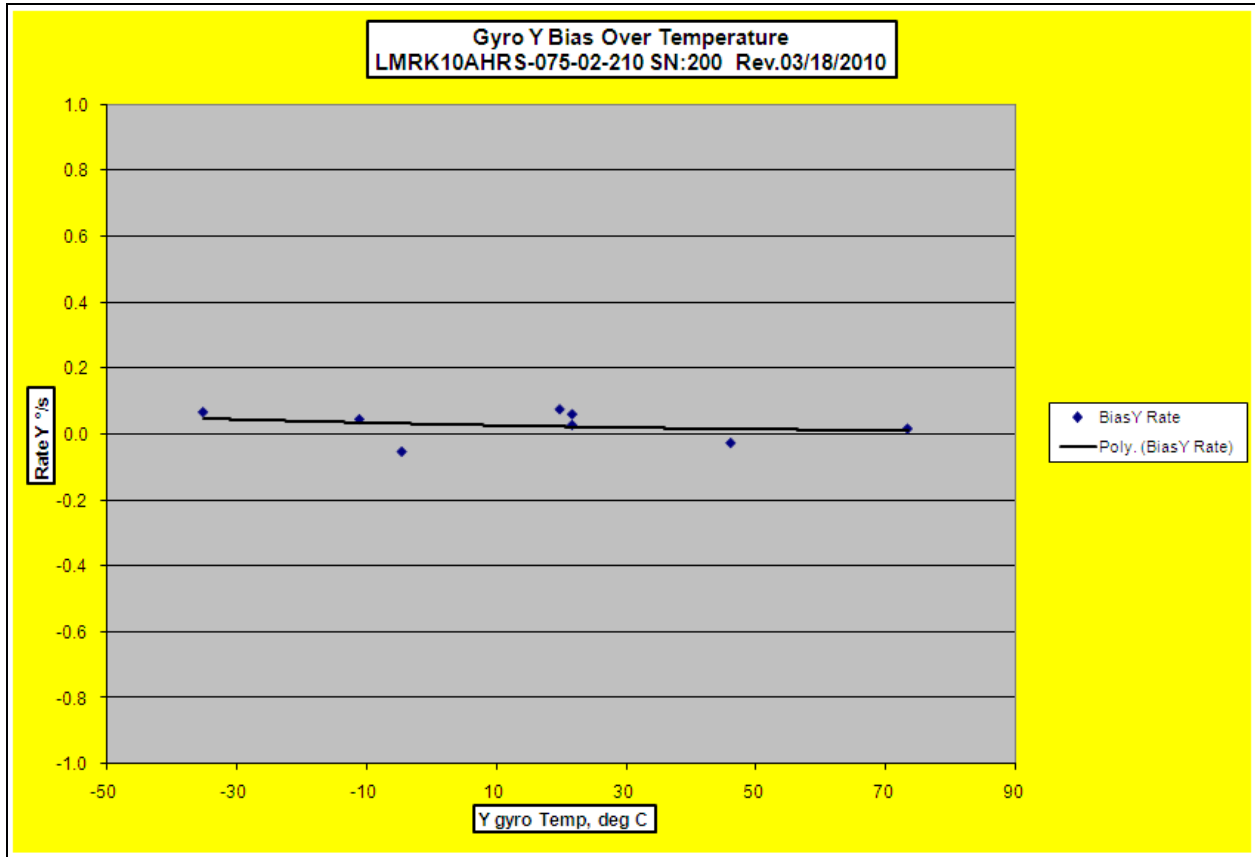


Figure 61: Rate Y Bias Over Temperature



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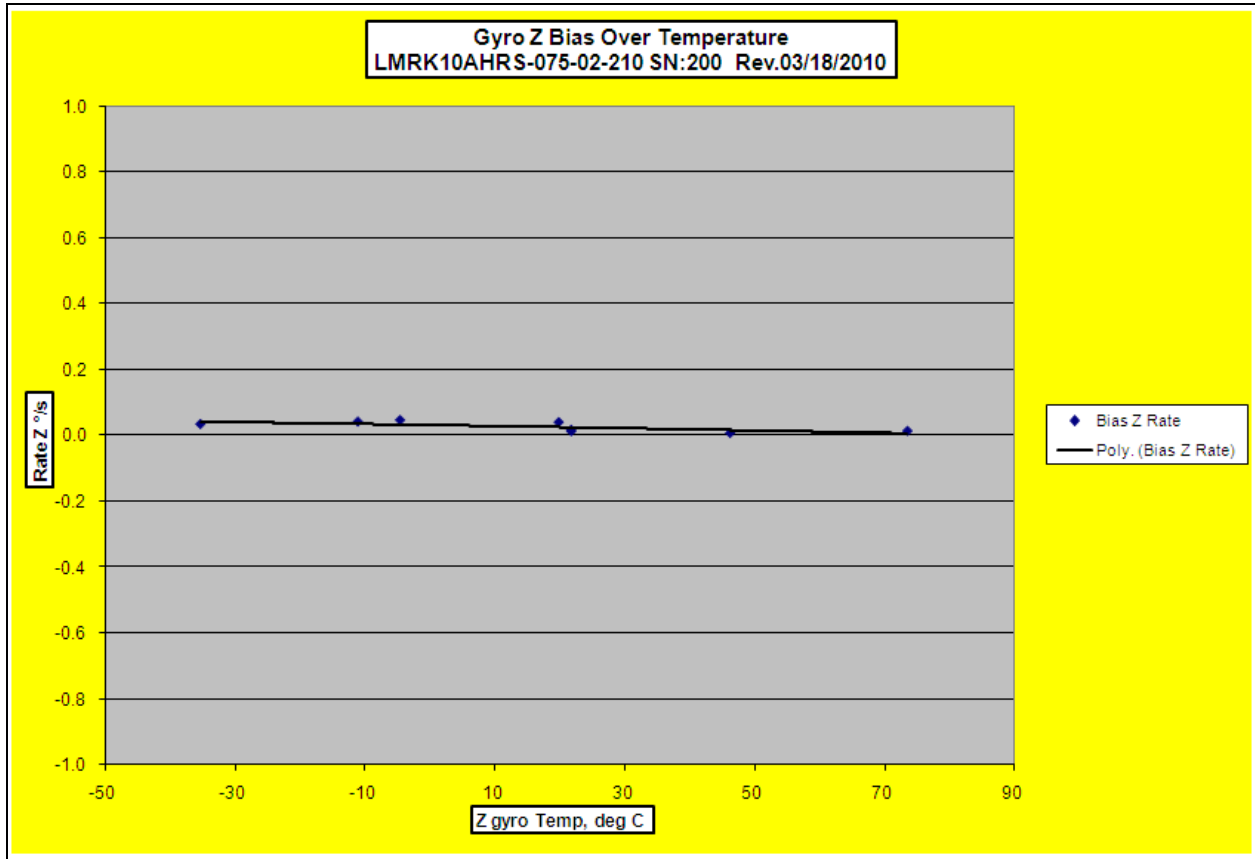


Figure 62: Rate Z Bias Over Temperature



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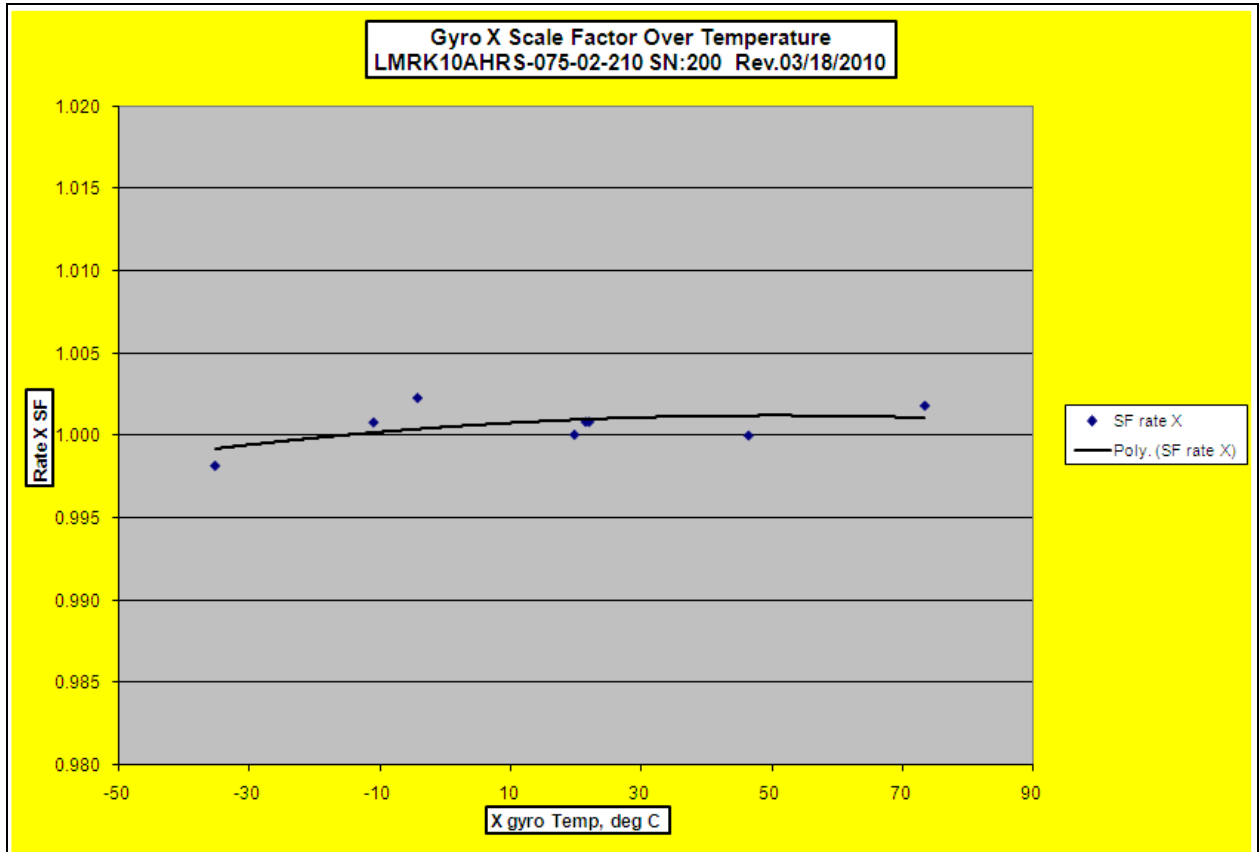


Figure 63: Rate X Scale Factor Over Temperature



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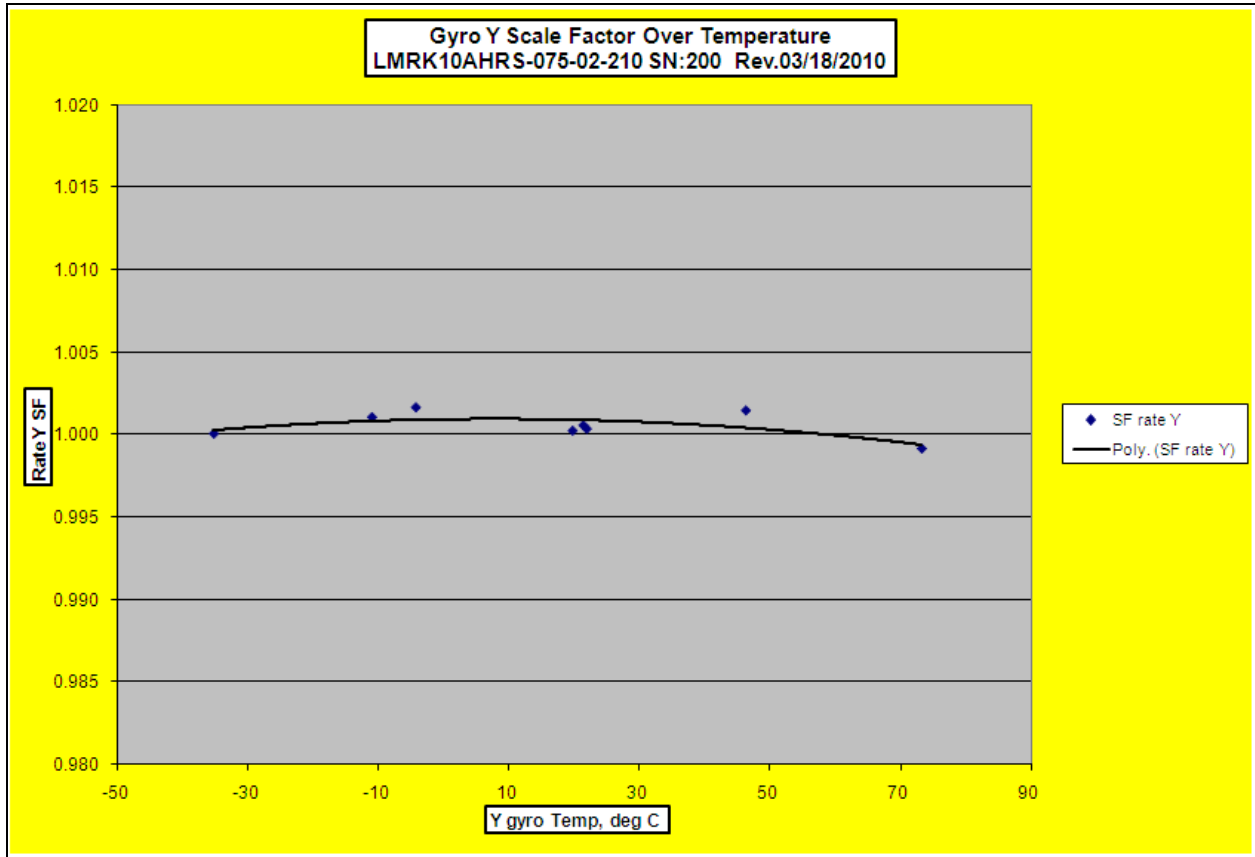


Figure 64: Rate Y Scale Factor Over Temperature



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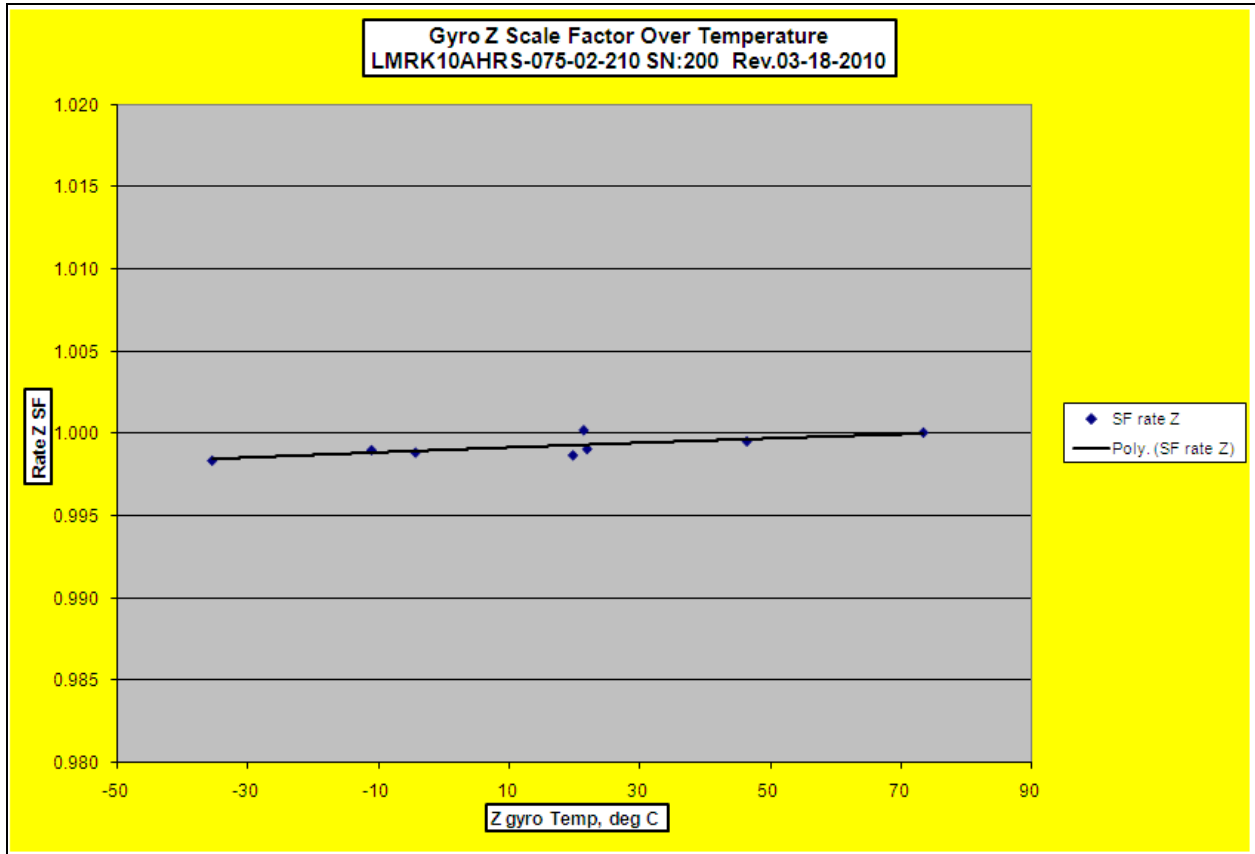


Figure 65: Rate Z Scale Factor Over Temperature

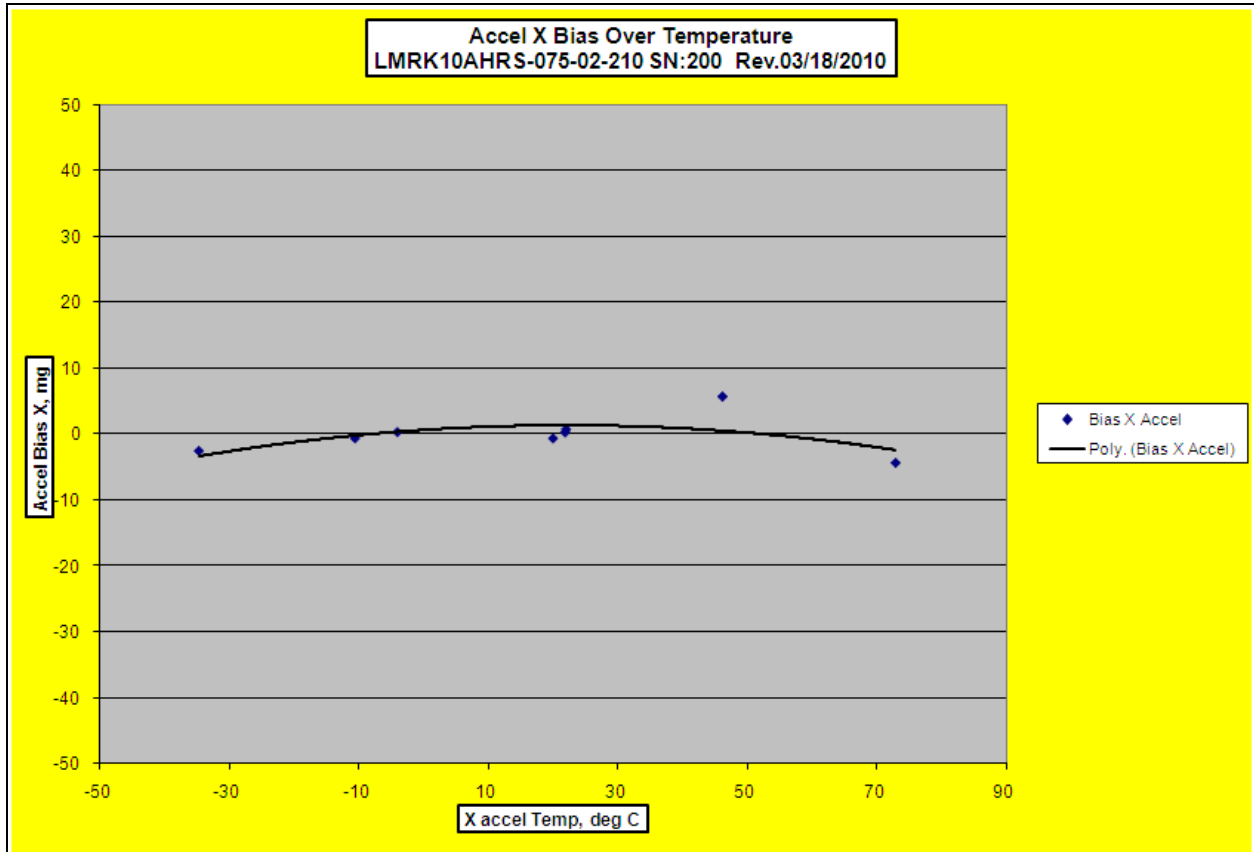


Figure 66: Accel X Bias Over Temperature

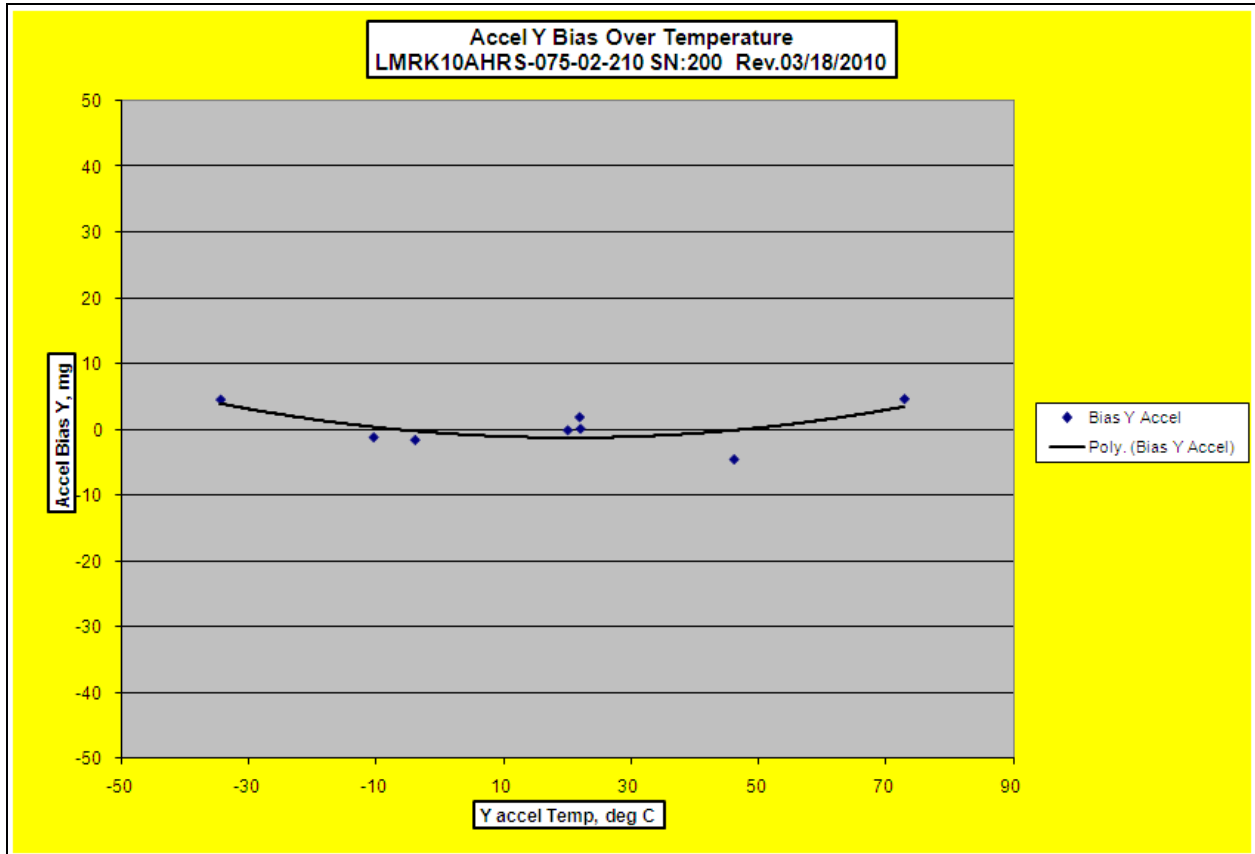


Figure 67: Accel Y Bias Over Temperature



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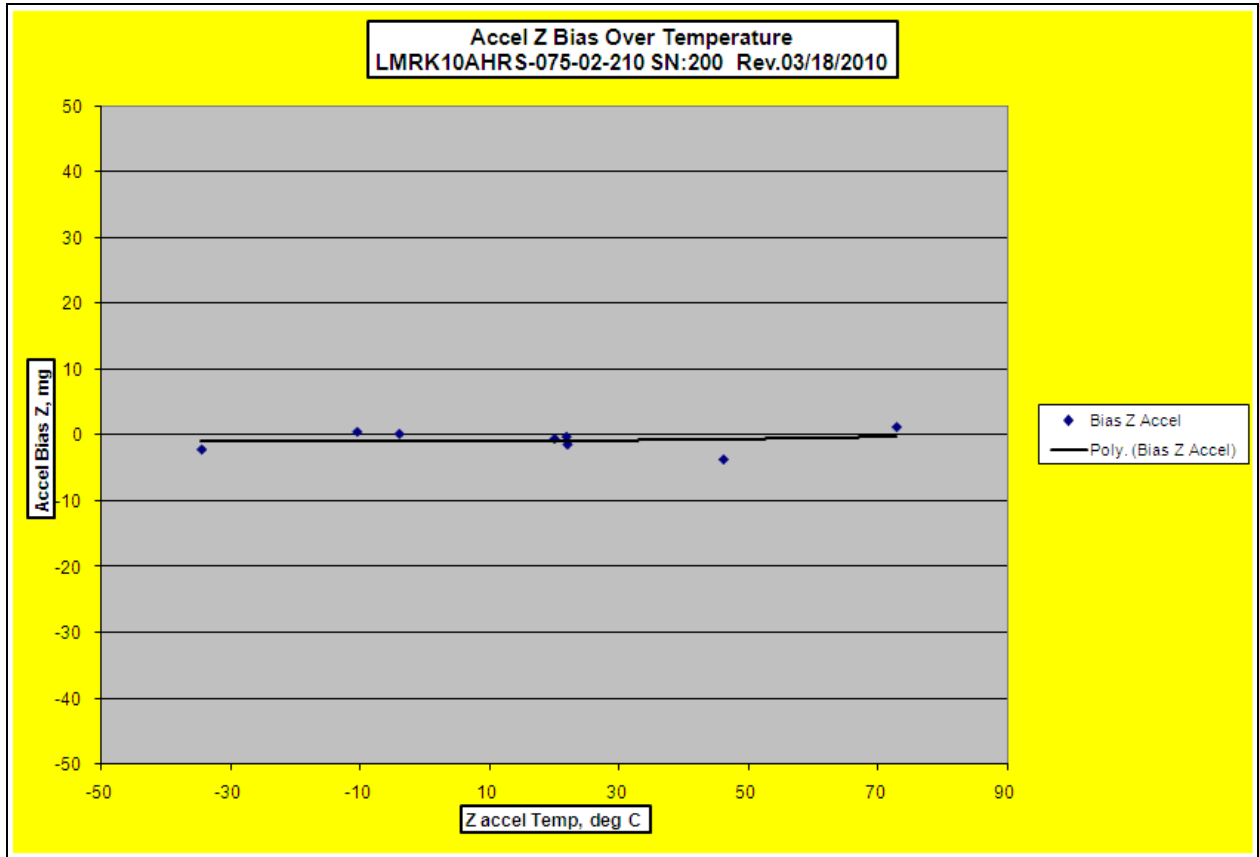


Figure 68: Accel Z Bias Over Temperature

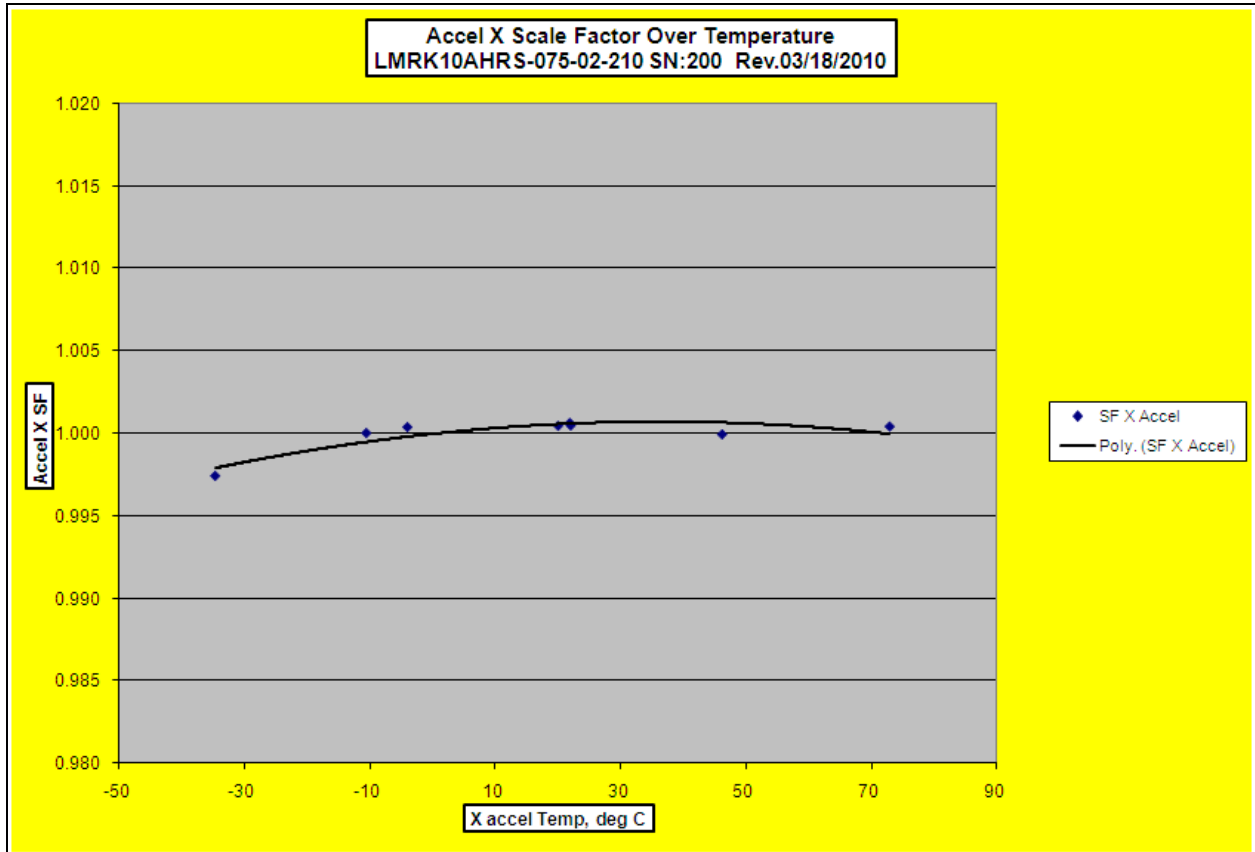


Figure 69: Accel X Scale Factor Over Temperature



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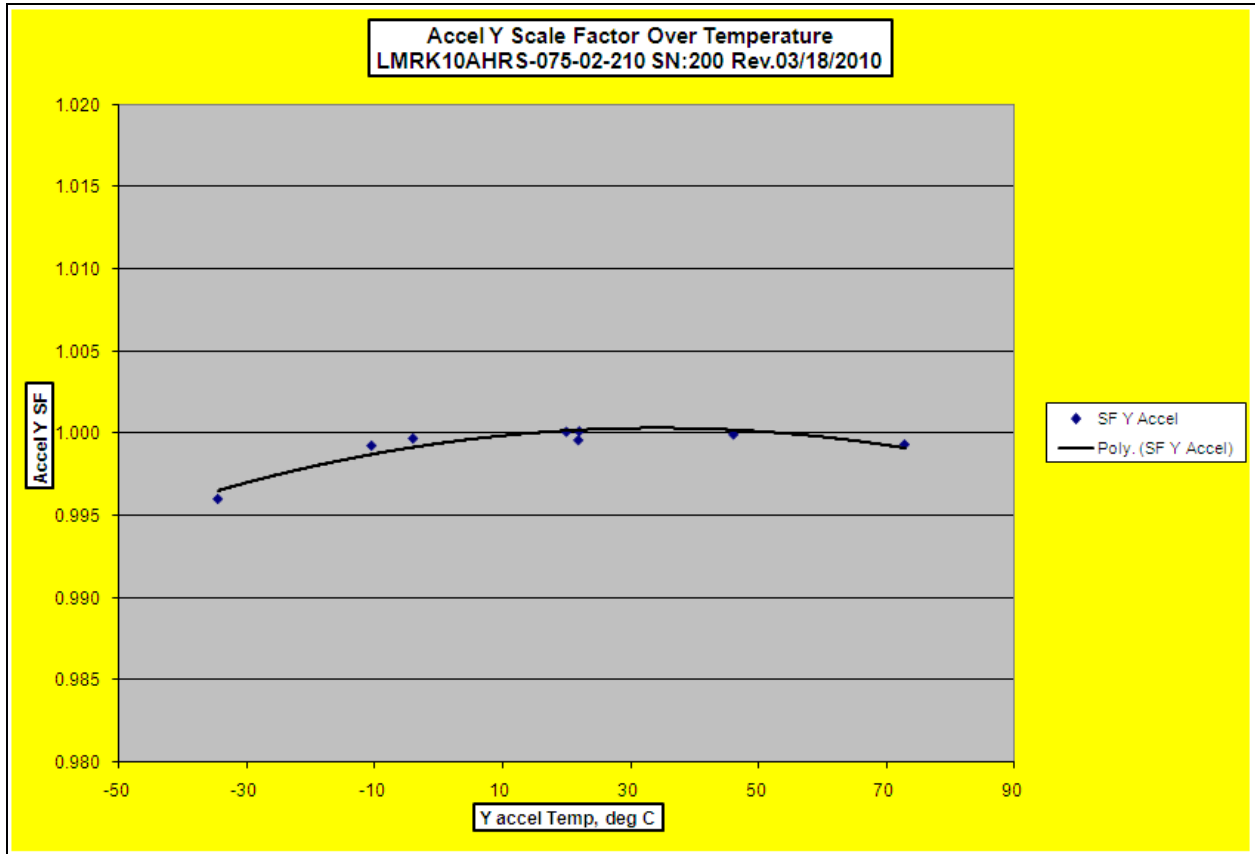


Figure 70: Accel Y Scale Factor Over Temperature

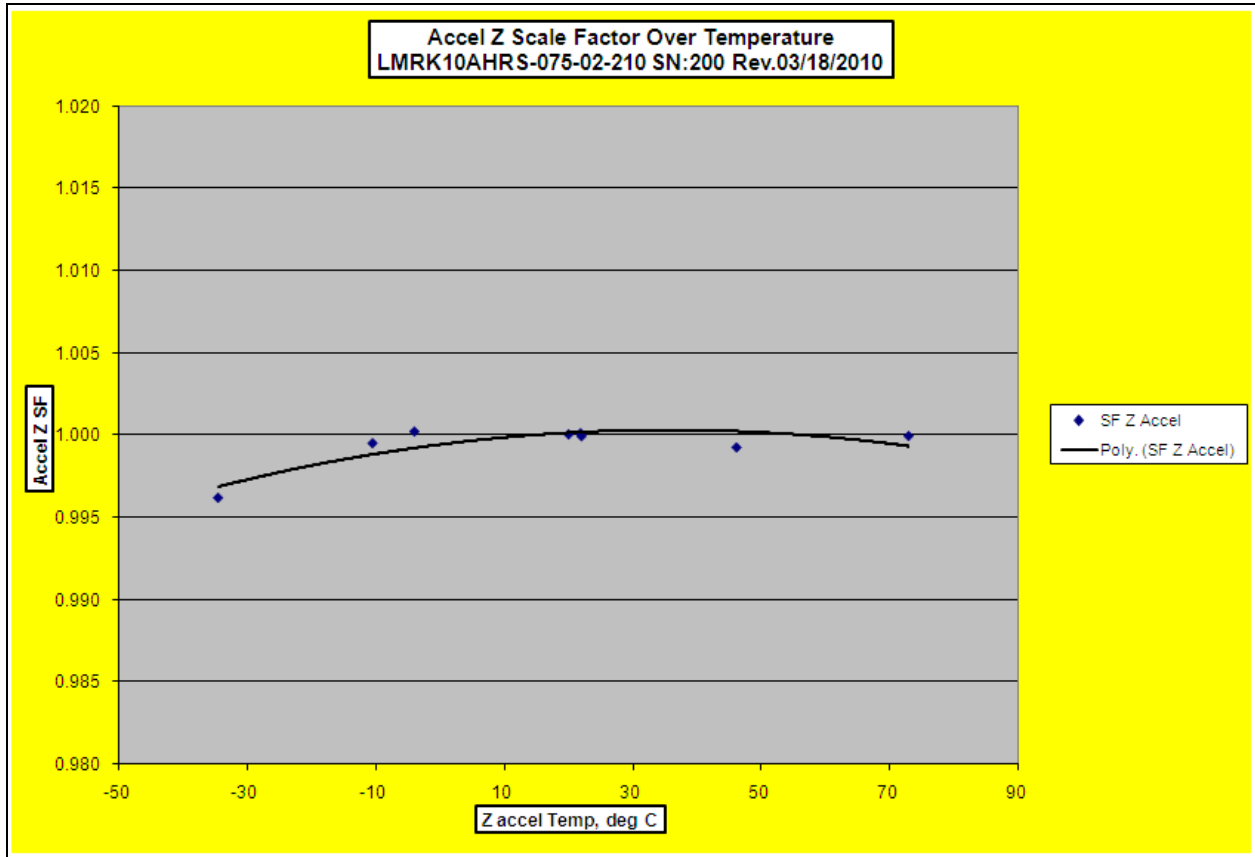


Figure 71: Accel Z Scale Factor Over Temperature

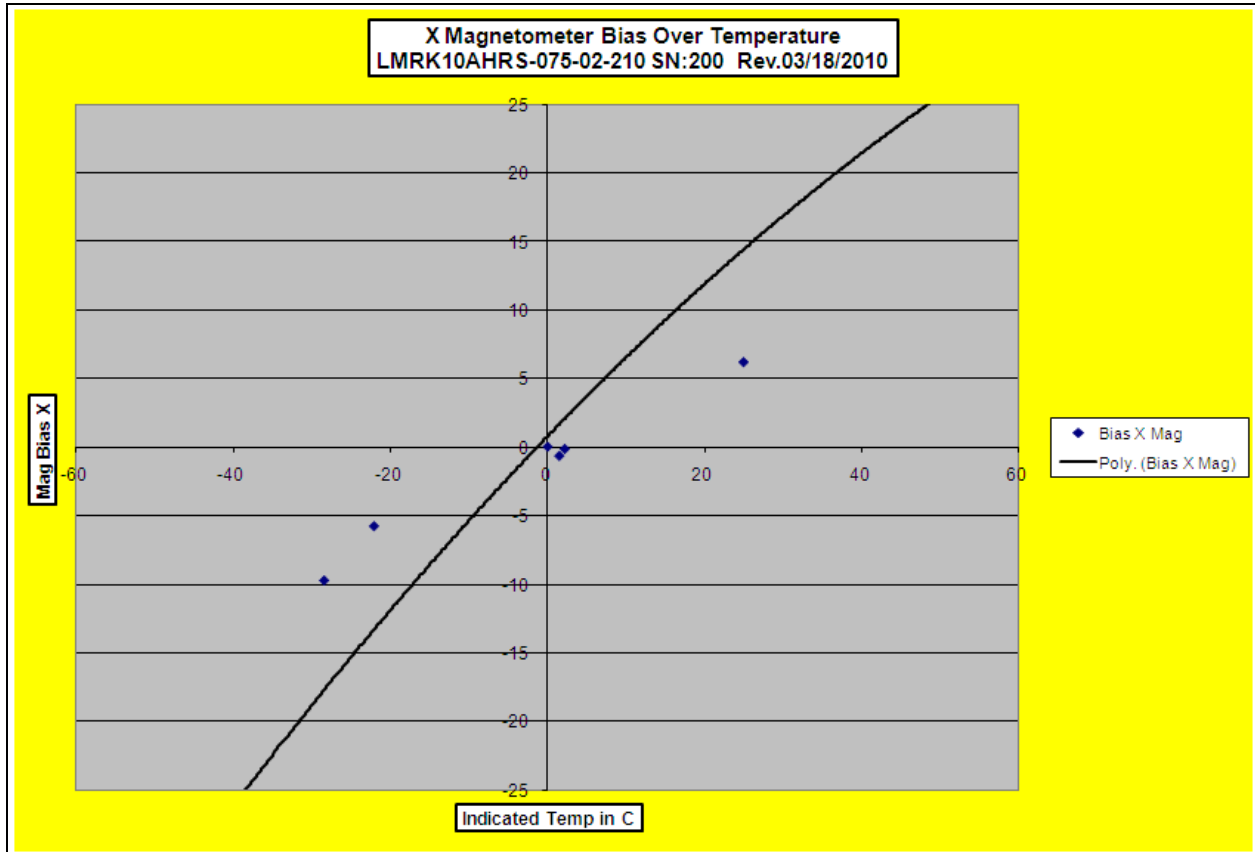


Figure 72: X Magnetometer Bias Over Temperature

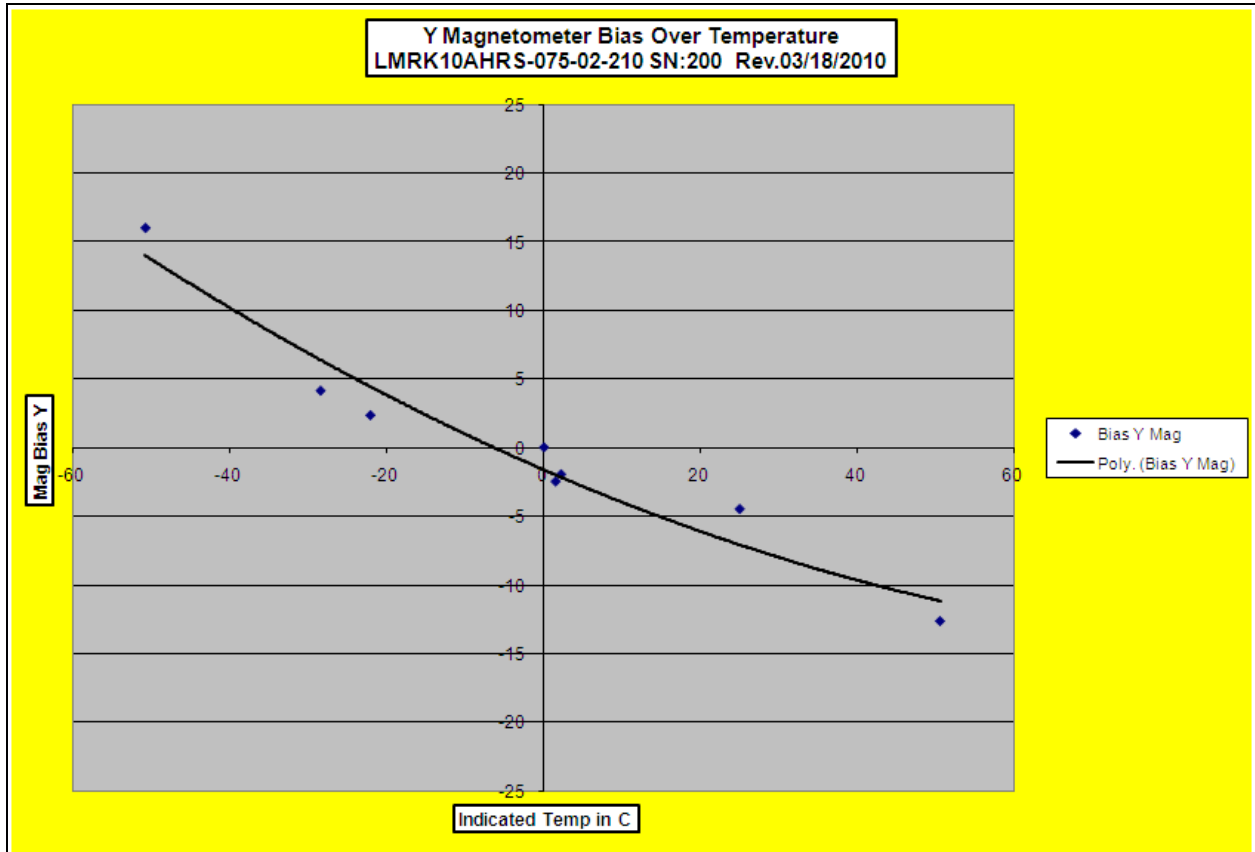


Figure 73: Y Magnetometer Bias Over Temperature

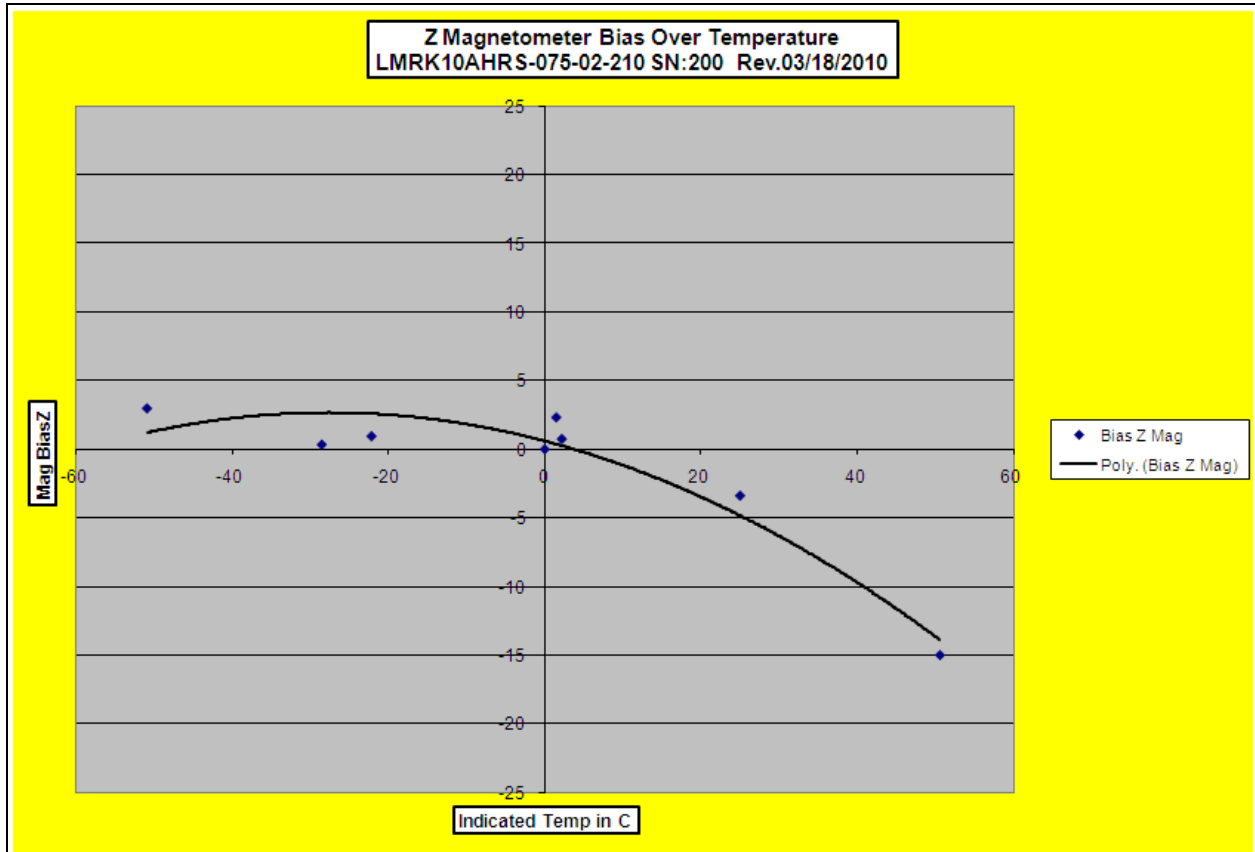


Figure 74: Z Magnetometer Bias Over Temperature



19 Magnetic Heading – Z Axis

Please find below typical 100Hz sample test data for Magnetic Heading from a production LandMark™ 10 AHRS “LN Series” for user reference with 75°/sec rate range gyros and 2g linear range accelerometers.

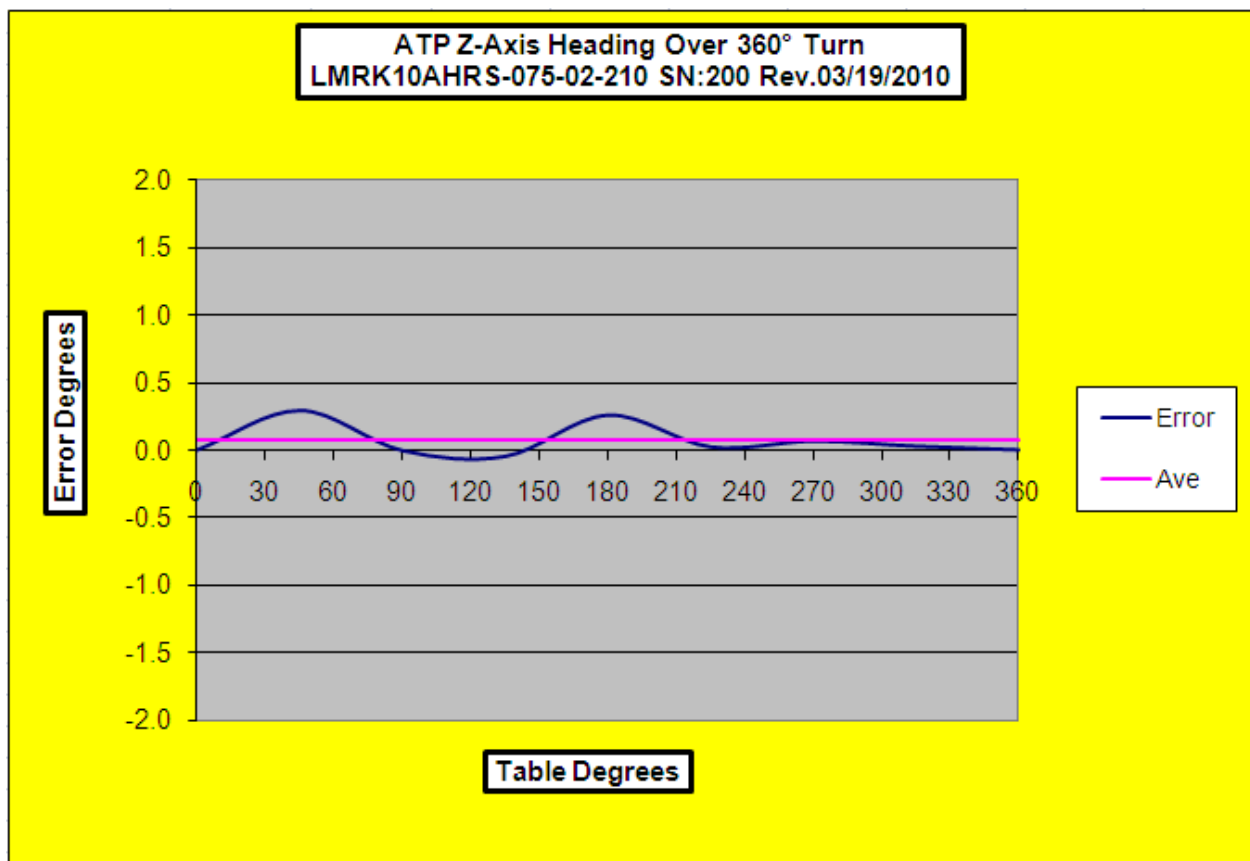


Figure 75: Magnetic Heading Over 360 degree Turn

