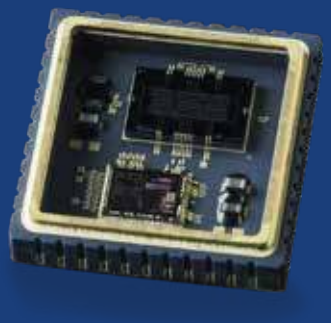
Physical Logic

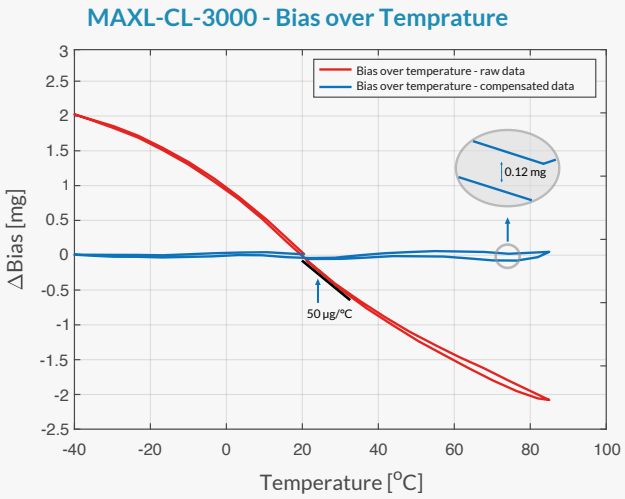
# MAXL-CL-3000

## Closed Loop Products



Advanced MEMS sensors for multiple applications;
Taking accuracy to the next level

# MAXL-CL-3015 Key Parameters

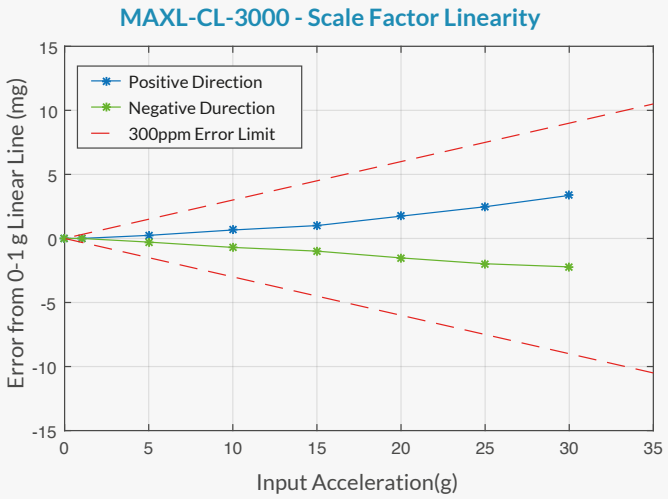

| Parameter | MAXL-CL-3015-10 * | MAXL-CL-3015-15 ** | MAXL-CL-3015-20 | MAXL-CL-3015-30 |
|---|---|---|---|---|
| Input Range g | ±15 | ±15 | ±15 | ±15 |
| Bandwidth Hz | >300 | >300 | >300 | >300 |
| Noise Density µg/√Hz | <45 | <40 | <40 | <40 |
| VRE (20-2000 Hz) $\mu g/g^2_{RMS}$ | <30 | <25 | <25 | <25 |
| SF Short Term Stability (5h) @ Room Temperature ppm • | <150 | <150 | <100 | <100 |
| SF Long Term Repeatability ppm | <800 | <600 | <400 | <400 |
| SF Temperature Sensitivity [-40°C , 85°C] ppm/°C •• | <200 | <150 | <100 | <75 |
| SF Temp. Residual Error [-40°C , 85°C] ppm •• | <250 | <200 | <150 | <100 |
| SF Linearity Error (full range) ppm | <300 | <300 | <300 | <300 |
| Bias Short Term Stability (5h) @ Room Temperature µg • | <175 | <125 | <100 | <75 |
| Bias Long Term Repeatability µg | <4000 | <2000 | <1200 | <500 |
| In run stability (min AVAR) µg (max) • | 7 | 7 | 7 | 7 |
| Bias Temperature Sensitivity [-40°C , 85°C] µg/°C •• | <600 | <300 | <250 | <150 |
| Bias Temp. Residual Error [-40°C , 85°C] µg •• | <450 | <300 | <150 | <70 |

* Cost effective, MTCR free (<4 mg) ** MTCR free

**Environmental conditions**

- • Tested at room temperature
- •• Tested over temperature span of [-40°C , +85°C]
  - › Short Term Stability, Temperature Residual Error, and Turn On to Turn On Repeatability are analyzed as the Standard Deviation over multiple measurements
  - › Long Term Repeatability is tested during operational / non-operational vibrations and shocks, multiple temperature cycles and different storage temperatures
  - › SF Linearity Error of input acceleration according to IEEE method

# MAXL-CL-3030 Key Parameters


| Parameter | MAXL-CL-3030-10 * | MAXL-CL-3030-15 ** | MAXL-CL-3030-20 | MAXL-CL-3030-30 |
|---|---|---|---|---|
| Input Range g | ±30 | ±30 | ±30 | ±30 |
| Bandwidth Hz | >300 | >300 | >300 | >300 |
| Noise Density µg/√Hz | <50 | <45 | <45 | <45 |
| VRE (20-2000 Hz) $\mu g/g^2_{RMS}$ | <30 | <25 | <25 | <25 |
| SF Short Term Stability (5h) @ Room Temperature ppm • | <150 | <150 | <100 | <100 |
| SF Long Term Repeatability ppm | <800 | <600 | <400 | <400 |
| SF Temperature Sensitivity [-40°C , 85°C] ppm/°C •• | <200 | <150 | <100 | <75 |
| SF Temp. Residual Error [-40°C , 85°C] ppm •• | <250 | <200 | <150 | <100 |
| SF Linearity Error (full range) ppm | <300 | <300 | <300 | <300 |
| Bias Short Term Stability (5h) @ Room Temperature µg • | <175 | <125 | <100 | <75 |
| Bias Long Term Repeatability µg | <4000 | <2000 | <1200 | <500 |
| In run stability (min AVAR) µg (max) • | 10 | 10 | 10 | 10 |
| Bias Temperature Sensitivity [-40°C , 85°C] µg/°C •• | <600 | <300 | <250 | <150 |
| Bias Temp. Residual Error [-40°C , 85°C] µg •• | <450 | <300 | <150 | <70 |

* Cost effective, MTCR free (<4 mg) ** MTCR free

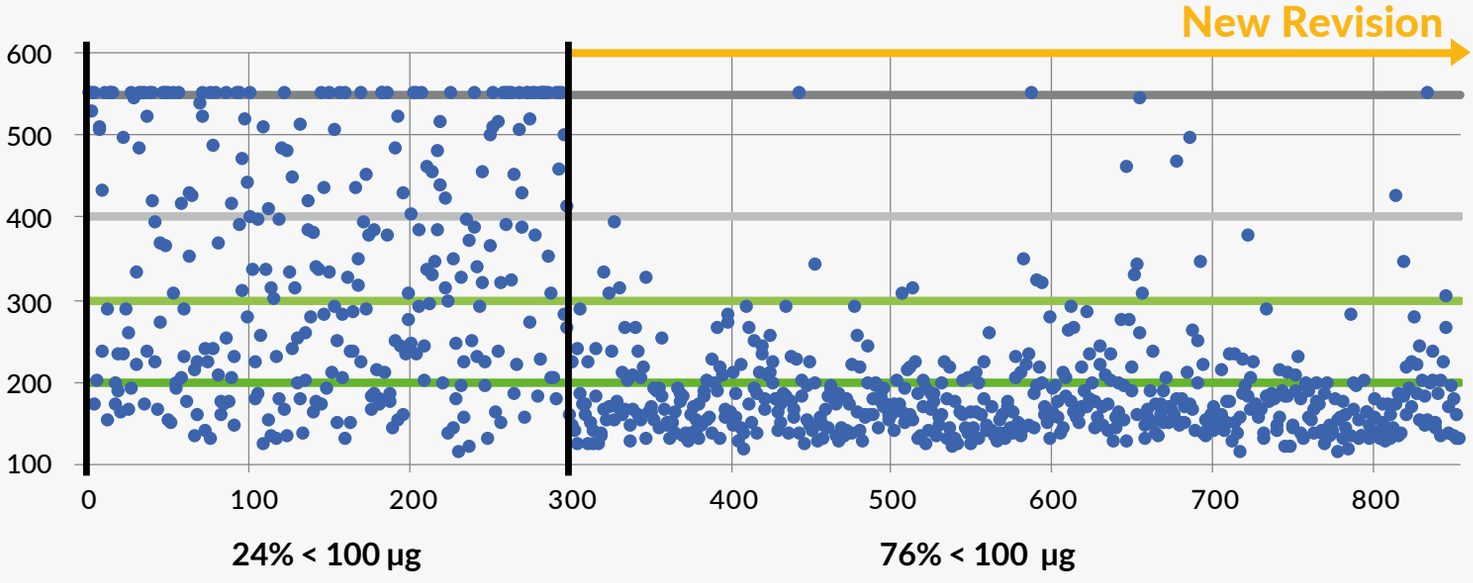
**Environmental conditions**

- • Tested at room temperature
- •• Tested over temperature span of [-40°C , +85°C]
  - › Short Term Stability, Temperature Residual Error, and Turn On to Turn On Repeatability are analyzed as the Standard Deviation over multiple measurements
  - › Long Term Repeatability is tested during operational / non-operational vibrations and shocks, multiple temperature cycles and different storage temperatures
  - › SF Linearity Error of input acceleration according to IEEE method

# We Take MEMS Accuracy to the Next Level

**Physical Logic** – a leader in high precision Closed-loop and Open-loop MEMS (Micro-Electro-Mechanical System) Accelerometers and pioneer in bringing MEMS technology to high-end inertial navigation sensors, is announcing the new release of its Inertial Grade MEMS Accelerometers – the MAXL-CL-3000 family. These unique Closed-loop MEMS Accelerometers available for aerial, land and marine applications, providing enhanced performance with a current sensing range of 15g and 30g (50g and 70g sensing range expected in Q1/2021).

## Bias Temperature Residual




***Delivering full range of grades to maximize performance-to-cost for various applications.***
***Standard deviation of Residual error measured over temperature cycle (-40°C) - (+85°C).***

**Physical Logic Ltd.** | 48 Ben Zion Galis St. Petah Tikva, 4927948 , Israel
Office: +972 3 5708188 | Fax: +972 3 5709180
www.physical-logic.com | info@physical-logic.com