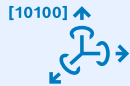


Inertial sensor | SMU300

Highest performance

enables HAD/ADAS and autonomous driving

Function



The SMU300 is a 6-in-1 ultra-precise inertial sensor with an ASIL D rating. Featuring the lowest noise and “zero” drift, the SMU300 is housed in a ceramic package to ensure optimal temperature performance and maximum robustness. The sensor is capable of measuring all 6 degrees of freedom: yaw/pitch/roll rate and acceleration in x/y/z directions, including temperature and internal health status.

Application



ADAS/ Autonomous Driving

Provides the precision and reliability needed for advanced driving systems.

Ultra-Precise Localization

Ensures accurate positioning and navigation in complex environments.

Key Features



Lowest Noise: Provides the clearest and most accurate data for critical applications.

“Zero” Drift: Ensures consistent and reliable performance over time.

Ceramic Package: Offers superior temperature stability and durability.

Customizable Features: Allows customers to configure specific features to meet their unique requirements **Unmatched Robustness:** Designed to withstand the most demanding environments.

Safety



The SMU300 is developed according to ASIL D process (ISO26262:2018)

Safe and precise

integrated sensor solution for systems up to ASIL D



Technical features

Package	24 pin CLC C, 8 x 8 mm
Supply voltage	3.3 5 V
Supply current	< 30 mA
Operating temperature	-40 to +125 °C
Interface	SPI (in-frame out-of-frame)
Data resolution	16 20 bit

	Gyro	Accel
Sensing axes	X, Y, Z	X, Y, Z
Range	± 100 300 °/s	Low-g: ± 6 8 g Mid-g: ± 35 25 g
Sensitivity ²	100 LSB per °/s	5000 LSB per g

Performance over temperature

Accelerometer	typ	unit
Offset ¹	1.3	mg
Sensitivity err (x, y, z)	0.02	%
Non-linearity	0.42	mg
Velocity random walk	68	µg/√Hz
Bias stability	25	µg

Gyroscope	typ	unit
Offset ¹	0.05	°/s
Sensitivity err (x, y, z)	0.25	%
Non-linearity	0.01	°/s
Angular random walk	0.1	°/√h
Bias stability	1.5	°/h

1) Zeroed on PCB 2) For 300°/s range, 6g range respectively, and 16bit configuration
For the lifetime specification and additional parameters please see the corresponding TCD.