

Acceleration sensor | SMA270

Low offset operation

enables adaptive headlight leveling

Function



The SMA270 is a state-of-the-art acceleration sensor designed specifically for adaptive headlight leveling applications. Engineered for outstanding performance, the SMA270 comes with exceptional vibration robustness and superior technical specifications.

Application



Adaptive Headlight Leveling:

Helps to control and level the adaptive headlight in loaded vehicles scenarios.

Inclination Sensing:

Helps to measure the tilt or angle to a horizontal plane.

Key Features



High Vibration Robustness: Ensures reliable operation even in demanding environments.

Precision Measurement: Provides accurate data crucial for headlight leveling systems.

Compact Design: Easy integration into existing systems without compromising performance.

Customizable Features: Allows customers to configure specific features to meet their unique requirements, enhancing versatility.

Safety



On-board safety controller with self-diagnostic features.

The SMA270 is developed according to ASIL B process (ISO26262:2018) and provides sensor signals with safety requirements up to ASIL B.

Safe and precise

integrated sensor solution for systems up to ASIL B



Technical features

Package	16 pin Open Cavity 5 x 5 mm
Supply voltage	3.3 V
Supply current	< 5 mA
Operating temperature	-40 to +125 °C
Interface	SPI
Data resolution	16 bit
Accelerometer	
Sensing axes	X, Y, Z
Range	± 4 16 g
Sensitivity	8 000 2 000 LSB per g

Performance over temperature

Accelerometer	typ	unit
Offset	10	mg
Sensitivity error	0.5	%
Non-linearity	4 (2g range)	mg
Offset over temp.	10	mg
Velocity random walk	0.15	$\frac{\text{m/s}}{\sqrt{\text{h}}}$
Bias stability	50	μg