

SCL3300

MEMS 3-axis Inclinometer

A small surface mounted MEMS sensor offering best-in-class characteristics for inclination measurements.



Size

7.6 x 3.3 x 8.6 mm

Murata Electronics Ref.: SCL3300Fl_1

Features

- 3-axis inclination sensor with digital true inclination angle output
- Four user selectable measurement modes for sensor performance optimization for different applications and their requirements
- Ultra-low noise density for high measurement resolution
- Mechanically damped sensing element design for excellent vibration robustness
- Extensive self-diagnostic features
- SPI digital interface
- 40 °C to +125 °C operating range
- Proven capacitive 3D-MEMS technology

Applications

SCL3300 is targeted at applications demanding high stability with tough environmental requirements.

Typical applications include:

- Leveling
- Tilt sensing
- Machine control
- Structural health monitoring
- Inertial measurement units (IMUs)
- Robotics
- Positioning and guidance systems

Typical Performance Overview

Parameter	SCL3300-D01			
Operating Range	-40°C ...+125°C			
Supply voltage	3.0V ... 3.6V			
		Range:	Sensitivity: Acceleration output / Inclination output	Bandwidth:
Measurement Mode Options	1	± 1.8g / ±90°	6000 LSB/g / 182 LSB/°	40 Hz
	2	± 3.6g / ±90°	3000 LSB/g / 182 LSB/°	70 Hz
	3, 4	± 0.9g / ±10°	12 000 LSB/g / 182 LSB/°	10 Hz
Offset Temperature Error	±0.005°/°C			
Sensitivity Temperature Error	±0.3%			
Noise density	Mode 4	0.001°/√(Hz)		