

# INTRODUCING DOG2 MEMS TILT SENSOR

- Simultaneously measure pitch and roll angles of up to  $\pm 90^\circ$  with  $<0.5\%$  of cross-axis sensitivity
- Deliver low total output error of  $0.5^\circ$  over a wide  $-40^\circ$  to  $+85^\circ\text{C}$  operating temperature range



TE Connectivity's (TE) DOG2 MEMS Series CAN J1939 dual-axis inclinometers can simultaneously measure pitch and roll angles of up to  $\pm 90^\circ$ , with  $<0.5\%$  of cross-axis sensitivity (versus the 1 to 2% industry standard). On-board linearization and temperature compensation result in an extremely low total output error of  $0.5^\circ$ , over a wide  $-40^\circ$  to  $+85^\circ\text{C}$  operating temperature range. Integrated digital filtering algorithms limit the effects of vibrations and/or shock. The digital output eliminates errors such as noise and signal loss common to analog type sensors. A high impact plastic housing and IP67 rating provide excellent protection in harsh environments where condensation, oils, grease, fuels and other contaminants may be present.

## KEY BENEFITS

- Simultaneously measure pitch and roll angles of up to  $\pm 90^\circ$  with  $<0.5\%$  of cross-axis sensitivity
- Deliver low total output error of  $0.5^\circ$  over a wide  $-40^\circ$  to  $+85^\circ\text{C}$  operating temperature range with on-board linearization and temperature compensation
- Ease mechanical installation concerns with compression limiting bushings, while making electrical connections easy and secure with the integrated AMP SUPERSEAL 1.5 SERIES connector
- Help eliminate errors related to noise and signal loss with digital output
- Simplify system integration with industry standard CAN interfaces
- Save space with compact and lightweight product design
- Provide protection against harsh environments with IP67 seal rating

## APPLICATIONS

- Off-road vehicles
- Agricultural equipment
- Man lifts & lift platforms
- Crane manufacturers

## MARKET INFORMATION

- Parker - UTS Series
- Level Developments - MAS-360-HA
- Joral - J1939
- Axiomatic - AX06020X
- Prova Systems - VIM3

## TARGET MARKETS

- Industrial Commercial Transportation (ICT)

## QUICK PERFORMANCE OVERVIEW

### G-NSDOG2-200

- Size: W: 70.5 mm, L: 45 mm, H: 15 mm
- Power Supply: 8 V to 30 V
- Operating Range:  $\pm 90^\circ$  dual axis
- Accuracy @  $25^\circ\text{C}$ :  $\pm 0.15^\circ$
- Accuracy  $-40^\circ\text{C}$  to  $85^\circ\text{C}$ :  $\pm 0.5^\circ$
- Interface, Source Address:  $0xC2$  (fixed)
- CAN Speed: 250 kbps

### G-NSDOG2-207

- Size: W: 70.5 mm, L: 45 mm, H: 15 mm
- Power Supply: 8 V to 30 V
- Operating Range:  $\pm 90^\circ$  dual axis
- Accuracy @  $25^\circ\text{C}$ :  $\pm 0.15^\circ$
- Accuracy  $-40^\circ\text{C}$  to  $85^\circ\text{C}$ :  $\pm 0.5^\circ$
- Interface, Source Address:  $0xC2$  (default),  $0x80$  to  $0xF7$  (set)
- CAN Speed: 250 kbps

## LEARN MORE

[Tilt Sensors & Inclinometers Product Group Page](#)

[MEMS Tilt Sensors & Inclinometers Infographic](#)

[The Tilt Sensor Becomes More Ubiquitous - Trend Paper](#)

[Tilt Sensors & Inclinometers for Safety Systems - Sell Sheet](#)