



Universal Tilt Sensor (UTS) Tilt Sensors

Catalog MSG33-2374/US



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Technical data

Universal Tilt Sensor

Application

The UTS (universal tilt sensor) belongs to the Parker family of accessories provided to complement electronic control systems. The UTS is a multi-axis, MEMS (micro electro-mechanical systems) technology, tilt sensor for mobile hydraulic applications. The sensor communicates over a CAN bus using SAE J1939 protocol. The UTS has an integral Deutsch connector. To make the sensor suitable for mobile equipment, we have focused upon properties such as reliability, electromagnetic immunity and ease of installation.

Properties

Reliability

The UTS has a glass-filled, hybrid plastic construction for sturdiness and corrosion resistance. The sensor is very robust and able to withstand rugged applications while being protected and sealed against harsh environments using spin-weld technology. These features give the sensor IP68 protection for exposed outdoor applications.

Electromagnetic immunity

The design of the UTS has a high level of EMI protection.

Installation

The UTS is well designed for the mobile hydraulics industry. The 4 pin connector is a sealed Deutsch DT type designed for automotive use. The 3 mounting holes are in a tripod pattern to facilitate level installation. These features provide for easy installation and removal, even in field conditions.

Environmental protection

EMI

ISO 11452-2 100 V/m
 ISO7637-2 and -3 transients

ESD

ISO 10605:2008 ±15 kV

Mechanical

Shock 1m drop
 Vibration 40 Gs

Climate

Sealing IP68 / IP69K
 (with rear connector protection, such as backshell)

Chemical

Liquids (resistance) standard automotive

General

Weight 0.14 kg
 Temperature (operating) -40°C to 85°C
 Temperature (storage) -40°C to 105°C
 Number of axes¹ 2 or 3
 Angular range¹ ±10° or ±90°

Communication

CAN protocol SAE J1939
 CAN messages see part drawing
 CAN bus speed 250 kbps
 Data broadcast rate 10 Hz (±10°)
 Data broadcast rate 50 Hz (±90°)
 CAN source address 0xE2

Mechanical characteristics

Mounting bolt 1/4"-20 UNC or M6x1.0
 Mounting torque 135 in-lb max
 Mounting surface flatness .010"
 Connector Deutsch DT

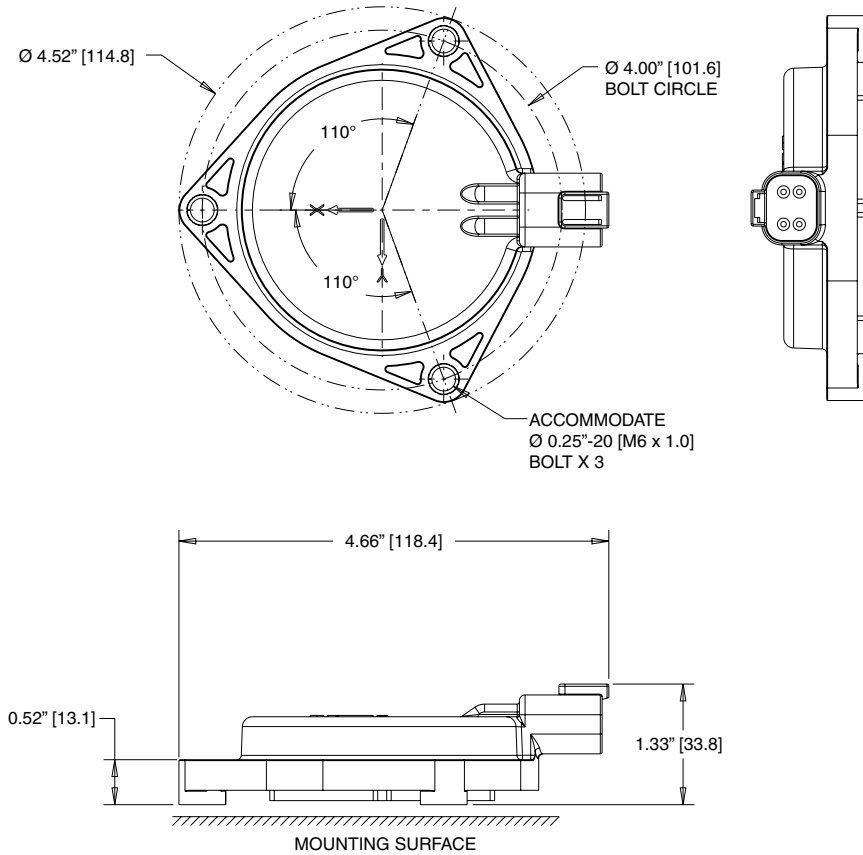
Electrical specifications

Operating voltage 5.25 - 48 Vdc
 Startup voltage 6.5 - 36 Vdc
 Reverse polarity -48 Vdc
 Short circuit protection 32 Vdc or ground
 Current draw 9.0 mA (12 V)
 6.0 mA (24 V)
 Resolution 0.02°
 Repeatability 0.05°
 Linearity (typical) ±0.4°, (±10°)
 ±0.3° + 1% of tilt from
 horizontal, (±90°)

Ordering part number

UTS v2, ±10°, 2 axis 169459ECD
 UTS v2, ±90°, 2 axis 169453ECD
 UTS v2, ±90°, 3 axis 169451ECD

¹ depending on part number



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This product can expose you to chemicals including ANTIMONY TRIOXIDE, CARBON BLACK (AIRBORNE, UNBOUND PARTICLES OF RESPIRABLE SIZE) which is known to the State of California to cause cancer and 4,4'-(PROPANE-2,2-DIYL)DIPHENOL, BPA, P,P'-ISOPROPYLIDENE BISPHENOL, which is known to the State of California to cause birth defects or other reproductive harm.

For more information go to www.P65Warnings.ca.gov

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