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Universal Tilt Sensor (UTS) Tilt Sensors

Catalog HY33-2374/US



ENGINEERING YOUR SUCCESS.

Application

The UTS (universal tilt sensor) belongs to the Parker family of accessories provided to complement electronic control systems. The UTS is a dual 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.

The electronics are protected from moisture with a conformal coating, and the enclosure is sealed against harsh environments using spin-weld technology. These features give the sensor IP67 protection for exposed outdoor applications.

Properties

Reliability

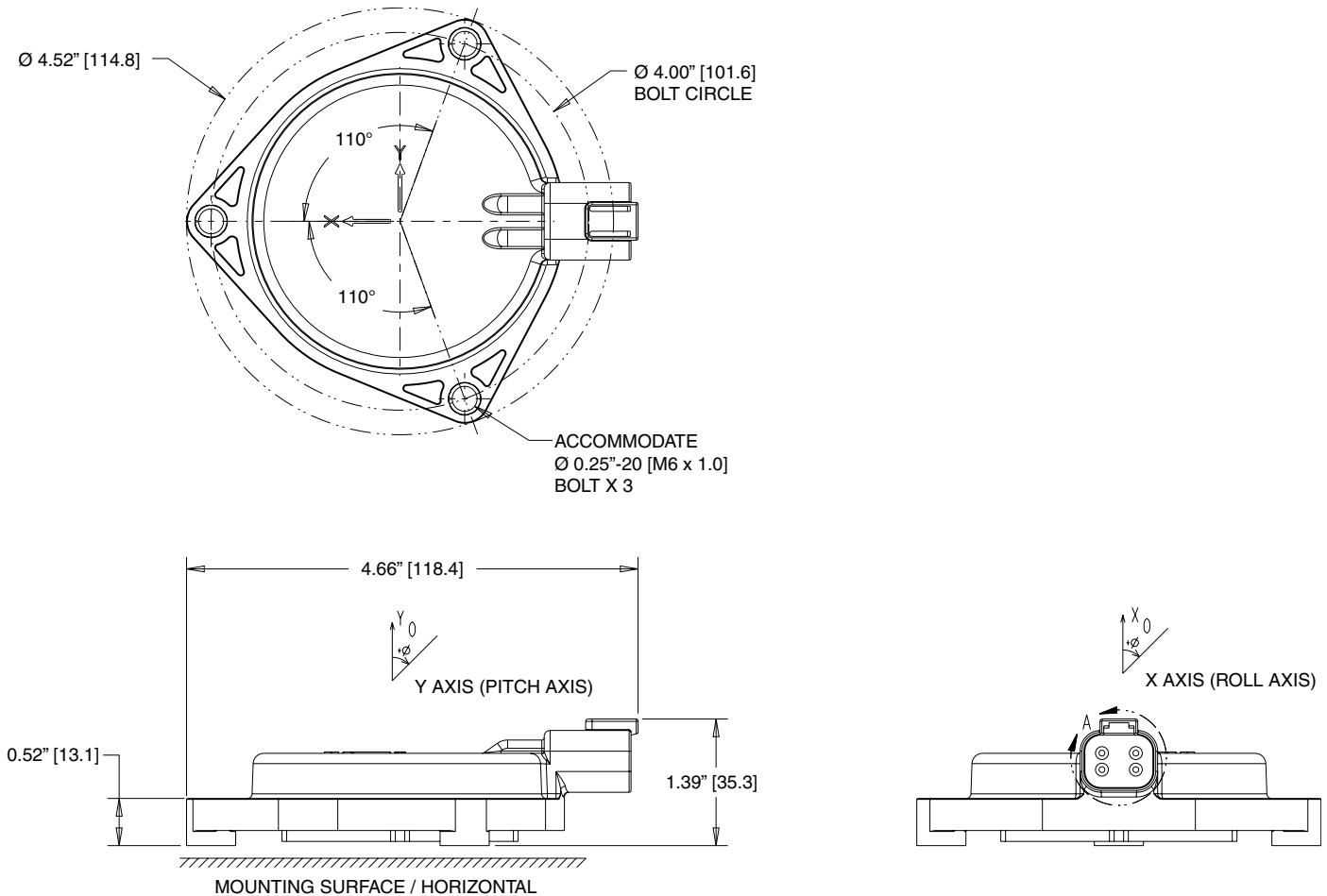
The UTS has a glass-filled, hybrid plastic construction for sturdiness and corrosion resistance. The sensor utilizes redundant MEMS devices for added reliability. The sensor is very robust and able to withstand rugged applications.

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.



General

Weight 0.14 kg
 Temperature (operating) -40°C to 85°C
 Temperature (storage) -40°C to 105°C
 Number of axes 2
 Angular range ±10° from horizontal

Communication

CAN protocol SAE J1939
 Data broadcast rate 10 Hz
 Initial CAN source address 0xE2

Mechanical characteristics

Mounting bolt 1/4"-20 UNC
 Mounting torque 135 in-lb
 Mounting surface Flatness .010"
 Connector Deutsch DT

Electrical specifications

Operating voltage 5.25 - 48 Vdc
 Startup voltage 6.5 - 36 Vdc
 Current draw 9.0 mA (12 V)
 6.0 mA (24 V)
 Resolution 0.02°
 Repeatability 0.05°
 Linearity ±0.4° typical

Ordering part number

UTS 151938

Environmental protection

EMI

ISO 11452-2 100 V/m

ESD

ISO 10605:2008 ±15 kV

Mechanical

Shock 1m drop
 Vibration 40 Gs

Climate

Sealing IP67 / IP69K

Chemical

Liquids (resistance) standard automotive



WARNING - USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

- This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.
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