

0729-1723-99 Microprocessor Based, Dual Axis, Signal Conditioner Assembly

- +7 to +16 Volt Single Power Supply
- ± 45 Degree Angle Range
- 0 to 5 VDC Analog Output
- Digital Pulse-Width Output (optional)



The Signal Conditioner Assembly is a combination Microprocessor based electronics and TrueTilt™ dual axis tilt sensor in a weather resistant, high-impact plastic case. This new design has proven successful in applications that demand high accuracy, low power consumption, “field” durability, and easy mounting. The assembly can be custom configured for a wide variety of angle ranges and outputs. It can be used as a stand-alone inclinometer as well as in challenging production and instrument applications.

Applications Include:

- ◆ Automotive Wheel Alignment
- ◆ Camera and Vehicle Stabilization
- ◆ Geophysical Monitoring
- ◆ Machine Tool Leveling
- ◆ Medical Positioning and Monitoring

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Sensor Operating Specifications:

Tilt sensor part number.....0717-4304-99

Operating Range (max.)..... $\pm 45^\circ$
Linear Range..... $\pm 25^\circ$
Null Voltage..... ≤ 0.025 Volts
Null Current (max.) 0.2 mA (continuous)
Null Impedance (nom) 40 K Ohms (25° C)
(measured left to right electrode) see figure 2
Repeatability..... 0.1°
Resolution..... < 0.2 arc minutes
Symmetry (typ.)..... 5 %
Null Offset (max.)..... 5.0°
Mech. Crosstalk / Deg. (to 20°)..... 0.025°
Temperature Coefficient
Null..... 20 arc sec / °C
Scale..... 0.1 % / °C
Stability @ 24 Hrs..... 0.1°
Operating Temperature -40° C to +85° C
Storage Temperature..... -55° C to +100° C
Time Constant (1) ≤ 100 msec
Material magnetic

Case Dimensions:

Length..... 2.500"
Width..... 2.500"
Height..... 0.900"
Flange Length..... 3.500"
Flange Holes (centerline)..... 3.000"
Hole Diameter..... 0.190"

Circuit Board Operating Specifications:

Circuit board part number.....1-6200-002

Power supply voltage (range).....+7 to +16 VDC
Power supply current (typical).....11.0 mA @ 9VDC

Analog output voltage (max.).....Power supply voltage minus 2 Volts
Analog output load current (max.).....1 mA
Analog output resolution (0 to 5 volts output).....1.5 mV

Digital output voltage (typical).....0 to 5 Volts
Digital output load current (max.).....1 mA
Digital output resolution (percent).....0.1%
(time).....2.0 usec
Digital output frequency.....488 Hz

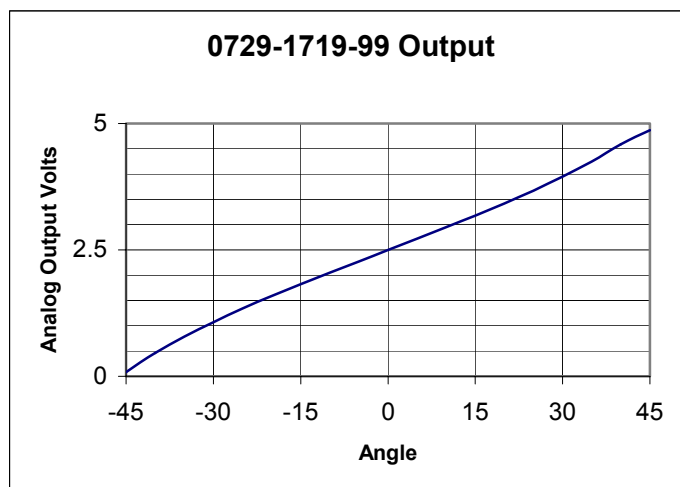
Environmental

Temperature range
Operating.....-40 to +85 ° C
Storage.....-55 to +100 ° C

Connector:

J1-1 +7 to +16 VDC
J1-2 Common
J1-3 not used
J1-4 X axis analog
J1-5 Y axis analog
J1-6 X axis pulse width (optional)
J1-7 Y axis pulse width (optional)

Cable length.....60.0"



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