

# 0729-1719-99

## Microprocessor Based Dual Axis Signal Conditioner Assembly



### Description

The **0729-1719-99** Signal Conditioner is a Microprocessor based electronics and 0717-4304-99 MCL tilt sensor assembly. This New design has proven successful in applications that demand high accuracy, low power consumption, and "in field" durability. This standard board can be custom configured for a wide variety of angle ranges and outputs. It can be used as an evaluation tool for testing specific sensors as well as in challenging production and instrument applications.

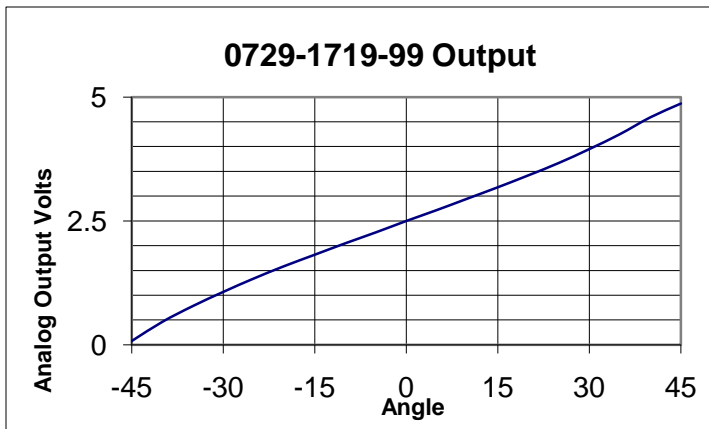
- +7 to +16 Volt Single Power Supply
- ±45° Angle Range
- 0 to 5 VDC Analog Output

### Applications Include

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

### Environmental

|                   |               |
|-------------------|---------------|
| Temperature Range |               |
| Operating         | -40 to +85°C  |
| Storage           | -55 to +100°C |



### Sensor Operating Specifications

|   |                     |
|---|---------------------|
| Tilt Sensor Part Number                       | 0717-4304-99        |
| Operating Range (max)                         | ± 45°               |
| Linear Range                                  | ± 25°               |
| 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 fig. 2 |                     |
| Repeatability                                 | 0.1°                |
| Resolution                                    | < 0.2 arc minutes   |
| Symmetry (typ)                                | 5%                  |
| Mech. Crosstalk / Deg. (to 20°)               | 0.025°              |
| Null Offset (max)                             | 5.0%                |
| 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          |
| Materials                                     | magnetic            |

### 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 @ 9 VDC                    |
| Analog Output Voltage (max)                        | Power supply voltage minus 2 Volts |
| Analog Output Load Current (max)                   | 1 mA                               |
| Analog Output Digital Output (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) (time)         | 0.1%<br>2.0 usec                   |
| Digital Output Frequency                           | 488Hz                              |

