



**±45° Programmable Single-Axis Tilt Switch**  
**Part Number: 0729-1757-99**

**Operating Specifications**

|  |                          |
|--|--------------------------|
| <b>Output</b>                                | 2 open collectors        |
| <b>Supply Voltage</b>                        | 4.5 V DC to 28 V DC      |
| <b>Supply Current</b>                        | 3 mA @ 4.5 V to 28 V DC  |
| <b>Operating Range</b>                       | ±45°                     |
| <b>Axes of Measurement</b>                   | 1                        |
| <b>Repeatability</b>                         | ≤0.1°                    |
| <b>Null Offset</b>                           | ≤5°                      |
| <b>Cross Axis (Roll) Sensitivity</b>         | ≤0.025° per degree       |
| <b>Long Term Stability/Drift</b>             | ≤0.1°                    |
| <b>Null Temperature Coefficient</b>          | ≤0.006° per °C           |
| <b>Scale Temperature Coefficient</b>         | 0.1% per °C              |
| <b>Materials</b>                             | Contains magnetic metals |
| <b>Operating Temperature</b>                 | -40 °C to 70 °C          |
| <b>Storage Temperature</b>                   | -40 °C to 70 °C          |
| <b>Temperature Sensor Range</b>              | -40 °C to 125 °C         |
| <b>Time Constant (63.2% of final output)</b> | ≤100 ms                  |
| <b>Output Delay</b>                          | 0.5 s                    |
| <b>Output Hysteresis</b>                     | 0.35°                    |

**Physical Characteristics**

|                               |                              |
|-------------------------------|------------------------------|
| <b>Housing</b>                | ABS Plastic                  |
| <b>Electrical Connections</b> | 18" cable with 24-gauge wire |
| <b>Weight</b>                 | 40 grams                     |
| <b>Length</b>                 | 50.8 mm (2.000")             |
| <b>Width</b>                  | 38.1 mm (1.500")             |
| <b>Height</b>                 | 19.1 mm (0.750")             |
| <b>Flange Length</b>          | 76.2 mm (3.000")             |
| <b>Hole Center</b>            | 63.5 mm (2.500")             |
| <b>Hole Diameter</b>          | 4.8 mm (0.190")              |

**Ordering Information**

| Part Number  | Description                               |
|--------------|---|
| 0729-1757-99 | Tilt Switch, ±45°, 1 Axis, Open Collector |

**Related Products**

| Part Number  | Description                               |
|--------------|---|
| 0717-4319-99 | Tilt Sensor, ±50°, 2 Axis                 |
| 0729-1736-99 | Tilt Switch, ±35°, 2 Axis, Relay/RS-232   |
| 0729-1758-99 | Tilt Switch, ±45°, 1 Axis, Open Collector |
| 0729-1763-XX | Tilt Switch, ±45°, 2 Axis, Relay/RS-232   |
| 0729-1751-99 | Inclinometer, ±60°, 2 Axis, SPI           |
| 0729-1752-99 | Inclinometer, ±60°, 2 Axis, RS-232        |
| 0729-1753-99 | Inclinometer, ±60°, 2 Axis, Analog/PWM    |
| 0729-1754-99 | Inclinometer, ±60°, 2 Axis, RS-485        |
| 0729-1755-99 | Inclinometer, ±60°, 2 Axis, Analog/PWM    |
| 0729-1759-99 | Inclinometer, ±60°, 2 Axis, RS-232        |
| 0729-1760-99 | Inclinometer, ±60°, 2 Axis, RS-485        |
| 0729-1765-99 | Inclinometer, ±25°, 2 Axis, Analog/RS-232 |

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**Description**

The 0729-1757-99 Single-Axis Programmable Tilt Switch utilizes a 0717-4319-99 Fredericks wide-range electrolytic tilt sensor and analog signal conditioner. Its robust plastic housing provides excellent durability and environmental protection. This tilt switch has superior tolerances and unit to unit performance. Its low-profile housing and economic design make it an ideal solution for a versatile range of applications in all sectors.

**Key Features and Benefits**

- ≤0.1° repeatability, very high accuracy
- ≤0.1° long term drift with an extremely long life
- -40 °C to 70 °C operating temperature for industrial applications
- Live text and video chat technical support

**Applications**

- Agricultural vehicles and machinery
- Geotechnical and structural monitoring
- Construction machinery and equipment
- Aerial lift and work platforms, boom lift, crane, forklift, scissor lift, and telehandler/telescopic handler operator safety and tip over prevention

View the full list at [www.frederickscompany.com/markets](http://www.frederickscompany.com/markets).

**Open Collector Output Description**

The open collector is closed (connected to ground) when non-tripped and open (disconnected from ground) when tripped. It is rated to a maximum of 200 mA when closed. For opposite open collector output functionality (open when non-tripped and closed when tripped), see the 0729-1758-99.

**Electrical Connections**

|              |                                       |
|--------------|---------------------------------------|
| <b>Red</b>   | Supply (4.5 V DC to 28 V DC)          |
| <b>Black</b> | Supply (-)                            |
| <b>Green</b> | Ground for supply and open collectors |
| <b>Blue</b>  | Left trip point open collector        |
| <b>Gray</b>  | Right trip point open collector       |

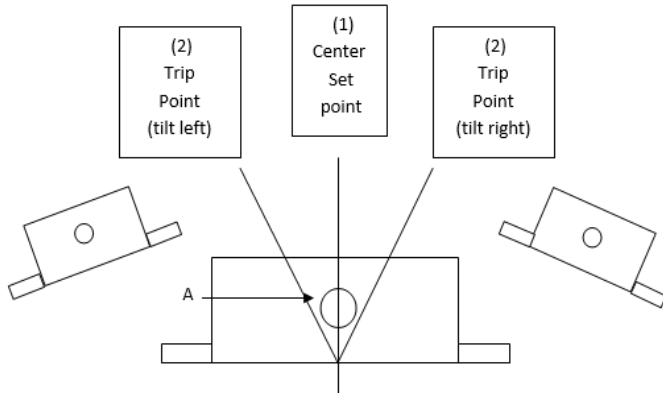
**Mounting Notes**

The 0729-1757-99 and all tilt switches in this series must be mounted horizontally (parallel to the surface of the earth and perpendicular to the force of gravity). For best performance, isolate the unit from vibrations when mounting it.

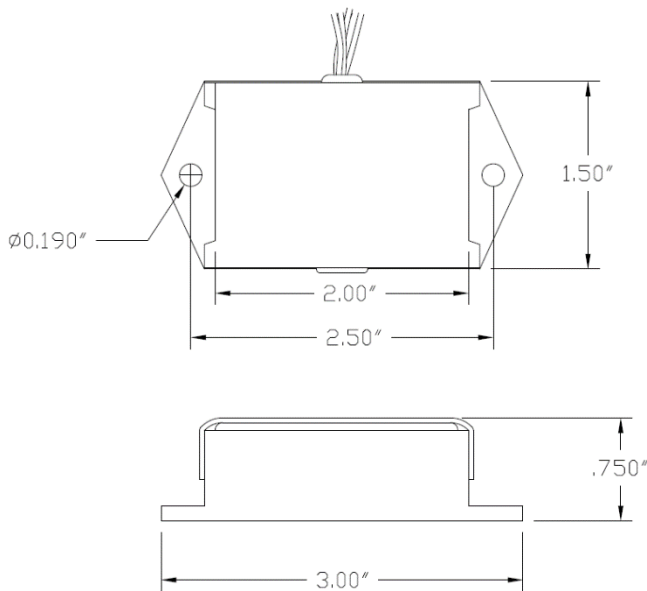


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**Direction of Measurement**



**Dimensional Drawings**



**Certifications and Ratings**

- RoHS Compliant
- IP50 (note that the standard version of this unit is not potted, epoxy potting is available upon request for IP66 protection)

**Additional Documentation**

|        |   |
|--------|---|
| Manual | <a href="#">0729-1757-99 Instruction Manual</a>                       |
| AN1001 | <a href="#">Temperature Compensation of Electrolytic Tilt Sensors</a> |
| AN1003 | <a href="#">Configuring Tera Term for Use with TFC Tilt Products</a>  |

**Company Information**

**Specialty Manufacturing Services That Promise Precision** - Since 1935, The Fredericks Company has been a global provider and U.S. designer and manufacturer of the highest performance tilt and vacuum measurement products on the market, with manufacturing processes that ensure the reliability of our products.

**Tilt Measurement Products and Sensors That Set Standards** - Fredericks' comprehensive tilt measurement product portfolio offers [electrolytic tilt sensors](#), [inclinometers](#), and [tilt switches](#). Engineered to outperform competing technology, our tilt sensors are accurate and repeatable with excellent resolution. Our tilt measurement products have no planned obsolescence and serve industries ranging from [construction](#) and [RV leveling](#) to aerospace applications and everything in between.

**A Partnership That Prioritizes Uptime, Lead Time, and Service** - Fredericks guarantees customer satisfaction and our "not too big, not too small" operation is what enables us to offer a true partnership experience. Our dedicated representatives and engineers offer exceptionally responsive service and the fastest lead times in the industry, knowing that uptime is the key to your success. With anytime access to our leadership team and solutions that enhance your products, you will feel the Fredericks difference.

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