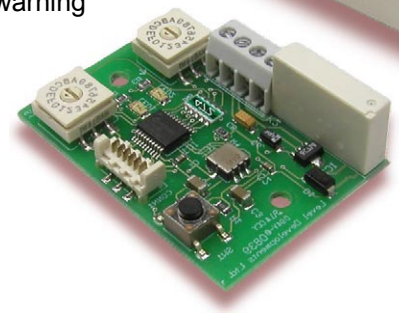
level developments

ETS : Dual Axis Tilt Switch With Adjustable Threshold

Description

There are three main types, single axis, dual axis and omni-directional. For each of these types there are four versions to cover a variety of switching angles. The exact switching angle can be adjusted with the pcb mounted rotary switches. With the dual axis version the tilt threshold (the trip angle) can be adjusted individually for the X and Y axis. With the single axis version, only the X axis is monitored, and with the omni-directional version, the measurement of both axis is combined to calculate the resultant tilt angle. Once the tilt threshold is reached the relay operates and the switch contacts are closed. This can be used to sound an alarm, switch on a warning light, or interface directly to a machines control system.



Features

- Single, dual or omni-directional tilt sensing
- Adjustable switching threshold from 1 to 50°
- 'ZERO' button to set zero after installation
- Small size and low power consumption.
- No moving parts means no servicing and long life
- Can be readily customised to suit most applications

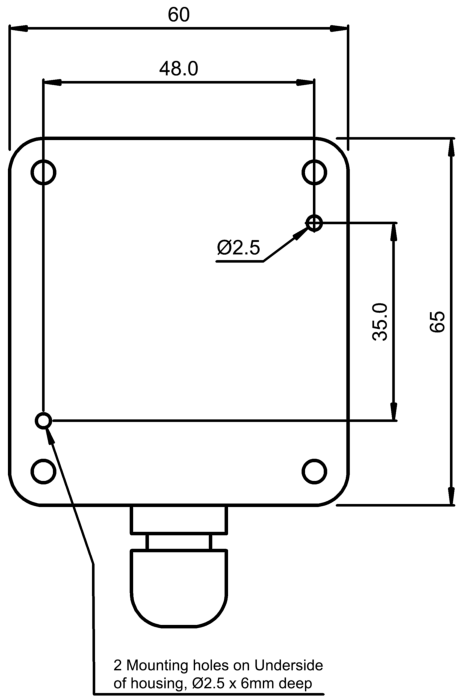
Applications

- Bank angle warning system for ride-on mowers
- Safety cut-out for cranes with hydraulic levelling
- Tilt warning system for platform and hoist levelling
- Rollover warning system for agricultural vehicles
- Safety cut-out for telescopic and scissor lift platforms

Wiring Information

Wire Colour	Terminal Block Pin	Function
Blue	1	Switch Common
Green	2	Switch NO
Grey	3	Switch NC
Brown	4	+Ve Supply
Black	5	GND

Housing (underside)



Specifications

Part Number	ETS 1-4	ETS 4-11.5	ETS 10-25	ETS 20-50
Switching Range	1-4°	4-11.5°	10-25°	20-50°
Adjustment Step	0.2°	0.5°	1°	2°
Switching Accuracy	±0.1°	±0.2°	±0.5°	±1°
Hysteresis [1]	0.2°	0.5°	1°	2°
Bandwidth (-3dB)	0.25Hz			
Power Supply	7-35Vdc			
Current	40mA max			
Switching Capacity	220Vdc, 250Vac, 60W max			
Dimensions	65x60x40mm (housing) or 50x35mm (pcb)			
Temperature Range	-20 to 65°C			
Sealing (housed type)	IP67			
Part Numbering	ETS - XX - XX - X Min Switching angle Max Switching angle -S (Single Axis) -D (Dual Axis) -O (Omnidirectional)			

1 Once the threshold angle is reached the relay is activated. The hysteresis is the angle the unit needs to return below the threshold before the relay is released. It is necessary to prevent oscillation at the threshold angle.

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