



Uses

The inclination switch enables the angle of inclination of objects such as appliances, machines or motor vehicles to be monitored and emits an alarm signal when the angle is exceeded. The alarm threshold can be set symmetrically by the customer in the range of $\pm 10^\circ$.

Construction / measurement

The sensor consists of an electronic control circuit and the inclination sensor, secured in a sturdy aluminium housing. It is connected via a cage clamp bar and the seal and cable grip are provided by a PG16 screw mount. The two coding switches for digital setting of the symmetrical alarm threshold and the light emitting diodes for the status display are mounted on the printed circuit board.

Applications

- Zero point detection
- End switch
- Overload observation
- Threshold switch

Advantage

- Low vibration sensitivity
- EMS/ESD protection¹
- High precision
- IP 67 housing

Function

The inclination switch is controlled by a microcontroller which controls not only the sensor element and switch outputs but also the signal modulation and measurement calculation. The analog signals from the inclination cell is transmitted to the microcontroller for further processing by a precise 16-bit A/D converter. The microcontroller compares the threshold reading from the coding switch with the linearized angle of inclination and switch on and off the switch outputs accordingly. The light-emitting diodes indicate the operating conditions.

Specifications

	Conditions	Min	Typ	Max	Units
Measurement range		-10		+10	°
Resolution			0.001		°
Switch threshold adjustable	Single step	0.1		9.9	°
Precision		-0.1		+0.1	°
Precision (absolute)	T=-25...+85 °C	-0.25		+0.25	°
Switch output ²	load		10	50	mA
Switch voltage		+0.1		+140	VDC
Switch hysteresis		0.05		0.15	°
Terminal strip		0.08		2.5	mm ²
PG screw			16		
Voltage supply		+14.4		+30	VDC
Current consumption			15	20	mA
Operation temperature		-25		+85	°C
Storage temperature		-40		+85	°C
Protection class IP			67		
Weight			380		g
Housing dimensions			80(W) x 57(D) x 75(L)		mm

¹ Norm EN 50121-3-2

² by input bridge pin 4 - 5
maximum current load 10 mA

Connection:

