Projected specification of electronic tilt switch

This switch concept is a ***high reliability*** design incorporating electronic detection with logic level outputs suitable for direct microprocessor interfacing. It is based on friction free technology with a highly predictable switch point.

The sensor is intended to be uniaxial with optional bi-directional switching characteristics. The switching point is determined by the internal mechanical design of the sensor and non adjustable, although a family of different angles could be produced. The device will incorporate hysteresis at the switch point as well as bounce free operation. The package is intended for through hole printed circuit pin mounting, and is envisaged as a plastic moulding. Anticipated cost for the electronics in production volumes of 200 units is in the region of £2.50. The housing cost would be additional, and dependant on the production method. Prototype packaging may be aluminium alloy or plastic as appropriate. Volume production greater than 10,000 where moulded housings were used would see the overall cost dip below £2.

Projected Specification

Angular switching range:	0.5° to 20°
Angle tolerance:	0.25°
Angle repeatability:	0.1°
Supply voltage (Vs):	5 –10V
Supply current:	12mA (typ)
Output voltage high:	Vs-1.2V (typ)
Output voltage low:	0.25V (typ)
Output current sink:	16mA (max)
Package outline:	10H x 10W x 20L mm

Prototype development would be subject to a non disclosure agreement to be drawn up prior to commencement. If production of any device is agreed subject to agreement a patent will be sought and the technology licensed to the client company, who would pay royalties and cover any patent fees that arise. The licence and royalties would run for the same term which would be renewable. Should the patent ultimately not be granted a sales based commission will be payable for a period subject to prior negotiation.

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