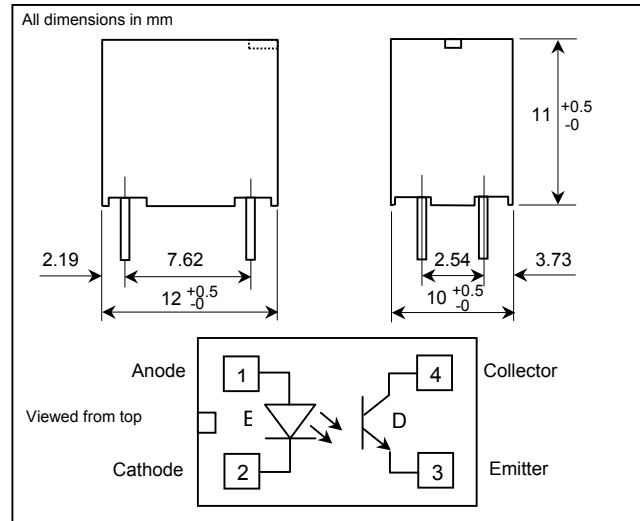
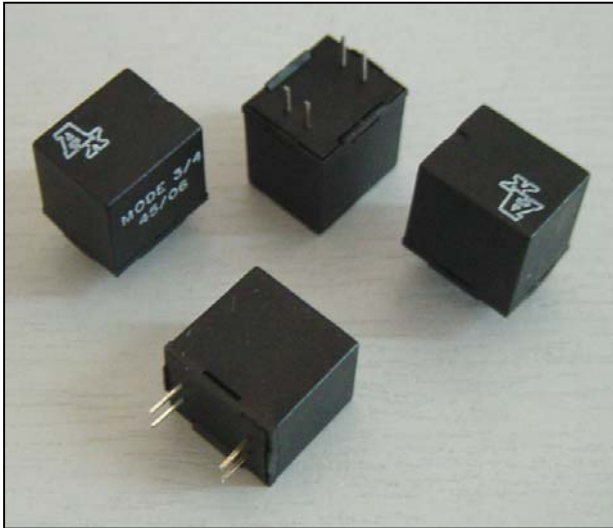


# Non-Mercury Tilt Sensor - Mode 3/4 - (C12-1189)

(Horizontally Mounted, Normally Open, Omni-directional, 22°)

TuControls  
Limited

The TuControls non-mercury mode 3/4, normally open tilt sensor is suitable for horizontal PCB mounting & is housed in a small, robust moulded package, 11mm x 12mm x 10mm in size. The operate angle is  $22^\circ \pm 2$  from the vertical omnidirectionally in each axis for  $360^\circ$ . Using solid-state technology, this low powered device is suitable for CMOS logic. As a primary sensing device, the tilt sensor can be interfaced to standard TTL, or power devices & additional circuitry can be supplied for the operation of power transistors & FET's, enabling solenoids, motors & lamp loads to be switched.



Technical Characteristics						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Fwd Voltage	V <sub>F</sub>	-----	1.2	1.6	V	I <sub>F</sub> = 20mA
Cont. Fwd Current	I <sub>F</sub>	-----	20	50	mA	V <sub>F</sub> =5V
Rev. Voltage	V <sub>R</sub>	-----	-----	5	V	I <sub>R</sub> =100μA
Power Dissipation	P <sub>M</sub>	-----	-----	75	mW	-----
Detector						
Coll. Emitt. V	V <sub>CEO</sub>	-----	-----	30	V	I <sub>C</sub> =100μA
Emitt. Coll. V	V <sub>ECO</sub>	-----	-----	5	V	I <sub>E</sub> =100μA
Coll. Emitt. Leak. I	I <sub>CEO</sub>	-----	-----	100	nA	V <sub>CE</sub> =20V
On-state Current	I <sub>C(ON)</sub>	2	-----	4	mA	V <sub>CE</sub> =5V
Coll. Emitt. Sat. V	V <sub>CE(SAT)</sub>	-----	-----	0.4	V	I <sub>C</sub> =0.5mA, I <sub>B</sub> =100μA
Power Dissipation	P <sub>M</sub>	-----	-----	75	mW	-----
Operating Specification						
Operating Angle	Op	20	22	24	Deg	I <sub>F</sub> =20mA
Release (from Op)	Rel	9	11	12	Deg	I <sub>F</sub> =20mA
Operating Temp.	Temp	-10	-----	+70	°C	I <sub>F</sub> =20mA, I <sub>C</sub> =10mA
Soldering Temp.	T <sub>SOL</sub>	-----	-----	+260	°C	For 5 Seconds Max.
Switch operations	-----	1x10 <sup>6</sup>	-----	-----	-----	I <sub>F</sub> =20mA I <sub>C(ON)</sub> =4mA

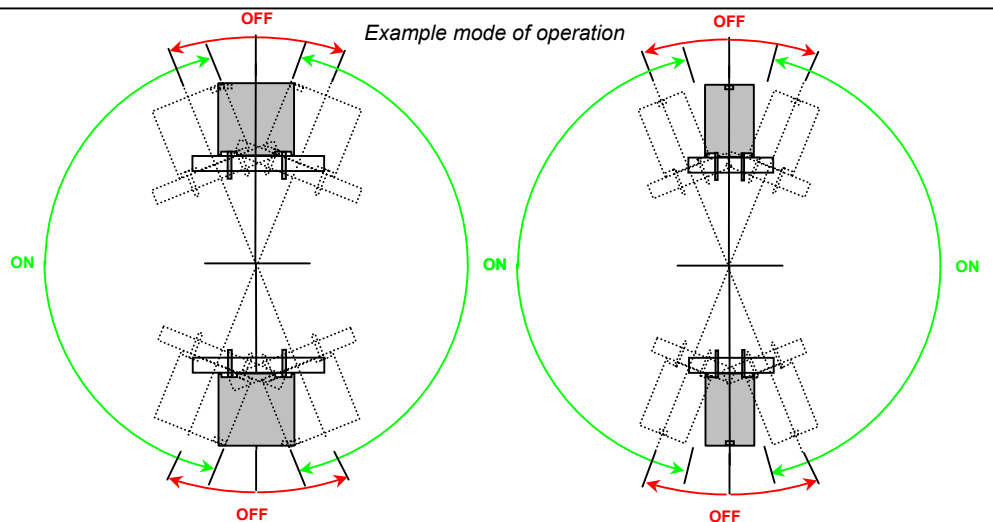
#### Features:

- RoHS Compliant
- Small robust construction
- Printed circuit board mounting
- Optical coupling
- Low power consumption
- Optional interface circuitry available
- Other tilt angles available
- Other "modes" of operation available

#### Typical Applications:

- Emergency shutdown
- Door / barrier position sensing
- Cam / motor position indicator
- Movement alarm

**Important Note:** Suitable for PCB washing, but not total immersion.



RJB/12/06/2

TuControls Limited reserve the right to change this data sheet without notice

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