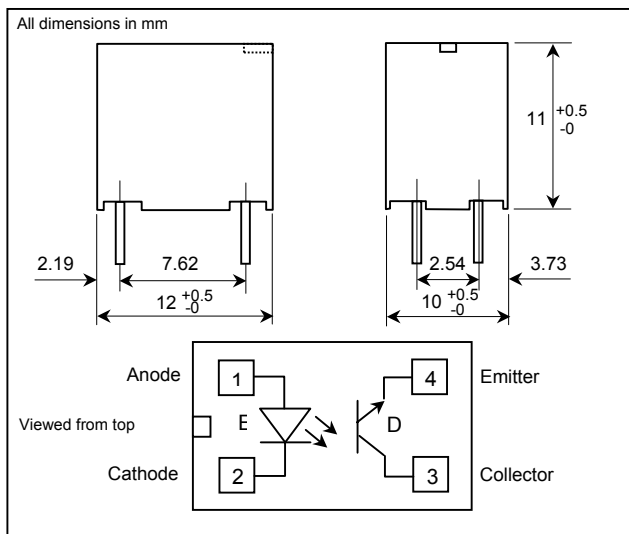
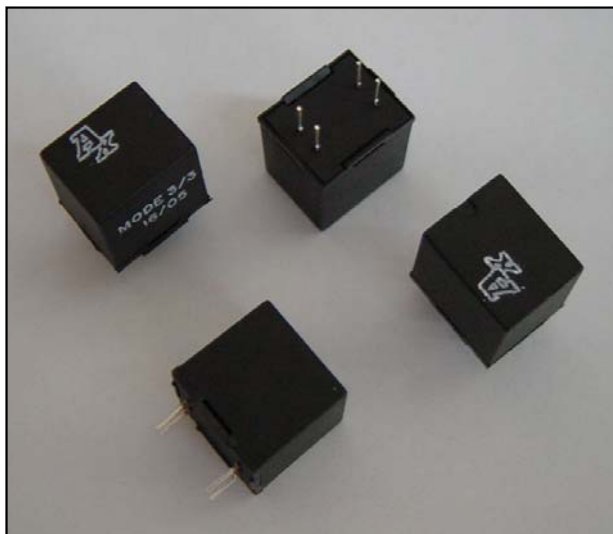


Non-Mercury Tilt Sensor - Mode 3/3 – C12-1102

(Vertically Mounted, Normally Open, Omni-directional, 20°)

TuControls Limited

The TuControls non-mercury, Mode 3/3, normally open tilt sensor is suitable for vertical PCB mounting & is housed in a small, robust moulded package, 11mm x 12mm x 10mm in size. The operate angle is $20^{\circ} \pm 5$ from the vertical omni-directionally in each axis for 360° . 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						
Emitter						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Fwd Voltage	V_F	----	1.45	1.7	V	$I_F = 20\text{mA}$
Cont. Fwd Current	I_F	----	20	100	MA	$V_F = 5\text{V}$
Rev. Voltage	V_R	----	----	5	V	$I_R = 100\mu\text{A}$
Power Dissipation	PM	----	----	170	mW	-----
Detector						
Coll. Emitt. V	V	30	----	----	V	$I_C = 100\mu\text{A}$
Emitt. Coll. B/D V	V_{ECO}	5	----	----	V	$I_E = 100\mu\text{A}$
Coll. Emitt. Leak. I	I_{CEO}	----	----	100	nA	$V_{CE} = 10\text{V}$
On-state Current	$I_{C(ON)}$	2	----	5	mA	$V_{CE} = 25\text{V}$
Coll. Emitt. Sat. V	$V_{CE(SAT)}$	----	----	0.4	V	$I_C = 2.0\text{mA}, I_B = 100\mu\text{A}$
Power Dissipation	PM	----	----	100	mW	-----
Operating Specification						
Operating	Op	15	20	25	Deg	$I_F = 20\text{mA}$
Release (from Op.)	Rel	8	10	12	Deg	$I_F = 20\text{mA}$
Operating Temp.	Temp	-10	----	+70	$^{\circ}\text{C}$	$I_F = 20\text{mA}, I_C = 10\text{mA}$
Soldering Temp.	TSOL	----	----	+260	$^{\circ}\text{C}$	For 5 Seconds Max.

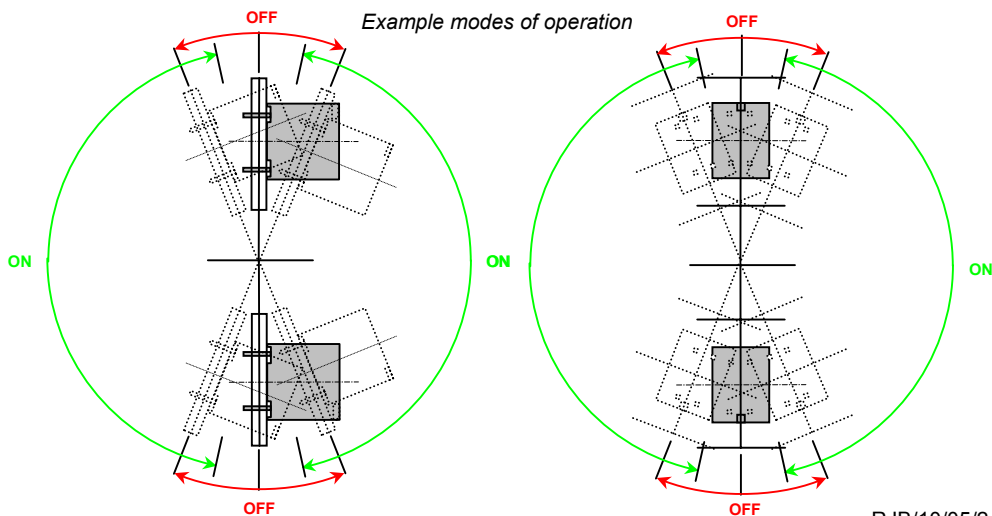
Features:

- 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/10/05/2

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

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