

TLS series

electronic tilt switches

DURAKOOL



- Wide trigger angle of up to 180 Degrees
- Factory Programmable hysteresis on reset angle
- Up to 5 Second delay on trigger and reset angle.
- Relay output switching up to 5A at 250VAC
- Two independent trigger and reset angles
- RoHS Compliant

Specifications

Contact number & arrangement	2 x SPST-NO (2 x Form A), 2 x SPST-NC ¹ (2 x Form B ¹)	
Max. switching voltage	AC/DC	250VAC / 30VDC
Min. breaking capacity	W	50mW
Rated load (resistive - cos φ=1)	AC1	5A/250VAC (Consult factory for higher currents)
	DC1	5A/30VDC
Max. switching power	1250VA / 150W	
¹) NC function requires the tilt switch to be powered at all times.		

Supply voltage	AC/DC	5 - 18VDC, 17 - 35VDC, 12 - 24VAC (see Ordering Codes, Page 2)
Current consumption	<150mA (both output relays energized)	
Trigger angle range	180° (+/- 90° from horizontal) depending on part number	
Reset range (minimum)	0.5° less than trigger angle	
Resolution	0.1°	
Accuracy	0.5°	
Time Delay (factory set)	secs	0 to 5 seconds in 100 msec steps

Housing	Polycarbonate (UL94-HB)	
Dimensions (approx.)	L x W x H	5.71" (over mounting flange) x 2.56" x 2.17" (145 x 65 x 55mm)
Weight	0.38lb (172g)	
Ambient temperature	-40 to 70°C	
Sealing	IP65	
Shock resistance	10g	
Vibration resistance	1.5mm DA 10...55Hz	

Wiring Information		
Cable length	12 inches (approx. 305mm)	
Cable colors	Red & Black	5 - 12V supply (AC or DC)
	Yellow & Blue	Switch output 1 (volt free contact)
	Brown & Orange	Switch output 2 (volt free contact) - where fitted.

DURAKOOL

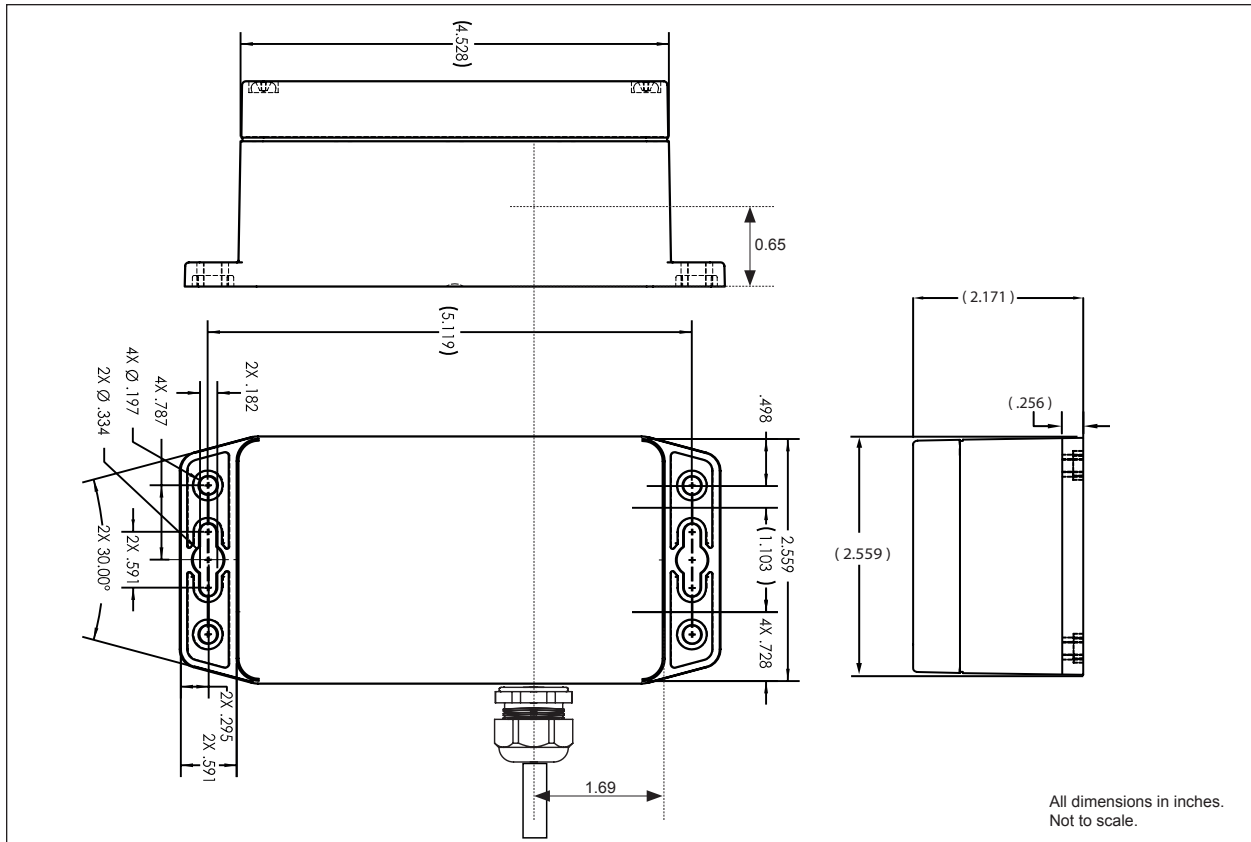
TLS series

electronic tilt switches

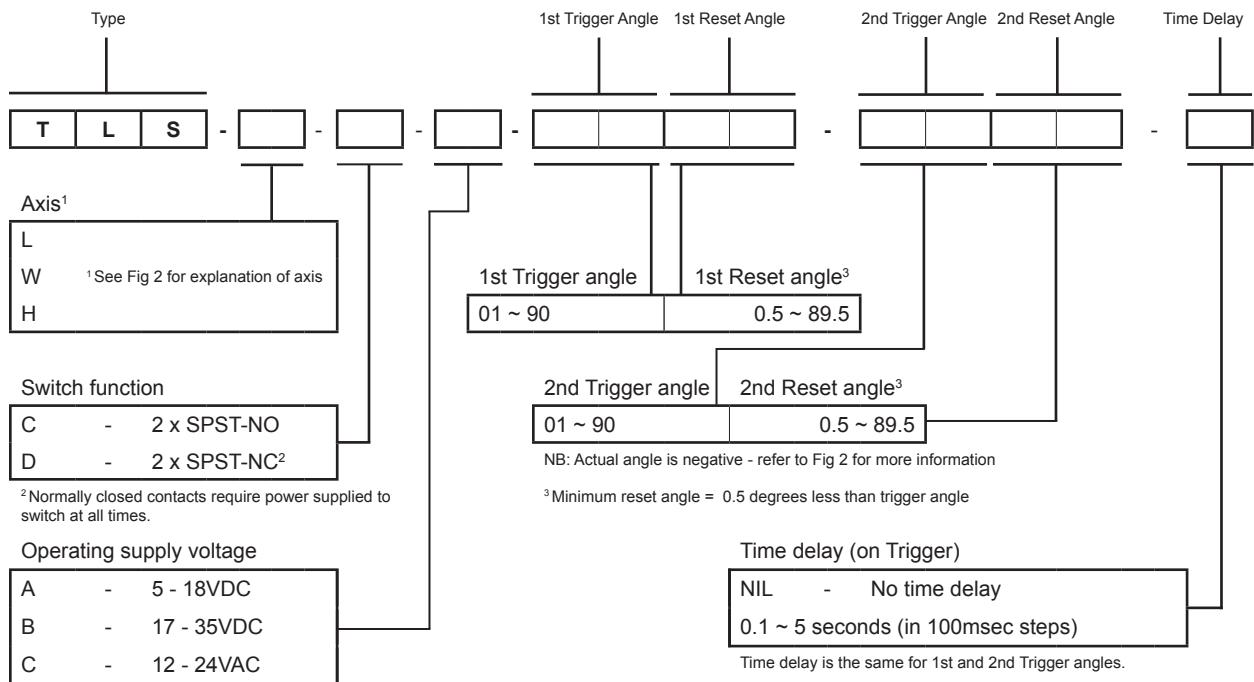


Dimensions and mounting holes

Fig. 1

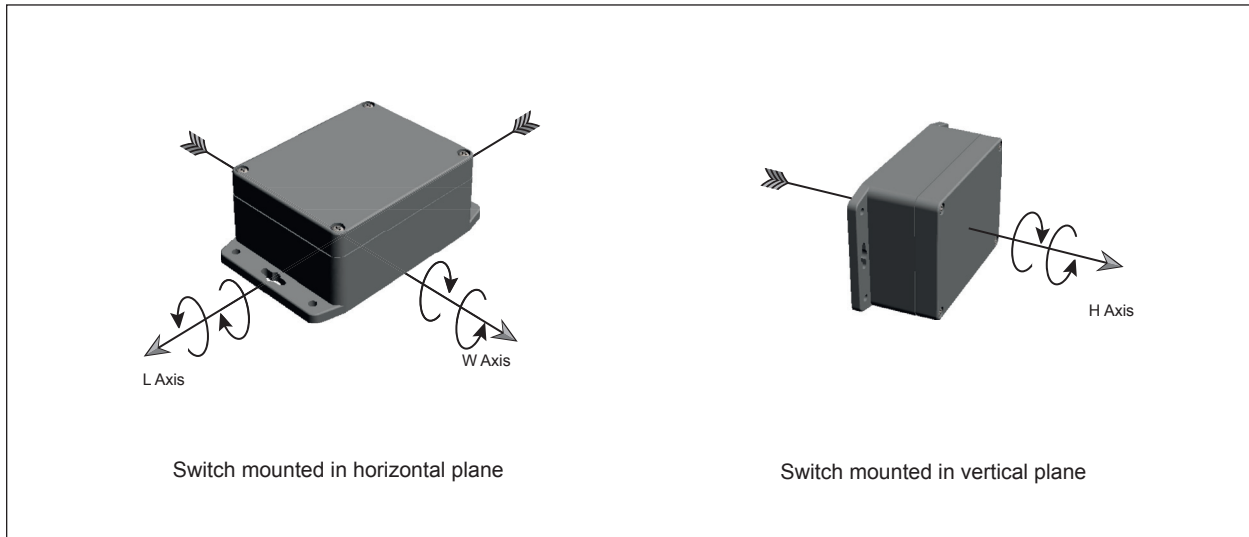


Ordering codes



Mounting Instructions

Fig. 2



The Tilt Switch should be mounted in the horizontal plane for L or W axis and in the vertical plane for H axis. The factory can pre-program an offset for when the Tilt Switch is required to be mounted at an angle.

The Tilt Switch may be mounted using the four corner holes (preferred) or the two key hole slots at each end of the unit. Do not drill the box as this may damage the internal components and will compromise the sealing.

Please ensure sufficient space is left to allow for the cable. Undue stress on the cable should be avoided.

Wiring Information

The Tilt Switch has a six wire cable for connection. As standard, the unit is supplied with a 12" cable - other lengths can be supplied (contact factory). The Tilt Switch is not fused internally and a suitable external fuse should be fitted.

Wire Color	Function
Red	+ve Supply (AC or DC)
Black	-ve Supply (AC or DC)
Yellow	Switch 1 Common
Blue	Switch 1 NO (NC)
Brown	Switch 2 Common
Orange	Switch 2 NO (NC)

The Tilt Switch will work with any supply voltage within the chosen voltage range. The internal switches are factory programmed as either normally open or normally closed. The normally closed function requires the Tilt Switch supply voltage to be present at all times. Disconnecting the supply to the Tilt Switch will cause the normally closed contact to open. If the normally closed function is selected, the contact will close immediately after the supply voltage is applied to the Tilt Switch. Switch outputs are "volt free" and may be used for switching voltages up to 230VAC and a maximum current of 5A per switch. (Contact factory for special requirements).

Switch Function

SPST-NO: The switch contacts are open when the Tilt Switch is in the at rest position. The switch contacts will close (make) when the trigger angle setpoint is reached and open (break) again at the reset angle setpoint as the Tilt Switch returns to the at rest position.

SPST-NC: The switch contacts close (make) as soon as power is supplied to the Tilt Switch, with the Tilt Switch in the at rest position. The switch contacts will open (break) when the trigger angle setpoint is reached and close again at the reset angle setpoint as the Tilt Switch returns to the at rest position.