



TSI

**TILT SWITCH INDICATOR
Instruction Manual**

IM-8

SEPTEMBER 2005

USA: 6428 Ridglea Drive, Watauga, Texas 76148
Tel/Fax 1-817-427-2060/2067
E-mail: wes@westecinstruments.com

SPECIFICATIONS

Input	Passive device (Tilt Switch Probe) with maximum external contact resistance of 75K.
Output	Relay contact output of 2 Form "C" (DPDT) contacts with contact ratings of 10A, 240VAC
Power Requirements	105 – 125VAC 60 Hz @ 5 VA
Weight	6 lbs (2.7 Kg)
Temperature Range	Recommended: -40° to 140°F (-40° to 60°C)
Indication	Door mounted Normal and Alarm lights; PCB mounted LED (relay energized)
Alarm Delay	The Alarm signal is processed with an electronic variable time delay from 0 to 10 seconds. The delay is used to ignore unwanted spurious signals.
Fail Safe Operation	Loss of power will cause the relay to de-energize and provide an alarm condition.
Rating	NEMA 4 General Purpose. Not rated for classified operation.

OPERATING PRINCIPLES

The TSI using the Tilt Switch Probe is a point contact level system. It consists of the Tilt Switch Indicator that receives the contact closure from the Tilt Switch Probe and displays the closure status on the front panel of its NEMA 4 enclosure using Normal and Alarm LED lights. In addition, the TSI contains a DPDT relay for auxiliary usage.

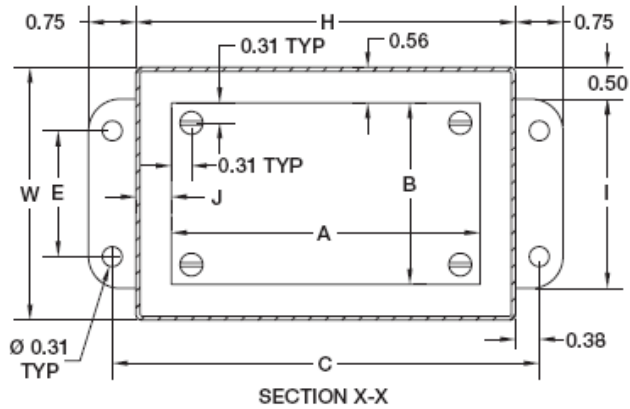
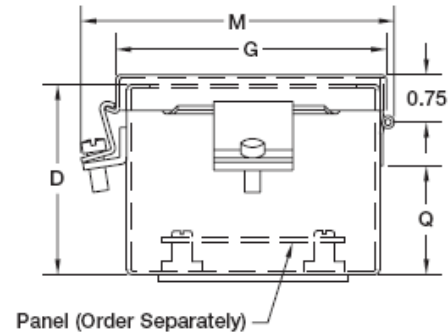
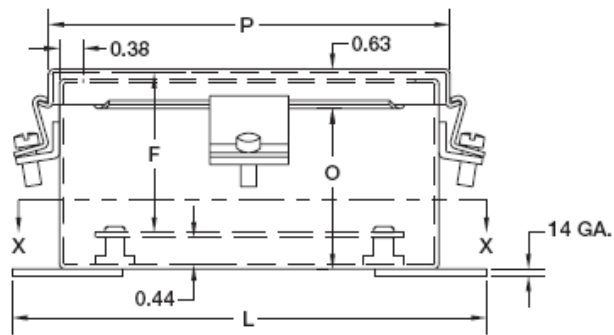
The Tilt Switch Probe is made of stainless steel and comes with either standard or high temperature cable. In addition to the standard probe, it can be supplied with a wear extension for highly abrasive applications, a flat paddle or cross paddle extension for low-density applications and a float extension for liquid applications.

INSTALLATION

Install TSI in a clean, dry, vibration-free, non-hazardous area. Install in an area that is within the operating temperature ranges and a non-corrosive environment to the electronics and/or the NEMA 4 enclosure. The enclosure door should be accessible for viewing. Installation and wiring should be in compliance with all local electrical codes. Do not mount unit in direct sunlight.

To ascertain that the unit is functional, disconnect all controlled and alarm devices. Apply power and alternately short and open terminals 1 and 2 on 2 TB. The indicating lights should turn on in alternate succession and the relay visibly function. If a light or relay does not function, it may require changing. If fuse, lamp or relay replacement does not correct problem, return unit to factory.

See instruction manual drawings for dimensional and interconnection information.



- F 3.03
- G 6.31
- I 5.00
- J 0.56
- K 2.38
- N 3.38
- O 3.03
- P 8.31
- Q 2.28

Notes:

1. Panels are 14 Ga. steel.
2. Panel screws are #10-32 Pan Head.

Mounting is 8.75 x 4.00


Enclosure Size 8.00 x 6.00 x 3.50

All dimensions in inches.

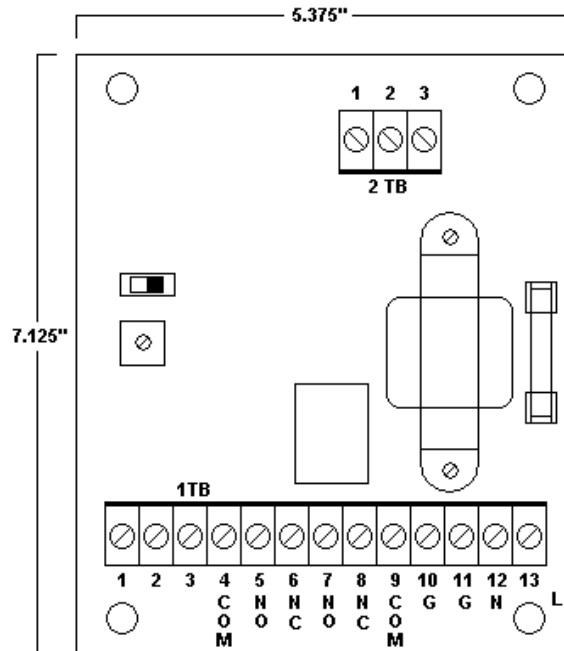
Hinge on the left side as you look at it.

NO	DESCRIPTION	DATE
REVISIONS		
SCALE	NTS	DATE
DRAWN	WWC	9/23/2005
CHECKED	WWC	9/23/2005
APPROVED	WWC	9/23/2005

TITLE	Tilt Switch Electronics Enclosure Dimensional and Mounting
-------	---



FILE	DRAWING NO.	REV
PLOT	20650019	0
JOB NO.		



1TB TERMINALS


- 1 - To door-mounted lights
- 2 - To door-mounted lights
- 3 - To door mounted lights
- 4 - Common for relay contacts
- 5 - Normally open relay contact
- 6 - Normally closed relay contact
- 7 - Normally open relay contact
- 8 - Normally closed relay contact
- 9 - Common for relay contacts
- 10 - Ground for power line
- 11 - Ground for power line
- 12 - Neutral for power line
- 13 - Power line

2TB TERMINALS

- 1 - Contact line from probe
- 2 - Contact line from probe
- 3 - Ground line from probe

NO	DESCRIPTION	DATE
REVISIONS		
SCALE	NTS	DATE
DRAWN	WWC	9/23/2005
CHECKED	WWC	9/23/2005
APPROVED	WWC	9/23/2005

TITLE
Tilt Switch Electronics
Dimensional and Interconnection

		
FILE	DRAWING NO.	REV
PLOT	20650020	0
JOB NO.		