



million
in one

tilt switch

MILLTRONICS

SIEMENS

Safety Guidelines: Warning notices must be observed to ensure personal safety as well as that of others, and to protect the product and the connected equipment. These warning notices are accompanied by a clarification of the level of caution to be observed.

Qualified Personnel: This device/system may only be set up and operated in conjunction with this manual. Qualified personnel are only authorized to install and operate this equipment in accordance with established safety practices and standards.

Unit Repair and Excluded Liability:

- The user is responsible for all changes and repairs made to the device by the user or the user's agent.
- All new components are to be provided by Siemens Milltronics Process Instruments Inc.
- Restrict repair to faulty components only.
- Do not reuse faulty components.

Warning: This product can only function properly and safely if it is correctly transported, stored, installed, set up, operated, and maintained.

Note: Always use product in accordance with specifications.

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Milltronics Tilt Switch Probe

The Milltronics Tilt Switch probe is an electro-mechanical tilt switch for point level detection, plugged chute detection, and feed loss detection on conveyor belts. Tilt switches also provide simple high and low alarm for both dry bulk solids and liquids.

The rugged, stainless steel encapsulated probe is suspended vertically over a bin or belt, and the potted switch inside the probe provides a signal when material tilts it through an angle of more than 17° from vertical in any direction. The switch will remain open until it returns to an angle of less than 17°. The probe should be mounted so it can be tilted by the measured material. Do not mount the probe in the path of falling material as this may bury or damage the probe or cause erratic switching.

Optional extensions are available for specific applications.

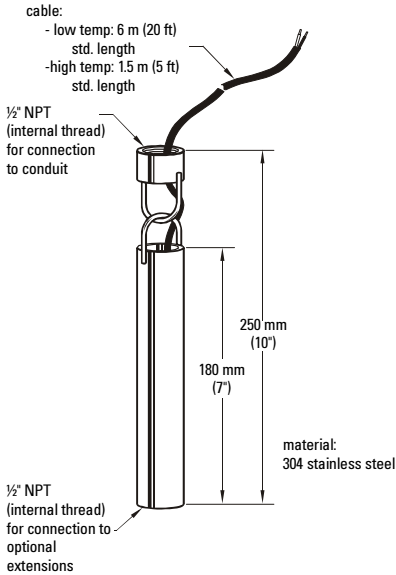
Wear Extension:	replaceable extension used for level detection on coarse or abrasive materials, and loss of feed on belt conveyors
Cross Paddle:	used in level detection on fine ores or medium bulk density materials
Flat paddle:	used for plugged chute detection
Float:	used for level detection of liquids or light density materials

Specifications

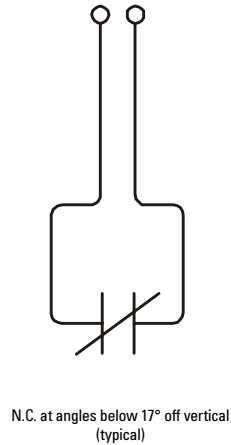
• Switch	totally encapsulated mercury switch rated at 30 V DC maximum
• Switching angle	typically 17° from vertical, normally closed
• Minimum operating current	10 mA
• Output	single normally closed contact 2A @ 24 V DC
• Impedance	typically 5 ohms
• Temperature rating	low temperature: -40 to 90 °C (-40 to 194 °F) high temperature: -40 to 150 °C (-40 to 302 °F)
• Cable	low temperature: 6.1 m (20 ft) of type SJO 18-2 high temperature: 1.5 m (5 ft) of 18 AWG, 2 shielded PTFE
• Housing	Schedule 80 stainless steel pipe with ½" NPT mounting for extensions
• Material	304 stainless steel
• Shipping weight	2 kg (4.4 lbs)
• Approval	CE

Probe – Outline and Dimensions

Tilt Switch

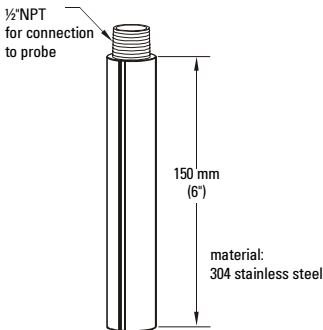


Schematic

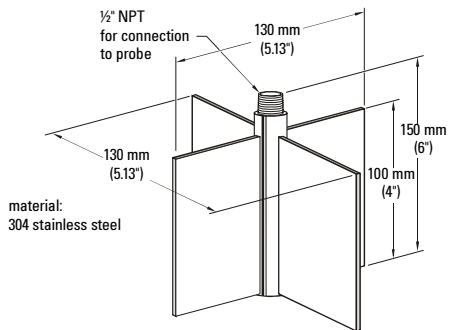


Probe Extensions

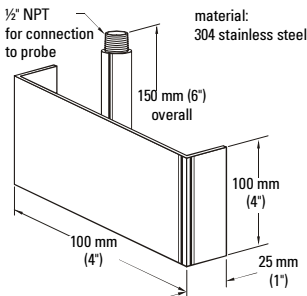
Wear



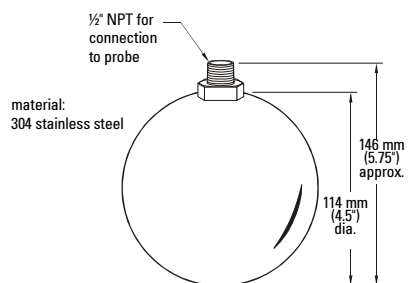
Cross Paddle



Flat Paddle

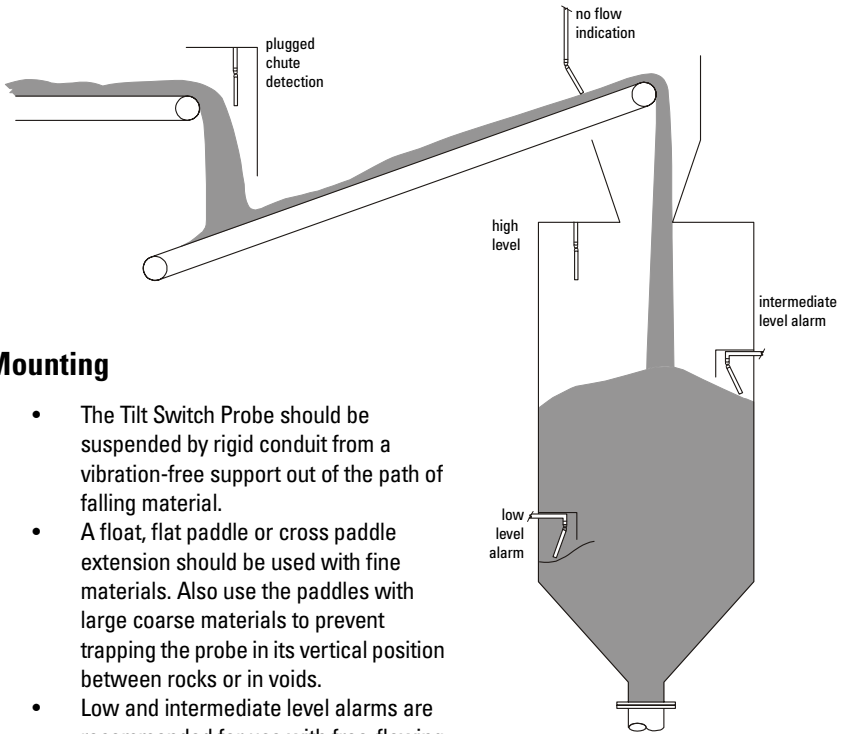


Float



Applications

Dry Level Detection



Mounting

- The Tilt Switch Probe should be suspended by rigid conduit from a vibration-free support out of the path of falling material.
- A float, flat paddle or cross paddle extension should be used with fine materials. Also use the paddles with large coarse materials to prevent trapping the probe in its vertical position between rocks or in voids.
- Low and intermediate level alarms are recommended for use with free-flowing materials, such as dry aggregates, pellets, or grain.



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