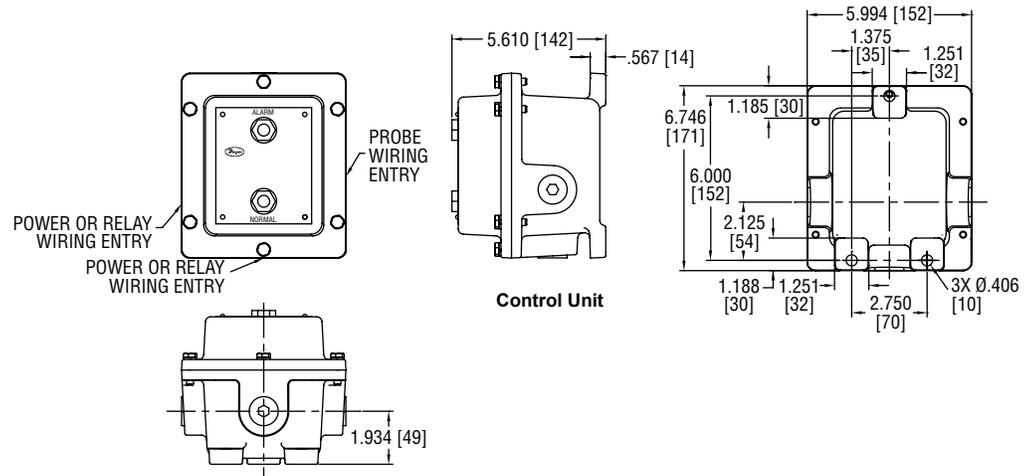




## Series LTC Tilt Switch Control Unit

### Specifications - Installation and Operating Instructions



The **SERIES LTC** Tilt Switch Control Units feature an adjustable time delay and a logic selector switch. There are three contacts for connection to the probe; three for the input power; and two sets of output contacts, each with one normally open, one normally closed, and one common. Signal lights, relay, and transformer are all accessible with the box cover open allowing for easy maintenance. The controller output is through a relay, which provides a change in contacts as the probe moves from vertical to tilt and vice versa. The user may choose to employ either the normally open, normally closed, or both sets of contacts to perform switching operations in the system. In addition, an adjustable time-delay feature may be assigned to either the vertical or the tilt position to prevent false signals. The time delay is adjustable from one to ten (0.1 to 35) seconds. The relay assumes the de-energized position upon reaching the end of the delay period—as well as upon failure of power to the controller.

#### INDICATOR LIGHTS

Normal (green): Light on when relay is energized; probe is vertical.  
Alarm (red): Light on when relay is de-energized; probe is tilted.

#### WIRING

All wiring should be in compliance with applicable Local, Federal, and State codes. Cable is connected to the probe.

For the control unit LTC2, there are 2 conduit entries for relay and input power wiring, and 1 conduit entry for probe wiring.

#### INSTALLATION INSTRUCTIONS

##### MOUNTING

The control unit should be mounted in an area free from vibration and the temperature should not exceed ambient (surrounding air) temperature limit: 104°C/104°F. Consideration should be given to mounting the unit where indicator lights will be visible to the necessary personnel, and wiring may be easily installed to the probe and other machinery.

##### LOGIC SELECTOR

This jumper determines when the output relay actuates and de-actuates. The following summarizes the operation with the jumper at each position.

- Position 1: Relay energizes when probe is in the vertical position.  
Relay de-energizes when probe is in the tilted position.
- Position 2: Null (not used).
- Position 3: Relay energizes when probe is in the tilted position.  
Relay de-energizes when probe is in the vertical position.

#### SPECIFICATIONS

**Temperature Limit:** -4 to 104°F (-20 to 40°C).

**Power Requirement:** 115 VAC @ 50/60 Hz.

**Power Consumption:** 10W.

**Switch Type:** DPDT.

**Electrical Rating:** 5 A @ 120 VAC; 5 A @ 240 VAC.

**Enclosure:** Cast aluminum.

**Enclosure Rating:** None or NEMA 4, 4X.

**Electrical Connections:** No suffix: 120 VAC; B suffix: 240 VAC.

**Conduit Connections:** 3/4 NPT: 2 power/relay & 1 probe.

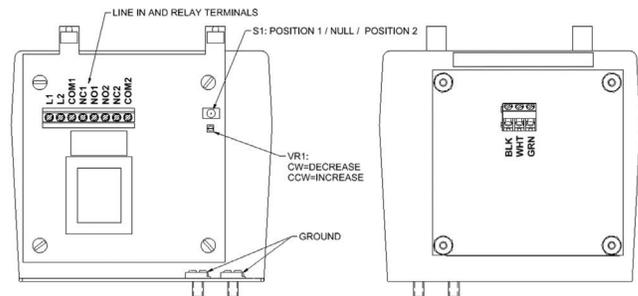
**Indication Light:** Green (when relay is energized and probe vertical), Red (when relay is de-energized and probe tilted) (LED lamps).

**Time Delay:** 0.1 to 35 sec, adjustment will delay output relay action.

Figure 1: CONTROL UNIT CIRCUIT

#### PROBE INSTALLATION

The probe should be suspended using a fixed support, such as a mounting bracket and S-hook, at a position where it will easily intercept the bulk material at the desired indication point. **Note:** up to 5000 ft of probe cable may be used. There must be a free flow of material both to and away from the probe. In some installations, it is necessary to install a baffle or shield above the probe assembly to protect it from product surges.



#### MAINTENANCE

The Series LTC Tilt Probe Control Units are not field serviceable and should be returned if repair is needed (field repair should not be attempted and may void warranty). Be sure to include a brief description of the problem plus any relevant application notes. Contact customer service to receive a return goods authorization number before shipping.