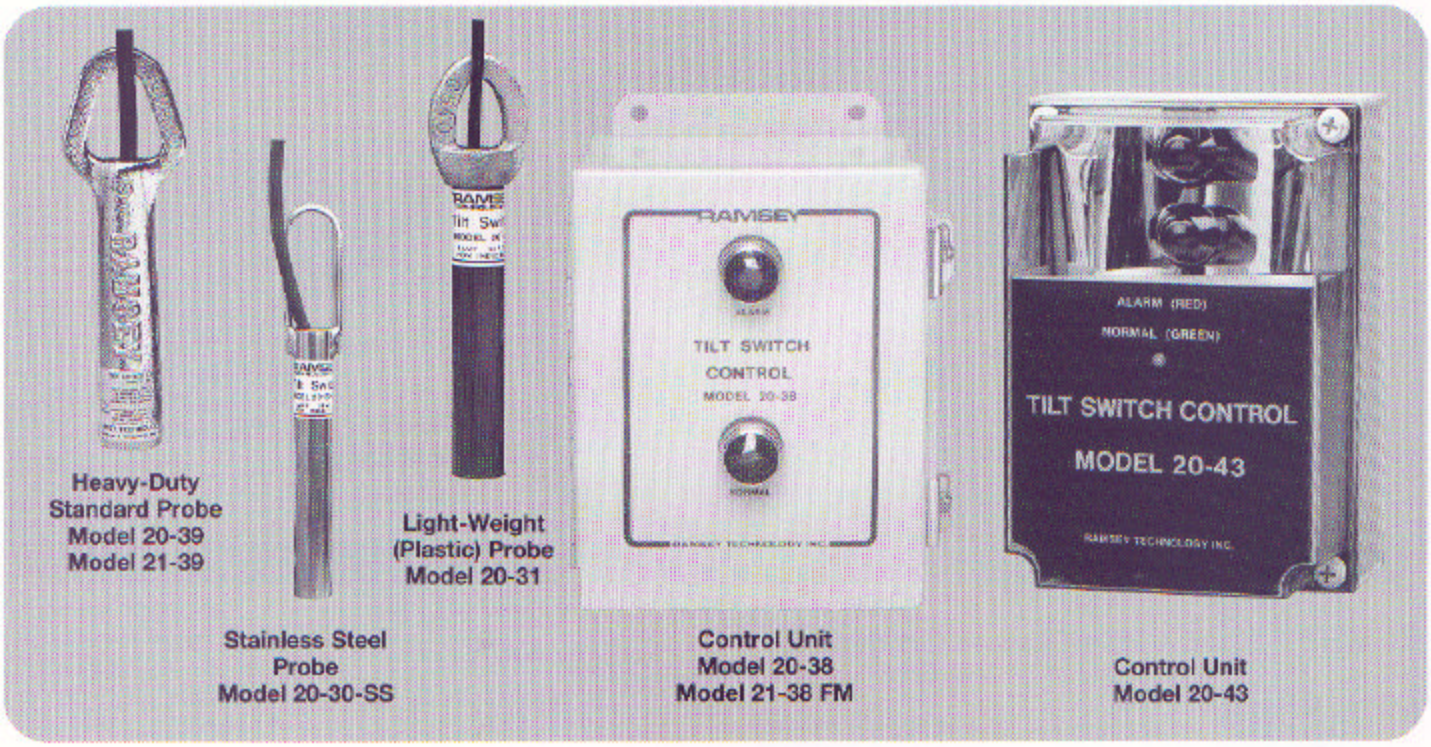
Level Controls



Heavy-Duty Standard Probe Model 20-39 Model 21-39

Stainless Steel Probe Model 20-30-SS

Light-Weight (Plastic) Probe Model 20-31

Control Unit Model 20-38 Model 21-38 FM

Control Unit Model 20-43

TILT SWITCHES AND CONTROL UNITS

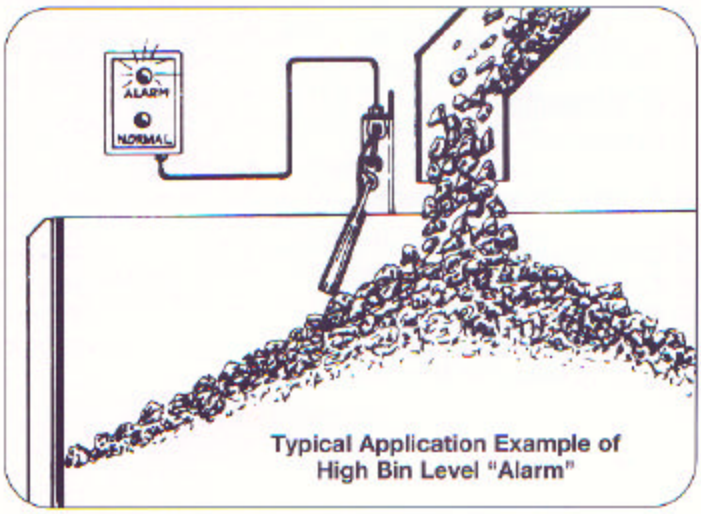
For Sensing and Controlling Levels With a Wide Variety of Solids and Liquids

- Rugged, abrasion-resistant tilt switch.
- Simple Installation.
- Control Unit is solid state, printed circuit board construction.
- Adjustable time delay to 10 seconds - Prevents false trips.
- Standard enclosures:
  Model 20-43 - NEMA 4X
  Model 21-38 - Class II
  Others available
- Performance proven in thousands of applications throughout the world.
- All probes include mounting hardware.

The Pro-Line tilt switch is actuated when material rises to tilt the probe 15 degrees or more from its vertical position. The mercury switch is precisely positioned so that regardless of direction of tilt, the normally closed contacts are caused to open. The switches are encapsulated in various size to suit the application.

The Model 20-43 control unit is housed in a NEMA 4X box with green ("Normal") and red ("Alarm") indicating lights inside the clear front enclosure. A 0-10 second adjustable time delay circuit in the control unit prevents momentary tilting of the switch from causing a false or premature contact transfer. An internal jump wire permits selection of "Normal" condition being either with the tilt switch vertical or tilted. Two normally-open and two normally-closed output contacts are available for connection to external alarms and/or controls. Interruption of line power causes a relay transfer.

Various probe assemblies are available for application with a wide variety of materials and environment conditions (See chart on next page for description of available probe assemblies). The control unit is also available without enclosure for mounting in other types of enclosures and control panels (Model 20-43-1).



Typical Application Example of High Bin Level "Alarm"

APPLICATIONS

- High level detector in bins and vessels containing a wide variety of materials.
- Chute or transfer point plug up detector.
- Conveyor belt mis-alignment detector.
- Level control in volumetric batching.
- Crash probe for tripper car.
- Starvation or no-flow detector for belt and vibratory feeders.

SPECIFICATIONS

Probes (See table below)

Contact Rating:
(Model 20-41) 4 amperes at 110 VAC.
(All other probes) 1 ampere at 24 VDC, non-inductive.

Temperature Rating:
-25°F - +180°F Standard
180°F - +390°F Special (20-39 C Series)
Below -25°F (20-39 B Series)

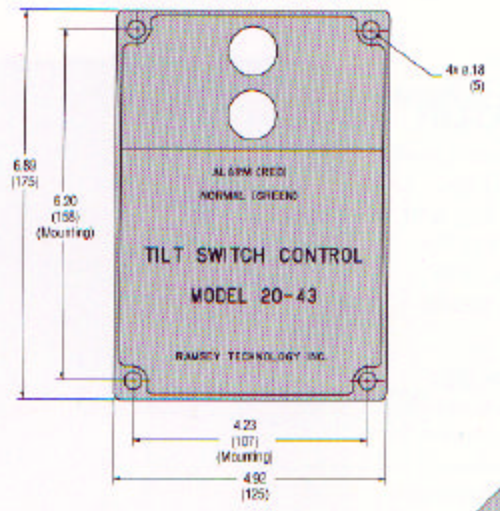
Control Unit (See drawing)

Contact Rating:
10 amperes at 115 VAC, non-inductive
(DPDT Contact Agreement)

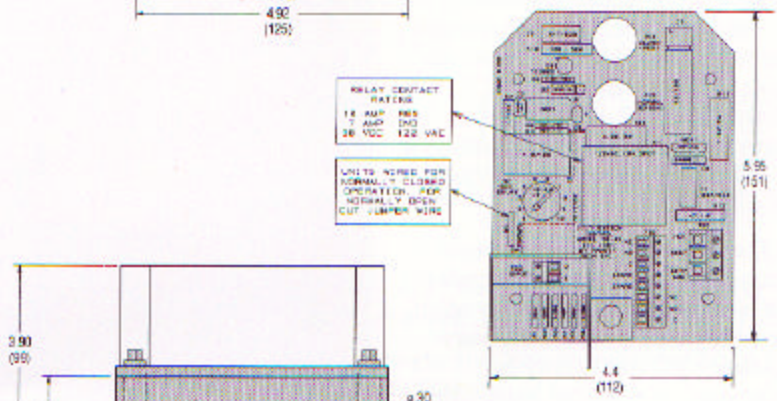
Time Delay:
0-10 seconds, adjustable

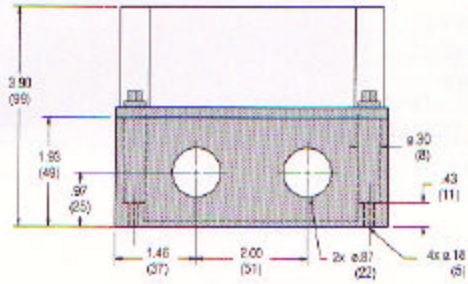
Temperature Rating:
-40°F - +158°F
-40°C - +70°C

Model 20-43 (NEMA 4X)



Model 20-43-1 (Board Only)





Dimensions shown in inches and MM.

TILT SWITCH PROBE SELECTION TABLE

Model No.	Description	Overall Length	Diameter	(Including Hanger Assembly)	Weight
20-39	Standard, Heavy Duty Probe	8 1/4"	1 1/4"	2 1/2"	1.5#
20-30	Stainless Steel, 1" Probe	10 1/4"	1"	2"	2#
20-31	Light-Weight	9"	1"	2"	1#
20-32	Heavy Duty, 2" Probe	10"	2"	4"	8#
20-39-B	Standard Probe w/Heater	8 1/4"	1 1/4"	2 1/2"	1.5#
20-39-C	Standard Probe - High Temp.	8 1/4"	1 1/4"	2 1/2"	1.5#
21-39	Standard Probe - FM Approved CL I & II	8 1/4"	1 1/4"	2 1/2"	1.5#
20-41	Standard Probe - 115V	8 1/4"	1 1/4"	2 1/2"	1.5#
20-41-SS	Stainless Steel, 1" Probe - 115V	10 1/4"	1"	2"	2#

RAMSEY PRO-LINE