YUTECH CAPACITIVE LEVEL SENSING AND TRANSMISSION SYSTEM FOR DONNELLY CHUTE


ASDCDCLS1210

YUTECH CAPACITIVE LEVEL SENSORS:

➢ YUTECH invented this Technique in 1983
➢ However, it was discontinued in 1984 after the invention of IR Sensors and was produced only on specific demand.
➢ In 2015 Entire product range was redesigned to move to Micro-Controller based Solutions.
➢ In 2017 Conductivity Sensor and Transmitter were re-introduced in regular production.
➢ Sensor Design was changed to introduce a large surface and with an increased Di-Electric Plate Area for better sensing.
➢ Algorithm to remove earlier disadvantages of this technology such as raining bagasse fluctuations, and false readings due to Juice Mist was introduced to minimize this effect.
➢ 2020 again saw further development with the introduction of Ethernet (Modbus TCPIP) communication.
➢ YUTECH now regularly produces both Capacitive or Conductivity as well as IR Sensors.
➢ MOC: Copper Alloy and Virgin PTFE.
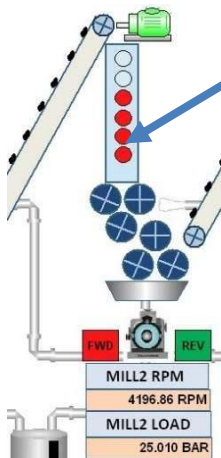
Level Sensed in the Donnelly Chute is used for Speed Control of:
Cane Carrier
Rake Carrier
Mill / GRPF / TRPF
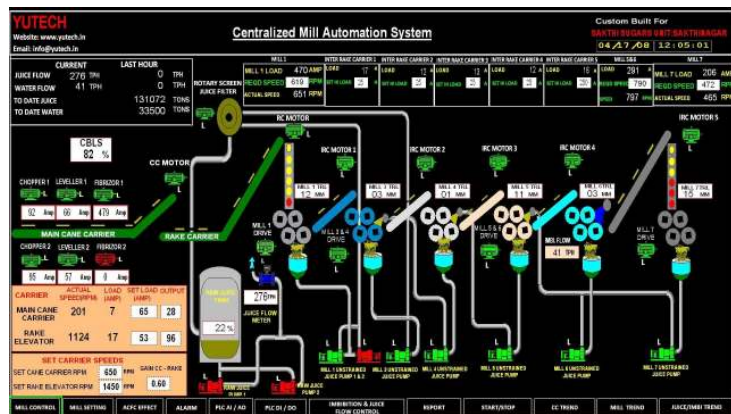
MILL AUTOMATION SCREENSHOT

CAPACITIVE SENSOR INSTALLATION ON SUGAR MILL DONNELLY CHUTE: SCHEMATIC DIAGRAM AND INSTALLATION PICTURE

Sensor Mounting Plate welded on the Chute / Silo. Please see Operating Instructions for Installation Procedure and Guidance.

Proper Donnelly Chute Level Sensing Results in Continuous and Maintained Fuel Feeding to Mills and avoids Stoppage due to Chute overflow
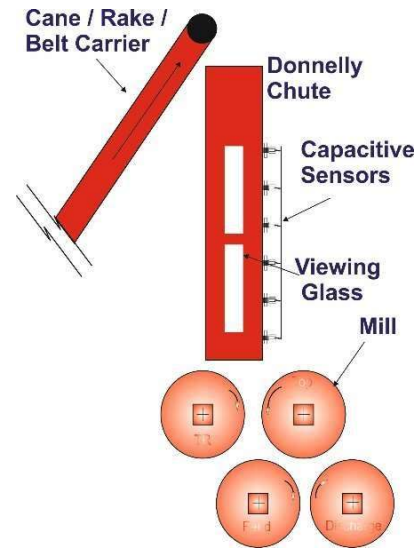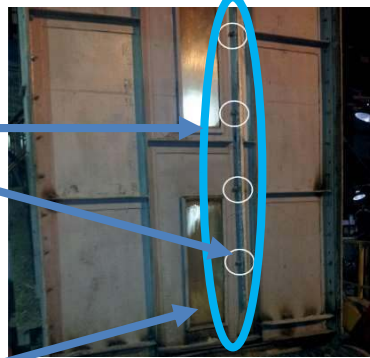
Innovative Features for Ease of Operation and to save on Installation Cost and Materials:

- **Built-in Raining Bagasse Compensation**: to Accurately Sense, Analyze, Calculate and Derive Accurate Chute Level within a very challenging environment of Residual Juice Dirt, Sticky Bagasse Dust and Vibration
- **Built-in Controller (Optional):**
  Highly Accurate Fuzzy Logic Controller developed especially for Carrier and Mill Speed Control Applications.
- **Built-in 3-Point Auto/Manual Station to Select Control Output from (Optional):**
  a. Selector Switch for Local PID Output or DCS/PLC PID Output
  b. Manual Output for Trouble Shooting

  This feature simplifies installation by eliminating need for installing a Junction Box and Extra wiring.

TECHNICAL SPECIFICATIONS:
- **Power Supply:** 85 - 265 VAC, 50 – 60Hz
- **Analyzer Enclosure:** IP67 Field Mounted Dust and Moisture Proof
- **Input:**
  - Capacitive Sensor Signals
- **Calibration can be done from :**
  - **Keyboard:** Keyboard with 5 Keys is provided in the Analyzer
  - **USB Port:** for Windows / Android based YUTECH-AccessApp
- **Display:** 4 Digit LED Dual Display, LED
- **Signal Output:**
  - 4 - 20 mA Processed Measured or Analyzed Variable Output
  - 4 - 20 mA Controller Output (Optional)
    - This Output can be Configured as below:
      - PID Output
      - Scaled Output
      - PID / Scaled Output can be selected by C2P or C2S in the Product Code.
  - Potential-Free Relay Output for each Sensor Input
  - Ethernet Communication Protocol: Modbus-TCPIP
    - Modbus TCPIP Communication can be selected by adding suffix EM to the Product Code this is available only in the Controller Model.

Product Codes for various Sensor Combinations are as below:
A15DCAACCS6C1R6FM (6 Level System)
A15DCAACCS8C1R8FM (8 Level System)
A15DCAACCS10C1R10FM (10 Level System)
A15DCAACCS12C1R12FM (12 Level System)
A15DCAACCS16C1R16FM (16 Level System)

FOR MORE DETAILS PLEASE SEE THE PRESENTATION ON OUR WEBSITE www.yutechautomation.com.

CHANNEL PARTNER:

YU Technologies Pvt. Ltd.
HO & Works: B 8/5, MIDC, Miraj, 416 410, Distt: Sangli, Maharashtra, India.
T: +91 233 2644042, +91 916 832 4851, +91 916 832 5127 / 8.
E: info@yutech.in; sale@yutech.in W: www.yutech.in; www.yutechautomation.com