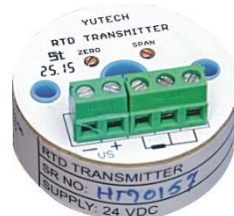


YUTECH Specialized Instrumentation and Sensing Solutions for Sugar Mills



YUTECH



YU Technologies Pvt. Ltd.

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W: www.yutech.in

Serving the Sugar Industry since 1978

www.yutech.in; sale@yutech.in

YUTECH Specialized Instrumentation Solutions for Sugar Mills



- Experience of almost 40 years with Expertise of a very highly qualified Engineering Team.
- In-house Control System Design, Engineering, Manufacturing and Software Development.
- In-house Sensor, Analyzers & Instrumentation Design and Manufacture.
- Highly accurate calibration facilities with traceability certifications.
- Separate R & D Department
- Feature Rich State of the Art Technology developed and matured in the Sugar Environment

YUTECH Innovated Solutions for Highly Critical and Challenging Applications in Sugar Factories and Sugar Refineries with Specialized Instruments as below:



Milling Section

- Infra Red Type Donnelly Chute Level Sensors, Indicators & Transmitters
- Hall's Effect Type Cane Blanket Level Sensors Indicators & Transmitters
- Hall's Effect Type Top Roller Lift Sensors Indicators & Transmitters

Sugar Process & Refinery Section

- Brix Analyzers for Clarified Juice, Evaporators, Batch and Continuous Vacuum and Open Pans, Molasses Conditioners, Liming Stations and Sugar Melters
- Conductivity Analyzers for Steam Condensate and Feed Water
- pH Analyzers for Sugar Cane Juice, Liming, Feed Water
- Concentric Split Diaphragm Control Valve also called Iris Valve for Continuous Centrifugal Machines and Liming Controls

YUTECH also manufactures variety of other Instrumentation Products for Sugar Factories and Sugar Refineries:



Mill Section

- Head Mounted RTD Transmitters for Bearing Temperature Sensing
- Head Mounted or Panel Mounted RTD Temperature Transmitters
- RPM Transmitters for All Types of Drives
- Current Transmitters for Electric Motor Drive Load Sensing
- Overhead Jumbo Displays

Sugar Process, Sugar Refinery & Boiler Section (Please see Specialized Sugar Process & Refinery Instruments Presentation)

- Vacuum Transmitters
- Draft Range Negative & Positive Composite Pressure Transmitters
- 3 Way Valve for Steam Condensate Bypass
- Head Mounted or Panel Mounted RTD Temperature Transmitters
- Thermo-couple Temperature Transmitters
- Pneumatic Linear Position Controllers for Bagasse Gates, Large Valves, Dampers etc
- Electric Actuators for Pan Discharge Valve

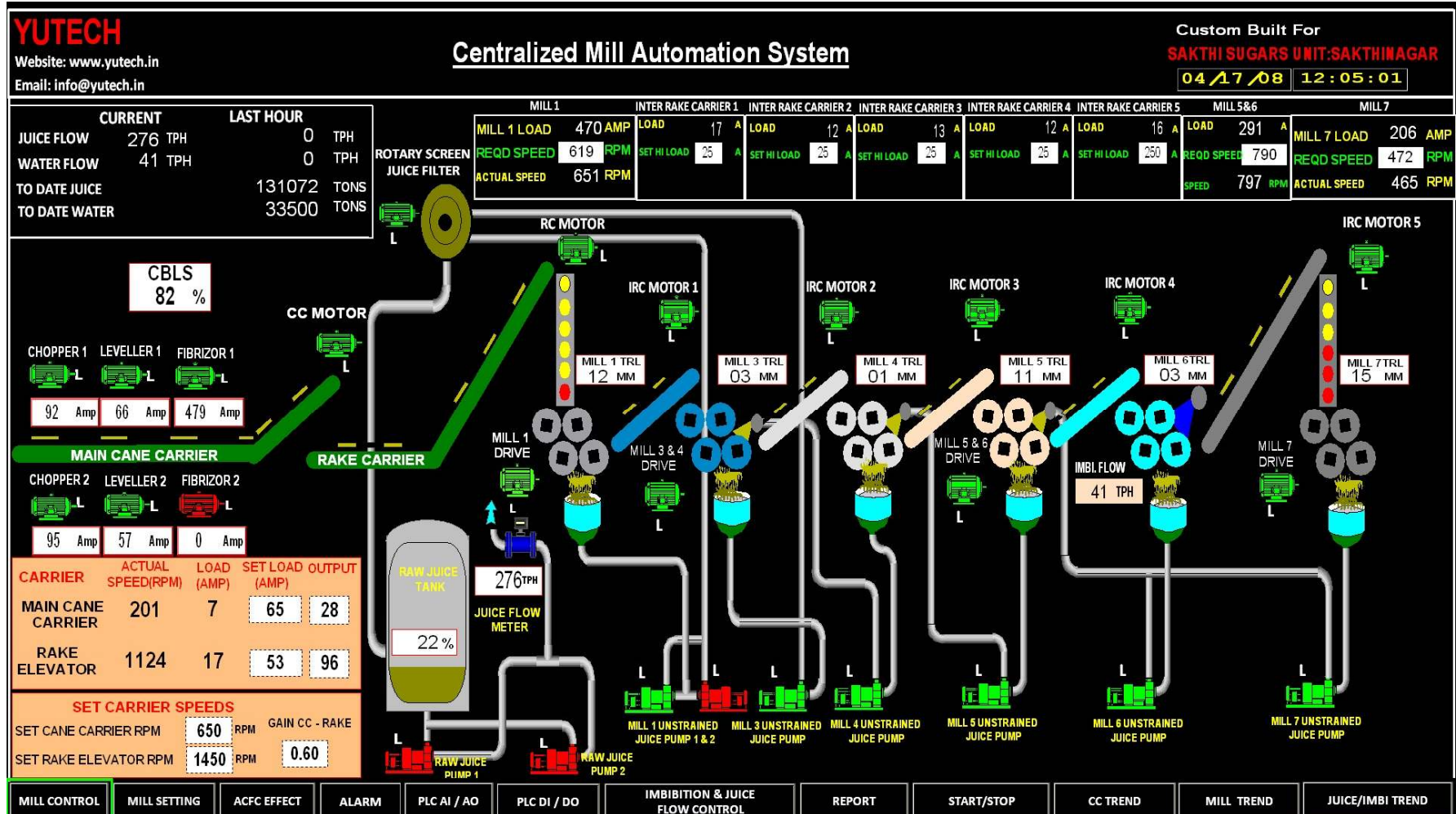
YUTECH also undertakes Turnkey Automation Projects:



DCS or PLC Based Turnkey Automations:

- Complete Sugar Mill Automation with all Loops like Cane Feeding, Mill Speed Controls, Imbibition and Juice Flow Controls etc
- Complete Sugar Process Automation with Loops like Evaporator, Pans, Continuous Pans, Melters Conditioners, Heaters, Condensers etc
- Complete Boiler and Power Plant Automation
- Complete Sugar Plant Automation
- Complete Distillery Automation
- Condenser Automation

Screen Shot of YUTECH Mill Automation using Mill Instruments



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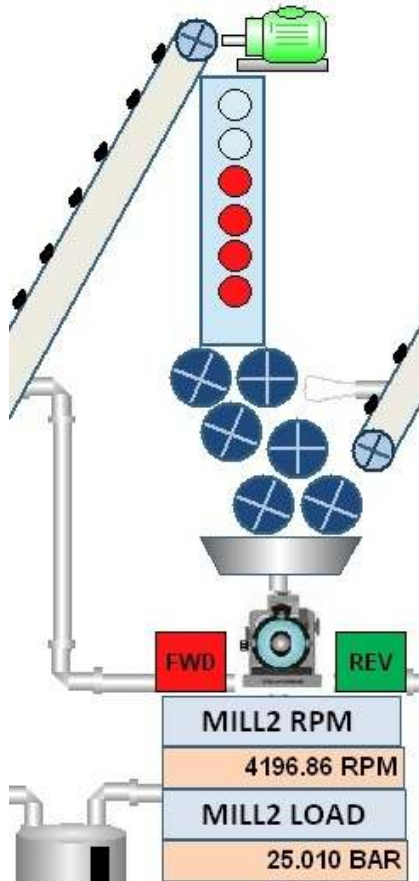
YUTECH Infra Red Type Donnelly Chute Level Sensors and Indicating Transmitters



**Infra Red Type Donnelly
Chute Level Sensor**
Product Code: ASD-IRS-10



**Donnelly Chute Level Indicator
Cum Transmitter**
Product Code: ASD-DCLIT-IR-1005-1-6



**Actual Partial SCADA Screen Shot of Donnelly
Chute Level Indication in Sugar Mill Automation
and Control System**



Infra Red Type Donelly Chute Level Sensors



Infra Red Sensor Installation.

100% True DC Level Detection
No False Indications
No Problems due to Bagasse
Particles or Juice



YUTECH Infra Red Type Donnelly Chute Level Sensors or IR Sensor Features



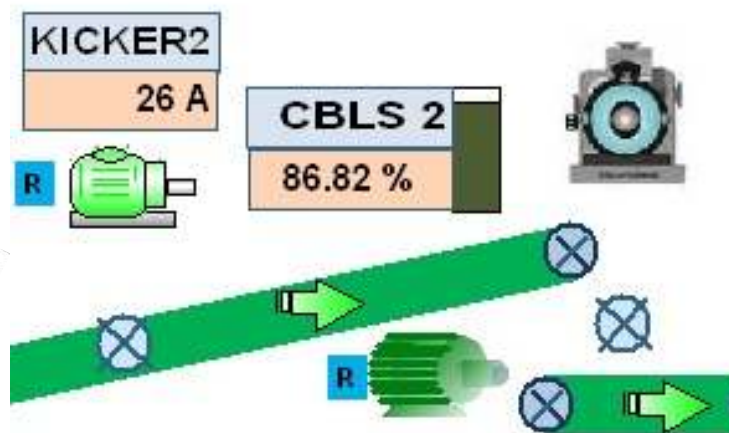
- Infra Red Sensing
- 100% True Level Detection, No False Level Detections
- IR Sensors Sense Level Through Dirt, Juice Films, Bagasse Powder and also Juice and Water Mist in the Donnelly Chute
- IR Sensors have Built-in Raining Bagasse Compensation and easily Sense Level through Raining Bagasse and Juice Moisture
- Water Ingress and Dirt Proof
- YUTECH invented this Technique in 1986
- More than 400 Sugar Mills use YUTECH IR Sensors in India, Asia Pacific and African Regions
- IR Light is Known for Deep Penetration and used in Medical Applications like Deep Fomentation hence the choice of IR for this Critical Application

YUTECH Hall's Effect Type Cane Blanket Level Sensors and Indicating Transmitters



Hall's Effect Type Cane Blanket Level Sensor
Product Code: ASD-HE-CBLS-10

Cane Blanket Level Indicator Cum Transmitter
Product Code: ASD-HE-CBLIT-1005-1-2



Actual Partial SCADA Screen Shot of Cane Blanket Level Indication in Sugar Mill Automation and Control System



YUTECH Hall's Effect Type Cane Blanket Level Sensor Features

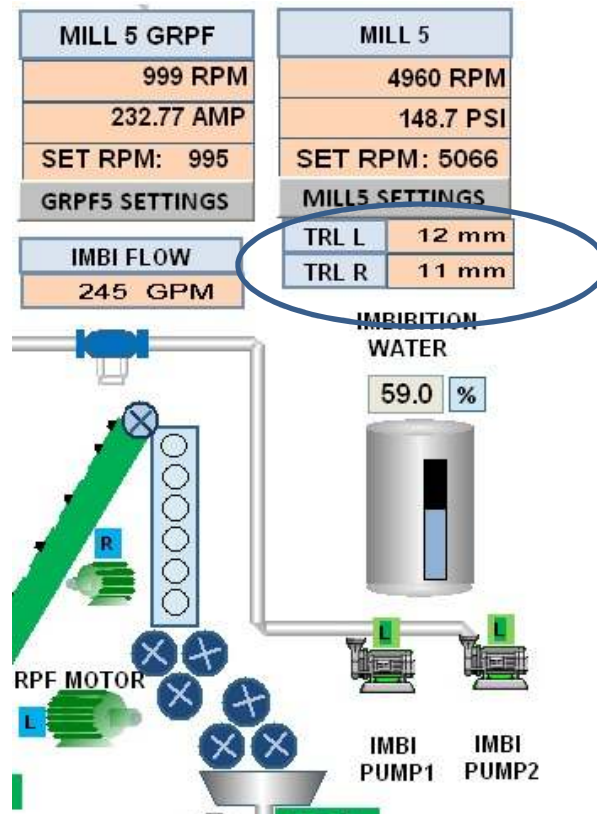


- Hall's Effect Type Electromagnetic Sensor
- Pendulum Type Primary Level Sensor Floats on Cane Blanket
- Extremely Rugged Heavy Duty Enclosure to suit the Physical abuse of Flying Cane from Leveller / Cutter / Knives
- 100% True Level Detection through all the Shocks, Vibration, Moisture and Dirt
- No False Level Detections
- Water Ingress and Dirt Proof
- YUTECH invented this Technique in 1986
- More than 400 Sugar Mills use YUTECH CBLS Sensors in India, Asia Pacific and African Regions

YUTECH Hall's Effect Type Top Roller Lift Sensors and Indicating Transmitters



Hall's Effect Type Top Roller Lift Sensor
Product Code: ASD-HE-TRLS-10



Top Roller Lift Indicator Cum Transmitter
Product Code: ASD-HE-TRLIT-1005-1-2



Actual Partial SCADA Screen Shot of Top Roller Lift Indication in Sugar Mill Automation and Control System

YUTECH Hall's Effect Type Top Roller Lift Sensors and Indicating Transmitters



- Hall's Effect Type Electromagnetic Sensor
- Telescopic Primary Level Sensor rests on Mill Pressure Plate
- Extremely Rugged Heavy Duty Enclosure to suit the Physical abuse of Cleaning, Moisture, Sugar Cane Juice and Juice Mist, Bagasse and Steam
- 100% True Top Roller Lift or Float Detection through all the Shocks, Vibration, Moisture and Dirt
- Water Ingress and Dirt Proof
- YUTECH invented this Technique in 1992
- More than 300 Sugar Mills use YUTECH TRL Sensors in India, Asia Pacific and African Regions

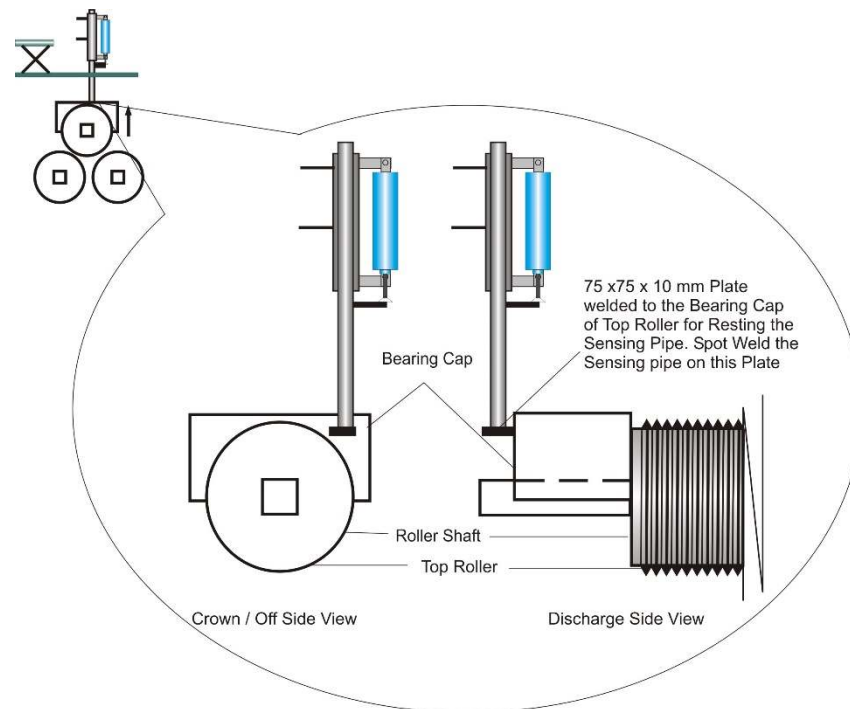
Hall's Effect Type Top Roller Lift Sensor Assembly Diagram



Hall's Effect Type Top Roller Lift Sensor

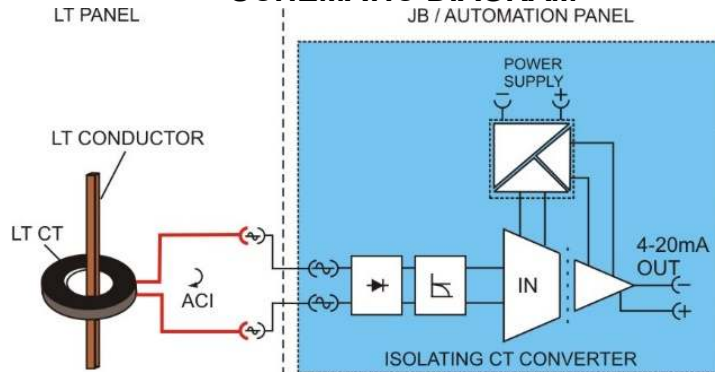
Sensor Mounting Assembly

Extension to rest on Mill Pressure Plate



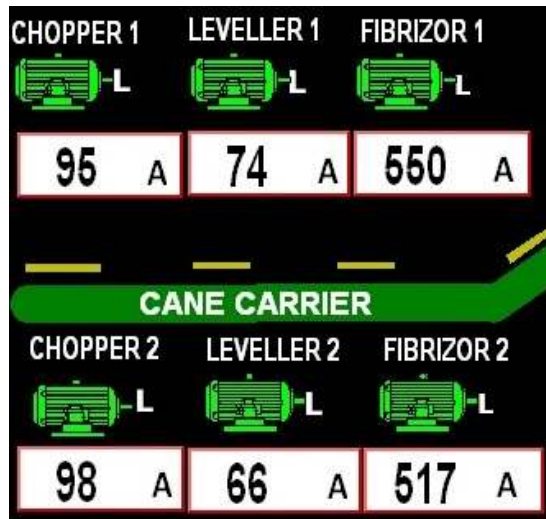
YUTECH LT and HT CT Converters :

ISOLATING HT / LT CT CONVERTER SCHEMATIC DIAGRAM



- CT Converter senses the Drive Load Current using a Current Transformer.
- AC Load Current is then converted to 4-20 mA Current Signal.
- Electrically Isolated 4-20mA Current Output.
- Non Invasive Potential Transformer with HT CT is used for Sensing HT Motor Loads along-with Isolating CT Converter.

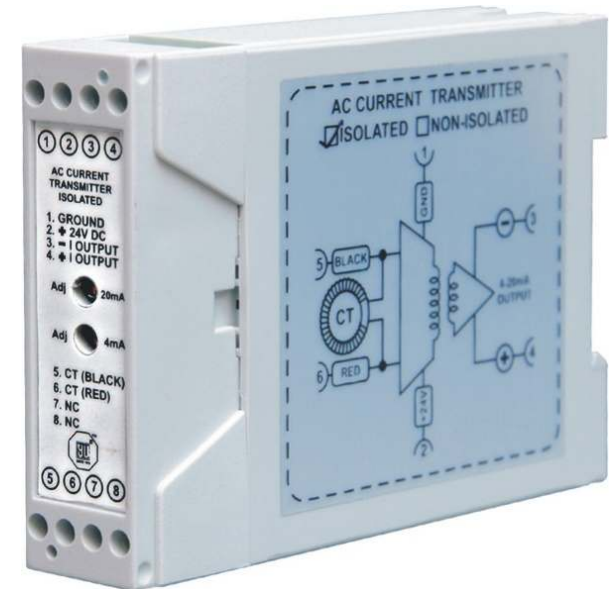
ACTUAL PARTIAL SCREEN SHOT OF LT AND HT CT CURRENT READINGS FOR MILL AUTOMATION



LT CT CONVERTER READINGS

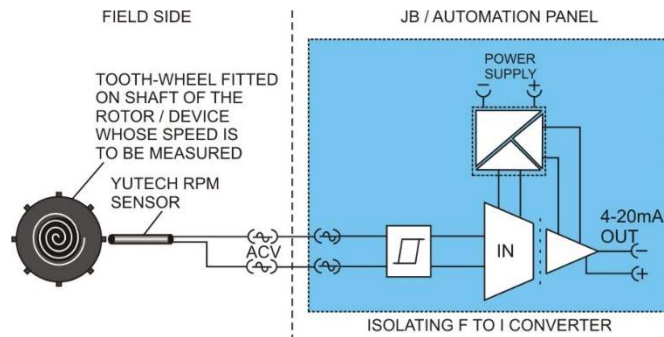


HT MOTOR LOAD 11KV, 100A / 1A HT CT USED FOR CURRENT SENSING

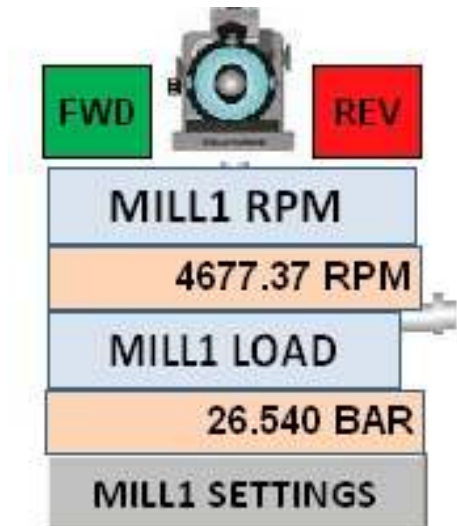


ISOLATING CT CONVERTER

YUTECH RPM Transmitters:



SPEED (RPM) SENSING USING ISOLATING FREQUENCY TO CURRENT CONVERTER AND RPM SENSOR



ACTUAL SCREEN SHOT OF RPM TRANSMITTER USED IN MILL AUTOMATION

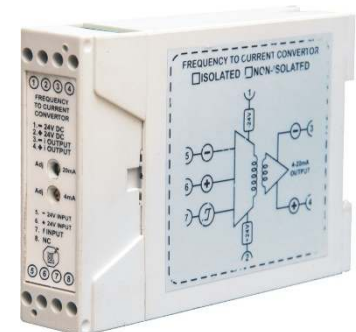
- RPM Sensing of Carrier Drives, Mills, Preparatory Devices.
- Non Invasive RPM Sensors capable of Sensing Speeds up to 10000 RPM.
- Electrically Isolated 4-20mA Current Output.
- RPM Indicator for Local Indication



RPM SENSOR

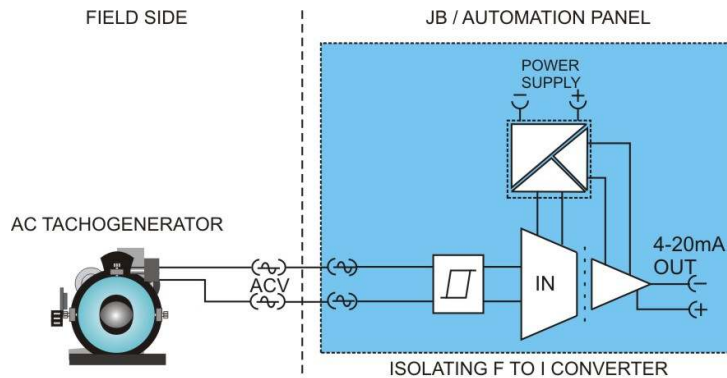


RPM INDICATOR CUM TRANSMITTER



ISOLATING RPM TRANSMITTER

YUTECH Tacho-Generator Speed Sensing Transmitters:



**ISOLATING F TO I CONVERTER USED WITH AC TACHO GENERATOR
FREQUENCY OUTPUT FOR SPEED SENSING**

MILL 5
4956 RPM
140.8 PSI
SET RPM: 4992

**SCREEN SHOT OF RPM READING USING ISOLATING F TO I CONVERTER
USED WITH AC TACHO GENERATOR FREQUENCY OUTPUT**

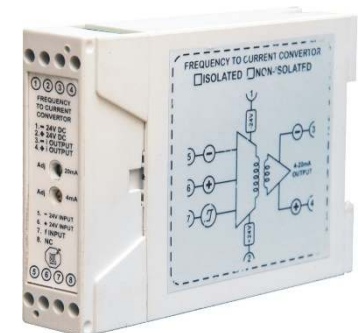
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RPM SENSOR



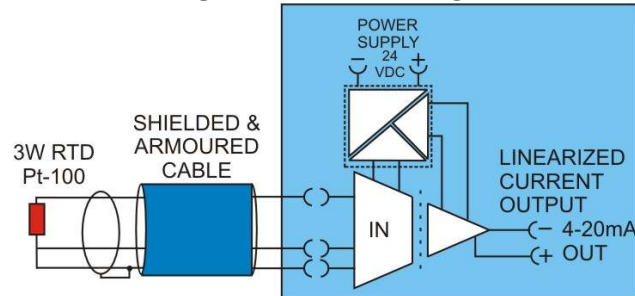
**RPM INDICATOR
CUM TRANSMITTER**



**ISOLATING RPM
TRANSMITTER**

YUTECH Temperature Transmitters:

ISOLATING RTD TEMPERATURE TRANSMITTER SCHEMATIC DIAGRAM



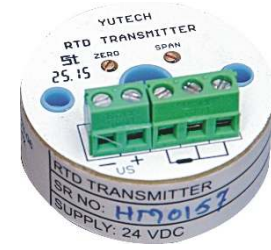
PARTIAL SCREEN SHOT TEMPERATURE READINGS USING RTD WITH YUTECH HEAD MOUNTED TRANSMITTER AND YUTECH MODBUS IO CARD

MILL 3 TEMPERATURE			
TURBINE			
FRONT	52.6	°C	
BACK	50.1	°C	
GEARBOX LEFT			
FRONT	41.9	°C	
BACK	41.9	°C	
GEARBOX RIGHT			
FRONT	36.7	°C	
BACK	35.2	°C	

- 3 Wire RTD Input Panel and Head Mounted Transmitters.
- Thermo-Couple Input Temperature Transmitters.
- Optional Electrically Isolated 4-20mA Current Output.
- Universal Input Process Indicator



ISOLATING TC TEMPERATURE TRANSMITTER



HEAD MOUNTED RTD TEMPERATURE TRANSMITTER



ISOLATING RTD TEMPERATURE TRANSMITTER



UNIVERSAL INPUT PROCESS INDICATOR

YUTECH Isolation Products:

Please see our Isolation and Instrumentation Catalogue for more details



- 18 – 36 VDC / 85 - 265 VAC Power Supply
- Isolation Barrier 5KV
- Various Inputs like Voltage, Current, CT, RTD, TC, Frequency, AC Voltage etc
- Single Input Dual Output Current Isolator
- V to and I to V Converters



YUTECH Displays, Controllers, Transmitters, IO Cards:

Please see our Isolation and Instrumentation Catalogue for more details



PARTIAL SCREEN SHOT TEMPERATURE READINGS USING RTD WITH YUTECH HEAD MOUNTED TRANSMITTER AND YUTECH MODBUS IO CARD

MILL 3 TEMPERATURE			
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GEARBOX LEFT			
FRONT	41.9	°C	
BACK	41.9	°C	
GEARBOX RIGHT			
FRONT	36.7	°C	
BACK	35.2	°C	



Other YUTECH Products

- Flame Detectors
- Draft Range Pressure Transmitters
- Vacuum Transmitter
- PID Controller
- Auto / Manual Station
- Process Indicator
- Jumbo Display
- Modbus and Ethernet IO Cards



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THANK YOU!
For your Time and Presence



SAVE FUEL
REDUCE CARBON FOOTPRINT
MAKE THE WORLD GREENER

AND YET, MAKE MONEY

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