Scientech

Level Measuring Workbench

Scientech 2473

Scientech 2473 Level Measuring Workbench consists of an instrument panel and transparent tank with different type of level sensor that is useful for the study of principal and working of level measuring setup. This system comprises of the latest components, which reflect the latest technological innovations in this field. level Measuring Workbench endows students and industry professionals to understand the concepts and working of level Measuring instruments and control, and enables them to learn advance and more complex level process systems.

Scientech 2473 consists of different types of level Sensors such as Ultrasonic, Capacitance type, Point to Point, Pressure type, Magnetic Float type and DAQ, Solenoid Valve, Sump tank and Acrylic Measuring tank. The set-up has safety measures such as emergency shutdown and overheating protection. A wide range of experiments can be performed on the platform.

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Features

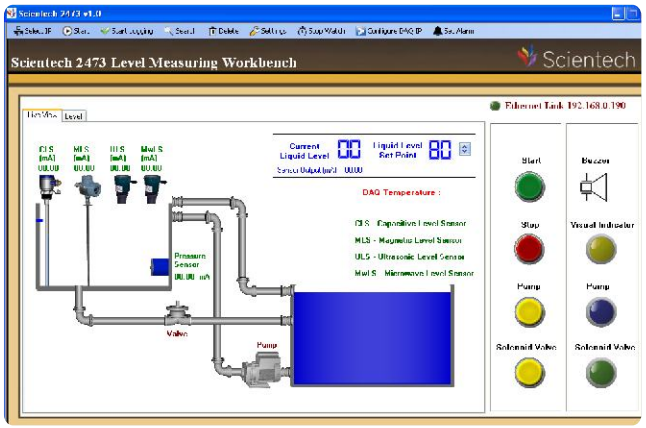
- **Human Machine Interface (HMI)**
- **Types of Controller : DAQ ,HMI, and PC**
- **Study of Different type of Level Sensor Ultrasonic, Capacitive type, Point to Point, Pressure type, Magnetic Float type**
- **Industry-standard instruments and controls**
- **Interface with Ethernet based DAQ**
- **Start, Stop, Pump, Solenoid Valve buttons and Indicator for Visual Indicator, Audio Indicator, Pump, Solenoid Valve**
- **Sump Tank & Acrylic Measuring Tank**
- **8 Channel 24 bit ADC**
- **Real time DAQ Interface with ADC and Digital input/output**
- **Academic and vocational study for process control engineers and plant technicians**
- **Experiments configurable through Patch board**
- **Self-contained, bench-mounting arrangement**
- **Supplied with DAQ Software for supervisory control of the process with data acquisition**
- **Castor Wheel (with locking mechanism) is provided at legs of workstation so that it can be easily moved**
- **MCB is provided with AC supply for safety purpose**
- **Board to pin up document**
- **Tower Light for Process Indication**
- **Enhanced electrical safety consideration**
- **Online product tutorial**

Scope of Learning

Study and use of:

- Capacitance Type Level Sensor for Level Measurement.
- Pressure Type Level Sensor for Level Measurement.
- Ultrasonic Type Level Sensor for Level Measurement
- Magnatic Float Type Level Sensor for Level Measurement
- Point to Point Type Level Sensor
- Scientech 2473 Alarm function
- Open loop function
- ON/OFF controller
- Proportional controller
- Proportional-Integral controller
- Proportional-Integral-Derivative controller
- Human Machine Interface (HMI)

Software window



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Technical Specifications

- It provides easy access and working environment in sitting posture
- Instrument cluster with on/off switch for Instruments
- Instrument cluster with protected enclosure and cooling fan

Frame:

- Rust preventive coat and powder coating
- Floor level adjustment
- Provision for PC – CPU
- Modular design for Instrument removal and maintenance
- Provided with all the necessary cables & accessories to perform Level Measurement experiments.
- Power indicator & ON/OFF Control
- User friendly and self explanatory system
- Electrical switches and indicators
- Enhanced electrical safety consideration
- System frame with wheel arrangement for ease in movement

Volumetric Level Measurement

Supply	:	90 to 260V AC, 50 Hz
Accuracy	:	± 0.5 % of full scale
Output	:	4 to 20mA, 2 Wire System
Probe Body	:	SS-304
Rating	:	Rated at 6A, 230VAC for non inductive loads
Housing	:	Single Channel wall mounting

Ultrasonic Level Sensor

Supply	:	230V AC
Output	:	4 to 20mA for Level
Accuracy	:	± 0.25% of range
Range	:	0.35M to 5.00M
Housing	:	Cast Aluminium weather proof epoxy painted
Read Out	:	LCD 8 Digit
Rating	:	Rated AT 6A, 230v ac For non inductive loads

Magnetic Float type Level Sensor

Supply	:	+24V DC
Output	:	4 to 20mA
Sensing	:	Rod SS304
Housing	:	Cast Aluminum weather proof
Range	:	0.5 Meter

Capacitances type Level Sensor

Housing Enclosure	:	Cast Aluminum weather proof
Supply	:	+24V DC
Measurement Span	:	15 to 50000 pf above zero
Response Time	:	0.5s to 5 sec
Accuracy	:	+/-1% FSL
Output	:	4 to 20mA
Range	:	0.5 Meter
User Interface	:	4 Digit display with 4 keys and LED

Point to Point Level Sensor

Supply	:	5V DC
Output	:	0 or 5V DC
Sensing	:	Rod SS304

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Data Acquisition System (DAQ)

Analog Input	: 8
Analog Output	: 2
Digital Input	: 8
Digital Output	: 8
ADC Resolution	: 24 bit
Two Unity Gain Amplifier	: 0 to 5V
USB 2.0	: Yes
Ethernet	: Yes
RS485	: Yes
Data Logging (PC Based)	: Yes
Power Supply	: USB based
UART Interface	: Yes

Human Machine Interface (HMI)

Quantity	: 1 no.
Supply	: +24V DC
CPU	: 32-bits 400MHz RISC
Storage	: 128M FLASH + 64M DDRAM
Display size	: 7 inch
Resolution	: 800×480 TFT LCD 65,536 colors
Interface	: RS232/RS485/RS422
Touch Screen	: High precision four-wire resistive
Pump	: 1 (0.5HP, 230V)
Sump Tank	: 200 liter
Measuring Tank	: 180 liter (Transparent)
Relay Card	: 1 no. (contains 4 Relays)
Push to on Switch	: 4 nos.
Indicator	: 3 nos.
Audio Indicator	: 1 no.
Digital Panel Meter	: 2 nos.
Display	: 4 Digit, 7 segment digital display
Keys	: 3 for Digital Setting
Input Type	: Current
Resolution	: 1 or 0.1 degree
Supply Voltage	: 230V AC

Communication	: RS485 and Ethernet

Castor Wheel

Quantity	: 4 (2 with lock & 2 without lock)
Size	: 75mm
Contractor	: 1 no.
Solenoid Valve	: 1 no.
Tower Light	: 1 no.
Type	: 2 Wire with Buzzer
Color	: Red & Green
Supply	: 230V
Manual Valve	: 3 nos.

Note: SCADA (optional), PC (optional)

Included Accessories

4mm Patch Cord 18" (Yellow)	: 8 nos.
4mm Patch Cord 18" (Blue)	: 8 nos.
Notice Board Pin	: 10 nos.
Ethernet Cable	: 1 no.

HMI window

Subject to Change

Designed and Manufactured in India by -

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