



Sciencetech 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.

Sciencetech 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.

Features

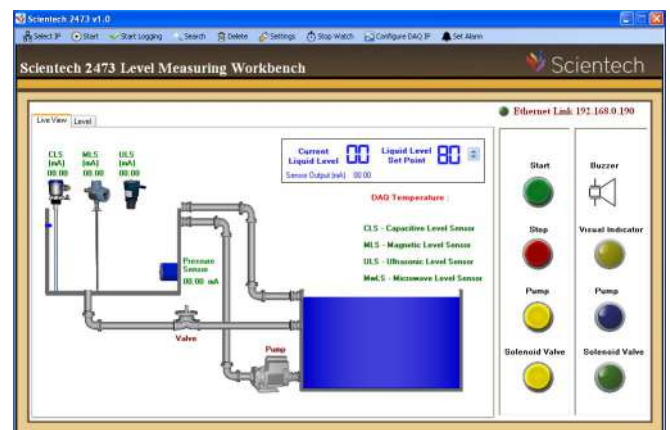
- Included of Different type of Level Sensors like: Ultrasonic, Capacitive type, Point to Point, Pressure type, Magnetic Float type
- 7" Human Machine Interface (HMI)
- Types of Controller : DAQ ,HMI, and PC
- Start, Stop, Pump, Solenoid Valve buttons and Indicator for Visual Indicator, Audio Indicator, Pump & Solenoid Valve
- Industry-standard instruments and controls
- Interface with Ethernet based DAQ
- 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 Dashboard Software for supervisory control of the process with data acquisition
- Castor Wheel (with locking mechanism) is provided at legs of workBench so that it can be easily moved
- MCB is provided with AC supply for safety purpose
- Enhanced electrical safety consideration
- Online product tutorial

Scope of Learning

Study and use of:

- Characteristics of Capacitance Type Level Sensor .
- Characteristics of Pressure Type Level Sensor
- Characteristics of Ultrasonic Type Level Sensor
- Characteristics of Magnetic Float Type Level Sensor
- Characteristics of Point to Point Type Level Sensor
- Open & close loop function
- ON/OFF controller using software
- Proportional controller using software
- Proportional-Integral controller using software
- Proportional-Integral-Derivative controller using software
- Human Machine Interface (HMI)
- Process Control & Monitor by HMI
- Creating Application/Screen in HMI
- Downloading and Uploading programs
- HMI Communication with PLC
- Creating Alarm Message in HMI
- Creating Trend in HMI

Software window



Technical Specifications

DAQ : 1 no. (Data Acquisition System)

Analog Input : 4 nos.

Analog Output : 2 nos.

Digital Input : 6 nos.

Digital Output : 4 nos.

ADC Resolution : 24 bit

Two Unity Gain Amplifier : 0 to 5V

Ethernet Interface : Yes

RS485 Interface : Yes

Data Logging : Yes

HMI : 1no.(Human Machine Interface)

Supply : +24V DC

CPU : 32-bits 400MHz RISC

Storage : 128M FLASH + 64M DDRAM

Display size : 7 inch

Resolution : 800x480 TFT LCD 65,536 colors

Interface : RS485

Touch Screen : High precision four-wire resistive

Type of Level Sensors

Volumetric Pressure Sensor : 1 no.

Supply : 90 to 260V AC, 50 Hz

Accuracy : $\pm 0.5\%$ 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 Sensor : 1 no.

Supply : 5V DC

Output : 0 to 5VDC

Range : Upto 5.00M

Magnetic Float Sensor : 1 no.

Supply : +24V DC

Output : 4 to 20mA

Sensing : Rod SS304

Housing : Cast Aluminum weather proof

Range : 0.5 Meter

Capacitances Sensor : 1 no.

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 : $\pm 1\%$ FSL

Output : 4 to 20mA

Range : 0.5 Meter

User Interface : 4 Digit display with 4 keys and LED

Point to Point Sensor : 1 no.

Supply : 5V DC

Output : 0 or 5V DC

Sensing : Rod SS304

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

Panel Component Description

- Push to On Switch : 4nos.
- Indicators : 4nos.
- Toggle Switch : 4nos.
- Contactor : 1no.
- Solenoid Valve : 1no.
- Pump : 1no.
- Sump Tank : 1 no.
- Capacity : 100Litters
- Acrylic Measuring Tank : 1no.
- Capacity : 65Litters
- Manual Valve : 3nos.

Castor Wheel : 4nos (2 with lock & 2 without lock)

Size : 75mm

Dimension in mm : H1735 x W1500 x D 740

Included Accessories

- 4mm Patch Cord 18" : 8 nos. (Yellow)
- 4mm Patch Cord 18" : 8 nos. (Blue)
- 4mm Patch Cord 25" : 8 nos.(Red)
- 4mm Patch Cord 25" : 8 nos. (Black)
- Ethernet Cable : 1 no.

Windows OS Based PC (optional)

Note: Windows OS Based Computer is required to explore DAQ experiments



HMI window

