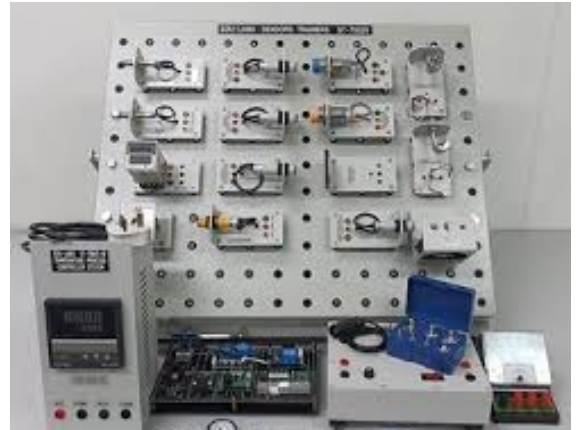


WQIP-1050

SensorLab

Sensor training platform has following hardware features

- ☐ IoT enabled Linux based 7" Graphical touch LCD with inbuilt cortex ARM processor & DAQ for acquiring analog data and software for viewing the output waveforms, reading the operating manual, tutorial etc, with USB storage and HDMI output. Ethernet port to connect real world.
- ☐ Inverting, Non-Inverting, Power, Current, Instrumentation and Differential Amplifier, Buffer, Frequency to Voltage, Voltage to Frequency, Current to Voltage, Voltage to current Converter, High Pass and Low Pass Filter, Buffer, LED, Buzzer, Relay, Square Wave generator.
- ☐ Inbuilt DAQ
- ☐ User can design any circuit on bread board and test
- ☐ Standalone TechBook
- ☐ Onboard signal conditioning
- ☐ USB Port for Keyboard and Pen drive interface
- ☐ Ethernet port
- ☐ HDMI Port
- ☐ Data Logging in .csv format
- ☐ On board Graph capture and store
- ☐ Office tools are inbuilt to view PDF and doc files
- ☐ Sensor real time graph using software
- ☐ Sensors data logging using software



Tentative Image Subject to change

Training platform has following Technical features

- ☐ On board display: 7" capacitive touchscreen
- ☐ Connectivity: USB, Ethernet & HDMI
- ☐ Square Wave Generator: up to 40KHz
- ☐ Low Pass Filter: up to 30KHz
- ☐ High Pass Filter: After 40KHz
- ☐ Inverting Amplifier: Variable Gain 1-10
- ☐ Non-Inverting Amplifier: Variable Gain 2-10
- ☐ Differential Amplifier: Variable Gain 1-10
- ☐ Instrumentation Amplifier: Variable Gain 10-20
- ☐ Frequency to Voltage: Input: 1-10KHz
- ☐ Converter range Output: 1-10Volt
- ☐ Voltage to Frequency: Input: 1-10Volt
- ☐ Converter range Output: 1-10KHz
- ☐ Current to Voltage: Input: 4-20mA
- ☐ Converter range Output: 0-5Volt
- ☐ Voltage to Current: Input: 0-5Volt
- ☐ Converter range Output: 4-20mA
- ☐ Analog/Digital Converter: 4 Channel (0-5V)
- ☐ Digital/Analog Converter: 1 Channel (0-3.3V)
- ☐ Input/ Output Ports: 4-IP / 4-OP
- ☐ Operating Voltage Range: 0 – 3.3V
- ☐ Ready assignment and exercise manuals
- ☐ Robust construction.



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* Image is for illustrative purpose and subject to change

WQIP-1050

SensorLab

This training system has the following sensors of the given specifications as per the below given table: -

Temperature Sensors

- ☐ LM35: 10mV/°C
- ☐ Platinum RTD: 100W at 0°C (Temp. coefficient 0.385 W/°C)
- ☐ K Type Thermocouple: 0°C to 80°C
- ☐ J Type Thermocouple: 0°C to 80°C
- ☐ AD590: -55°C to +150°C
- ☐ NTC Thermistor: 4.7KΩ

Optical Sensors

- ☐ L14G1 Photo Transistor: 500nm – 1100nm
- ☐ Photovoltaic Cell: 500mV – 580mV
- ☐ Phot Diode: 500nm – 1100nm

IR Sensors

- ☐ TSOP 1738
- ☐ IR LED

Pressure Sensor

- ☐ Pressure Transducer: 0 to 60 psi, differential input
- ☐ Foot Pump: 0 to 60 psi
- ☐ Supply Voltage- +5V DC

LVDT Coil

- ☐ Measurement Range: 20 mm (10 mm)
- ☐ Excitation Frequency: 4 KHz (approximately)
- ☐ Excitation Voltage: 4Vpp (approximately)
- ☐ Micrometer Scale: 25 mm
- ☐ Micrometer Least count: 0.01 mm

Load Cell

- ☐ Rated Load: 6 Kg
- ☐ Supply Voltage: +12V DC
- ☐ Resistance: 350 ± 3Ω

Strain Gauge

- ☐ Strain Gauge (350Ω): 4 Nos.
- ☐ Gauge Factor: 2:1
- ☐ Maximum Bearable Weight: 500 Gms.
- ☐ Cantilever Material: Stainless Steel/MS
- ☐ Bridge Configuration: Full Bridge

Gas Sensor

- ☐ Supply Voltage: +5V DC
- ☐ Warm up Time: 10 Min
- ☐ Calibrated Gas: 1000 ppm iso-butane

Alcohol Sensor

- ☐ Supply Voltage: +5V DC
- ☐ Output Voltage: 0 to 5V DC
- ☐ Warm up Time: 10 Mins

Optocoupler Sensor

- ☐ Input Voltage: +5V
- ☐ Output Voltage: +5V (approximately)

Magnetic Reed Sensor

- ☐ Maximum Voltage: 5Vdc
- ☐ Maximum Current: 0.5A at up to 10W
- ☐ Magnetic Reed Switch Type: Normally

Level Sensor

- ☐ Transducer: Capacitive Type
- ☐ Level Measurement Range : 2 -3 Liter

Accelerometer Sensor

- ☐ Supply Voltage: +3.3V DC
- ☐ ADC channel (X, Y, Z): 3
- ☐ Operating Current: 1ma
- ☐ Zero G output voltage (X, Y, Z): Idle output is VDD/2
So $3.3V/2=1.65V$

Temperature Humidity Sensor

- ☐ Supply: +5V DC
- ☐ Operating Humidity: 0 to 100 %RH
- ☐ Output Signal: Analog Voltage
- ☐ Temperature Range: 0 to 100 C
- ☐ Output Signal: Analog Voltage

Air Quality Sensor

- ☐ Supply: 3.3V to 5V
- ☐ Output Signal: Analog Voltage
- ☐ Detection Range: 10 - 300 ppm NH₃, 10 - 1000 ppm Benzene, 10 – 300ppm Alcohol
- ☐ Heater Voltage: 5.0V

PIR Sensor

- ☐ Supply Voltage: +5V DC
- ☐ Detection Range: 6 Meters

Atmospheric Pressure Sensor

- ☐ Supply Voltage: +5V
- ☐ Pressure Range
- ☐ Min.: 15kPa
- ☐ Max.: 115 kPa



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