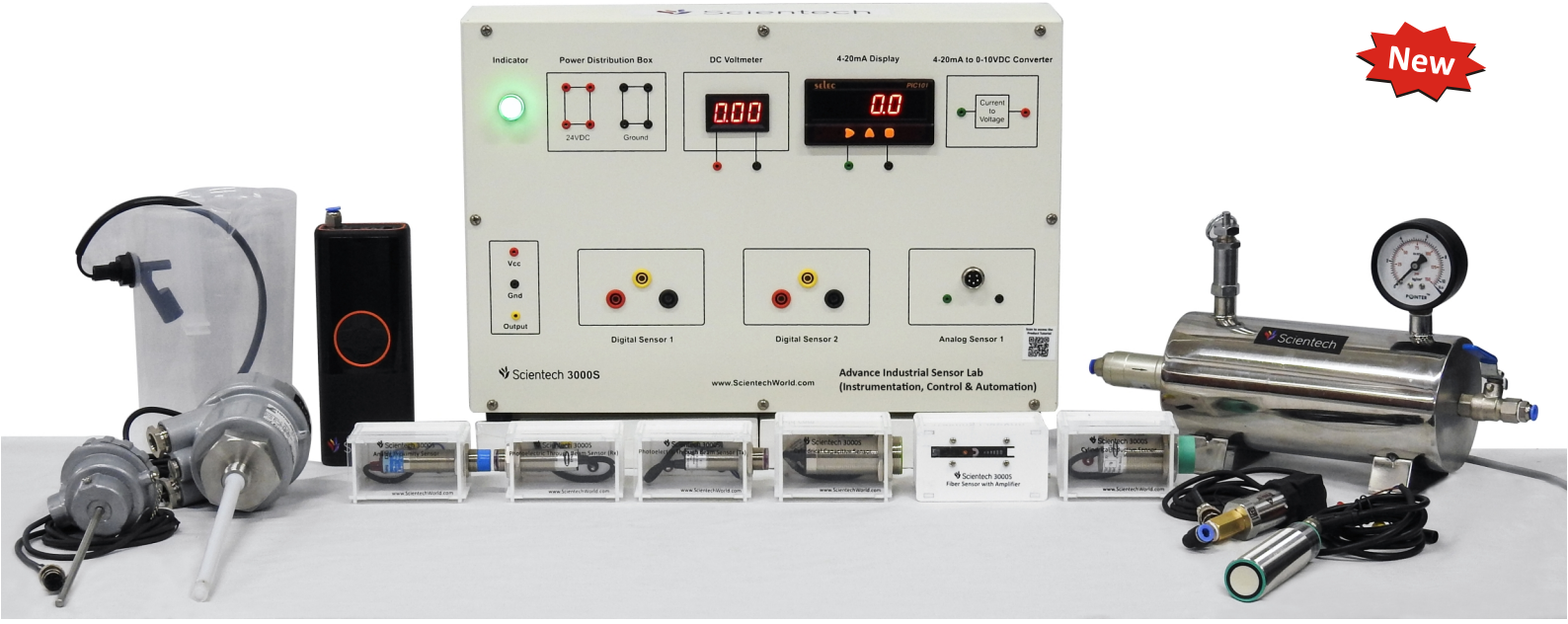
Scientech

Advance Industrial Sensor Lab (Instrumentation, Control & Automation)

Scientech 3000S



The **Scientech 3000S Advance Industrial Sensor Lab (Instrumentation, Control & Automation)** is a comprehensive educational system specifically engineered to provide practical exposure to a wide range of digital and analog sensors used in industrial automation and process control applications. It is designed to enhance conceptual understanding while developing hands-on skills essential for students, technicians, and professionals in the field of instrumentation and automation.

The training platform incorporates a diverse selection of sensors, including inductive and capacitive proximity sensors, fiber optic sensor with amplifier, float switch, photoelectric through-beam sensor, temperature transmitter with PT100, pressure transmitter, capacitive level transmitter, ultrasonic sensor, and analog proximity sensor. This wide spectrum of sensing technologies provides a holistic learning experience, covering key aspects of detection, measurement, and control in automation systems.

Overall, the Scientech 3000S Advance Industrial Sensor Lab (Instrumentation, Control & Automation) serves as an ideal solution for engineering institutions, technical training centers, and industrial training programs, enabling users to gain in-depth knowledge and practical competence in modern sensor technologies and their real-world applications.

Features

- The platform includes a wide variety of digital and analog sensors used in industrial automation, providing complete learning exposure in a single platform.
- Designed to enable practical experimentation, helping users understand real-time operation, behavior, and applications of sensors.
- All sensor modules are enclosed and coupled with compatible latch arrangement to secure into position.
- Built-in voltage display and current display (mA) to monitor and analyze voltage and current based analog sensor outputs in real time.
- All components are mounted on a durable M.S. epoxy -coated enclosure, ensuring long life and suitability for rigorous laboratory use.
- The platform has facility for easily connecting different sensor modules for study /testing.
- Comes with a dedicated power distribution unit for safe and efficient operation of multiple sensors.
- Patch cords are provided for quick and easy circuit configuration, allowing users to perform various experimental setups.
- Helps users develop competencies in instrumentation, control systems, and automation technologies.

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Scope of Learning

- Gain hands-on experience relevant to industrial automation systems.
- Analyze input-output characteristics and sensor behavior.
- Perform practical interfacing and wiring.

Study and application of

- Inductive proximity sensor.
- Capacitive proximity sensor.
- Fiber optic sensor with amplifier.
- Float switch
- Photoelectric through-beam sensor.
- Temperature transmitter with PT100.
- Pressure transmitter.
- Ultrasonic sensor.
- Analog proximity sensor.
- Capacitive level transmitter.

Characteristics of Sensors

- Characteristics of temperature transmitter with PT100.
- Characteristics of pressure transmitter.
- Characteristics of capacitive level transmitter.

Technical Specifications

Digital Sensor Inductive Proximity Sensor

Supply	:	10-30VDC
Output	:	PNP NO
Sensing range	:	10 mm
Size	:	M18

Capacitive Proximity Sensor

Supply	:	10-30VDC
Output	:	PNP NO
Sensing range	:	10 mm
Size	:	M18

Fiber optic Sensor with Amplifier

Control output	:	Open-collector output (NPN or PNP)
Sensing distance	:	15mm
Light source wavelength	:	Red , 4 Element LED (625Nm)
Power Supply	:	12 to 24VDC

Float Switch

Switching power supply	:	110VDC (max.)
Resistance contract	:	100Ω (max.)
Output	:	On/off

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Technical Specifications

Photoelectric through beam sensor		
Supply	:	10-30VDC
Output	:	PNP NO
Sensing range	:	30 mm
Size	:	M18
Analog Sensor		
Temperature Transmitter with PT100		
Range	:	0-100^{0}C
Output	:	4 to 20mA
Input	:	RTD (PT100), 3 wire
Loop supply	:	24V DC nominal (12 to 36)V DC
Pressure Transmitter		
Range	:	0-150psi
Accuracy	:	± 0.5 %
Output	:	4 to 20mA, 2 wire system
Capacitive Level Transmitter		
Supply	:	+24V DC
Response time	:	0.5s to 5 sec
Accuracy	:	+/-1% FSL
Output	:	4 to 20mA
Range	:	230mm
User interface	:	4 Digit display with 4 keys and LED
Ultrasonic Sensor		
Sensing range	:	70 ... 1000 mm
Supply	:	12 - 30 VDC
Output	:	4-20mA/0-10VDC
Analog Proximity Sensor		
Supply	:	10-30VDC
Output	:	0-10VDC
Sensing range	:	10 mm
Current display		
Display	:	4 digit, 7 segment digital display
Keys	:	3 for digital setting
Input type	:	Current (4-20mA)
Voltage display		
Display	:	4 digit, 7 segment digital display
Keys	:	3 for digital setting
Input type	:	Voltage (0-10VDC)
Power Supply	;	230V AC ± 10%

Subject to Change

Designed and Manufactured in India by -

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