



Name of Laboratory	<b>SENSORS AND CONTROL LAB</b>
Objective of Lab	<ul style="list-style-type: none"> <li>• Understand the principle of operation of various sensors and their behavior for different types of industrial material. Implementation of different sensors for various applications in Industrial automation.</li> <li>• Design the basic control system models and verify it mathematically.</li> <li>• Apply different input conditions and observe the response of various control system models using MATLAB Simulink Environment.</li> </ul>
Description of Laboratory	<p>The sensor and control lab has been established with the components of Bosch-Rexroth Ltd in the year 2016. This lab consists of different types of industrial grade proximity sensors and hydraulic actuators with different accessories which provides learning platforms enhancing knowledge about the industrial automation and there applications. Also a portable, comprehensive and practical way to learn Technology has also been provided. More than 50 experiments can be performed with the help of sensors and actuators provided by the Bosch-Rexroth. The sensor part consist of comprises of sensors and transducers which provide the fundamental knowledge of sensing light, pressure, temperature, IR and many more non electrical entities.</p>

	<p>The hydraulic part of this lab consists of different hydraulic actuators, control valves for displacement and direction control (mechanical and electromechanical). Different hydraulic circuits can be formed and tested with or without the application of PLC. The industrial automation can be visualized in this lab.</p>
Major Equipment of laboratory	<ul style="list-style-type: none"> <li>• Inductive sensor kit</li> <li>• Capacitive sensor kit</li> <li>• Magnetic sensor kit</li> <li>• IR sensor kit</li> <li>• Ultrasonic sensor kit</li> <li>• Hydraulic actuator and Motors</li> <li>• Hydraulic directional control valves</li> <li>• Hydraulic FRL unit</li> </ul>