Email : sales@laboratoryinstrumentindia.com

Product Name :	**Product Code :**
Fuzzy Control Ball On Plate	LBNY-0005-10900013

Description :

This experimental unit forms part of a series of teaching systems developed in collaboration with the Department of Automation and Information Technology at the Harz University of Applied Studies and Research. A fuzzy control is used to move the ball to a specific position quickly and with as little movement of the plate as possible, even when the position of the ball is modified by external influences. A ball-plate model acts as a weakly-coupled mechanical multivariable system. The inclination of the plate is modified by the movements of the respective motors; these movements are transferred to the plate by the drive rod. A joystick can be used to control the system manually. This allows the degree of difficulty of the control process to be estimated very accurately. The position of the ball is measured without feedback using a touch panel and the crisp signals sent to the fuzzy controller, where the signals are transformed into fuzzy input values and inferenced before being transformed back into a crisp output value. Two servo motors act as actuators during this process.

Technical Specification :

Develop parallel fuzzy controls using microcontroller technology
Switchable between fuzzy and manual mode
2 servo motors used as actuators to swivel the plate
Two-axis ball-plate system as mechanical multivariable system, MIMO (Multiple Inputs - Multiple Outputs)
Resistive analog touch panel as ball position sensor
Potentiometer as plate inclination sensor
FSH-Shell development software for designing and optimising the fuzzy controller.

Laboratory Instrument India