



SENSORS AND TRANSDUCERS TRAINER DL 2312HG



DESCRIPTION:

This sensors and transducers trainer is designed to teach the operating principles of the most important sensors/transducers.

It is subdivided in two sections: in the lower section there are all the input and output transducers, while in the upper side there are all the signal conditioning systems as well as the instrumentation.

In a compact structure the DL 2312HG includes sensor and transducers, signal conditioning components and instruments.

DIDACTIC EXPERIENCE:

Sensor:

- Slider potentiometric sensor
- Rotary potentiometer sensor
- Linear Variable Differential Transformer Characteristics
- Integrated circuit-based accurate sensor
- Negative Temperature Coefficient sensor - fast response sensor
- Diode temperature sensor - one centigrade,

TECHNICAL FEATURES:

Sensors and transducers:

- IC transducer,
- Thermistor,
- RTD, Phototransistor,
- Photovoltaic cell,
- Photoinductive cell,
- Photodiode,
- Slotted optosensor,
- Reflective optosensor,



AUTOMATION AND CONTROL



- precision design
- Ready-to-use K type sensor Detector, wide range sensor
 - Photovoltaic cell – EM radiation intensity sensor
 - Photodiode – fast light sensor
 - Phototransistor – simple light sensor
 - Light Dependent Resistor – total light sensor
 - Slotted optical switch - digital sensor
 - Reflexive, accurate rotational position sensor
 - Hall, non-contact switching sensor
 - Inductive proximity sensor
 - Tachogenerator, the oldest, the simplest sensor
 - Servo-potentiometer
 - Strain gauge measurements
 - Humidity sensor
 - Piezoelectric sensor.
 - Sound sensor using a dynamic microphone
 - Obstacle and distance detector
 - Mass air flow, with superior resistance to environments sensor
 - Pressure sensor

Actuators:

- The study of the relay
- Study of the electronic switch
- Study of the sample and hold function
- The motor controlled by three input signals
- Additional considerations in conditioning. Load impedance effect compensation
- Additional considerations in conditioning. The use of the gain for accurate control

Process control:

- Alarming circuit in over-temperature condition Page
- Optical alarm for over-speed regime of the DC motor
- Level monitoring for pump control

- Hall effect sensor,
- Inductive sensor,
- Tachogenerator,
- DC motor,
- Servo potentiometer,
- Strain gauge,
- Logarithmic slide potentiometer,
- LVDT,
- Wheatstone bridge,
- Carbon track potentiometer,
- Conductive plastic potentiometer,
- Linear slide potentiometer,
- Relay,
- Microphone,
- Loudspeaker,
- Humidity sensor,
- Ultrasonic sensor,
- Buzzer,
- Flow sensor,
- Pressure sensor.

Signal conditioning components:

- DC amplifiers,
- AC amplifiers,
- power amplifiers,
- current amplifiers,
- buffer amplifier,
- inverting amplifier,
- differential amplifier,
- V/F converter,
- F/V converter,
- I/V converter,
- V/I converter,
- complete wave rectifier,
- hysteresis switchable comparator,
- alarm oscillator,
- electronic switch,
- oscillator,
- filter,
- switchable low-pass filter,
- adding amplifier,
- integrator with switchable time constant,
- instrumentation amplifier,
- sample & hold circuit,
- gain and off set control amplifier.



AUTOMATION AND CONTROL



Instruments:

- Digital voltmeter,
 - timer,
 - frequency meter,
 - counter,
 - bargraph.
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- Communication via RS485 serial interface using Modbus RTU protocol.

Complete with manuals, connecting cables and data acquisition software.

