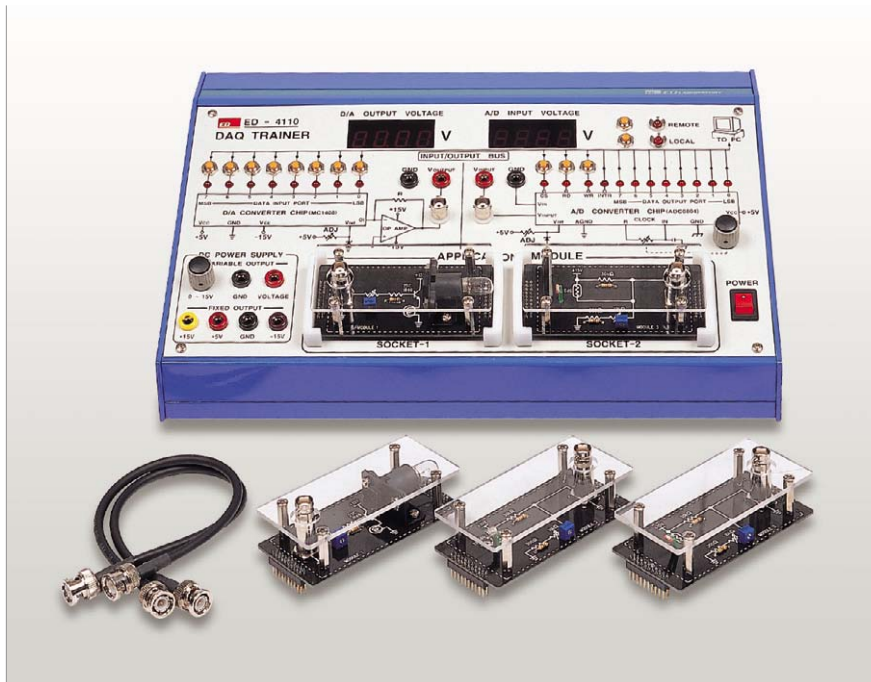


- Sensor/Interface Conversion



DAQ(DATA ACQUISITION) TRAINER

- Remote mode by PC and Local mode by manual operation on the panel
- Graphical display of diagrams on panel for AD/DA conversion procedures
- DSO embodiment by A/D Converter for collection and analysis of analog data on PC
- Storage of measured data and generation of 5 wave forms required for experiments through D/A Converter



> EXPERIMENTS

- **A/D Converter**
 - » Remote control experiment on PC
 - » Analysis and storage of waveforms through DSO in HMI
 - » Experiment manually on A/D Converter Chip based on the assigned datasheet
- **D/A Converter**
 - » Remote control experiment on PC
 - » Analysis and storage of waveforms through DSO in HMI
 - » Experiment manually on D/A Converter Chip based on the assigned datasheet
- **Brightness Control(Module 1)**
 - » Learning contents on HMI
 - » Remote control experiment on PC
 - » Analysis and storage of waveforms through DSO in HMI
- **Photo TR Experiment(Module 2)**
 - » Light bulb's brightness adjustable in 256 stages
 - » Random load of a control waveform and observation brightness characteristics according to this control waveform
- **CdS Cell Experiment(Module 3)**
 - » Learning contents on HMI
 - » Remote control Experiment on PC
 - » Analysis and storage of waveforms through DSO in HMI
 - » CdS cell characteristics

DAQ(DATA ACQUISITION) TRAINER

ED-4110

> SPECIFICATIONS

A/D CONVERTER

- Resolution : 8bits
- Conversion Speed : 100 μ s
- Analog Input Range : 0~12.75V
- Digital Output Level : 5V \pm 0.2V TTL
- Full Scale Error : \pm 1 LSB
- Display : 4 digit 7 segment

D/A CONVERTER

- Resolution : 8bits
- Conversion Speed : 100ns
- Analog Output Range : 0~12.75V
- Full Scale Error : \pm 1 LSB
- D/A Chip Type : Complementary current output
- Display : 4 Digit 7 Segment

APPLICATION MODULE

- Light Bulb's Brightness Control(Module1)
 - » Brightness control by voltage
- Photo TR's Light Reception(Module2)
 - » Analysis of response characteristics for light
- CdS Cell's Light Reception(Module3)
 - » Luminous intensity control
- Module Size : 100(W) x 36(H) x 45(D)mm
- Module Wight : 60g

PC INTERFACE

- MCU : T89c51RD2
- PC Interface : RS-232C(38400 bps)

GENERAL CHARACTERISTICS

- Input Voltage : AC 220V
- Dimension : 346(W) x 121(H) x 219(D)mm
- Weight : 3.7 kg

ACCESSORIES

- Program CD : 1ea
- Serial Cable : 1ea
- BNC Cable : 2ea
- AC Power Cord : 1ea
- Instruction Manual : 1ea

OS ENVIROMENT

- OS : Windows XP, 2000, NT 4.0
- Hard Disk min. 50Mbyte free Space
- Pentium-III 500MHz or higher
- With Serial Port
- RAM min 256MB

SENSOR APPLICATION TRAINER

ED-6800B

- Various types of sensor such as temperature, photo, pressure, hall and proximity
- Signal detection, signal amplification and signal conversion
- OP AMP & Comparator, AD/DA Converter



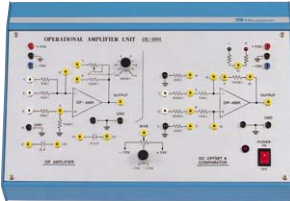
> EXPERIMENTS

- **Sensor AMP & Comparator**
 - » Inverting, Non-inverting and Differential Amplifiers
 - » Comparator Circuit
 - » Voltage and Current Circuit
- **A/D & D/A Converter**
 - » Analog to Digital Converter
 - » Digital to Analog Converter
- **Temperature**
 - » Thermocouple and Thermistor
 - » Temperature Control
- **Photo**
 - » LED & Photo Transistor
 - » CdS Switch & Photo Coupler
- **Rotary Encoder**
 - » Angular Speed and Direction Detection
 - » RPM and Angle Detection
- **Ultrasonic & Resonance**
 - » Ultrasonic Wave's Transmission and Reception
 - » Shock Sensor and Resonance Characteristics
- **Other Sensors**
 - » Pressure Sensor
 - » Hall Sensor
 - » Proximity Sensor
- **Sensor Switches**
 - » Reed Switch, Mercury Switch, Limit Switch

SENSOR APPLICATION TRAINER

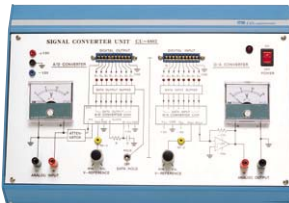
ED-6800B

Experiments Module



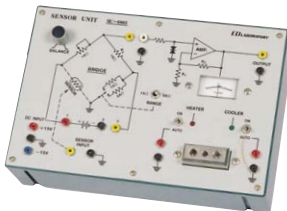
OU-6801 Operational Amplifier Unit

- **OP AMP & COMPARATOR**
 - » Amp. Circuits : 2 OP-Amp
 - » Coupling Modes : AC & DC
 - » Amplifier Modes : Inverting, Non-inverting
Difference, Comparator
 - » DC-offset Control : -15V~0~+15V
 - » DC Output : $\pm 15V$, 0.3A(for sensor unit)
 - » Input Voltage : AC 220V, 50/60Hz



CU-6802 A/D CONVERTER

- A/D Conversion : Successive type
- Analog Input : 0~10V DC
- Digital Output : 8bits TTL Level
 - » Conversion Speed : Approx. 100 μ s
- **D/A CONVERTER**
 - » D/A Conversion Circuit : Circuit Current Summing
 - » Digital Input : 8bits TTL Level
 - » Analog Output : 0~10V DC
 - » DC Output : $\pm 15V$, 0.3A(for sensor unit)
 - » Input Voltage : AC 220V, 50/60Hz



SU-6803 TEMPERATURE SENSOR

- **Detection Circuit** : Wheatstone Bridge
- **Temperature Source** : Heater and cooler by fan
- **Resistance Sense** : 50 Ω ~5k Ω
- **Heater Control Input** : H-Level(DC 5~15V)
- **Cooler(Fan) Control Input** : H-Level(DC 5~15V)
- **Sensor Device** : Thermocouple & Thermistor
- **Input Voltage** : DC $\pm 15V$, 1A



SU-6804 PHOTO SENSOR

- **Photo Bias Level** : DC 0~30mA
- **AC Bias Frequency** : 100Hz~10kHz(with Digital Counter)
- **Photo Sensing Range** : 0~200mm variable distance
- **Photo Coupling Speed** : 0~1000 pulse/sec
- **Sensor Device** : LED, Photo-transistor, CdS
- **Input Voltage** : DC $\pm 15V$, 1A

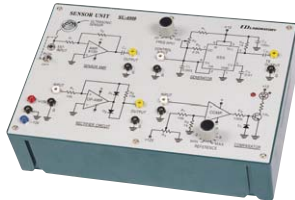


SU-6805 ROTATION SENSOR

- **Input Voltage** : DC 5V
- **Output Waveform** : Square Wave
- **Output Phase** : A, B
- **Resolution** : 100 pulse/rotation
- **Response** : 25kHz
- **Input Voltage** : DC $\pm 15V$, 1A

SENSOR APPLICATION TRAINER

ED-6800B



SU-6806 ULTRASONIC SENSOR

- **ULTRASONIC SENSOR**
 - » Nominal Frequency : 40kHz
 - » Sensitive Level : More than -67dB
 - » Receiving BW : 6kHz(-74dB)
 - » Transmitter Level : More than 110dB
- **VIBRATION**
 - » Frequency Response : 10Hz~1kHz
 - » Sensor Output : 40mV/1G(Approx)



SU-6807 GAS SENSOR

- **Circuit Voltage : Vc : 24V Max.(AC or DC)**
- **Heater Voltage : Vh : 5V(AC or DC)**
- **Detecting Gas : LPG, LNG, Methane**
- **Sensing Range : 500~10,000 ppm**
- **Name Of Type : TGS-813(FIGARO)**
- **Input Voltage : DC ±15V, 1A**



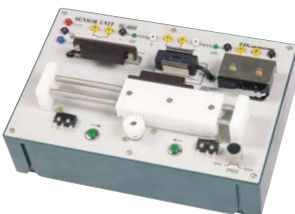
SU-6808 HUMIDITY SENSOR

- **Operating Humidity Range : 30~90% R.H.**
- **Operating Temp. Range : 0~60°C**
- **Output : DC 1~3V(at 30~90% R.H.)**
- **Name of Type : SYH-2**
- **Input Voltage : DC ±15V, 1A**



SU-6809 Pressure / Proximity / Hall Sensor

- **PRESSURE SENSOR**
 - » Measuring Range : 0~1kg/cm²
 - » Maximum Input : 2kg/cm²
 - » Output : Approx. 1~5V
- **PROXIMITY SENSOR**
 - » Sensing Distance : 0 ~ 5mm
 - » Sensing Object : Magnetic substance
 - » Response Frequency : 500Hz
- **HALL SENSOR**
 - » Material : GaAs
 - » Hall Voltage : 55~140mV
 - » Input Resistance : 450~900Ω



CU-6810 SENSOR SWITCH

- **Reed Switch**
 - » Contactor : SPST
 - » Contact Current : 0.1A(24V)
- **Mercury Switch**
 - » Contactor : SPST
 - » Contact Current : 1A(250V)
- **Limit Switch**
 - » Contactor : SPDT
 - » Contact Current : 2A(250V)
- **Linear movement**
 - » Moving Distance : 80mm
 - » Driving Motor : 0~60rpm
- **Input Voltage : DC ±15V, 1A**

SENSOR APPLICATION TRAINER

ED-6800B

> SPECIFICATIONS

GENERAL CHARACTERISTICS

- **Module's Dimension** : 250(W) x 65(H) x 166(D)mm
- **System Weight** : 27kg

ACCESSORIES

- Thermocouple Probe : 1ea
- Cds Probe : 1ea
- LED Probe : 1ea
- Lamp Probe : 1ea

- Ultrasonic TX Probe : 1ea
- Thermistor Probe : 1ea
- Photo Transistor Probe : 1ea
- Alcohol Thermometer : 1ea
- Shock Sensor Unit : 1ea
- Data Cable : 1ea
- Handy Air Compressor : 1ea
- AC Power Cord : 1ea
- Patch Cord(Ø2 Plug) : 1ea
- Experimental Manual : 1ea



Alcohol Thermometer



Temp. Sensor(6800B : 1~2)



Photo Sensor(6800B : 3~5)



Ultrasonic Transducer



Shock Sensor