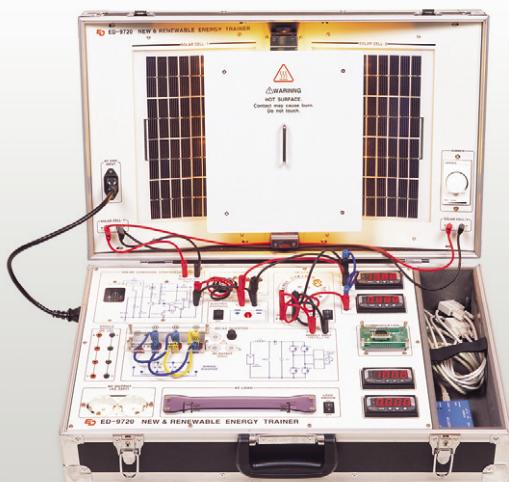


- New & Renewable Energy

NEW & RENEWABLE ENERGY TRAINER

- Conversion experiments on the produced energy(power production/processing)
- Characteristics of Solar Cell module's voltage and current
- Alarm beep for wrong wire placement
- Voltmeter and ammeter as included for measuring AC and DC
- Control by PC and waveform and graph output



> EXPERIMENTS

- Understanding of the solar cell energy
- Photo electricity simulation
- Ohm's Law and voltmeter/ammeter
- Characteristics of solar cell(I_{sc} , V_{oc})
- Light source's intensity and shadow
- Charge using the solar cell
- AC/DC Inverter
- Standalone-type 12V solar cell system

> CONFIGURATION

- Basic Module
 - » Energy Production Module(in upper body)
 - › Solar Cell Panel
 - › Rheostat, Reflection Panel
 - » Energy Processing Module(in lower body)
 - › AC/DC Inverter
 - › Charge Controller
 - › Battery
 - › AC/DC Tester
 - » Communication Module
 - › Multi RS-485 Converter
 - › RS-485 Communication Board
- Integrated System(Option)
 - » 300W Wind Generator Trainer(ED-9732)

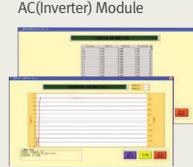
SOFTWARE

• LabVIEW Software

Data Monitoring



DC Module AC(Inverter) Module



Circuit Simulation



• Simulation Software

- » Photo electricity simulation followed by the voltage impressed onto a metal plate
- » Photo electricity simulation followed by the types of metal plate
- » Photo electricity simulation followed by the light's wavelength
- » Basic circuit configuration
- » Understanding of the current flow
- » Simulation for the measured voltmeter/ammeter
- » Simulation by controlling voltage/current values
- » Simulation followed by the changes in voltage, current and resistance values

NEW & RENEWABLE ENERGY TRAINER

ED-9720

> SPECIFICATIONS

- Solar Cel(Energy Production Part)

- » Serial/parallel wiring
- » Max. Operating Power : 5W
- » Open Voltage : 20.5V
- » Short Current : 0.3A
- » Operating Voltage : 17.64V
- » Operating Current : 0.284A
- » Dimmer Switch : 1KW
- » Halogen Lamp : 150W

- Charge Controller

- » System Voltage : 12V
- » Max. Charge Current : 10A/15A/20A
- » Max. Load Current : 10A/15A/20A
- » Self Power Consumption : 6~9mA
- » Charge Voltage(Float) : 13.8V
- » Discharge Blocking Voltage : 11.4V
- » Load Reconnecting Voltage : 12.4V
- » Temperature Compensation : 20mV

- AC/DC Inverter

- » Rated Continuous Output : 350W
- » Max. Instant Output : 700W
- » Input Voltage : 10~15VDC
- » Output Voltage : 220VAC
- » Low Voltage Alarm : 10.5V ±0.5V

- Energy Storage Module

- » MF Battery
- » Voltage : 12V
- » Capacity : 2.0AH
- » Battery Charger
- » Rated Input Voltage : 220V/60Hz
- » Rated Input Current : 170mA
- » Rated Output Voltage : 12VDC
- » Rated Output Current : 1.6A

- Buzzer for Input Polarity

- » Operating Voltage : 5~12V
- » Function : Alarm for wrong wire placement
- AC Voltage Meter(2ea), AC Ampere Meter(2ea)
- » Voltage : 100~240VAC 50/60Hz
- » Power Consumption : 5VA
- » Max. Indication Range : -1999~9999(4 lines)
- » RA-485 Communication Output :
1200/2400/4800/9600bps
- » Protocol : Modbus

- AC Load

- » Fluorescent Lamp
- » Operating Voltage : 220VAC
- » Rated Input Current : 0.09A
- » Lighting Frequency : 42KHz
- » 220V Power Outlet
- » Allowable Voltage : 220V/15A

- DC Load

- » DC Motor
- » Operating Voltage : 12V,
- » Power Consumption : 0.63W
- » Speed : 6,100rpm
- » DC Lamp
- » Operating Voltage : 3~12VDC

- DC Voltage Meter, DC Ampere Meter

- » Voltage : 100~240VAC 50/60Hz
- » Power Consumption : 5VA
- » Max. Indication Range : -1999~9999(4행)
- » RS-485 Communication Output :
1200/2400/4800/9600bps

- Multi RS-485 Converter(ED-9710-73)

- » Processor : Atmega128, 8bit RISC
- » Memory : 128k Program Flash, 64k SRAM
- » Program Downloader : ISP
- » Interface : RS-485, RS-232, USB
- » 485 Driver Chip : ADM1485
- » Power : 5V

- RS-485 Connector(ED-9710-71)

- » Communication Speed : 9600bps
- » Interface : RS-485
- » No. of Pin : 32pin x 2,
- » High brightness Chip LED
- » Operating Voltage : 3V
- » Color : Yellow, Red

GENERAL CHARACTERISTICS

- Input Voltage : AC 220V 60Hz
- System Dimension : 620(W) x 380(H) x 200(D)mm

ACCESSORIES

- Cable(Power, Serial, Circuit Connection) : 1set
- User Manual : 1ea