

Hydrogen Fuel Cell Trainer 「WOW-3045」



Features

- It is designed for studying a principle of a hydrogen fuel cell.
- To learn that hydrogen to electricity using water electrolysis.
- Experiment for generation effect of a hydrogen fuel cell.
- Experiment for load usage using generation electricity of a hydrogen fuel cell.
- Providing a 15W electrolyzer and fuel cell stack.
- Collecting a data using ZigBee.

Specification

- Embedded Monitoring System
 - 7" Touch LCD Embedded System
 - Characteristic for I-V-W output curve
 - ATmega128 8bit
 - 2.4/2/4835GHz Multi Channel Radio
 - Real Time Monitoring for hydrogen generation and solar photovoltaic.
 - ZigBee Module : 2Ea
 - RS-232C, GPIO Interface
- PEM Fuel Cell Unit
 - Solar H2 Air PEM Fuel Cell Stack
 - Power per Cell : 200mW
 - Total Power (10Ea) : 2W
 - Usage Fuel : H2/Air
 - ZigBee Module
 - ATmega128 8bit
 - RS-232C, GPIO Interface
 - 2.4/4835GHz Multi Channel Radio
 - H2, Air Electrolyzer
 - Power : 15W
 - LED Lamp
 - LED : Red, Blue, Green (8Ea)
 - DC voltage Meter
 - DC Ampere Meter
- Photovoltaic Unit
 - PV Module : 10W
 - Dimming Control
 - DC Ampere Meter
 - Halogen Lamp
 - DC Voltage Meter
 - ZigBee Module
 - ATmega128 8bit
 - RS-232C, GPIO Interface
 - 2.4/2/4835GHz Multi Channel Radio
- Development Tool
 - Embedded Monitoring System
 - PC Software

Training Contents

- Solar Photovoltaic Experiment
 - Solar Photovoltaic as regarding illumination.
 - I-V characteristic of a solar cell.
- Fuel Cell Generation Experiment
 - Principle and outline of a fuel cell.
 - Hydrogen generation principle experiment.
 - Load characteristic of PEMFC stack.
 - Motor / Lamp / Resistor
 - Series and parallel connection of PEMFC cell.
- Solar Photovoltaic as regarding angle of incidence.
- Solar cell load experiment.
 - Motor / Lamp / Resistor
- Hydrogen electrolysis experiment.
- Load characteristic of PEMFC cell.
 - Motor / Lamp / Resistor
- Power change of each power stack's cell.
- I-V characteristic of PEMFC cell and stack.