



## SOLAR4STEM 200 EDUCATIONAL SYSTEM

### DESCRIPTION

The CME™ *solar4STEM 200* Solar Education Trainer kit (p/n 0015231-001) provides grades 3 - 14, STEM academy, community college, or vocational teachers with materials and equipment in a portable configuration to conduct basic electrical, geographic, and solar experiments with their students. A collection of suggested experiments are included in the manual to aid the teacher in preparing class experiments in electrical power, solar derived power, geography, seasonal solar location, etc.

The power components of the kit operate at less than 24 VDC except for the inverter which will output 120 VAC when operating. All measurement access points are fused to ensure no power component is overloaded.

The panels can be set to any tilt angle to accommodate different geographic locations and seasons. Additionally, tracking the sun manually throughout the day can be accommodated for experimentation with continuous East-West adjustment.

All components of a solar system are provided including the solar panels, battery for energy storage, charge controller for charging and managing the battery and AC inverter. A manual includes a collection of experiments that can be performed with the kit.



### APPLICATIONS

The solar4STEM™ educational instruction system/kit is especially well suited for grades 3-14 STEM-based renewable energy instruction programs and also provides excellent, hands-on and interactive tools for STEM instruction and labs. Ideal for 2 to 4 students at a time, each fully functional solar generation system is portable, transportable and is an easy to set up and operate solar power generation system that provides:

- Uniquely configured, novel educational device to support instructional objectives for interesting solar energy education
- Various solar energy, solar system, and related experiments
- Supports electricity instruction curriculum
- Off-grid power source, green energy demonstrations.

### KEY FEATURES & BENEFITS

- Solar4STEM 200 is designed to provide access to measurements for solar input, battery, controller and AC output. Built in DC load test bank.
- Expandable, modular solar panel array
- Tripod mounted with continuously adjustable tilt and tracking angles
- Compass for panel orientation
- Dial gauge angle finder for tilt and tracking angle measurements
- Quick setup and teardown
- Two solar panels per assembly for 100 watts
- Light meter for sun output reference measurements
- Includes digital multi-meter for voltage and current measurements; and battery charger
- Connectors for battery, controller and inverter outputs

## SPECIFICATIONS

<b>OUTPUT VOLTAGES</b>	17.6 VDC at 5.68A solar output, 12.6 VDC battery voltage output, 120 VAC at 1A inverter output. Built-in DC Load Test
<b>POWER OUTPUT RATING</b>	100W solar output, 91 Wh battery output, 120W inverter output
<b>SHORT PROTECTION</b>	Fused access points for solar panel, battery, controller and inverter
<b>CASE DIMENSIONS</b>	21.9 in (55.6 cm) x 14 in (35.6 cm) x 9 in (22.9 cm)
<b>STOWED CASE WEIGHT</b>	Main case 27 lb (12.2 kg); Solar Panel/Tripod Case 20 lb (9 kg)
<b>CASE</b>	Sealed, lockable, maneuverable with wheels and handle
<b>CONNECTORS</b>	MC4 male and female cabling; 15 ft (0.914 m) cables and 2 each, "Y" adapters
<b>AMBIENT TEMPERATURE</b>	32°F to 104°F (0°C to 40°C) operating temperature range
<b>RELATIVE HUMIDITY</b>	10 to 95 percent non-condensing
<b>ACCESSORY OPTIONS</b>	Additional solar panel assembly, battery charger, AC load set, shading material, different (material) solar panel assemblies.
<b>WARRANTY</b>	90 days from purchase/delivery. Warranty covers defects in materials or workmanship. Battery, 30 days. Post-warranty repair services available, if needed.
<b>MAINTENANCE</b>	See manual for battery maintenance/replacement. Other than reasonable care and handling, no other preventative maintenance required.

## PORTABLE SOLAR4STEM 200 EDUCATIONAL SOLAR GENERATOR SYSTEM

