

# SOLAR PHOTOVOLTAIC PANEL SYSTEM

Model Number : GOTT-SPPS-COMLETE-A



## DESCRIPTION

This is a control system trainer which lets the student technician examine the electrical layout and operational features normally associated with a photovoltaic power source.

## FEATURES

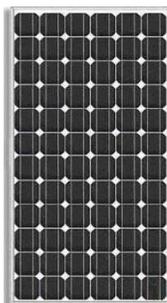
- Test the direct output of the panel
- Configure PV panel to achieve necessary voltage /current / power requirement
- Document I-V output at various light intensities and correlate light intensity to power generation ( P vs T )
- Test various battery configure (option)
- Connect the PV array generation circuitry to storage batteries
- Document battery charge and discharge rates
- Connect the PV array circuitry to an AC inverter
- Drive an AC load with the PV array generation system
- Contains two solar photovoltaic modules mounted on an adjustable carriage which can be tilted for optimum exposure with a nominal voltage output of 17.3V DC at 5.8A
- an inverter that converts the DC to 240VAC single phase at 300W
- a high-capacity solar battery
- controls to monitor power from solar modules and to switch to battery
- a-0-15V DC voltmeter , DC ammeter and a 0-240V AC voltmeter.
- Mobile frame constructed of code gauge furniture stock steel with 4 swivel casters,two with locks and connecting cords.

## PORTABLE PHOTOVOLTAIC ENERGY TRAINER

### DESCRIPTION

A solar panel (photovoltaic module or photovoltaic panel) is a packaged interconnected assembly of solar cells, also known as *photovoltaic cells*. The solar panel can be used as a component of a larger photovoltaic system to generate and supply electricity in commercial and residential applications. Because a single solar panel can only produce a limited amount of power, many installations contain several panels. A photovoltaic system typically includes an array of solar panels, an inverter, may contain a battery and interconnection wiring.

## SPECIFICATION



- Contains two solar photovoltaic modules mounted on an adjustable carriage which can be tilted for optimum exposure with a nominal voltage output of 17.3V DC at 5.8A
- An inverter that converts the DC to 240VAC single phase at 300W
- A High capacity solar battery
- Controls to monitor power from solar modules and to switch to battery power
- a-0-15V DC voltmeter , a DC ammeter and a 0-240V AC voltmeter.
- Mobile frame constructed of code gauge furniture stock steel with 4 swivel casters,two with locks and connecting cord

### TECHNICAL SPECIFICATION

- 200 watts solar panel with adjustable tilted
- 20 Amp solar charge controller
- 300 watts inverter
- 80Ah Lead acid battery
- AC mcb/spd, DC mcb/spd
- Mobile frame finishing w/ power coated  
\*optional data logger

## BATTERY SPECIFICATION

Nominal Voltage		12V
Nominal capacity(10 hour rate)		100Ah
Dimensions	Length	330mm
	Width	172mm
	Height	216mm
	Total Height	222mm
Weight Approx		31Kg

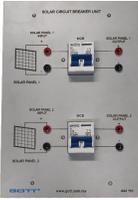
### SPECIFICATIONS

Capacity (25°C)	20HR	108Ah
	10HR	100Ah
	5HR	91Ah
	1HR	68Ah
Internal Resistance(25°C)	After Full Charged	3.6mΩ
Capacity affected by Temperature (20 hour rate)	40°C	102%
	25°C	100%
	0°C	83%
	-15°C	64%
Capacity after different months storage	After 3 month	91%
	After 6 month	82%
	After 9 month	63%

### CHARACTERISTICS

# SOLAR PHOTOVOLTAIC PANEL SYSTEM

Model Number : GOTT-SPPS-COMPLETE-A

PRODUCT MODULES							
SOLAR PANEL	CODE 444-101	BATTERY	CODE 444-102	LOAD	CODE 444-104	CIRCUIT BREAKER	CODE 444-105
<ul style="list-style-type: none"> <li>• 200Watts</li> <li>• with adjustable titled</li> </ul> 		12VDC, 80AH					
LED SIMULATION	CODE 444-106	RECTIFIER	CODE 444-107	AC METER	CODE 444-108	INVERTER UNIT	CODE 444-112
						Input (DC) <ul style="list-style-type: none"> <li>• Max.DC Power (@ cos <math>\phi=1</math>) -1700W</li> <li>• Max.Input Voltage - 600V</li> <li>• MPP voltage range-(155V-480V)</li> <li>• Rated Input Voltage - 400V</li> </ul> Output ( AC ) <ul style="list-style-type: none"> <li>• Rated power ( @ 230 V, 50Hz ) 1600W</li> <li>• Max. AC power - 1600VA</li> <li>• Nominal AC Voltage - 220V,230V 240V/180V - 260V</li> <li>• Max. output current - 8.9A</li> </ul>	
DC METER	CODE 444-109	SOLAR CIRCUIT BREAKER UNIT	CODE 444-110	SOLAR CHARGER CONTROLLER	CODE 444-111		
				12/24 VDC ; 20A Intelligent PWM ; LED indicator			
U-LINK	CODE 159-019	SAFETY CONNECTING LEAD	CODE 237-001	VERTICAL FRAME	CODE 297-000	EXPERIMENT MANUAL	CODE 444-113
A unit which is wed to link the unit together		4mm connecting leads		High Level: Din Standard A4 with two shelves Material: Alumunium Side Frame: T shape Size: 3-Layer 1450mm Length			

**EXPERIMENTS TOPICS :**

- Learn the working principle and basic structure of solar cells
- Command the experiment method to measure the working character of solar cells
- Design a practical application with solar cells
- Understand the control of input and output of the battery when the input power and output load changes
- Understand the working principle of the controller
- Learn the working mode of the controller
- Understand the control of charging and discharging to the battery with the controller

**Manuels :**

- (1) All manuals are written in English
- (2) Model Answer
- (3) Teaching Manuals

**General Terms :**

- (1) Accessories will be provided where applicable.
- (2) Manual & Training will be provided where applicable.
- (3) Design & specifications are subject to change without notice.
- (4) We reserve the right to discontinue the manufacturing of any product.

**Warranty :**

2 Years

**ORDERING INFORMATION :**

ITEM	MODEL NUMBER	CODE
SOLAR PHOTOVOLTAIC PANEL SYSTEM	GOTT-SPPS-COMPLETE-A	926-000

\* Proposed design only, subject to changes without any notice.