



EIE-06-256 REEPRO



Promotion of the Efficient Use of Renewable Energies in Developing Countries

Training equipment data sheet

Data sheet No.: 1







Authors






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Type of Equipment: (tick off the type)	PV	Solar Thermal	Biomass to Energy	
	✓			
Name:	COMPED			
Location of the equipment:	Mobile for training show but mainly installed at COMPED training centre			
Year of purchasing:	2008			
Operator: (Name and address)	Mr. Chhun Thoen, staff at COMPED training centre			
Planner: (Name and address)	COMPED, Dangkor district, Phnom Penh			
Detailed description of the installation: (technology, function, benefit for training, etc. max 150 words)	<p>A solar home system with capacity of 80Wp is mobile PV system. This mobile system consists of: 2 PV panels (each 40Wp), 10A Charge Controller, 2 batteries connected in parallel with capacity of 96Ah and the electric appliances (lamps VCD player TV). This solar home system is designed for the 12V DC voltage system.</p> <p>The purpose of having this mobile system is for both Level 2 and Level 3 training. In case Level 2, The installation will be done by trainee after completing their theory. Hence they will know how the system works and how to operate the system. However, we will install the whole system for level 3 training and explain them each components function. Finally, we will show them how much we earn from solar power and it is a clean energy.</p>			
Generated Energy service: (tick off the energy type)	electricity	heat	gas	light
	✓			
Power output of installation: (kWel, m ³ biogas, kW th, etc.)	80Wp			
Financing* (tick off the financing type)	private investment	loan	donation	grant
				✓
Investment costs in US\$*	1280.63 USD			
Maintanance costs in US\$*	COMPED has to remove 2 batteries every 4 years which costs 150USD			
Savings*	This mobile system is designed for training only not for daily appliance used.			
Energy sale income in US\$*	N/A			
Comments	There is difficulty in transportation of training equipments. It would be nice to use a small transport cart.			
Pictures and grafics	Solar Home System			

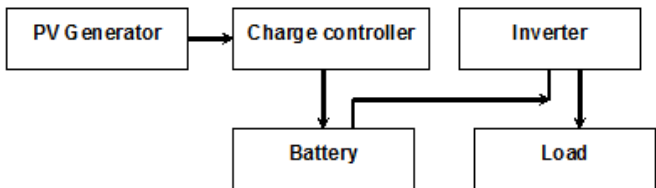
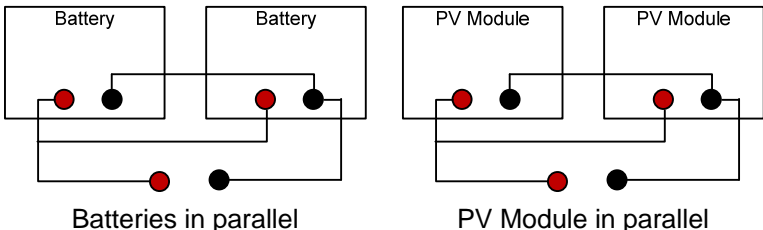

*Only when the equipment is used permanently

<p>2 x 40 Wp standard poly-crystalline solar modules</p>	
<p>Phocos CML10 Charge controller 10 A 12V/24V</p>	
<p>PhoenicPower Inverter: Model No: 12/180; Continuouis output: 180W plus schuko plug</p>	
<p>2 x 48 Ah non-spillable sealed rechargeable batteries BT40-12 (12V40AH)</p>	
<p>PV mobile stand</p>	
<p>2 PV mobile cases (70x11x58cm) with protection system inside</p>	

1 x 40W 14 inch TV	
SHS was used for TOT training at COMPED training centre	
SHS was used for REEPRO training Level 1- senior students at ITC and EDC Training Centre at ITC	
SHS was used for REEPRO training Level 2- students at Orphanage, Vocational Training Centre, battery chargers and authorities at Kampong Thom Orphanage, Kampong Thom Province	
SHS was used for REEPRO training Level 3 for community members, students at primary school and secondary school, teachers and authorities at Prek Chrey district, Kandal province	

Possible practical exercises with Mobile Solar PV System

Level 1, 2 and 3 – Mobile Solar PV System

<p>1. Purpose of this exercise</p>	<p>The main objective is to provide knowledge in practical work of SHS, connection of PV module in parallel/series, Batteries connection, Charge controller, cable connection. Shows the advantage of Solar PV to community.</p>
<p>2. Performance Block diagram of SHS for helping students to do their installation.</p>	
<p>3. PV module and batteries connection</p>	
<p>4. Installation Trainee do the installation of Solar Home system on the real Board, PV Module, cable connection, Battery, and TV</p>	 <p style="text-align: center;">Installation on PV Board Install PV Module</p>
<p>5. Benefit of using solar PV COMPED had set up the mobile TV with VCD player. After installing the Solar PV, We play a movie on TV to show that there is Genset but we can get electricity for playing VCD, TV without noise, or smoke like Diesel engine</p>	