



*Training Course:
Solar Photovoltaic (PV) Technology*

14 - 18 July 2024

Cairo (Egypt)

Holiday Inn & Suites Cairo Maadi, an IHG Hotel

Training Course: Solar Photovoltaic (PV) Technology

Training Course code: EN234721 From: 14 - 18 July 2024 Venue: Cairo (Egypt) - Holiday Inn & Suites Cairo Maadi, an IHG Hotel Training Course Fees: 3900 € Euro

Introduction

acquire knowledge on the fundamentals of solar photovoltaic PV technology and design and installation of standalone and grid-connected PV systems.

What you will learn about the key fundamentals of the solar photovoltaic PV technology from this course, including the ability to apply the knowledge to the design and installation of stand-alone and grid-connected PV systems inclusive of design criteria for lightning protection for a PV system.

Training Course Objectives

Topics covered include

- Overview of PV Systems
- Sunshine basics
- Components of a PV system
- Setup, configuration and sizing
- Wiring and controls
- Zoning laws and building codes pertaining to PV systems
- Concerns of utilities with grid connected systems
- Theoretical experiment and demonstration of different aspects of PV
- Case study

Target Audience

- Electricians
- Solar Contractors
- Engineers
- Architects
- Home Builders
- Contractors
- Anyone who is interested in Solar PV systems

Course outlines

Day 1

Solar Radiation, Solar Cells and Solar Module

- Solar Radiation air mass, energy density, sun radiation in Singapore
- Types of solar cells
- Standard Test Condition STC & IV curve of solar cell
- Electrical characteristics of a solar cell

- Module configuration series-parallel of solar cells in a module, effect of shading, hot spot
- heating and use of bypass diode
- Module mechanical and electrical structure consideration

Day 2

Design of Standalone System

- PV modules
- Selection of batteries
- Use of charge controller
- Choice of inverters
- Sizing of DC cables
- Stand-alone system sizing and design

Day 3

Design of Grid-Connected System

- Grid-connected system types and advantages
- System sizing and economics
- Obtaining interconnection agreement
- Net metering
- Sizing of grid-connected system

Day 4

Design of Lightning Protection System

- Lightning protection & surge protection
- Earthing of grid-connected PV system

Local Code of Practice and Requirements on PV Systems

- Safety standards and requirements
- System performance & design parameters

Day 5

PV Related Power Quality Issues

- PQ standards & measurements
- Case studies:
 - analyzing
 - calculations
- Implementation

Registration form on the Training Course: Solar Photovoltaic (PV) Technology

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