

12KW 3P GCPV SOLAR POWER TRAINER RE104

The 12KW 3P GCPV Solar Power Trainer is a sophisticated educational system designed to teach users about grid-connected three-phase photovoltaic (GCPV) solar energy systems. It features a 12-kilowatt solar panel array, inverters, and monitoring equipment, allowing for hands-on experience in solar energy generation and system management. Users can explore topics such as grid integration, energy efficiency, and system performance analysis. This trainer is ideal for students, professionals, and educators looking to deepen their understanding of advanced solar technologies and their applications in modern energy solutions.

Able to learn : -

- Characteristic and efficiency of Solar PV module
- Understand the solar grid connected system diagram and connection
- Analyze size and installation of retrofitted solar PV system
- Analyze temperature . tilt angle and isolation effect on solar power output
- Configure/setting grid connected solar inverter
- Series & parallel connection solar inverter
- Analyze weather effect on PV system
- Measure voltage and current of solar power generation
- Measure earthing and lightning protection
- Data logging solar system monitoring



Required Item : -

- 4KW PV retrofitted roof tile GCPV system
- 4KW PV retrofitted roof metal deck GCPV System
- 4KW PV BIPV GCPV System
- 3P/1P Solar Inverter
- AC Electrical Distribution Board
- 40 foot container training room
- Operation Manual
- Experiment Manual

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Technical Specification : -

| No | Component | Qty |
|----|--|-----|
| 1 | 500W Solar PV Module | 24 |
| 2 | BIPV mounting structure | 1 |
| 3 | Retrofit Metal Deck mounting structure | 1 |
| 4 | Retrofit Roof Tile mounting structure | 1 |
| 5 | Aluminum railing (1m) | 30 |
| 6 | Solar PV Mounting Bracket | 1 |
| 7 | DC Isolator switch | 3 |
| 8 | DC Combiner Box | 3 |
| 9 | 4KW 1Phase Inverter | 1 |
| 10 | 4KW 1Phase Inverter | 1 |
| 11 | 6KW 3Phase Inverter | 1 |
| 12 | DC Wire trunking | 1 |
| 13 | 1Ph Phase Bi-Directional Meter | 2 |
| 14 | 3Phase Bi-directional meter | 1 |

| No | Component | Qty |
|----|-------------------------------|-----|
| 15 | AC Wiring trunking | 1 |
| 16 | 60A AC DB Panel | 1 |
| 17 | Weather Station | 1 |
| 18 | Solar Data Logger | 1 |
| 19 | Earth Chamber | 3 |
| 20 | Lighting Protection | 2 |
| 21 | 40 Ft Container | 1 |
| 22 | DC cable (100M) | 3 |
| 23 | MC4 Connetor | 200 |
| 24 | Safety guide rail | 1 |
| 25 | PV IV Curve Tracer | 1 |
| 26 | Irradiance measurement sensor | 1 |
| 27 | 50" TV Monitor | 1 |
| 28 | Internet Router | 1 |