

TECHNOLOGIES DEVELOPED

Automatic Solar Panel Cleaning System

A device to clean the solar panels automatically

Application: Solar panel cleaning

Features:

- Does not need human intervention to clean
- Directly mountable on existing PV structure system
- Rugged body
- No need of external power supply
- Solar PV panel for charging of the battery
- Auto detection of non-panel zone and auto reverse direction
- Can be customized to any PV panel structure arrangement

Key Beneficiaries: Solar power plant operators and maintenance team



Remote Monitoring of Distribution Transformer

A device to monitor hotspot temperature remotely and remaining life assessment of distribution transformer

Application: Hot spot monitoring of oil filled transformer

Features:

- Current Sensor – Senses the transformer load at LV side to calculate the Per unit load
- Temperature Sensor – Senses the temperature of Transformer Top Oil, Bottom Oil and Ambient Temperature for Hot Spot Calculation
- Current Measurement range – 0-30Amps (Changeable to the requirement)
- Temperature sensor range – -55°C to 145°C

Key Beneficiaries: Utilities



TECHNOLOGIES DEVELOPED

BLDC controller for E-bike application

Controller for e-bike/bicycle

Application: E-bike / bicycle

Features:

- Nominal output mechanical power: 250W
- Charging - discharging cycles: 1000
- Travel Range: 25-30 km, customizable
- Max Speed: 25 km/hr
- Control modes supported:
 - Manual or throttle control - Electric power is controlled by hand
 - Pedal activation – Do pedal and get required electrical help from electric power.
 - Economy mode - Optimizes range and sustains the battery charge for a significantly longer period of time.
 - Reverse Assist mode – E-bike can be operated in reverse direction also
- Protection: Short-circuit, Over current and thermal shutdown protection.
- Battery SOC monitor displays – SOC, Voltage, Current & Ampere-hour

Key Beneficiaries: e-bicycle manufacturers



Smart Solar Inverter

Features:

- Grid Tied Solar Inverter
- Type: Single phase
- Rating: 5 kW
- Reactive Power Compensation modes
 - Fixed Q mode
 - Fixed pf mode
 - Volt-VAR mode
- DSP based digital design
- MPPT tracking with tracking efficiency greater than 99%
- Reliable grid synchronization
- Built in output isolation transformer

Key Beneficiaries: Solar inverter manufacturers

