

# C-DOT Solar Wi-Fi Solution



Frequent power cuts is an ailing problem of rural and semi urban India. Using diesel generators is not only costly, it also increases Carbon foot print of the country. C-DOT Solar Wi-Fi Solution is an ideal solution for this situation, providing cost-effective broadband services to urban, semi urban, rural and unconnected areas. It is ideally suited for creating hot spots in/around rural schools/Panchayats etc. It can also be used as Backhaul link for Wi-Fi hot spots, cellular base stations and base station controllers, ATMs, Banks etc.

## Major Benefits

- ✓ Ruggedized Solution for areas not having reliable Grid power supply
- ✓ Unique design capable to operate in all type of Indian environmental conditions, complying to IP67 standards
- ✓ Operates in 2.4 GHz and 5.8 GHz License exempt bands thereby reducing operational expenditure (OPEX)
- ✓ Supports operator sharing, thus reducing capital expenditure (CAPEX)
- ✓ Power feed from solar powered C-DOT Green Power Source
- ✓ Dual power feed for providing uninterrupted service
- ✓ Uses spectrum sensing to choose from channel with minimum interference and thereby optimizing transmitted power
- ✓ Control and management through C-DOT EMS and NMS



## Applications

- ✓ Hot spots for Smart Cities/Rural Schools/Panchayats
- ✓ Extending broadband connectivity to remote/unconnected places
- ✓ Ship to ship communications in deep seas
- ✓ Remote Video Surveillance and site monitoring
- ✓ Meteorological applications
- ✓ Sensor networks
- ✓ Disaster Management Networks
- ✓ Rural and Remote area network
- ✓ Metropolitan Area Network
- ✓ Backhaul link for Wi-Fi hot spots, cellular base stations and base station controllers, Bank ATMs, Data base servers etc.

## Features

- ✓ Complied to 802.11 a/b/g/ac
- ✓ Architecture (Outdoor and Indoor)
- ✓ Outdoor solution supporting 3 radios covering 3 sectors with three sector/grid antennas
- ✓ Indoor configuration with one radio and internal patch antenna
- ✓ Dual power feed, one from C-DOT Green Power Source or PoE
- ✓ Data rate: 300 Mbps in 802.11 ae

## Services

- ✓ IP based broadband services
- ✓ VoIP Fixed and Mobile
- ✓ Video Streaming
- ✓ Video Telephony (Fixed and Mobile)
- ✓ Web Access

## Network Configuration

- ✓ Point to Point Backhaul
- ✓ Point to multi-point
- ✓ Repeater or Multi-Hop
- ✓ Mesh
- ✓ Hotspot

## Power

- ✓ Power Feeding: Dual Feeding 5-75V DC, 100-240V AC via external connector
- ✓ Power Consumption: 3W
- ✓ Direct Solar Panel Feed

## C-DOT Green Power (Hybrid) supply system

Unreliable electrical grid supply is one of the biggest challenges faced by the rapidly growing telecom industry in India. Today, on an average, 70 percent (mostly located in rural areas) of the telecom equipment installation face electrical grid outages, in excess of 8 hours a day. Hence C-DOT has developed Green Power Supply System that can source the power from solar panels and in-turn provides uninterrupted power to the telecom equipment.



## Application Areas

- ✓ To power the following products of C-DOT
  1. C-DOT Solar WiFi
  2. C-DOT ONT
  3. C-DOT Gyansetu
- ✓ Solar street lights
- ✓ Low powered telecom systems requiring battery backup

## Specifications

System rating	: 75VA
Technology	: 1. MPPT (Maximum Power Point Tracking) for solar 2. SMPS (Switched Mode Power Supply) for Mains 3. Priority to solar Power
Battery rating	: In-built 12V, 18Ah
Mains rating	: 230V, 1 Amps
Solar Input	: 12V, 75Wp single panel
Network interface	: Ethernet (PoE Enabled)
Software Support	: SNMP, WEB Configuration

## Salient Features

- ✓ Hybrid power sources: Mains and Solar with the priority for the latter
- ✓ MPPT based solar charging algorithm to extract maximum power from solar panels
- ✓ Inbuilt battery and maximum battery protection
- ✓ Network connectivity and SNMP support
- ✓ PoE for low powered telecom devices
- ✓ 16X2 LCD display for information and configuration
- ✓ LED and audio alarms for system status and fault indication
- ✓ USB host interface



## Centre for Development of Telematics

Corporate Office:  
C-DOT Campus, Mehrauli,  
New Delhi - 110 030, India  
Phone: +91 11 2680 2856  
Fax: +91 11 2680 3338

C-DOT Campus, Electronics City,  
Phase-I, Hosur Road,  
Bengaluru - 560 100, India  
Phone: +91 80 2511 9001  
Fax: +91 80 2511 9601

[www.cdor.in](http://www.cdor.in)

Copyright © 2017 C-DOT. All Rights Reserved.

08/17

