

Omniflow®

# SMART IoT PLATFORM

USE  
YOUR  
ENERGY

[www.omniflow.io](http://www.omniflow.io)

# OMNILED SMART IoT PLATFORM



OMNILED is a smart energy platform powered by sun and wind energy. It turns renewable energy into IoT services. All functionalities are remotely accessible via Omniflow's web based Monitor and Control platform.

# OMNILED 035 SMART ENERGY PLATFORM

## Model

|                      |   |
|----------------------|---|
| OMNILED Smart Hybrid | Wind & Solar generation with built in battery, optional lighting (see Smart Lighting for options) |
|----------------------|---|

## Wind Turbine

|            |  |
|------------|--|
| Generator  | Permanent magnet generator – Axial flux type   |
| Diffuser   | Single-element flatback shroud   |
| Rotor      | 6 blades, reinforced polyamide PAG<br>Dimension: 0.35m diameter                                    |
| Controller | 12VDC Programmable PWM   |
| Noise      | <28 db(A) at 25m @ 8m/s (very low)   |
| Power      | 15W peak power   |
| Regulation | Turbine stops rotating when system is fully charged, wind is too high or by remote manual shutdown |

## Solar

|            |   |
|------------|---|
| Solar Cell | n-type, monocrystalline Si, >22%Eff @STC  |
| Controller | MPPT Solar Charge Controller  |
| Power      | 15Wp, 0 degrees<br>Optional: 35Wp, Additional Mast Integrated Panel, 90 degrees |

## Battery

|              |  |
|--------------|--|
| Battery Bank | 172Wh (12V 7.2Ah C10 Lead Crystal)<br>Optional: 260Wh (12V 7.2Ah C10 Lead Crystal) |
| Charging     | Initial Charging Current 4.2A 14.7V/ (25°C)  |
| Cycle Life   | Typical 3,392 cycles (@40% DOD, 25°C), Max 6,000+ cycles                           |

## Smart Lighting

|                  |  |
|------------------|--|
| Luminaire        | 12 LED array<br>Lens: Optical Grade PMMA<br>1200 lm (6W), (2W smart mode)<br>180° - 12W - 1842lm<br>180° - 18W - 2526lm<br>360° - 24W - 3684lm<br>360° - 36W - 5052lm<br>Efficiency 170 lm/W at 350mA (12W)<br>Efficiency 196 lm/W at 125mA (4W)<br>4000K light temperature<br>Light Pattern: Type IV or Type V  |
| Control          | OmniConnect IoT Platform<br>Remote On/Off/Dim with Timer, Time control, Auto Night/Day<br>Operation mode defined by 3 battery voltage levels<br>Auto DIM via integrated infrared motion sensor<br>2 (Two) additional functionalities independently programmed and triggered by night/day, Time or Sensors events |
| Lighting Spacing | Recommended spacing (simulation recommended):<br>10-15m (4m mast)<br>12-18m (5m mast)<br>18-22m (6m mast)  |

## Mast

|          |  |
|----------|--|
| Height   | 3, 4 or 5m *   |
| Material | Galvanized Steel   |
| Paint    | C3 or C4 paint scheme (optional)<br>Color: RAL 9010<br>*only use approved mast designs |

## Body Shell

|              |  |
|--------------|--|
| Material     | Composite Fiberglass/Resin<br>Transparent to radio waves   |
| Finishing    | Marine grade gel coat  |
| Color        | RAL 9010   |
| Space inside | Can fit 3 (Three) objects up to: 135 x 200 x 25mm<br>Antennas or other electronics. See Optional accessories |

## OmniBrain

|                 |   |
|-----------------|---|
| Energy          | AI energy and functionalities management system<br>Connection to: Wind, Solar, Battery, Sensors, LED drivers and extra functionalities. |
| Light functions | PWM for LED driver control<br>2 (Two) motion sensor control (infrared*; optical or radar)<br>*1 (One) infrared motion sensor included   |
| Accessory Ports | 2 (Two), 12VDC/5A (Max) each  |
| Communications  | Communication link via integrated industrial GPRS modem with included Global SIM card   |
| Built in memory | Stores 5 days hourly based vital data. Voltage (V)<br>Current (A) Rotor Speed (RPM) Temperature (°C)                                    |

## General

|                         |  |
|-------------------------|--|
| Dimensions              | 0.15m height, 0.6m diameter  |
| Weight                  | 10Kg (172Wh batteries & without optionals)   |
| Nominal Voltage         | 12VDC  |
| Ingress Protection      | IP65   |
| Impact Protection       | IK08   |
| Design life             | > 20 years   |
| Mounting                | Mounts on 50-60mm tube<br>2 (Two) crossed stainless steel M6 bolts for fixing  |
| Transportation          | Package dimensions : 0.65m x 0.65m x 0.175m<br>Foam protected<br>Up to 10 units stackable<br>560 units per 40' container   |
| Approvals and Standards | CE Marking<br>Eye Safety IEC 62471<br>Standard for Safety UL 8750 CAN/CSA No. 250.13<br>IEC 61400-2 Small wind design<br>2005/88/EC – noise limits<br>ISO 2394:1998(E) Reliability for structures<br>EMC Directive 2014/30/EU<br>Low Voltage Directive (LVD) 2016/95/EC  |
| Grid-Tie*               | Input Voltage: 230VAC/50Hz or 110VAC/60Hz<br>Isolation Class: Class II<br>Ingress Protection: IP 67<br>Rated Power: 30-80W   |
| Operating conditions    | Temperature: -20 to 55 °C<br>Max wind speed: 45m/s   |
| Protection              | 20A 32V fuse   |
| Optional Accessories    | IoT integration inside Body Shell for multi-application:<br>-Wifi Ethernet Router AP<br>-Transmission - 4G Modem, ethernet, fiber, P2P, P2MP<br>-Environmental sensors (under consultation)<br>-Surveillance cameras:<br>IP modular camera (single lens) integrated 1080p WDR Forensic Capture<br>IP PTZ Camera (mast mounted)<br>IP Thermal Camera (mast mounted)<br>Video analytics: Plate recognition, smart parking, perimeter security, face recognition, smoke and fire detection, audio processing, people counting, crowd monitoring, heat map...<br>**only use approved accessories               |
| Monitoring Software     | Remote web management cloud based<br>Open API for Smart City platform integration<br>Realtime reporting and control of device subsystems and accessories<br>AI and machine learning capability<br>User and Administrator Level control<br>Configuration and reading of 92 telemetry parameters<br>Alarms settings<br>Maintenance triggers by proprietary algorithm<br>Single unit and group configuration<br>Multi-unit light synchronization by Time Control function<br>Real time unit test (Shows actual program being used by blinking code on lighting system)<br>Day, Week, Month, Year data reports |
| Warranty                | 2-year warranty, Extended EOL support option   |

\* ALL UNITS ARE READY TO GRID CONNECT. FOR OFF-GRID PROJECTS, SITE ENERGY EVALUATION IS NECESSARY, PLEASE CONTACT OMNIFLOW

A. OMNIFLOW® IS REGISTERED TRADEMARK IN VARIOUS JURISDICTIONS

B. OMNIFLOW® PRODUCTS ARE PROTECTED BY INDUSTRIAL PATENT AND DESIGN PATENT IN VARIOUS JURISDICTIONS