Omniflow®

SMART IoT PLATFORM

USE
YOUR
ENERGY

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

Models

OMNILED Smart Grid	Grid-tie unit with lighting but no generation or battery
OMNILED Smart Storage	Grid-tie unit with lighting and battery but no generation
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 Dimension: 0.35m diameter
Controller	12VDC Programable PWM
Noise	<28 db(A) at 25m @ 8m/s (very low)
Vibration	Anti-Vibration mounts
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 Optional: 35Wp mast integrated, 90 degrees

Battery

Battery Bank	86Wh (2x6V 7.2Ah C10 Lead Crystal) Optional: 172Wh (2x6V 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 Lens: Optical Grade PMMA 1200 lm (6W), (2W smart mode) 3700 lm (24W) – Grid Tie 8180 lm (60W) – Grid Tie Efficiency 170 lm/W at 350mA (12W) Efficiency 196 lm/W at 125mA (4W) 4000K light temperature Light Pattern: Type IV or Type V
Control	OmniConnect IoT Platform Remote On/Off/Dim with Timer, Time control, Auto Night/Day Operation mode defined by 3 battery voltage levels Auto DIM via integrated infrared motion sensor 2 (Two) additional functionalities independently programmed and triggered by night/day, Time or Sensors events
Lighting Spacing	Recommended spacing (simulation recommended): 10-15m (4m mast) 12-18m (5m mast) 18-22m (6m mast)

Mast

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

Body Shell

Material	Composite Fiberglass/Resin 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 Antennas or other electronics. See Optional accessories

OmniBrain

Energy	AI energy and functionalities management system Connection to: Wind, Solar, Battery, Sensors, LED drivers and extra functionalities.
Light functions	PWM for LED driver control 2 (Two) motion sensor control (infrared*; optical or radar) *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) Current (A) Rotor Speed (RPM) Temperature (°C)

General

Dimensions	0.15m height, 0.6m diameter
Weight	4Kg (86Wh) 6Kg (172Wh)
Nominal Voltage	12VDC
Ingress Protection	IP66
Impact Protection	IK08
Mounting	Mounts on 50-60mm tube 2 (Two) crossed stainless steel M6 bolts for fixing
Transportation	Package dimensions : 0.65m x 0.65m x 0.175m Foam protected Up to 10 units stackable 560 units per 40' container
Approvals and Standards	CE Marking Eye Safety IEC 62471 Standard for Safety UL 8750 CAN/CSA No. 250.13 IEC 61400-2 Small wind design 2005/88/EC – noise limits ISO 2394:1998(E) Reliability for structures EMC Directive 2014/30/EU Low Voltage Directive (LVD) 2016/95/EC
Grid-Tie (optional)	Input Voltage: 230VAC/50Hz or 110VAC/60Hz Isolation Class: Class II Ingress Protection: IP 67 Rated Power: 30-80W
Operating conditions	Temperature: -20 to 55 °C Max wind speed: 45m/s
Protection	20A 32V fuse
Optional Accessories	IoT integration inside Body Shell for multi-application: -USB Charger ports -Wifi Ethernet Router AP -Transmission - 4G Modem, ethernet, fiber, P2P, P2MP -Environnemental sensors (under consultation) -Surveillance cameras: IP modular camera (single lens) integrated 1080p WDR Forensic Capture IP PTZ Camera (mast mounted) IP Thermal Camera (mast mounted) Video analytics: Plate recognition, smart parking, perimeter security, face recognition, smoke and fire detection, audio processing, people counting, crowd monitoring, heat map... *use of some accessories may require extra solar PV or grid-backup **only use approved accessories
Monitoring Software	Remote web management cloud based Open API for Smart City platform integration Realtime reporting and control of device subsystems and accessories AI and machine learning capability User and Administrator Level control Configuration and reading of 92 telemetry parameters Alarms settings Maintenance triggers by proprietary algorithm Single unit and group configuration Multi-unit light synchronization by Time Control function Real time unit test (Shows actual program being used by blinking code on lighting system) Day, Week, Month, Year data reports
Warranty	2-year warranty, Extended EOL support option