RAFT SYSTEM

Robust, Off-Grid Energy for Challenging
Environments.

PRODUCT BROCHURE

wj
sunstone

RAFT SYSTEM

The RAFT System by WJ Sunstone is a rugged and rapid deployment solution for remote areas, combining surveillance, renewable energy, and connectivity. It delivers clean power and advanced data management, making it essential for challenging environments. QuickGrid integration boosts energy capacity, scalability, and efficiency.

WHAT DOES IT DO?

The RAFT System is not just a surveillance and security powerhouse; it's also a renewable energy hub. In remote locations where power sources are scarce, the RAFT System steps in as a versatile solution, delivering clean and reliable renewable power to a wide range of devices, from IoT sensors to radar systems, cameras, wireless communication equipment, and even satellite connectivity terminals.

STANDARD FEATURES

- **Extreme System Enclosure:** A rugged and weather-resistant cabinet designed for longevity and performance in extreme conditions
- **Internal Control and Power Management System (ICPMS):** An efficient control system that manages power distribution, integrated IoT devices and sensors
- **Reliable Battery Configuration:** A battery setup to store and supply power when needed, ensuring continuous operation
- **QuickGrid Integration:** The ability to integrate QuickGrid for increased power capacity and energy efficiency
- **Integrated IoT Mast:** A mast for mounting various IoT devices and antennas for communication and data collection
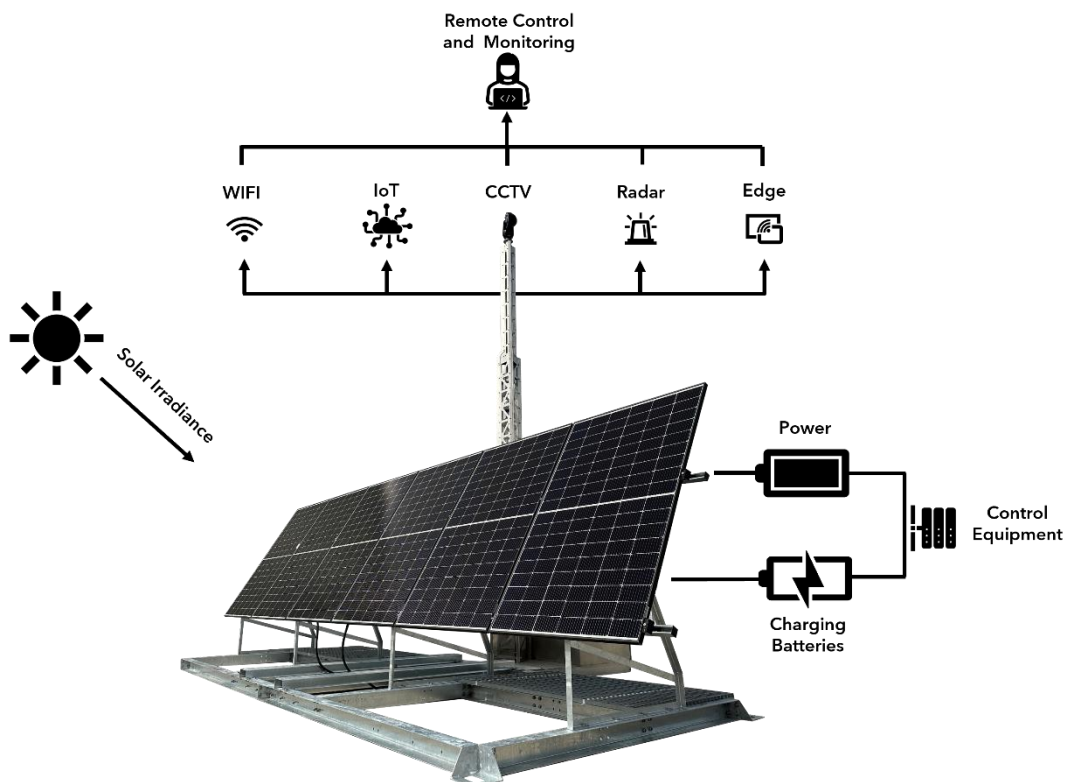
BENEFITS

The RAFT System builds upon the success of our Solar CCTV System, amplifying its capabilities to deliver unprecedented power, substantial CO2 savings, and versatile deployment options across all frontiers. This includes:

- **Easy Deployment:** Simple site assessment, no complex foundation needed, deployable on flat terrain
- **Instant Power:** Rapid deployment with QuickGrid for instant renewable energy
- **CO2 Savings:** 2.4KW solar array for significant CO2e reduction
- **Material Durability:** 316L stainless steel construction for extreme environments
- **Thermal Insulation:** Maintains component operation in extreme temperatures
- **Centralised Control:** All solar control equipment in one cabinet
- **IP-Rated Protection:** Protects against dust and moisture for uninterrupted operation
- **Charging Interface:** Harting Extreme
- **Wide Temperature Range:** Operates from -40°C to +50°C
- **EMC Compliance:** Meets electromagnetic compatibility standards
- **Certification:** EAC certified for quality and compliance and constructed to Eurocodes and British Engineering Standards

APPLICATIONS

Off-grid Energy Generation
Provides clean and reliable renewable power for various devices, including IoT sensors, radar systems, cameras, and wireless communication equipment.

Disaster Response
Rapidly deployable energy source for emergency communication, monitoring, and coordination.

Border Control
Enhances border monitoring and surveillance capabilities, aiding in border control and enforcement efforts.

Connectivity Hub
Enhances connectivity in remote environments by seamlessly integrating with data collection devices, facilitating real-time data transmission and analysis.

UPS Infrastructure Power
Powers important infrastructure in remote locations, ensuring continuous operation and reliability.

DATASHEET

Extreme Enclosure

- **Dimensions:** 1.5 x 1.5 x 6m (H)
- **Material:** 316L stainless steel
- **Thermal Insulation:** cabinet is insulated with 25mm of polyisocyanurate, designed to operate in extreme conditions, the cabinet is rated from -40°C to +50°C.
- **Internal Control and Power Management System:** Designed to optimise solar PV yield and maintain the battery for year-round peak performance
- **Charging Interface:** Harting Extreme
- **Certification:** Constructed in accordance with Eurocodes and British Engineering Standards, including Eurocode 3 for the design of steel structures (BS EN 1993-3-1:2006) and Eurocode 1 for actions on structures (BS EN 1991-1-4:2005).
- **Ingress Protection & Security:** IP66 rating and multiple cabinet locking mechanisms
- **Deployment:** The cabinet is designed for installation on a range of surfaces and can be moved using the integrated forklift slots
- **Battery System:** 48V deep-cycle AGM lead-acid battery system and rated at 214-428Ah.
- **Operating Temperature Range:** -40°C to +50°C. Sealed and Maintenance-Free

IoT Mast Specification

- **Dimensions:** 6m
- **Material:** 316L stainless steel
- **Telescopic Design:** 3-section telescopic mast, extending to 6m, fabricated from durable 316L stainless steel
- **Stabilisation Brackets:** Each mast section is equipped with locking brackets to ensure rigidity and stability, even in high winds
- **Integrated Design:** The mast is seamlessly integrated into the system cabinet, removing the need for a concrete base
- **Maintenance Accessibility:** The IoT Mast retracts to approximately 2m, facilitating camera maintenance without additional equipment or working from height

*ATEX Options on Request

QuickGrid System
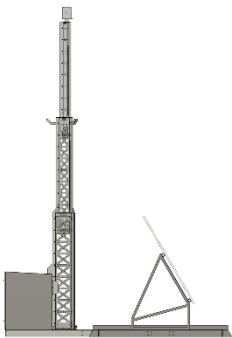
- **Dimensions:** 6 x 2.4m footprint
- **Material:** Galvanized steel and modular construction
- **Solar Panels:** 6 x high efficiency monocrystalline solar panels, pitched at the optimum solar irradiance angle for the location (output up to 3kW)
- **Ballast Platform:** Optional steel mesh internal platform to install ballast
- **Extreme Enclosure Integration:** The system includes bracketry to bolt the system cabinet to the QuickGrid

Security
- CCTV Surveillance
- Smart Analytics
- Perimeter Detection
- Remote Monitoring

Telecoms
- Temporary Event WIFI Mobile Hotspot
- Point to Point Networks

Oil & Gas
- Site Security
- Wellhead Telecoms
- Gas Detection

Rail
- Trackside Monitoring
- Set down Yard Security
- Passenger Surveillance & Monitoring

Construction
- Site Security
- Health & Safety
- 24/7 Hotspot & WIFI

Highways
- Traffic Monitoring
- Average Speed Detection (TASCAR)
- Air Quality Monitoring

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