

# FIREFLY

OBSTRUCTION LIGHTS  
SMART CONTROLLER



**ATRONIA**

TECH THAT MAKES SENSE

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**FIREFLY** is an **all-in-one obstruction light controller** and **UPS system**, designed to monitor:

- **Adaptive Light Intensity Control** – **FIREFLY** can integrate with visibility sensors to automatically adjust the brightness of obstruction lights based on real-time atmospheric conditions.
- **Compliance with Aviation Standards** – Supports visibility-based light dimming to meet international regulations where applicable.
- **BNK System Compatibility** – **FIREFLY** can be enhanced with BNK (Aircraft Detection Lighting System), reducing light pollution by activating lights only when aircraft are detected.
- **Multiple Sensor Integration** – Supports LIDAR, fog detectors, and meteorological sensors to ensure precise visibility-based adjustments.
- **Energy Efficiency** – Reduces power consumption by dimming lights during clear weather conditions, optimizing system performance.
- **Wireless & API Connectivity** – Enables integration via Modbus RS485, LoRa, Wi-Fi, or REST API, allowing remote monitoring and control.
- **Real-Time Monitoring & Logging** – Provides detailed logs of visibility conditions, lamp intensity adjustments, and BNK activations, ensuring full compliance and reporting.
- **Remote Configuration & Alerts** – Operators can remotely adjust light intensity thresholds and receive alerts if conditions require manual intervention.
- **Program/force battery testing** – Issuing a report for legal proof of the system's working conditions at any given time (e.g. fulfilment of 12 hours of continuous work without external power);
- **Remotely shut-down lamps** – For military exercises, population requirement, maintenance, etc.



## Connect & Monitor

**FIREFLY** was designed to allow integration with external **MODBUS RS485** sensors & other wireless sensors like **wi-fi, BLE & LORA**. This allows to transform **FIREFLY** in a fully fledged monitoring station for:

- **Thunderstorm Detection**
- Temperature
- **Humidity**
- Vibration
- **Smoke**
- Wind
- **Others**

## Dual Output

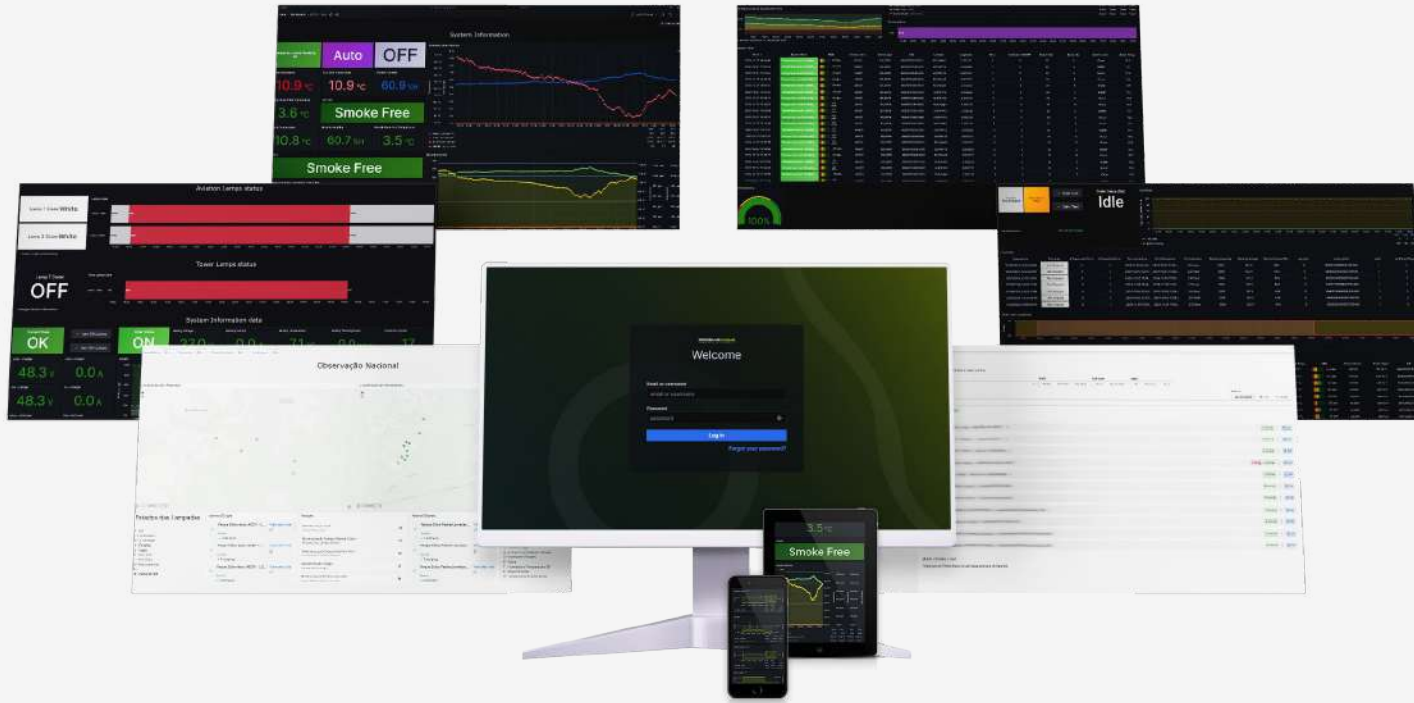
**FIREFLY** features two open contact relay outputs that **can be configured according to your needs:**

- **External Alarms** - Connection to Wind Tower or third-party alarm systems;
- **Specific Alarms** - Faulty lamps, low battery, etc.;
- **Automatic Mode** - Work in automatic with Web Configured thresholds;
- **Temperature control** - Of heating systems, used together with external humidity/temperature probes. For heating and weather control please refer to our **PREVENT Smart Controller**.

## Charging

The **embedded battery charger and monitor** allows **access** to a wide range of variables related to **the status of the battery, from its temperature, internal resistance,** and others.





# SENSBLUE.CLOUD

TURN DATA INTO INSIGHTS



# SENBLUE.CLOUD

## TURN DATA INTO INSIGHTS

**FIREFLY** is a part of the **SENBLUE.CLOUD platform** which means that:

- **All data is seamlessly transferred** to the monitoring server network;
- **All data fees are already included in the product** (no need for external SIM cards) allowing for a quick installation and deployment\*.
- You are **granted access to your lighting system**, and user access level is configurable, such as each individual park/group can only be monitored by its person in charge.

**Keep collecting data even all else fails.**

**FIREFLY** features an internal battery that allows monitoring even in the event of a complete power down.

**Our servers are in Europe** and **each partner is attributed to an independent machine**, further increasing data safety and backup.

All data is backed up every week and available for viewing and downloading at all times.

Secured communications via HTTPS POST are standard. VPN connection is available upon request.



*\* EU countries only. After one year, conditions may apply.*

# FIREFLY

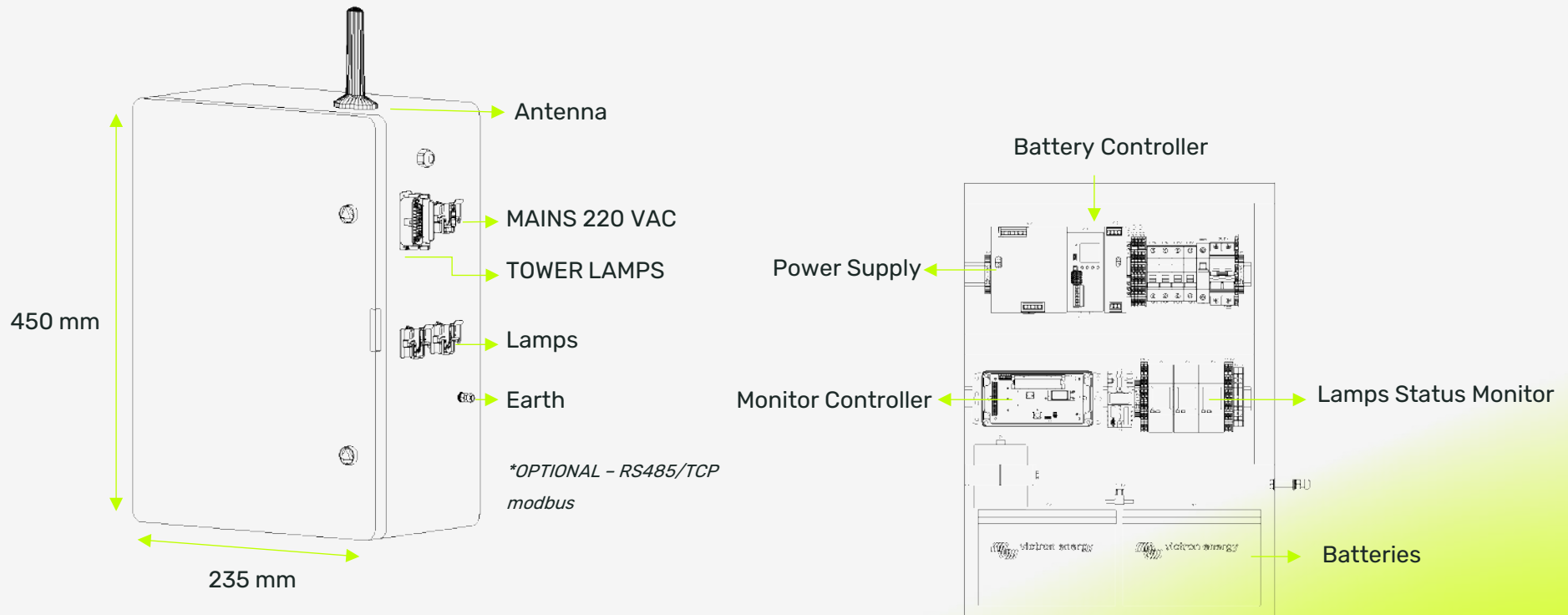
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INSTALLATION  
& SPECS



# Installation & Specs

**FIREFLY** was designed with size in mind. Developed for very limited space requirements in Wind Turbines, even with its battery installed, its size is just **450x235 mm** and weighting less than **20 kg**.



# System Specifications

**FIREFLY** was developed with highly demanding requirements and to be able to adapt to different obstruction lights' systems.

System specs		
Power supply	220	VAC
Protection rating	IP65	--
Humidity (Relative)	up to 95 (non condensating)	%
Measurement Interval	5	minutes
Internal Battery duration (1h Tx, LiPo)	700	hours
Working Temperature	-30 .. 80	°C
Storing temperature	20 .. 80	°C
Max lamp power	900	W
Lamp voltage	48	VDC
Main battery	110AH Ultra Deep Cycle	--
External sensors' power	12 V @ 1 A Max.	--
Radio specs		
Radio frequencies	QUAD-BAND (850/900/1800/1900)	MHz
Radio power	Class 4 (2w@850/900) Class 2 (1W@1800/1900)	--

Compliance
EN 61326-1:2013 IEC 61000-4-2
IEC 61000-4-3 IEC 61000-4-4
IEC 61000-4-5
<ul style="list-style-type: none"><li>• Electrical equipment for measurement, control and laboratory use.</li><li>• Electrostatic discharge immunity test</li><li>• Radiated, radio-frequency, electromagnetic field immunity test</li><li>• Electrical fast transient/burst/immunity test</li><li>• Surge immunity test</li><li>• Radio Certification Tests available upon request</li></ul>
<i>Please refer to ATRONIA for an updated compliance status.</i>





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