



APPLICATIONS

- Runway and Taxiway Lighting Control
- Apron and Approach Lighting
- Integration with Digital Control Towers
- Preventive Maintenance and Asset Monitoring

OVERVIEW

The AviaSafe Airfield Lighting Control and Monitoring System (ALCMS) is designed to provide unparalleled control and monitoring of airfield lighting systems, ensuring safety, efficiency, and ease of integration with other airport systems. Built to meet the latest industry standards, AviaSafe ALCMS offers a modular, scalable, and future-ready solution tailored for airports of all sizes.

FEATURES & BENEFITS

- Flexibility: Seamless integration with MODBUS TCP/IP, RS-485, and multi-wire communication protocols. Compatible with various Constant Current Regulators (CCRs) and existing airfield infrastructure.
- User-Friendly Design
- 23" touchscreen interface for intuitive operation.
- Remote access capabilities to manage and monitor systems from anywhere.
- Easy-to-use Human-Machine Interface (HMI) with customizable layouts.
- Enhanced Scalability
- Supports expansion and integration with third-party systems
- Adaptable to small regional airports and large international hubs
- Plug-and-play architecture for quick deployment
- Reliability

- Built-in redundancy ensures uninterrupted operation even during component failures
- Operates efficiently in diverse environmental conditions (-45°C to +55°C).
- Energy Efficiency
- Designed for low energy consumption, reducing operating costs and environmental impact
- Fully dimmable lighting control for optimized performance
- Compliance: Adheres to global aviation standards including ICAO, FAA, EASA, IEC, and NATO

System Architecture

The AviaSafe ALCMS combines robust communication protocols and intelligent design:

- MODBUS TCP/IP & RS-485 Support
- Enables real-time data exchange and efficient monitoring across the airfield
- Multi-Wire Connectivity
- Supports legacy systems for smooth transitions during upgrades.
- Distributed Framework
- Ensures fault tolerance and high availability through redundant connections

Broad CCR Compatibility with Defined Functionality

The AviaSafe ALCMS is designed to seamlessly integrate with Constant Current Regulators (CCRs) from various brands, ensuring interoperability and flexibility for diverse airfield configurations. While the system can effectively control and monitor the features provided by third-party CCRs, it is important to note that the functionality available is limited to the features already built into the CCRs themselves. AviaSafe ALCMS cannot extend or modify the capabilities of external CCRs but ensures reliable remote control and monitoring of their existing functionalities.

Why Choose AviaSafe ALCMS?

1. Safety First
 - Real-time monitoring and control reduce operational risks
 - Built-in surge and lightning protection ensure system durability
2. Cost-Effective
 - Modular upgrades minimize downtime and additional expenses
 - Energy-efficient design lowers operational costs over time
3. Future-Proof
 - Fully compliant with evolving global standards

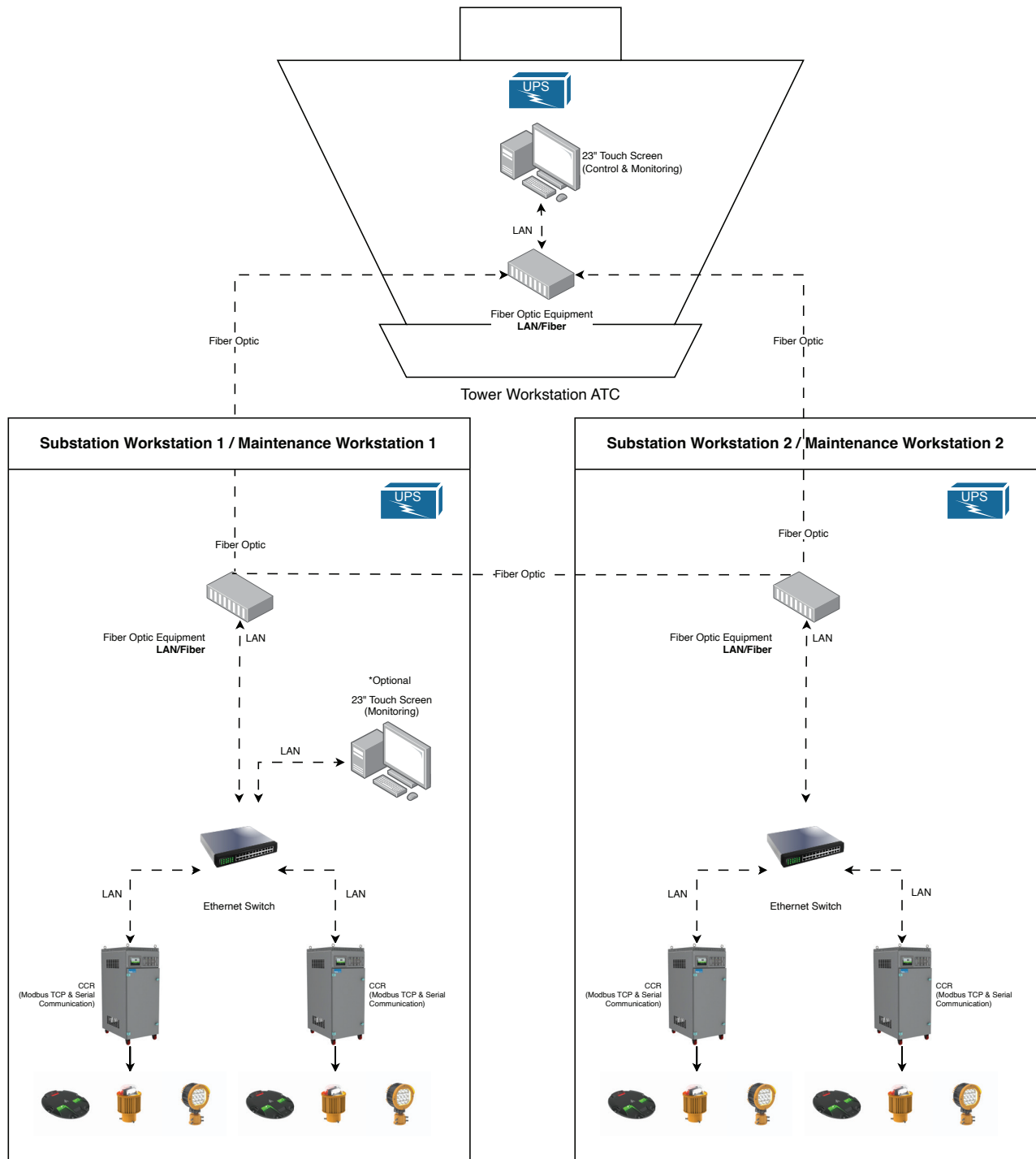
- Scalable architecture supports future expansions and technological advancements.

List of equipment and specification included in ALCMS.

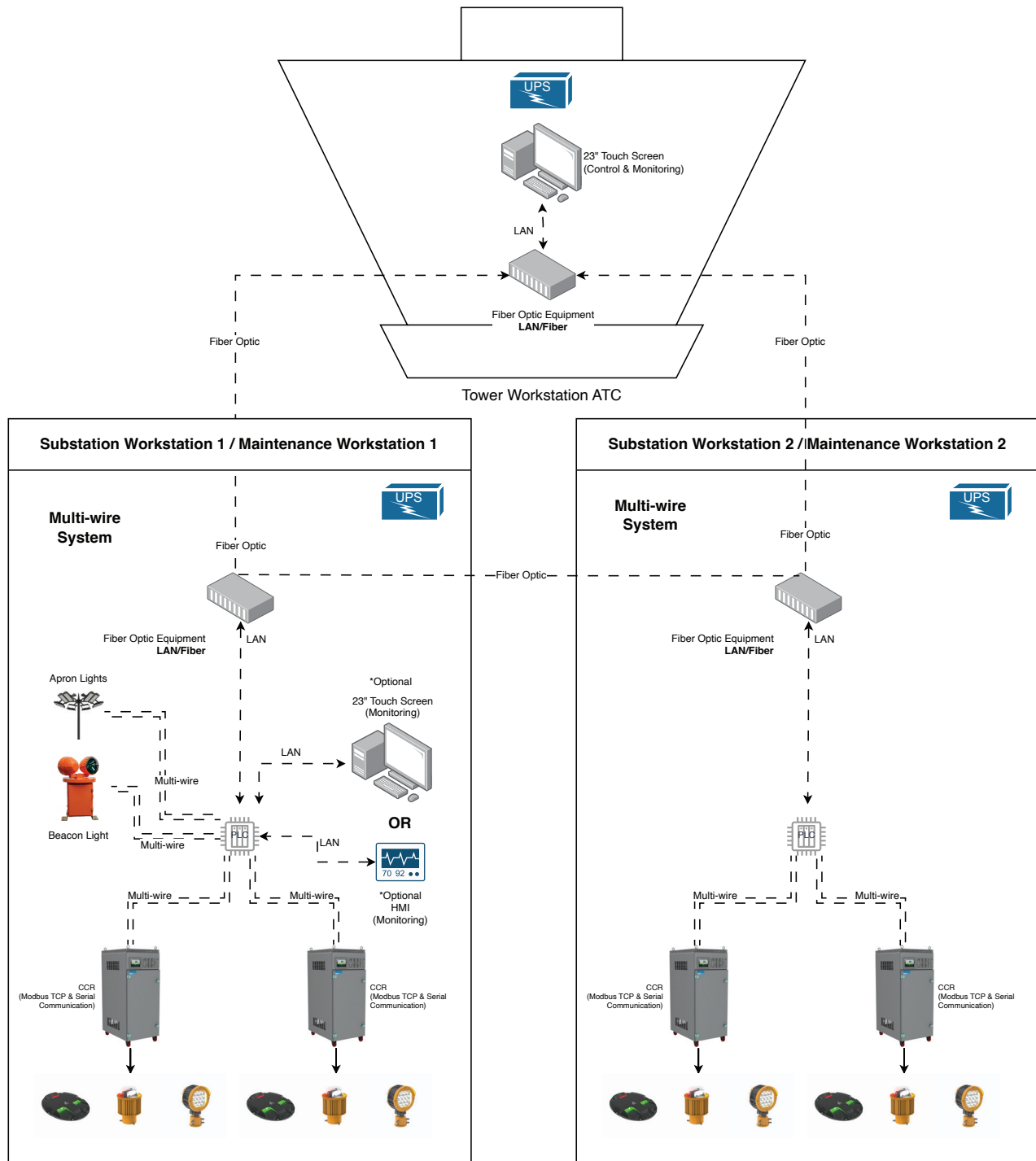
Item	ALCMS Specification
1	Tower Workstations Component:
1.1	All-in-One PC (23-Inch touch Screen)
1.2	Fiber Optic Communication equipment
1.3	Ethernet switch
1.4	PLC Panel with CPU, I/O, Power Supply for ... I/O control & monitoring
1.5	UPS 1 KVA
2	Substation 1 Workstation / Maintenance Workstation Component:
2.1	All-in-One PC (23-Inch touch Screen)
2.2	Fiber Optic Communication equipment
2.3	Ethernet switch
2.4	PLC Panel with CPU, I/O, Power Supply for ... I/O control & monitoring
2.5	UPS for ALCMS in Substation 1
3	Substation 2 Workstation / Maintenance Workstation Component:
3.1	All-in-One PC (23-Inch touch Screen)
3.2	Fiber Optic Communication equipment
3.3	Ethernet switch
3.4	PLC Panel with CPU, I/O, Power Supply for ... I/O control & monitoring
3.5	UPS for ALCMS in Substation 2
4	Infrastructure
4.1	Fiber Optic (Between ATC & Substation)
4.2	RS-485 Cable (in Substations)
4.3	Multi-Wire Cable (in Substations)
5	LAN Cable (in Substations)
5.1	Substation Communication Type:
5.2	Modbus TCP/IP Communication
5.3	RS-485 Communication
5.4	Multi-Wire Communication
6	ALCMS Features:
6.1	CCR Current Monitoring (Only in Modbus TCP & Serial communication if this feature exist in CCR)
6.2	Monitor the Faults and warnings
6.3	Event Log

* Please note that the quantity and type of equipment depends on the airport demand and project.

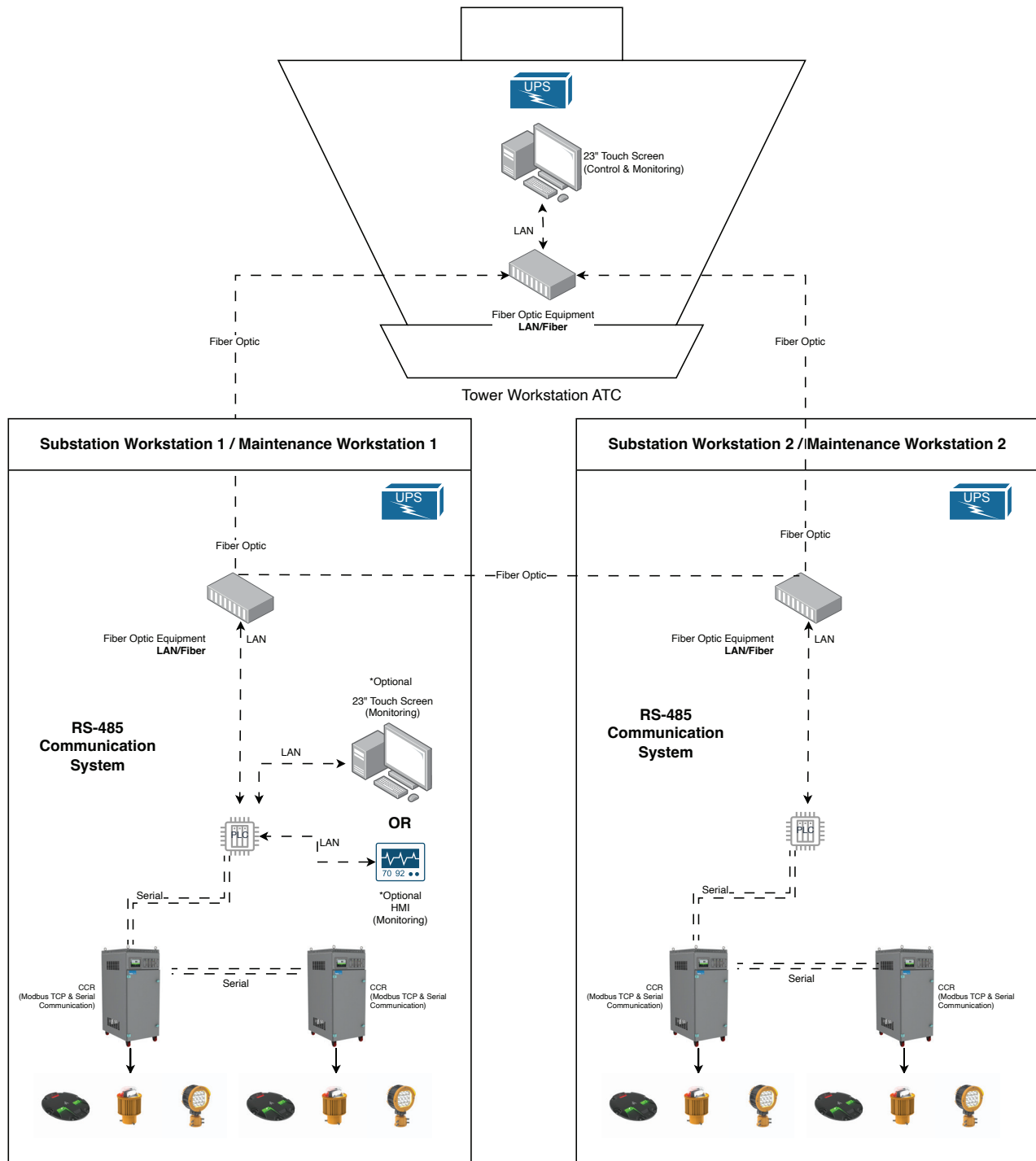
MODBUS TCP/IP ALCMS Diagram



Multi-wire ALCMS Diagram



RS-485 ALCMS Diagram



Aviasafe GmbH

Headoffice 60489 Frankfurt am Main/Germany
Eschborner Land Str. 55

Tel +49 69 340 03 314

Fax +49 69 707 978 04

Factory DE 98597 Fambach Neue Wiese 2

Tel +49 368 482 764 70

info@aviasafe.de

www.aviasafe.de

