

Airfield Lighting Control and Monitoring System

VAS - ALCMS



Compliance with Standards:

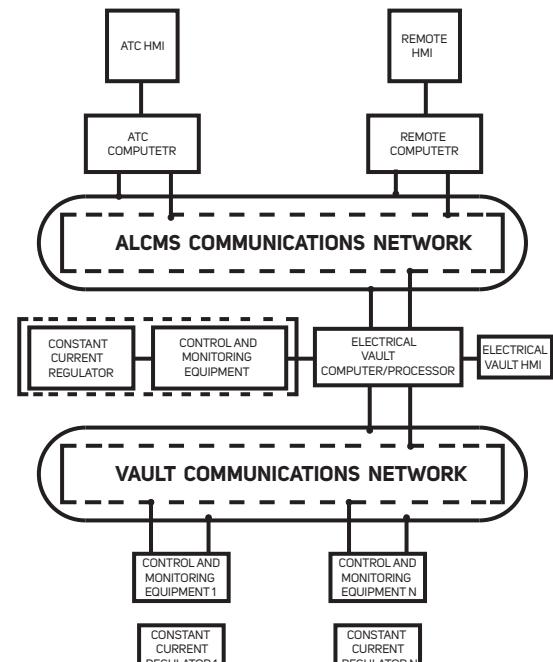
- ICAO: Annex 14, Aerodrome Design Manual part 5 para. 3.4 and 3.7
- FAA: AC 150/5345-56B latest edition
- IEC: 61508

Application:

Monitoring runway circuits, CCRs, Beacon, Landing T, Flood Lights, wind direction indicator, PAPI, Approach lights etc.

Features:

- VAS-ALCMS enables control and monitoring of airfield lighting and other visual aids installed at the airport, providing increased safety of ground operations. The system architecture provides for a wide range of functionalities to support the needs of airport operations and allows for easy integration with other airport systems.
- VAS-ALCMS is a distributed, scalable electrical vault computer system that gives you control and monitoring of airport lighting equipment, with high speed operation redundancy and easy subsystem integration. It offers touchscreen HMIs, for ATC and airfield operations system with numerous functions to make daily work easier more efficient while ensuring airport lighting systems can be fully monitored.
- Reliable high speed operation including switching of field circuits in accordance with FAA requirements. All the alarms and events related to ALCMS and CCRs can be stored in ALCMS hard disk and backing up data.
- VAS-ALCMS is software controlled in order to ensure flexibility for expansion with complete ground movement guidance systems fully supported by AGL configuration. The system has fail safe features (maintain last / state) to ensure all equipments goes to fail safe state if the network or power fails.



STATUS MONITORING



Standard System Element:

Key elements of this distributed system.

Central management computers and station management computers. These are deployable in redundant setups, and supported by dedicated HMIs for ATC, as well as for maintenance center / electrical substations vaults, and for field engineers. ATC HMI (Touch Screen, Monitor (LED TV) and ATC computer along with appropriate interfacing equipment are installed at the ATC Tower.

System Overview:

- ATC HMI accept commands from the operator and send same instructions / commands to ATC computer for processing. ATC computer then encodes the commands / signals and send it to all electrical vault controller processor via OFC / communication network (CAT-6 Ethernet cable).
- The electrical vault processor then accept the signals from the ALCMS communication network, decodes it and then performs the necessary action. The electrical vault indication signal from CCR encodes it and send the same back to the ATC computer. ATC computer turns indication status of CCR on Touch Screen as well as monitor in the form of mimic display.
- The ALCMS offers a multitude of functions to efficiently enable time critical control and monitoring of airfield lighting equipment (as well as interfaced systems like surveillance, sensors, docking systems, NAVAIDs, weather systems, etc), without information overload.
- Delivered on high resolution and fast response touch screen, with a true scale airfield map and control lighting for approach, runway, taxiway, apron and other special lighting systems: category of operations, airport mode of operations: area of responsibility: utilities control; alarm window for serviceability and alerts / alarms notification maintenance workflow authorization.
- Enables direct access to a layered and hierarchically organized virtual operating area. Operating functions as well as picture and text displays are accessible.
- Realizes the airfield concept of operation with modern, rule-based routing procedures.

Maintenance, Reporting & Alarm Log

- Event database captures a multitude of data like logins, alerts / alarms, electrical parameter changes to configuration, operating hours etc of assets, insulation values, switch actions etc.
- Operational alarm list provides warning and alarm status of the AGL equipment and system components.
- Alarm and event filtering provides flexibility to control which alarms are reported to ATC, maintenance and other users.

SCREEN MONITORING



USER MONITOR INTERFACE



ALCMS PANEL

