

ACAMS Airfield Lighting Control Module

General

The ACAMS product is a computer system providing an integrated and homogeneous solution to the basic monitoring and control as well as aeronautical information requirements of an airport tower.

The first ACAMS system was developed for the Norwegian Civil Aviation Authority (Avinor) in 1998/99. This concept is now well proven through years of trouble free operation at many airports throughout Norway. The ACAMS product is continuously being enhanced and expanded with new modules and features.

The ACAMS Airfield Lighting module can be supplied as an integrated module in an ACAMS integrated tower solution or as a stand alone system.

Functional Description

The ACAMS AFL module allows the user to control the various airfield lighting systems including runway, approach, taxiway, stop bars, apron etc. The lights can be switched off and on individually or in groups. The intensity can be controlled for specific lights according to preconfigured intervals.

A Programmable Logic Controller (PLC) is used to control the current regulators and power relays of the airfield lighting system. The PLC communicates with the operator panels via an Ethernet network. For long distances modems can be used.

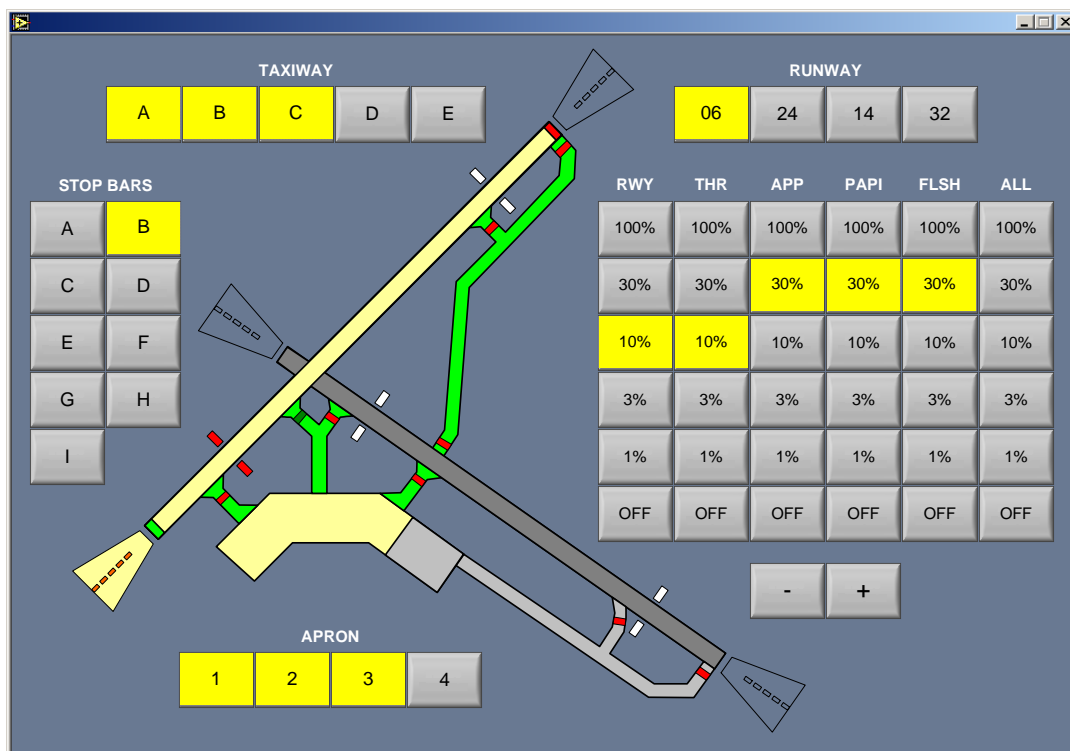
The ACAMS AFL module can be easily adapted to interface to any type of airfield lighting equipment including a combination of equipment from different manufacturers. The control of several different airfield lighting systems can be integrated into a single homogeneous control panel with the ACAMS solution.

The module can include monitoring of alarms related to the airfield lighting equipment and also other miscellaneous alarms.

Data logging is available as an option allowing all operator activations to be logged and stored in a database providing valuable information in the case of an incident investigation.

Features

- ✓ Customised panel design
- ✓ Can be interfaced to any airfield lighting equipment
- ✓ Common control panel for different lighting systems
- ✓ Integrated alarm monitoring
- ✓ COTS platform using client/server architecture
- ✓ Multiple operator terminals
- ✓ Dualised architecture available
- ✓ Expandable with other tower control/monitoring functions
- ✓ Optional data logging



Example HMI

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System Architecture

The ACAMS system is made up of COTS components with the main processing being performed by PCs in a client/server configuration. Programmable Logic Controllers (PLC) and interface boards in the servers are used to interface to the various external systems. The components are interconnected using an Ethernet network.

The system may include a database for data logging and efficient management of the information stored in the system.

The server is typically installed in a 19" rack in the technical room with the associated Technical Control and Monitoring (TCM) terminal.

A Client PC is typically installed in the tower cabin integrated with an LCD flat screen touch panel.

ACAMS client monitors are based on COTS equipment allowing the use of the latest state of the art monitors thereby providing the best Human Machine Interface.

For real time monitoring functions a distributed client processing architecture is utilised providing high reliability and rapid response time.

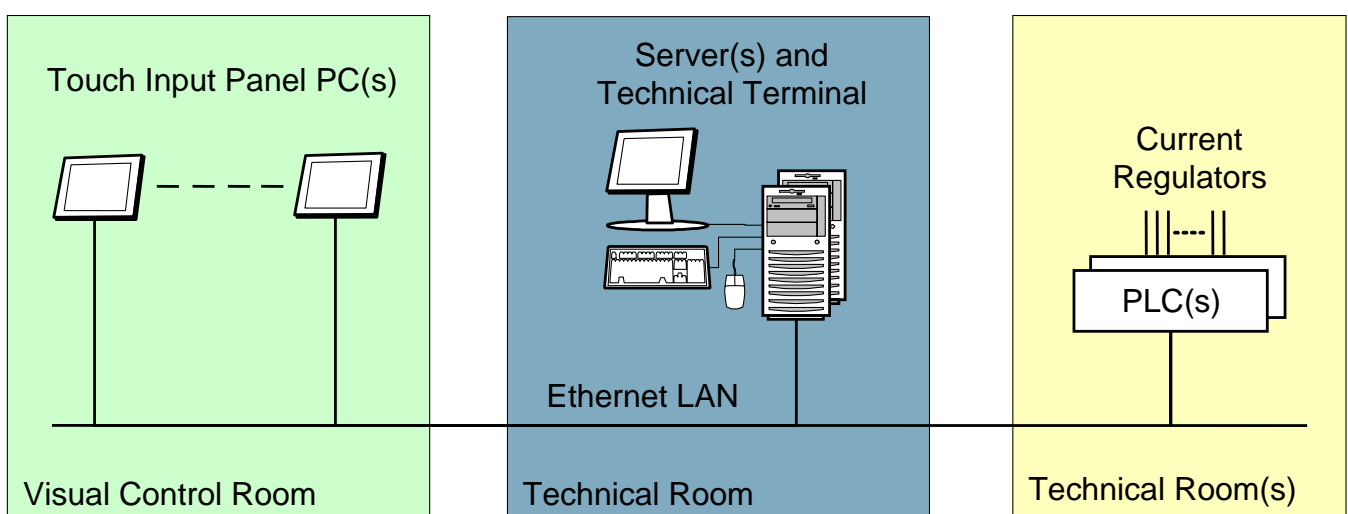
The ACAMS software is implemented using a modular and flexible architecture which allows the HMI to be tailored to individual customers' requirements. Text language, colours and shape of the HMI may easily be adapted and modified.

Optional Expansion

The system may be easily expanded with additional hardware and/or software in order to provide the following functions:

- ✓ Meteorological Information Display
- ✓ Navigational Aids Status Monitoring
- ✓ CAT III Status Monitoring
- ✓ ATIS
- ✓ Publications
- ✓ Maps
- ✓ Directories
- ✓ AFTN Display
- ✓ Direction Finder
- ✓ Time Synchronisation & Display
- ✓ Tower Cabin Internal Lighting Control
- ✓ Sun Shade Control
- ✓ Video Surveillance
- ✓ Entrance Control
- ✓ Notice Board
- ✓ Internal Messaging
- ✓ External Message Display
- ✓ Conversion Calculator
- ✓ Data Logging
- ✓ External Alarm

Please refer to the ACAMS web site www.acams.net for further information.



Typical System Architecture