

Portable Airfield Lighting System

Compliances:

- **ICAO:** Annex 14 - Volume I and Aerodrome Design Manual, Part 5
- **NATO:** STANAG 3534 Type 3 Edition 6

General Overview

The Portable Airfield Lighting System (**PALS**) developed by OCEM is conforming to Stanag 3534 Specs-TYPE 3, designed for runways of different length.

The system is provided for continuous operation, fed through constant current regulators and series circuits, and could be remote controlled by means of a wireless computerized system.

The system is easily transportable housed inside containers transportable by trucks and/or aircrafts.

Inside the container the equipment are stowed in wooden boxes, easily lifting by hand. The accessories necessary for the fixation of the fittings to the ground are contained in one metallic box only.

The cable leads are wound on suitable steel spools, which can be stowed one over the other.

The constant current regulators are contained inside a cabinet with control board. Suitable versions with single constant current regulators and separated control board are available.

The installation is very quick because each light fitting includes the isolating transformers and all the cable leads are provided with moulded FAA L-823 connectors.

Portable System Main Components

The Portable Airfield Lighting System (**PALS**) developed by OCEM includes the following portable lighting and equipment:

- Containers for Portable System transportation
- Approach lights unidirectional **FAU-AC-065**
- PAPI (Precision Approach Path Indicator) system **401M**
- Runway edge lights bidirectional **FP150-CC**
- Threshold lights unidirectional **FAU-TG**
- Runway End lights unidirectional **FAU-ER**
- Taxiway Edge lights **VC30T**
- Arrester Cable Signs unidirectional **SDSB1-1**
- Lighted Wind Cone **MV400-L**
- Set of equipment and tools for the regulation of approach/runway fittings
- Series cable, supplied in suitable leads with connectors
- Constant current regulator cabinet
- Remote Control System
- Spools for series cable
- Wooden boxes for lights
- Wooden box for regulation equipment and tools
- Metallic boxes for anchoring stakes and poles



Storage



Approach Light



Threshold Light



Runway End Light



Runway Edge Light



Taxiway Edge Light



PAPI Unit



Arrester Cable Sign



Lighted Wind Cone



Portable System Typical Layout

SDSB1-1-CA
Arrester Cable Sign



FP150-S-CC-100-CA
Runway edge light



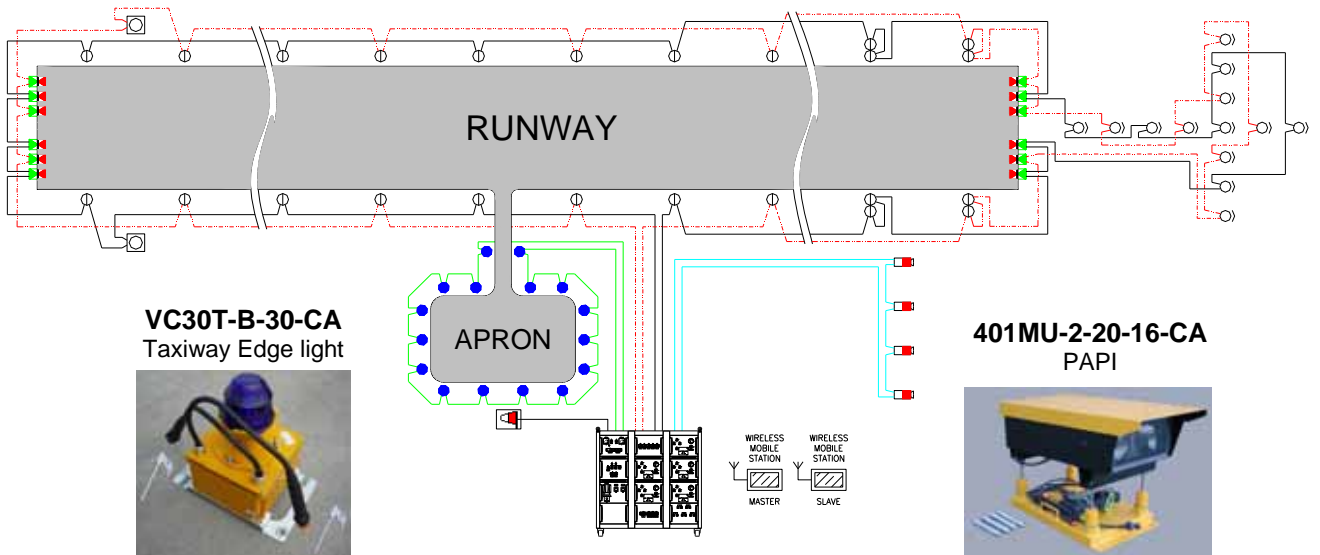
FAU-ER-065-CA
Runway End light



FAU-TG-065-CA
Threshold light



FAU-AC-065-CA
Approach light



MV-400L-O-2R-LD-CA
Lighted Wind Cone



POWER CABINET



WIRELESS MOBILE STATION



Power

The Portable Airfield Lighting System is powered by means of constant current regulators, one for each series circuit. In the standard configuration, the regulators are placed into a Cabinet, that consists of a main robust structure divided in separated sections: one for power supply control with protection, voltmeter and ammeter instruments; one for control and protection of users powered by voltage (wind cone); one for main power supply arrival; one for CCRs power; one for auxiliary users and one for series circuits connection. Each regulator is mounted on a supporting frame and is easy removable by unscrewing the fixing screws and by means of handle. On front panel it contains: ON-OFF regulator switch, ammeter, two signalling lamps (working and alarm), potentiometer for current regulation.



Remote Control

To control from remote the entire Portable Airfield Lighting a wireless system is suitable. It consists of one or more Mobile Station each one communicating to the fixed station on Power Unit through dedicated frequency. The equipment of the Mobile Station are contained in a robust plastic case and consists of: rugged Tablet PC, Radio Router and antenna for communication, power supply and adapter for vehicle.



Cable for series circuits

Cable, rubber insulated and neoprene sheathed, size 1x6 sqmm, is supplied in a suitable number of leads, of different lengths, each one with moulded at the extremities a plug and a receptacle, conforming to FAA L-823, for the realization of the series circuits by connection to the plug and receptacle mounted on light fixtures.

Each lead is complete with two metallic strips, mounted on the plug and the receptacle respectively, with the indication of the relevant length.

The series cable is mounted on metallic spool for an easy installations.

Each spool, made of hot dip galvanized sheet steel, is provided for the content of series cable. The spool is complete with two side handles for easy handling and a label for the identification of the contained cable lead (leads). Two holes, provided in one of the two side flanges, allow the plug-receptacle coupling when the cable is wound; two slots, provided one per side flange in correspondence of the spool drum, permit the utilization of a crank for the easy wounding and unwinding of the cable. The side flanges of the spools are shaped to allow the stowing one each other.

For wounding the series cable a wheelbarrow is supplied. The wheelbarrow, made of hot dip galvanized steel profiles and pipes, is equipped with two front tyres wheels and is provided for the transport of two spools for series cable.

The spools are supported by means of two cranks supplied with the wheelbarrow, available for the wounding and unwinding of the cable.



Storage of Portable System

For containing of light fixtures, installation accessories, tools, some wooden or metallic boxes are suitable.

Wooden box for equipment

Each wooden box, robust but of dimensions and weight for easy handling, is provided with hinged cover (except those for the PAPI units which are provided with removable cover), four handles and locking device. Each box is inside equipped with suitable spacers and reference bolts for the proper stowing and locking of the contained equipment; the bottom is outside arranged for machine handling.

The dimensions of the boxes have been standardized to optimise the stowing.

The boxes are outside RAL 6003 painted and are identified by a number (the same for all the boxes containing the same equipment); a list of component is inside fixed to the cover.

Metallic box for anchoring stakes and poles

Each one is made of sheet steel, provided with hinged cover, handles and locking device. They contain the steel anchoring stakes for light fixation, the extensions for PAPI and the poles for approach, threshold and runway end lights. The identification number is outside painted on the cover; the list of content is inside fixed to the cover.

Tool box

The tool box, made of plastic material, contains the tools for Portable System mounting, as screwdrivers, scissor, cutter, wrench, tapes.

Equipment for light regulation

A set of equipment for the levelling and the aiming of the fittings I supplied. The equipment, properly realized for the different types of fittings, are made of cast aluminium and are complete with sights for the alignment control and circular level.



Transport of the Portable Lighting System

The portable airfield lighting system is easily transportable because the equipment are contained inside wooden boxes, the cable leads wound on suitable spools stowable one over the other, the approach supporting frames suitable for stowing one over the other and the power equipment included constant current regulators are mounted inside a cabinet.

All the equipments, included the CCR cabinet, can be stowed inside 20 feet containers, equipped for this purpose and internal lighted.

Each container is standard ISO STD668-1C and it can be moved by road or railway.



Spare parts

Some spare parts are supplied with Portable Airfield Lighting System. The spares are contained in wooden boxes stored on containers.



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