



AIRFIELD GROUND LIGHTING SYSTEMS



www.ubs.com.tr

UNIQUE
BRILLIANT
SAFE

The image features three rows of large, bold, sans-serif text. The first row, 'UNIQUE', has a blue background with a white airplane flying through the letters. The second row, 'BRILLIANT', has a blue background with a city skyline at dusk. The third row, 'SAFE', has a dark green background with a runway at night, illuminated by orange lights.





INDEX

- Quality Policy **7**
- Airfield Ground Lighting **8**
- Equipments of AGL System **12**
- Remote Control And Monitoring System **22**
- System Diagram **24**





In 1998 UBS Airport Systems was established and leaped straight into the aviation sector to reduce foreign-source dependency.

UBS Airport Systems continues to fulfill the demands of airports with special attention to electronic and electro-mechanical devices whilst also offering high-tech solutions.

Due to their organizational skills, attention to detail and completion of projects in a timely manner, it did not take long for UBS Airport Systems to become a recognized and reputable company of choice for many airports and contractors.

UBS Airport Systems' employees are professional and experienced. UBS Airport Systems gives the highest of priorities to their projects and are motivated for success. Due to our hard work and diligence, UBS Airport Systems has now become one of the most powerful players in the aviation electro-mechanical industry.

Today UBS Airport Systems and their clients are extremely happy with all of their products. UBS Airport Systems can be found in all of the major airports in Turkey and many international airports from Heydar Aliyev Airport in Azerbaijan to Saudi Arabia's Medina King Abdulaziz Airport. This represents the power, reliability and strength of UBS Airport Systems and Turkey's engineers and labor force.

UBS Airport Systems is leading the way to produce state of the art products and has put Turkey on the Map in terms of Engineering and Labor.



Our expertise makes us unique in the industry

UBS Airport Systems has been working towards being the best in the aviation sector by engineering and providing high-performance products since its establishment. UBS Airport Systems has a wide range of products to meet the technological demands of electronic and electromechanical systems in airports. That's why UBS Airport Systems is the preferred company to carry out relevant projects for domestic and international airports.

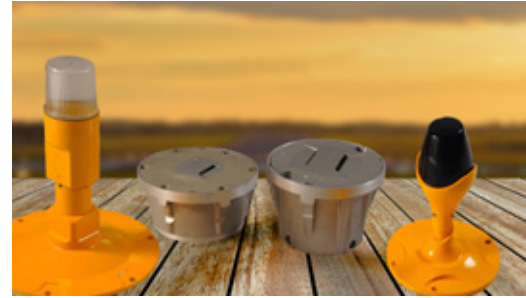
UBS Airport Systems' philosophy is to use resources effectively and efficiently with the highest level of attention given to the specifications of the customer.

UBS Airport Systems' products can be found in Airports from Turkey to Uzbekistan. Some of the countries where UBS Airport Systems can be found are Egypt, Iran, Kazakhstan, Azerbaijan and Saudi Arabia.

Quality Policy

In the Aviation sector you are always required to meet the customer's expectations. By using advanced technologies, developing and producing reliable products and providing after-sales service, UBS Airport Systems meets these expectations and works with these objectives to guarantee success.

- We fulfill the requirements of ISO 9001 Quality Management System, ISO 14001 Environmental Management System, ISO 18001 Occupational Health and Safety Management System and improve our management system each passing day.
- We base ourselves on the total quality management philosophy for all of our company and departmental objectives.
- We collaborate with our customers, suppliers and employees as a whole and grow together.
- Manufacturing processes are analyzed using self-evaluation procedures and performance-enhancing approaches are determined.
- As we follow the continuous improvement approach we continuously seek to boost efficiency to compete at international level.
- At UBS Airport Systems we are encouraged to be innovative and creative. Technical and behavioral skill education has also increased our effectiveness to becoming a pioneer in the aviation sector.
- Occupational Health and Safety is our priority from the first stages of the project, all the way through the engineering, manufacturing, construction and installation phases.



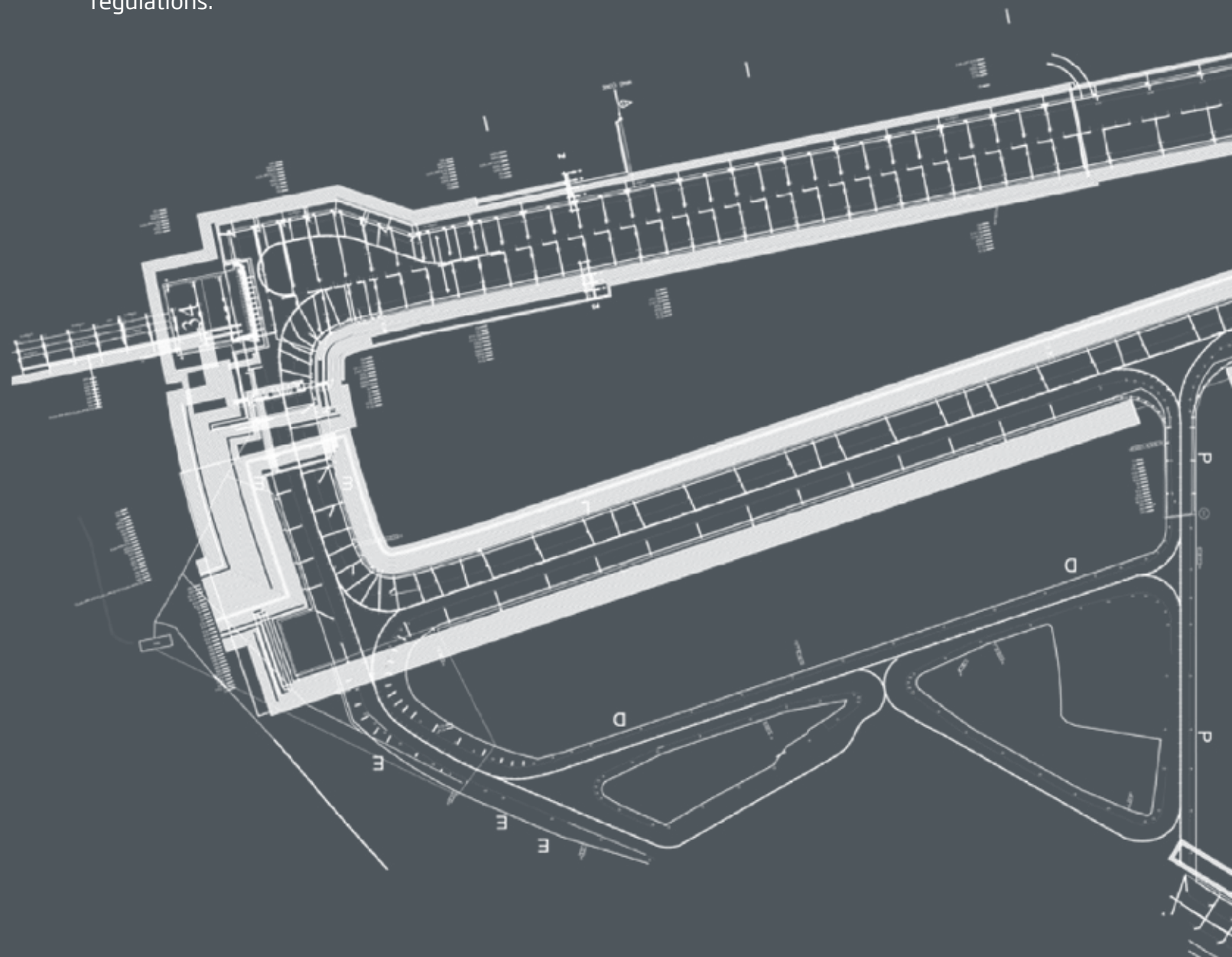
Airfield Ground Lighting

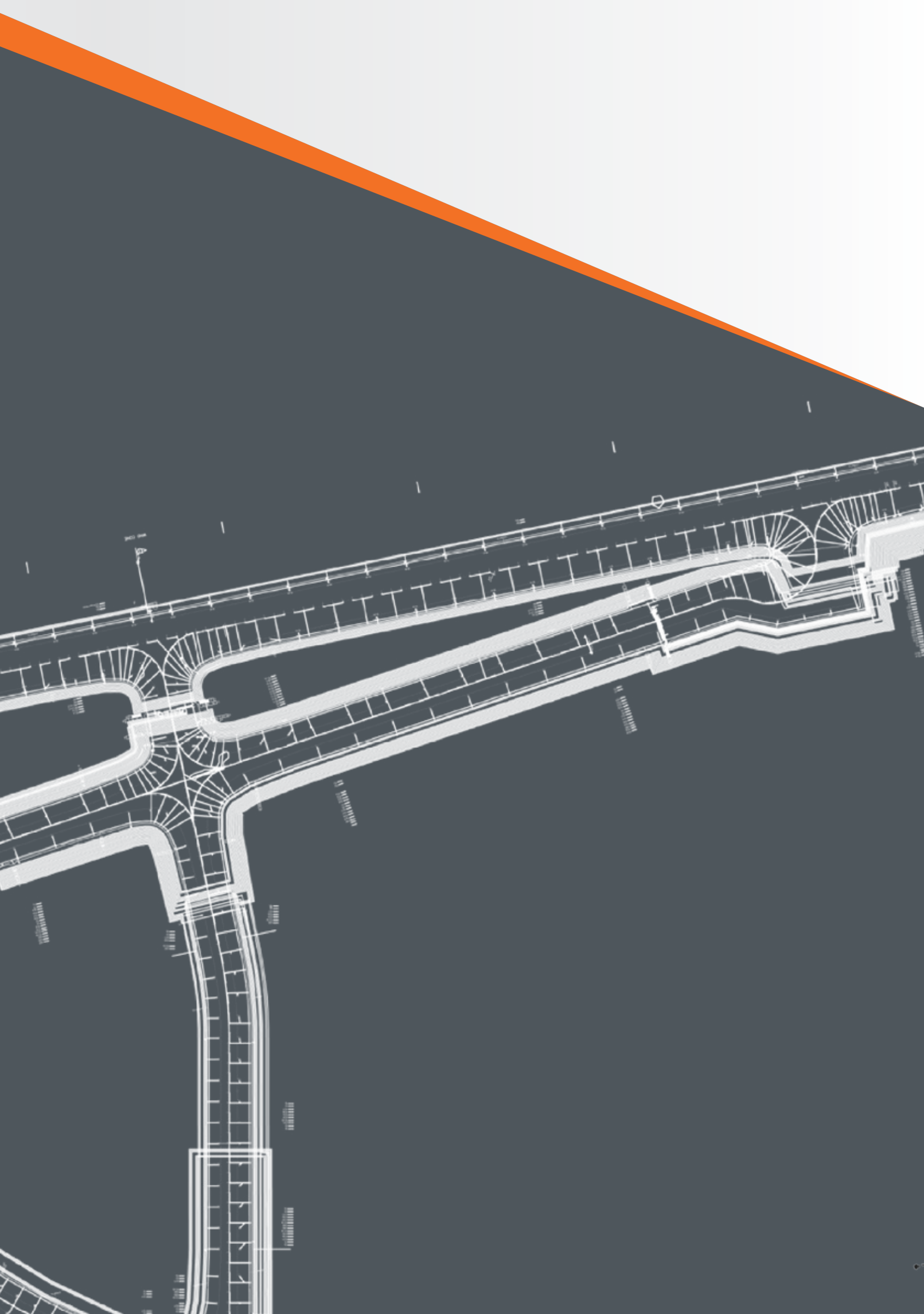
Experience and innovation: UBS Airfield Ground Lighting Systems

Airfield Lighting (AFL) systems are designed to support pilots whilst landing, taking off or taxiing. Airfield lighting visually assists aircrafts on the apron. UBS Airfield Lighting Control and Monitoring System is used to assess, maintain and repair airfield ground lighting systems in an efficient and effective way.

At UBS, Airfield Ground Lighting Control and Monitoring Systems we have used our knowledge and experience with AFL system installations and implementations to design a new and improved range of AFL lights, airfield ground lighting control and monitoring system.

UBS branded AFL systems have increased energy efficiency without compromising any necessary regulations.





We are producing in order to make the airfield industry more powerful.



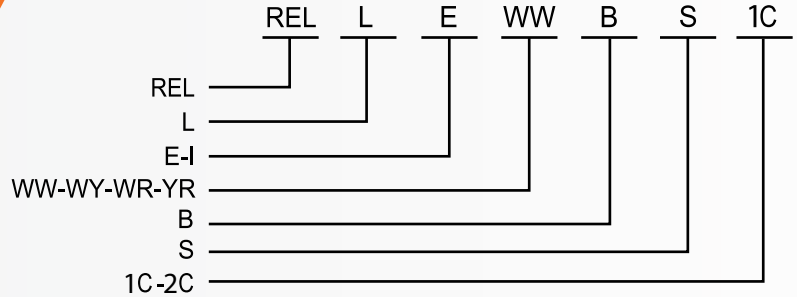
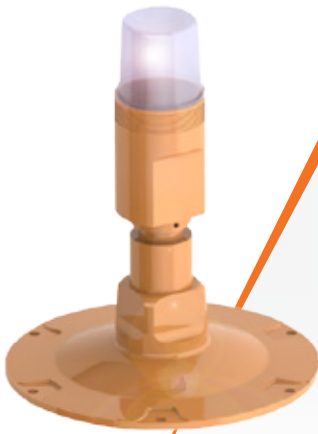


 **UBS**
AIRPORT SYSTEMS

Equipments of AGL System

REL: Runway Edge Light

1

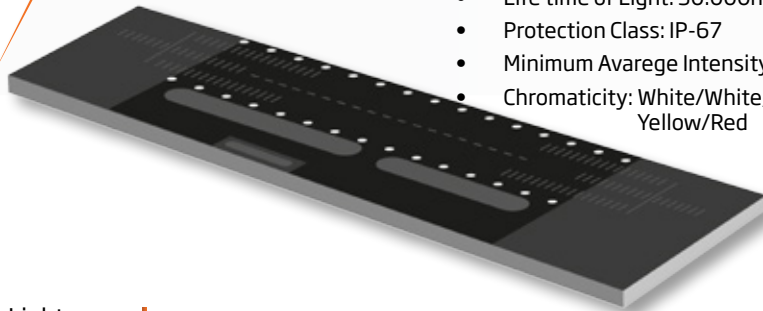


COMPLIANCE WITH STANDARDS

ICAO: Annex14 Para 5.3.9
 IEC/TS: 61827
 FAA: AC150/5345-46, L-862

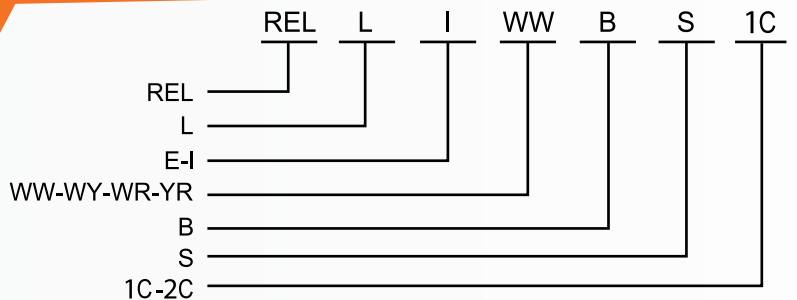
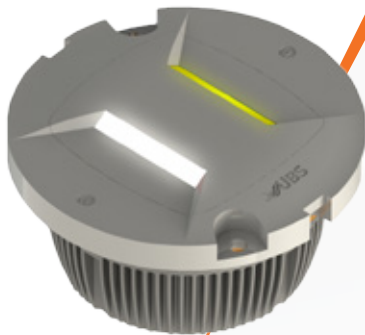
SPECIFICATION

- Input Power: 2.8~6.6A
- Power Consumption: 56VA
- Life time of Light: 50.000hrs
- Protection Class: IP-67
- Minimum Average Intensity : 10.000cd(W), 4.000cd(Y)
- Chromaticity: White/White, White/Yellow, White/Red, Yellow/Red



REL: Runway Edge Light

2

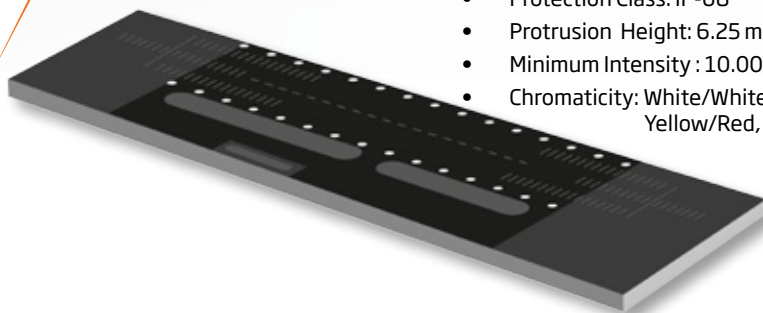


COMPLIANCE WITH STANDARDS

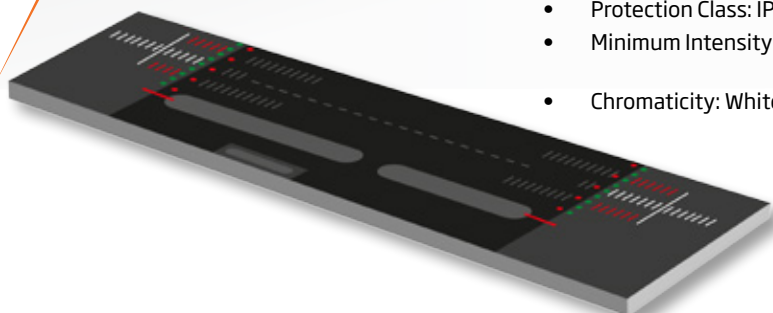
ICAO: Annex14 Para 5.3.9
 IEC/TS: 61827
 FAA: AC150/5345-46, L-850C,D

SPECIFICATION

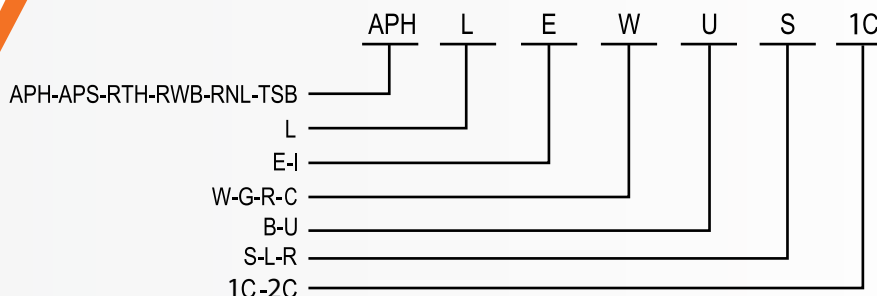
- Input Power: 2.8~6.6A
- Power Consumption: 90VA
- Life time of Light: 50.000hrs
- Protection Class: IP-68
- Protrusion Height: 6.25 mm
- Minimum Intensity : 10.000cd(W), 4.000cd(Y)
- Chromaticity: White/White, White/Yellow, White/Red, Yellow/Red, Clear



- APH:** Approach Light
- APS:** Approach Side Bar Light
- RTH:** Runway Threshold Light
- RNL:** Runway End Light
- TSB:** Taxiway Stop Bar Light
- RWB:** Runway Threshold Wing Bar Light



3



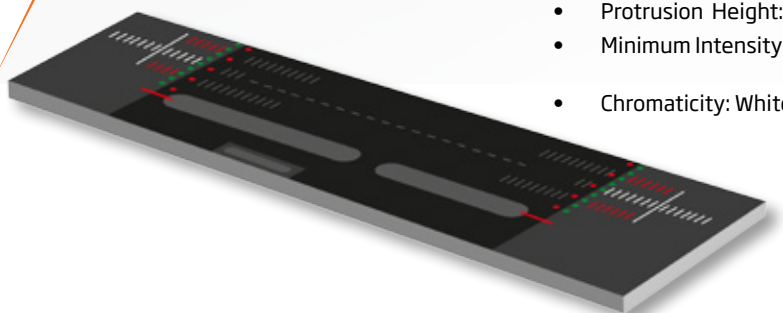
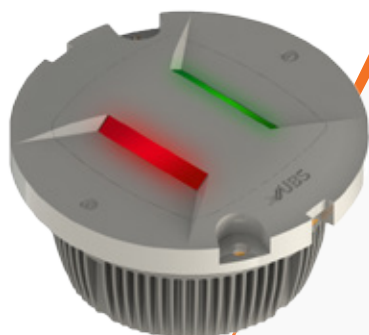
COMPLIANCE WITH STANDARDS

ICAO: Annex14 Para 5.3.4/10/11
 IEC/TS: 61827
 FAA: AC 150/5345-46, L-861E, L862SE, L862E, S

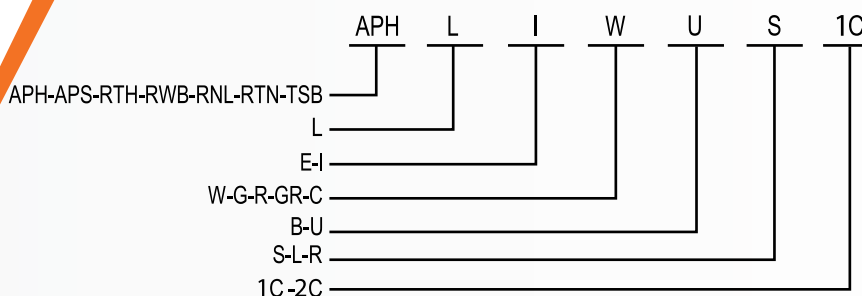
SPECIFICATION

- Input Power: 2.8~6.6A
- Life time of Light: 50.000hrs
- Protection Class: IP-67
- Minimum Intensity : 20.000cd(W), 10.000cd(G), 5.000cd(R), 200cd(R)
- Chromaticity: White, Green, Red, Red

- APH:** Approach Light
- APS:** Approach Side Bar Light
- RTH:** Runway Threshold Light
- RNL:** Runway End Light
- TSB:** Taxiway Stop Bar Light
- RWB:** Runway Threshold Wing Bar Light
- RTN:** Runway Threshold / End Combined Light



4



COMPLIANCE WITH STANDARDS

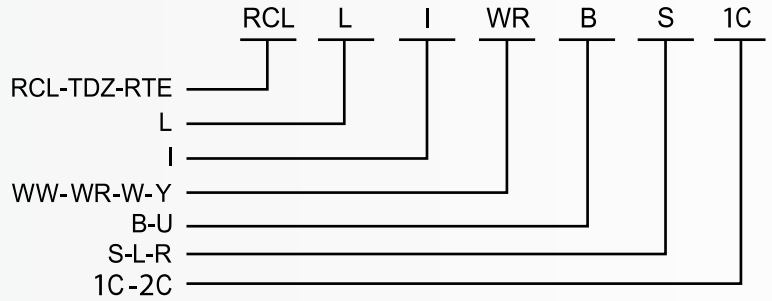
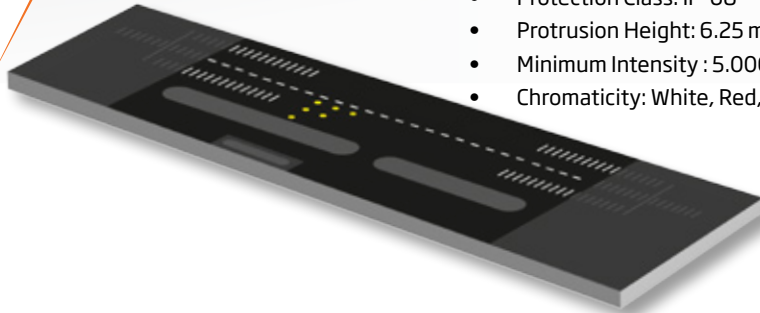
ICAO: Annex 14 Para 5.3.4/10/11
 IEC/TS: 61827
 FAA: AC 150/5345-46, L-850D,E

SPECIFICATION

- Input Power: 2.8~6.6A
- Life time of Light: 50.000hrs
- Protection Class: IP-68
- Protrusion Height: 6.25 mm
- Minimum Intensity : 20.000cd(W), 10.000cd(G), 5.000cd(R), 200cd(R)
- Chromaticity: White, Green, Red, Red

RCL: Runway Centerline Light
TLZ: Runway Touchdown Light
RTE: Runway Rapid Exit Light

5



COMPLIANCE WITH STANDARDS

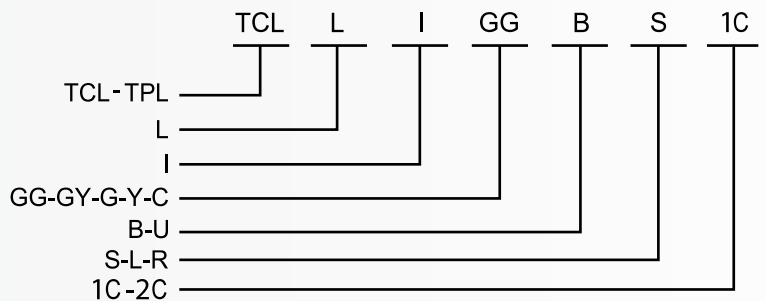
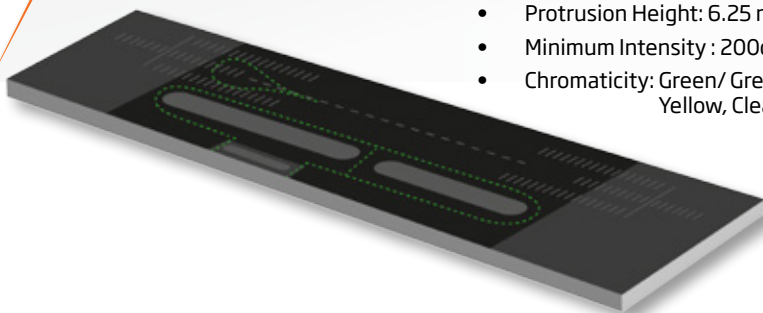
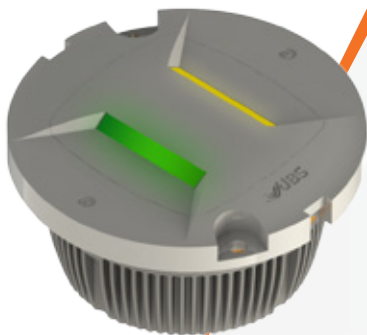
ICAO: Annex 14 Para 5.3.12/13
 IEC/TS: 61827
 FAA: AC 150/5345-46, L-850A/B

SPECIFICATION

- Input Power: 2.8~6.6A
- Life time of Light: 50.000hrs
- Protection Class: IP-68
- Protrusion Height: 6.25 mm
- Minimum Intensity : 5.000cd(W), 750cd(R), 200cd(Y)
- Chromaticity: White, Red, Yellow

TCL: Taxiway Centerline Light
TPL: Turning Pad Light

6



COMPLIANCE WITH STANDARDS

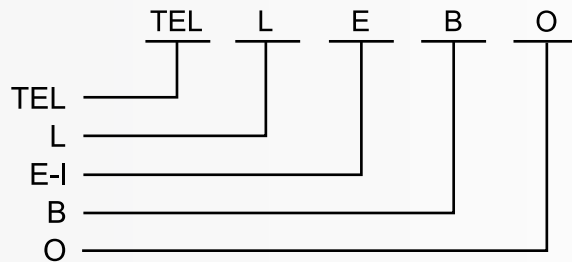
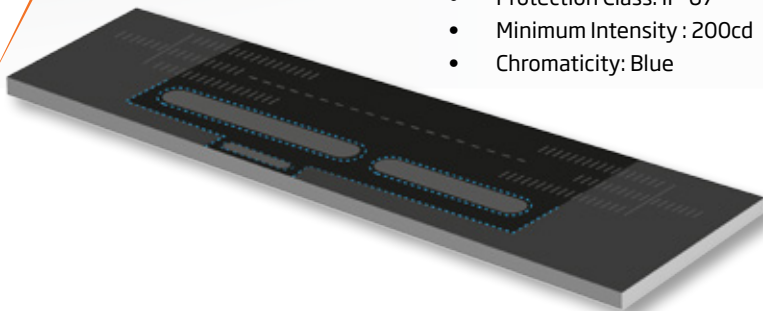
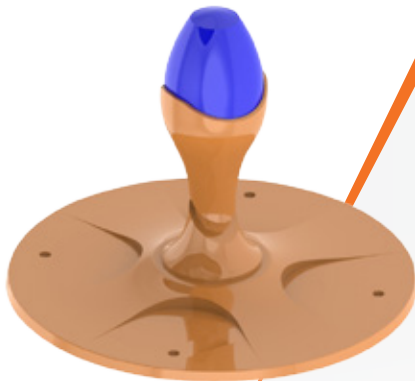
ICAO: Annex 14 Para 5.3.16/9
 IEC/TS: 61827
 FAA: AC 150/5345-46, L-852C/D/S

SPECIFICATION

- Input Power: 2.8~6.6A
- Life time of Light: 50.000hrs
- Protection Class: IP-68
- Protrusion Height: 6.25 mm
- Minimum Intensity : 200cd, 100cd
- Chromaticity: Green/ Green, Green /Yellow, Green, Yellow, Clear

TEL: Taxiway Edge Light

7



COMPLIANCE WITH STANDARDS

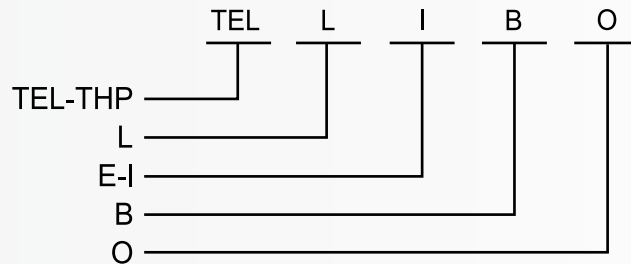
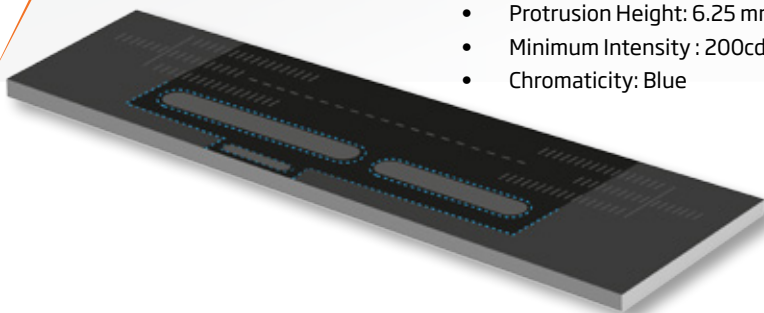
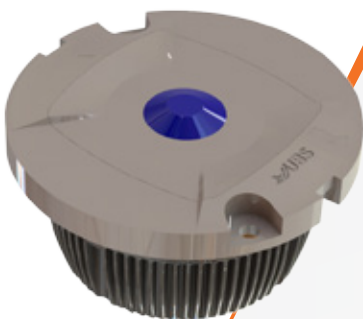
ICAO: Annex14 Para 5.3.17
 IEC/TS: 61827
 FAA: AC150/5345-46, L-861T

SPECIFICATION

- Input Power: 2.8~6.6A
- Life time of Light: 50,000hrs
- Protection Class: IP-67
- Minimum Intensity : 200cd
- Chromaticity: Blue

TEL: Taxiway Edge Light

8



COMPLIANCE WITH STANDARDS

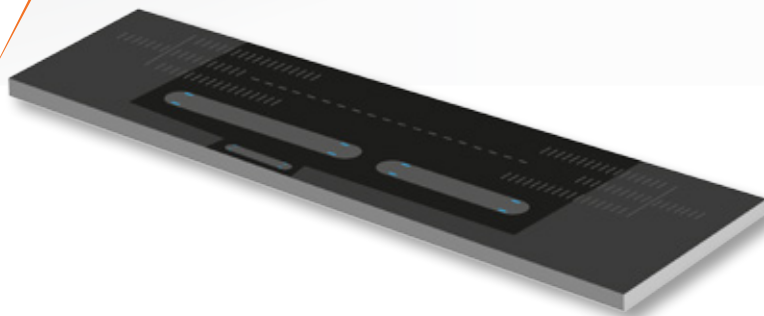
ICAO: Annex14 Para 5.3.16
 IEC/TS: 61827
 FAA: AC150/5345-46, L-852T

SPECIFICATION

- Input Power: 2.8~6.6A
- Life time of Light: 50,000hrs
- Protection Class: IP-68
- Protrusion Height: 6.25 mm
- Minimum Intensity : 200cd
- Chromaticity: Blue

TGS: Taxiway Guidance Sign

9



COMPLIANCE WITH STANDARDS

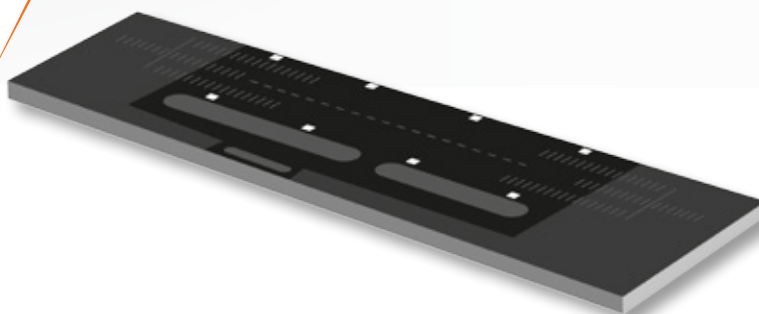
ICAO: Annex 14 Para 5.4
FAA: AC 150/5345-44

SPECIFICATION

- Input Power: 2.8~6.6A
- Protection Class: IP-65
- Life time of Light: 50.000hrs

RDML: Runway Distance Marker Light

10



COMPLIANCE WITH STANDARDS

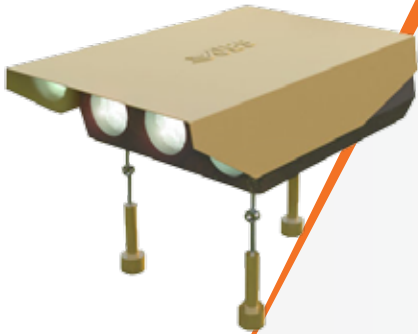
ICAO: Annex 14 Para 5.4
FAA: AC 150/5345-44, L-858B

SPECIFICATION

- Input Power: 2.8~6.6A
- Life time of Light: 50.000hrs
- Protection Class: IP-65
- Minimum Intensity : 100~300cd/m²
- Chromaticity: White

PAPI: Precision Approach
Path Indicator

11

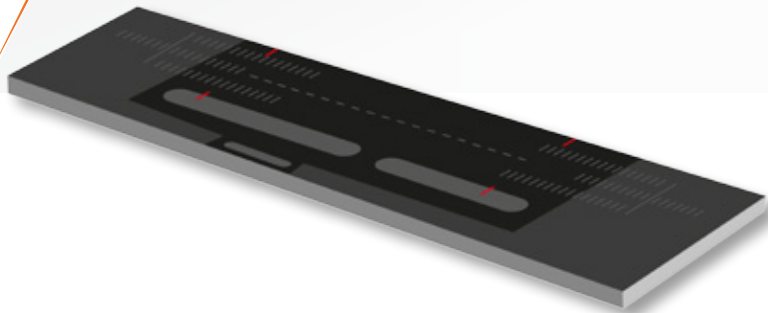


COMPLIANCE WITH STANDARDS

ICAO: Annex14 Para 5.3.5
FAA: AC150/5345-28, L-880

SPECIFICATION

- Power Consumption: 200W x 3 (PK30D)
- Life time of Light: 1.000hrs
- Protection Class: IP-67
- Minimum Average Intensity : 15.000cd
- Chromaticity: Red, White



SFL: Sequence Flash Light
RTIL: Runway Threshold
Identification Lights

12

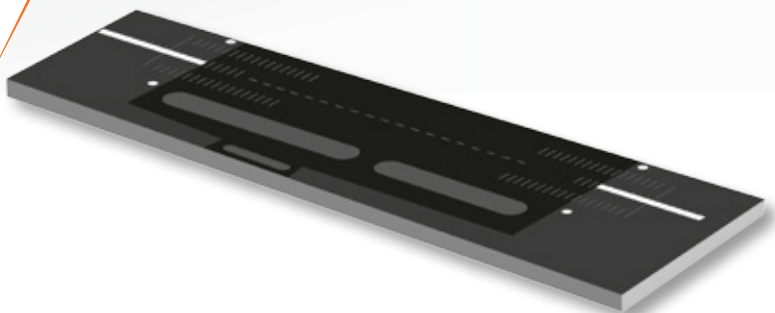


COMPLIANCE WITH STANDARDS

ICAO: Annex14 Para 5.3.4
FAA: AC150/5345-51, L-849

SPECIFICATION

- Life time of Light: 1.000hrs
- Protection Class: IP-67
- Minimum Average Intensity : 10.000 ~ 17.000cd
- Chromaticity: White (Flash)



IT: Isolating Transformer

13



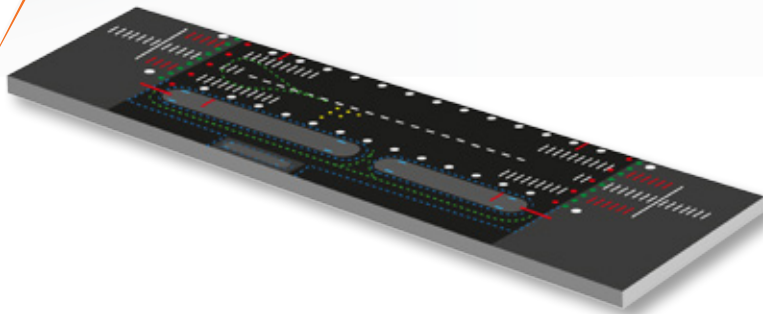
COMPLIANCE WITH STANDARDS

IEC/TS: 61827

FAA: AC150/5345-47, L-830

FEATURES

- Encapsulated in thermoplastic rubber (TPE)
- Resistant to oil, kerosene, aircraft fuel, acids and alkalis and other chemicals present on airfields
- Primary cable 600mm long, cross section 8mm² Thermoplastic rubber(TPE) insulation and jacked
- Secondary cable 1200 mm long, cross section 2 wires of 3.5 mm² thermoplastic rubber insulation ad jacked
- Primary Plug and Receptacle FAA L-823, Style 2
- Secondary Receptacle FAA L-823, Style 7



CK: Primary Connector
Secondary Connector

14



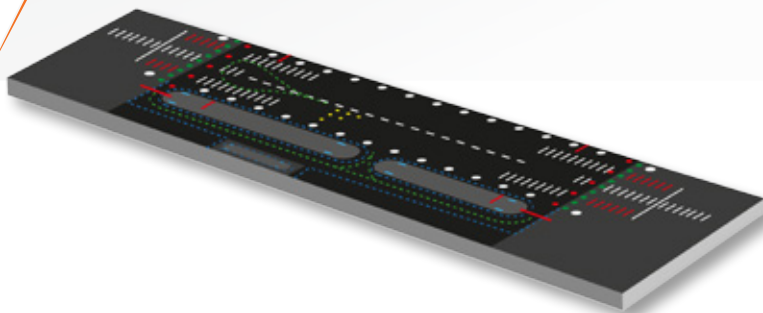
COMPLIANCE WITH STANDARDS

IEC/TS: 61827

FAA: AC150/5345-47, L-823

FEATURES

- Encapsulated in thermoplastic rubber (TPE)
- Resistant to oil, kerosene, aircraft fuel, acids and alkalis and other chemicals present on airfields
- Primary Connector kit FAA L-823, Style 3 & 10
- Secondary Connector kit FAA L-823, Style 4 & 11(1Core Cable), Style 5 & 12(2 Core Cable)



CCR: Constant Current Regulator

15



COMPLIANCE WITH STANDARDS

ICAO: Aerodrome Design Manual Part 5

IEC/TS: 61822

FAA: AC150/5345-10, L-829

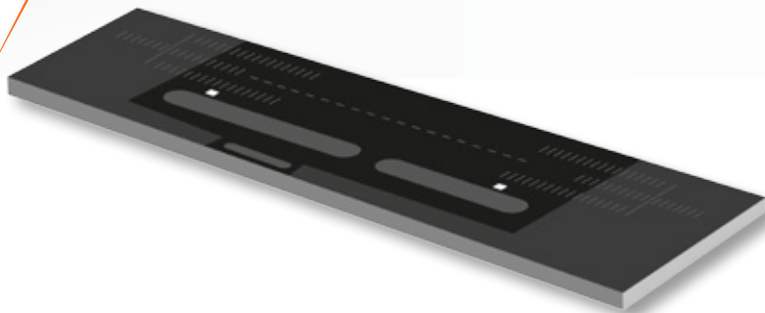
FEATURES

- 32-bit micro controller based fully digital thyristor controlled constant current regulator.
- 7 brightness steps (2.2A, 2.5A, 2.8A, 3.4A, 4.1A, 5.2A, 6.6A - can be adjusted 3 or 5 steps).
- 2.5, 4, 5, 7.5, 10, 15, 20, 25, 30 k VA power options.
- Display of true RMS values of current and voltage both for input and output.
- Open circuit protection and fault indication.
- Over current protection and fault indication.
- Input power loss warning.
- Current regulation error, low output power indicators.
- User friendly 12 inch touch screen and graphical user interface.
- Control and monitor by LCD screen as well as remote and local functions.
- Plotting current, voltage, frequency, powerfactor etc. on LCD screen.
- High resolution accurate current control capability and fast regulation response.
- Optional built-in circuit selector/direction changer (Up to 4 circuit for the CCRs 10k VA and below, 2 circuits above 10kVA).
- Single or redundant Modbus/TCP or multiwire remote control and monitoring function.
- 24V/48V/60V selectable multiwire remote control voltage.
- Optional lamp fault and earth fault units with adjustable warning and alarm levels.
- Logging of warning and fault situations
- Optional output surge arresters.
- Elapsed-time meter for each step and total.
- Easy replaceable plug-in PCB modules.
- Tap setting on 50%, 60%, 70%, 80%, 90%, 100% for load adaptation.
- Input voltages are 230V 50/60Hz for CCRs 5kVA and below, 400V 50/60Hz for CCRs above 5k VA.
- Fault indication by multi-colored (or RGB) LED strips located around the case.



MC: Manhole Cover

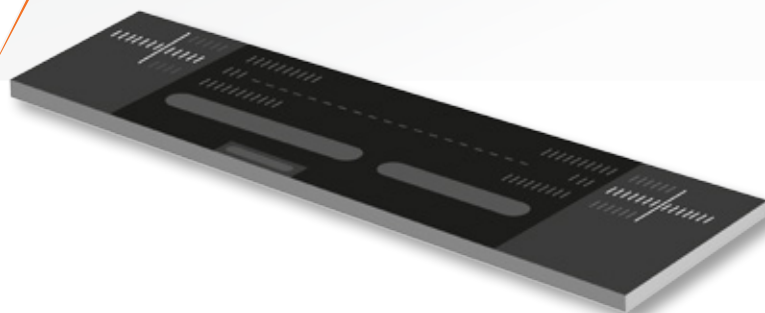
16


FEATURES

- Loading capacity from B125 to F900(BS EN 124)
- Unaffected by underground gases and most chemicals
- Modular structure, easy and fast installation
- Need no paint surface treatment in order to prevent rust, Anti-corrosive
- Sealed manhole covers are water and odour tight
- Excellent insulator against heat
- Incredibly strong monolithic structure that will not delaminate

MC: Frangible Approach Mast

17

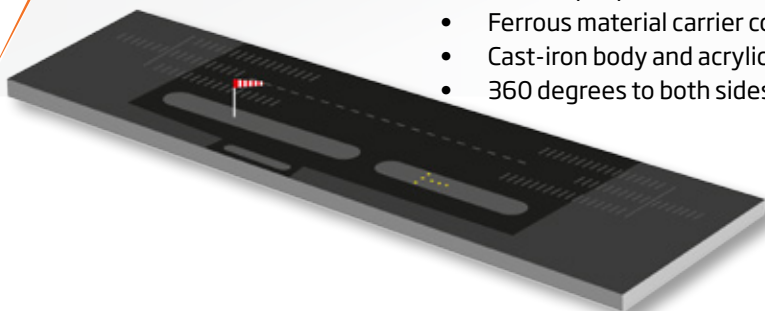

COMPLIANCE WITH STANDARDS

ICAO: Annex 14 Vol 1 Chapter 9

FEATURES

- Maintenance free mast
- UV resistant fiber-glass
- Corrosion free
- Temperature/Weather resistant
- No electro magnetic interference
- Low shipping cost
- Fixed or movable connection

WC: Wind Cone
WT: Wind T



18

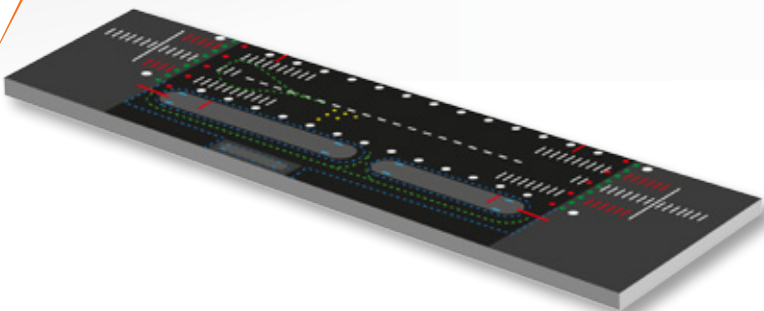
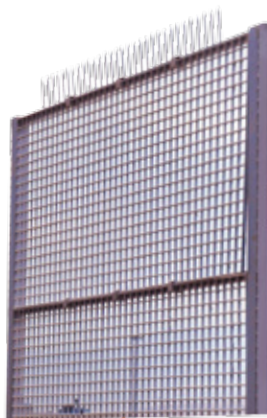
COMPLIANCE WITH STANDARDS

FAA: AC 150/5345-27e (WC)
 L-808-10.03 (WT)
 AC 150/5345-46; L-852T&E (WT)
 ICAO: Annex 14, Vol. 1, Ed. 6 par 5.1.1

SPECIFICATION

- Easy installation
- No need of additional electrical equipment
- Lightweight and Frangible
- Works between -50° and +50° C
- Accurate measurement in all weather conditions
- Light or no light version (WC)
- Synthetic fabric and Rot resistant (WC)
- Waterproof (WC)
- Energy saver lamp, LED, Power LED version (WT)
- All aluminum body, UV-resistant acrylic paint, stainless steel chassis (WT)
- Ferrous material carrier component (WT)
- Cast-iron body and acrylic glass (WT)
- 360 degrees to both sides rotary to be transmitted electricity (WT)

ICF: Insulating Composite Fence



19

SPECIFICATION

- Grid Line Space %72
- Grid Size 50x50 mm
- Support Bar Width 7,5 mm
- Approximate Weight 19,25 kg/m2
- Distance Between Grids 50 mm
- Number Of Bars Per Meter 32
- Panel Size 1005x4005

Remote Control And Monitoring System

COMPLIANCE WITH STANDARDS

ICAO: Annex 14, Vol. 1, para. 5.3 and 8.3 and Aerodrome Design Manual part 5, para. 3.4 and 3.7.

FAA: L-890 AC 150/5345-56 (Last version)

FEATURES

- Works on linux operating system
- More stable through customized linux operating system
- Fully compatible with meteorological systems in airports
- All different brand, model and connection types of regulators can be controlled simultaneously from the same system.
- Regulators, circuit selectors, generators and other system components in different locations can be controlled over the same network.
- All computers on the same network can be automatically synchronised
- When needed, master authority can be transferred to any computer over the network.
- All computers over the network can be ranked accordingly.



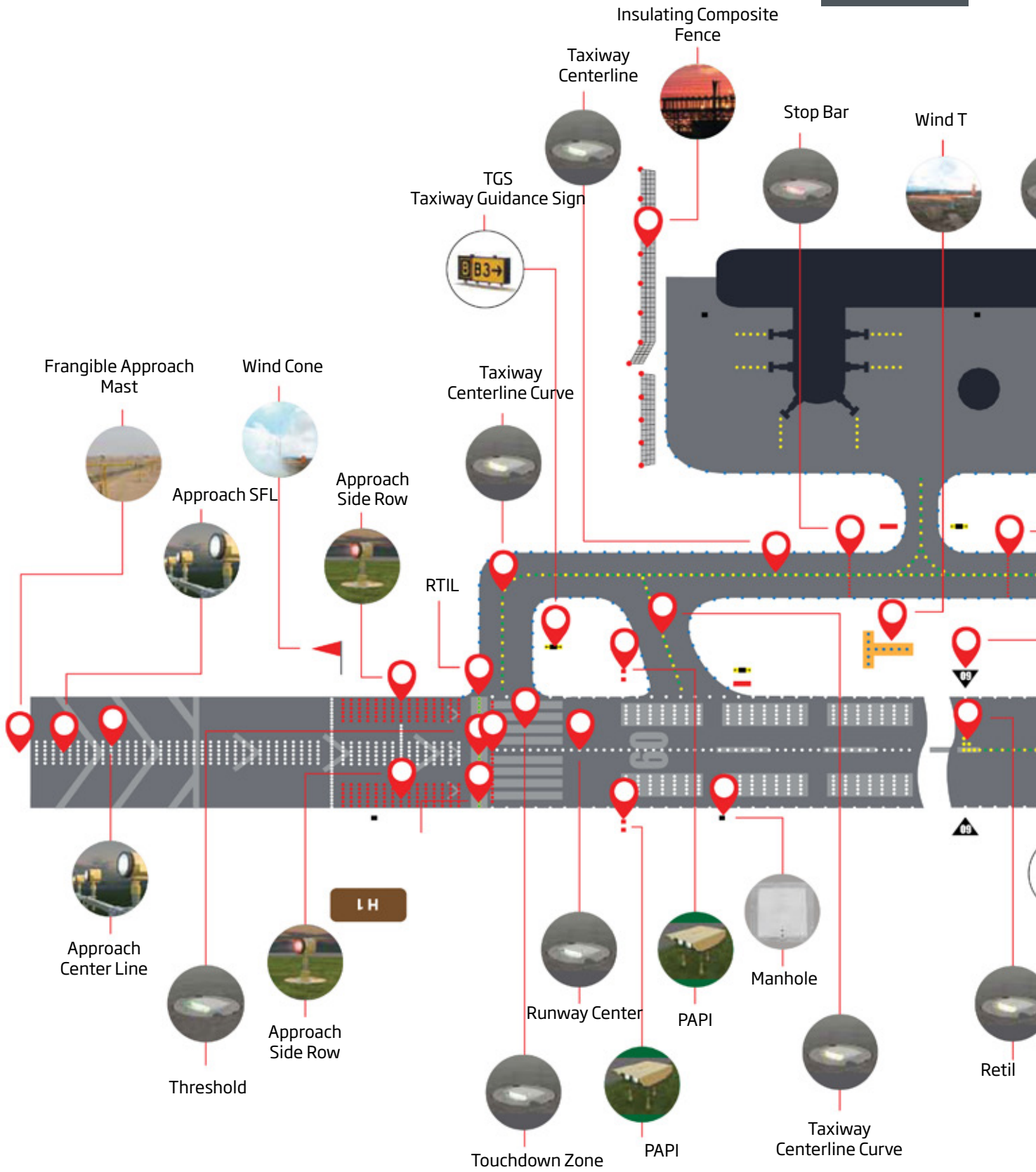


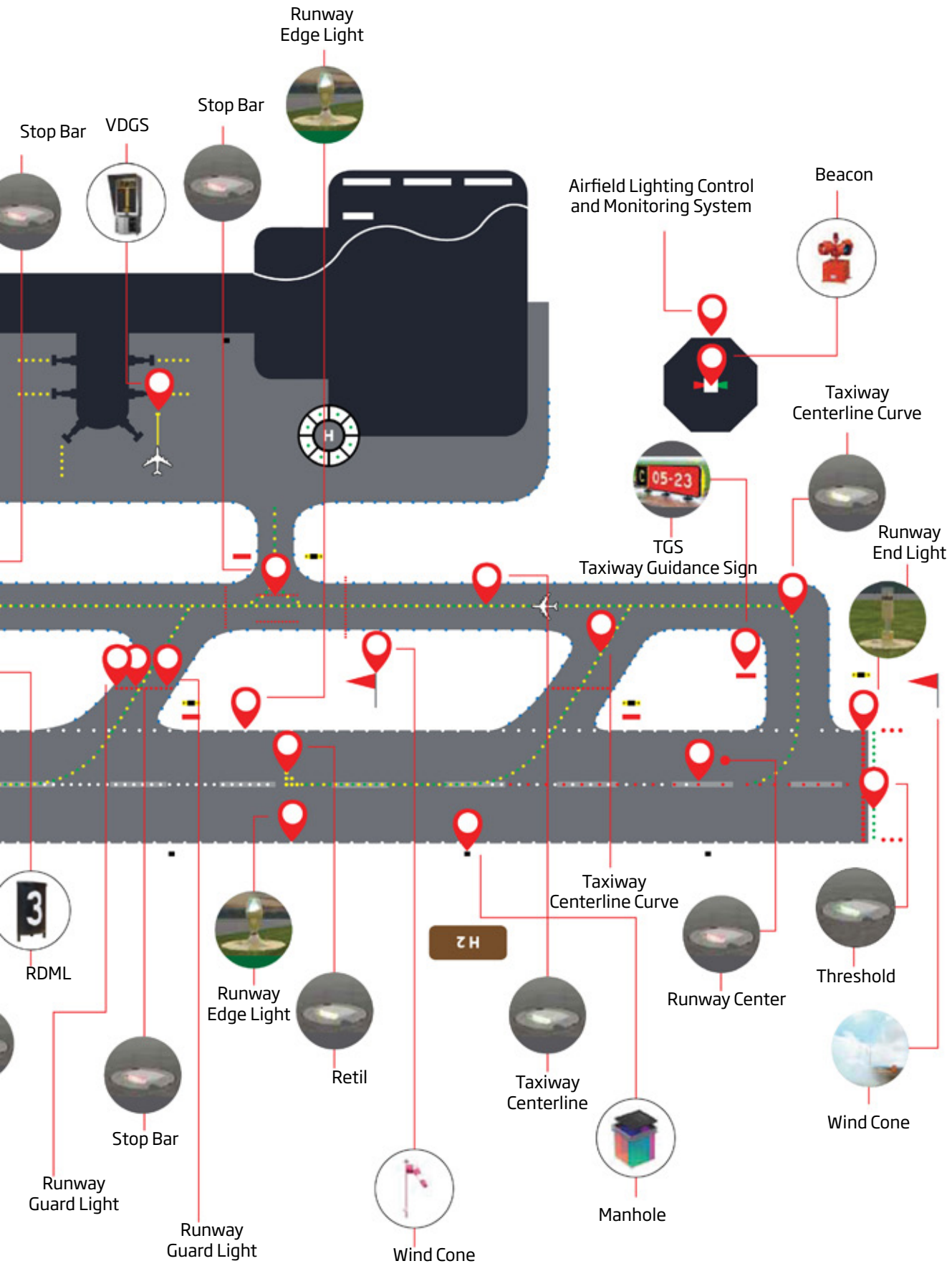
- Heating systems are available to counteract freezing of armatures*
- The system can be updated through remote access
- The touch screen interface design guarantees a mouse and keyboard are never needed
- Authorized users can view operational records and device statuses through information received from the regulator
- Automatic level adjustment option is available depending on the visibility to help air traffic controller to decide.
- To save energy, circuits only needed for landing and take-off are switched on and off.
- The system can be controlled quickly and easily with 5 different pre-set options .
- Automatically controls the stop-bar and taxi centerline lighting.
- High resolution and easily understandable runway design is prepared differently for every airport.
- Lock screen option for cleaning screens, Background modification function, Choice of many different languages to choose from, Automatic screen protection for each user, Different levels of alarm sounds, Local sunrise and sunset times shown. Plenty more special user options.

* If the regulator has defrosting feature



System Diagram











UBS MAIN OFFICE

Uğur Mumcu Sokak No: 21/2
Gaziosmanpaşa / Ankara
T: +90 312 447 48 75
F: +90 312 447 69 57
info@ubs.com.tr
www.ubs.com.tr

UBS FACTORY

Akova Mah. Sakarya Cad. No: 57
Hendek / Sakarya
T: +90 264 614 35 36
F: +90 264 614 35 38
info@ubs.com.tr
www.ubs.com.tr

UBS BAKU

Heydar Aliyev Int. Airport
Baku / Azerbaijan
T: +99 451 561 99 18
info@ubs.com.tr
www.ubs.com.tr

UBS MEDINA

Kral Abdülaziz Int. Airport
Medina / Suudi Arabia
T: +96 654 388 23 98
info@ubs.com.tr
www.ubs.com.tr