

OBSTRUCTION LIGHTS

DBTEC[®]



DBTEC

Currently present in three different segments, which are signaling of Obstacles; Assembly of Electrical and Electronic Panels; and Field Engineering and Services - maintenance, installation and electromechanical assembly, special projects, turnkey of substations and others - DBTEC stands out for the way we construct our relationships, entirely based in our Values and Principles charter. Customers are taken as true PARTNERS, and for this reason, DBTEC is not only satisfied to solve the problem or provide a solution, but also and especially in taking them as it, i.e., assuming with the customer this PARTNERSHIP and RESPONSIBILITY by all.

It operates in several applications, for which the reliability is essential.

DBTEC keeps attention in the Customer Focus and thus ensure the development of products and solutions with total quality and meet their needs.

Offers within the line of Products and Services, current and innovative solutions. The cost reduction, sustainability and satisfaction of their customers are present in all that we do.

In the segment of Signaling of Obstacles, technologies such as synchronism via GPS, optical engineering and the application of LEDs, are present in most of our portfolio of products, this means large reduction of cost in the installation expenses, operation and maintenance, in addition to a representative increase of life and sustainability. Standalone or solar radiation flags are also part of our portfolio. All in accordance with standards and rules required nationally and internationally.

For the Electrical Panels, DBTEC enchants its customers with the final quality and organization that can be seen from the beginning until the conclusion of the project. It uses technology of projects and engineering, with dedicated software for such functions. Constantly investing in machines and tools that aim a greater speed, standardization and quality in assembly and tests. But what most differentiates the DBTEC, are our professionals, who are highly prepared and trained in addition to designing and assembling panels of the simplest to the most complex, delight our customers.

DBTEC receives daily inspectors, diligent and auditors from several customers and partners. All this to ensure and enforce the guarantee of DBTEC Quality System. And daily these customers report the satisfaction, contentment and enchantment by business model and form with which are received, in addition to quality applied in their projects, products and services.

And in the segment of Field Engineering and Services, also trained and committed professionals, are prepared every day to offer and realize the most various solutions. Among these projects of installation, distribution and energy generation, maintenance and industrial electromechanical installation.

Since 2010, the DBTEC has the ISO 9001 certificate, one more differential that is a complement with the other and ensures that the customer needs will be addressed with excellence.




VISION

We will be the largest Brazilian company of obstacles signaling in its full scope; we will be among the 10 largest companies of panels assembly and industrial electromechanical services in Brazil; and will expand our business internationally.

MISSION

Intensify the energy and the brightness of our collaborators, to overcome the expectations of our customers, with differentiated service, guaranteed quality and socio environmental responsibility.

VALUES

-  Respect
-  Honesty
-  Quality
-  Ethic

-  Companionship
-  Commitment
-  Efficiency
-  Determination



The current headquarters of DBTEC is in Pindamonhangaba - São Paulo - Brazil

Building area: 3.100m²

Total area: 12.000m²

2014



3

2003

Building area: 700m²

First expansion: 1.400m²

Total area: 1.800m²

THE EVOLUTION

Founded on September 21, 1998 in Pindamonhangaba, in the state of São Paulo's countryside, DBTEC was only a dream, in a building of 50m², a bold and innovative idea, combined with great determination, made the DBTEC be today one of the largest companies in Brazil in Signaling of Air Obstacles.

At the beginning of the year 2000, DBTEC began to conquer their space in the market for the assembly of electrical panels. The physical space no longer supported this change, was when in 2003 we moved to a far wider building of 700m² of built area, and there our history, business and dreams continued to grow and become reality. Today DBTEC is a reference in frame assembly and Electrical Panels, working with excellence and delivering customized solutions to customers all over

Brazil.

In 2012 DBTEC put into practice more one innovative project, uniting experience to the market to highly skilled professionals and with over 30 years of experience, launched the segment and Engineering department of Field and Services, which executes the great projects of fitting, installation and electromechanical maintenance.

In the year 2014, in a land area of 12.000m², was inaugurated the new headquarters of the company, with a wide administrative area and a manufacturing space even greater, enables projects of medium and large size in addition to that already existed.

Today the DBTEC is throughout Brazil and in some countries of the world, delivering with excellence, solution and confidence wherever we go.

AVIATION LIGHTS



Foto: Casa dos Ventos



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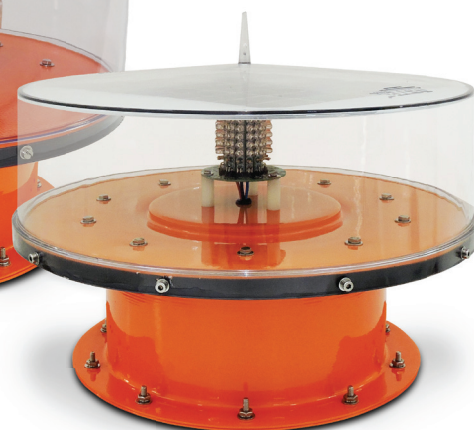
- Completely self-contained, not require electrical energy to operate;
- Eliminate the need for piping and cabling installation;
- LED technology, that provides greater economy and increases the life of the sign;
- Quick and easy installation, requires no special tools;
- Photometric cover of 360° on horizontal and vertical, which prevents visual pollution in the soil;
- Advanced drawing, does not have moving parts;
- It has intelligent charge controller that ensures longer battery life;
- Available with 3 different mounting brackets, or according to the customer needs.



Medium Intensity



On / Off switch on the bottom of the sign.



Low Intensity

STANDARDS AND CERTIFICATES (pg. 14)

Low Intensity

I-AB	C-AB	F810	N810
746C	I179	I2039	EMC
IP-66	14125	5410	

Medium Intensity

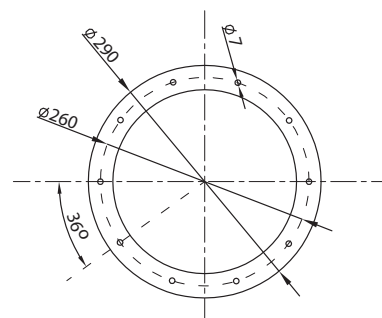
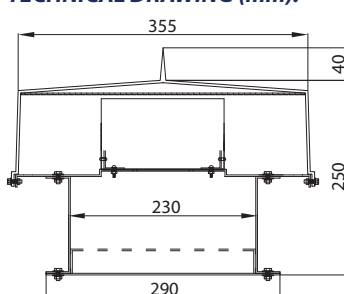
I-B	C-B	F864	N864
746C	I179	I2039	EMC
IP-66	14125	5410	

TECHNICAL SPECIFICATIONS	Low Intensity	Medium Intensity
Alimentation	Autonomous	Autonomous
Autonomy	> 72 hours	> 72 hours
Luminous Intensity	33 candelas	2.000 candelas
Color of Light	Red	Red
Operating Mode	Fixed	Flash
PPM	-	20 / 40 / 60
Photometric Coverage	360° Horiz. / 10° Vert.	360° Horiz. / 3° Vert.
Lens	Polycarbonate UV	Polycarbonate UV
Body	Orange painted Aluminium	Orange painted Aluminium
Dimensions	375mm X 290mm	375mm X 290mm
Approximate Weight	7,3kg	7,5kg
Guarantee	12 months	12 months

APPLICATION:

Telecommunication towers, anemometric towers, chimneys, tower cranes, cranes, among others.

TECHNICAL DRAWING (mm):





Wind Complex João Câmara
João Câmara-RN

Supply and installation of DBFLASH Wind sign with synchronization via GPS
October/2015



- LED technology, that provides greater economy and increases the life of the sign;
- Enables synchronization via GPS with other sign DBFLASH Wind around the world;
- Integrated optical and electronics unit options or with a separate control panel;
- Advanced drawing, does not have moving parts;
- Has failed signaling alarm;
- Available with 3 different mounting brackets, or according to the customer needs;
- Quick and easy installation, requires no special tools;
- Product with certification for local content (BNDES).



Medium Intensity



GPS technology for synchronization signal.

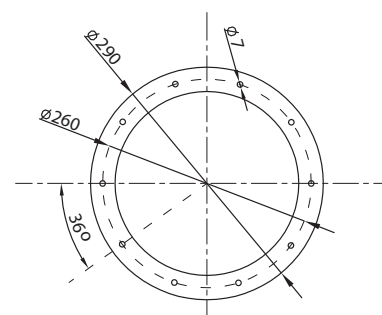
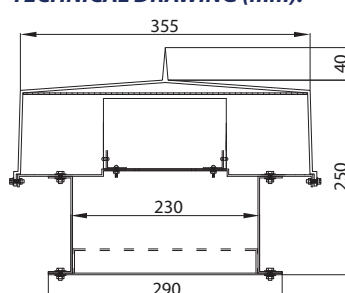
STANDARDS AND CERTIFICATES (pg. 14)

I-B	C-B	F864	N864
I-A	C-A	F865	N865
IP-66	5410	14125	IEC
746C	1179	12039	EMC

TECHNICAL SPECIFICATIONS	DBFLASH Wind (Standard)
Alimentation	127Vac or 220Vac / 60Hz or 48Vdc
Average consumption	Approximately 60W
Luminous Intensity	2.000 cd RED / 20.000cd WHITE
Color of Light	Red / White
Operating Mode	Night / Day
PPM	20 / 40 / 60
Photometric Coverage	360° Horizontal / 3° Vertical
Lens	Polycarbonate UV
Body	Orange painted Aluminium
Dimensions	375mm X 290mm
Approximate Weight	7,0kg
Guarantee	12 months

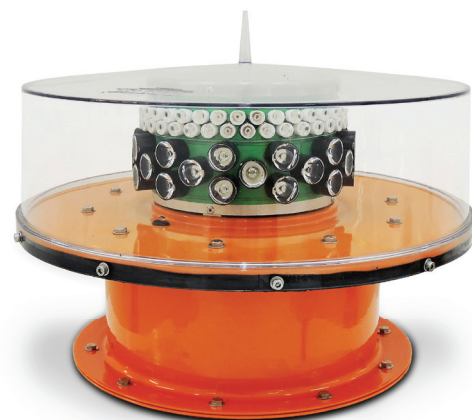
APPLICATION: Wind Farms (Wind turbines).

TECHNICAL DRAWING (mm):





- LED technology, that provides greater economy and increases the life of the sign;
- Allows the drive and monitoring of others signal through the integrated QCAB;
- Advanced drawing, does not have moving parts;
- Has failed signaling alarm;
- Available with 3 different mounting brackets, or according to the customer needs;
- Quick and easy installation, requires no special tools;
- Option to include synchronism module via GPS.



Medium Intensity

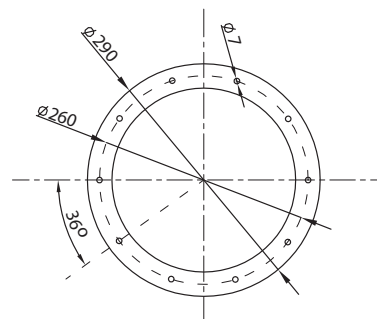
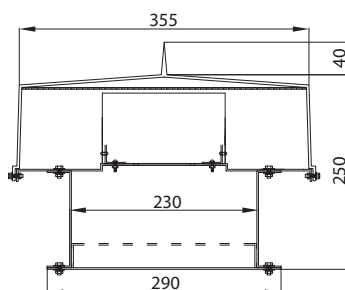
STANDARDS AND CERTIFICATES (pg. 14)

I-A	C-A	F865	N865
IP-66	5410	14125	EMC
746C	1179	12039	

APPLICATION:

Telecommunication towers, anemometric towers, chimneys, towers cranes, cranes, water tanks, building top, silos, among others.

TECHNICAL DRAWING (mm):



TECHNICAL SPECIFICATIONS	DBFLASH 2k20
Alimentation	127Vac or 220Vac / 60Hz or 48Vdc
Average consumption	Approximately 60W
Luminous Intensity	2.000 cd RED / 20.000cd WHITE
Color of Light	Red / White
Operating Mode	Night / Day
PPM	20 / 40 / 60
Photometric Coverage	360° Horizontal / 3° Vertical
Lens	Polycarbonate UV
Body	Orange painted Aluminium
Dimensions	375mm X 290mm
Approximate Weight	10,5kg
Guarantee	12 months

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- Signal High Intensity;
- LED technology, that provides greater economy and increases the life of the sign;
- Advanced drawing, does not have moving parts;
- Has failed signaling alarm;
- Available with 3 different mounting brackets, or according to the customer needs;
- Quick and easy installation, requires no special tools;
- Synchronism option with DBFLASH signal of medium and low intensities via cable or GPS.



High Intensity

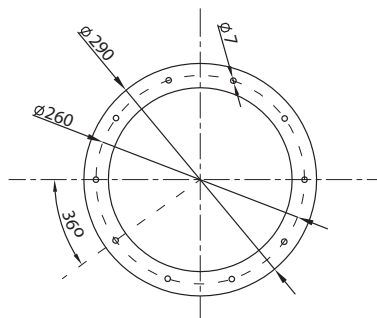
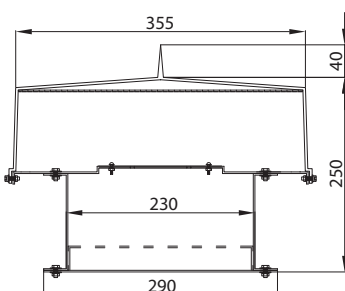
STANDARDS AND CERTIFICATES (pg. 14)

I-B	C-B	F857
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APPLICATION:

Telecommunication towers, anemometric towers, chimneys, towers cranes, cranes, water tanks, building top, silos, among others.

TECHNICAL DRAWING (mm):



TECHNICAL SPECIFICATIONS	DBFLASH High Intensity
Alimentation	127Vac or 220Vac / 60Hz or 48Vdc
Average consumption	Approximately 100W
Luminous Intensity	2.000 cd RED / 20.000cd WHITE
Color of Light	Red / White
Operating Mode	Night / Day
PPM	20 / 40 / 60
Photometric Coverage	360° Horizontal / 3° Vertical
Lens	Polycarbonate UV
Body	Orange painted Aluminium
Dimensions	375mm X 290mm
Approximate Weight	10kg
Guarantee	12 months



- Integrated communication with the monitoring center;
- Has failure signal alarm;
- It allows the drive of the redundant lighting fixtures;
- Enables the synchronization of the sign;
- Available for LED lighting fixtures or others up to 60w;
- Commands and monitors up to 8 main signal, plus 8 redundant signal;
- 4 options of different materials (carbon steel, stainless steel, aluminum or fiber);
- Quick and easy installation, requires no special tools.



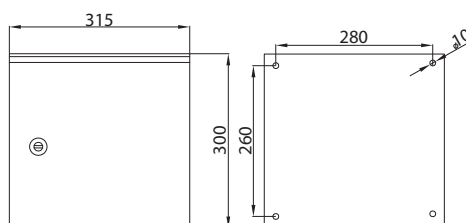
APPLICATION:
Telecommunication towers, anemometric towers, chimneys, tower cranes, cranes, among others.

STANDARDS AND CERTIFICATES (pg. 14)

IP-54 5410

TECHNICAL SPECIFICATIONS	DBQCAB
Alimentation	127Vac or 220Vac 60Hz or 24Vdc / 48Vdc
Operating Mode	Night / Day
Dimensions	315mm X 300mm X 215mm
Approximate Weight	It varies according to the model
Guarantee	12 months

TECHNICAL DRAWING (mm):



- Applicable in Rack of 19";
- Photocell performance adjustment located in the front of the equipment;
- Lighting fixtures circuit easily interchangeable;
- Command button to test the circuit which allows forcing the operation in both "day mode" as in "Night Mode";
- Fuses installed on the front of the equipment;
- Monitoring circuits of lighting fixtures by the optocouplers, ensure even greater reliability in case of atmospheric discharges.



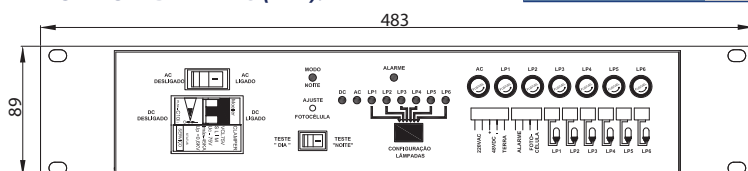
STANDARDS AND CERTIFICATES (pg. 14)

IP-54 5410

APPLICATION:
Rack 19", directly on the BTS or other indoor applications.

TECHNICAL DRAWING (mm):

TECHNICAL SPECIFICATIONS	DBQCAB Rack
Alimentation	127Vac or 220Vac 60Hz or 24Vdc / 48Vdc
Operating Mode	Night / Day
Dimensions	315mm X 300mm X 215mm
Approximate Weight	10,5kg
Guarantee	12 months



The current headquarters of DBTEC
Pindamonhangaba-SP

DBFLASH 2k20 installed in the water tank
September/2014

- It has LED technology, which offers greater reliability and reduce the frequency of the signal replacement;
- Power consumption up to 20 times smaller than the common incandescent bulb;
- Available with or without built-in photocell;
- UV protection;
- Greater resistance of vibration;
- Available in colors red, yellow, blue, green and white;
- Very versatile use, enables the application to industrial and maritime signaling;
- It has 4 different modes of visual effects;
- Versatile sign, allows several applications;
- Not require special disposal.

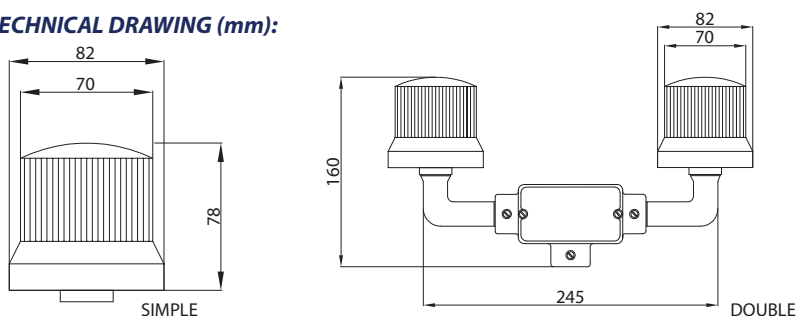


TECHNICAL SPECIFICATIONS	Lumiway Aéro
Alimentation	90Vac to 240Vac / 60Hz 12Vdc, 24Vdc and 48Vdc
Average consumption	< 3W
Color of Light	Red / Green / Blue / Yellow / White
Operating Mode	Fixed / Flash / Rotary / Flashing
Photometric Coverage	360° Horizontal / 10° Vertical
Lens	Polycarbonate
Body	Black Engineering Plastic
Dimensions	183mm X 350mm
Approximate Weight	150g
Cable	2 way of 0,3mm X 0,5mm ²
Guarantee	12 months

APPLICATION:

Wind turbines, telecommunication towers, anemometric towers buildings top, industrial equipment, forklifts, water tanks, silos, among others.

TECHNICAL DRAWING (mm):



- Suitable for use in classified areas;
- Integrated communication with the monitoring center;
- Has failed signaling alarm;
- Allows the drive of the redundant lighting fixtures;
- Available for LED lighting fixtures or others up to 60w;
- Commands and monitors up to 8 main signal, plus 8 redundant signal;
- Quick and easy installation, requires no special tools.

STANDARDS AND CERTIFICATES (pg. 14)

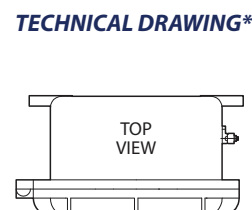
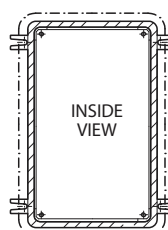
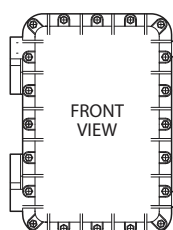
IP-54 5410



APPLICATION:

Classified areas, petrochemical, explosives industries, oil and gas industries, offshore platforms, telecommunication towers, top building top, chimneys, among others.

TECHNICAL SPECIFICATIONS	DBQ CAB
Alimentation	127Vac or 220Vac 60Hz or 24Vdc / 48Vdc
Operating Mode	Night / Day
Dimensions	It varies according to the model
Approximate Weight	It varies according to the model
Guarantee	12 months



TECHNICAL DRAWING*:

* All dimensions can vary according to the product model.



SIGNPOSTS CONVENTIONAL



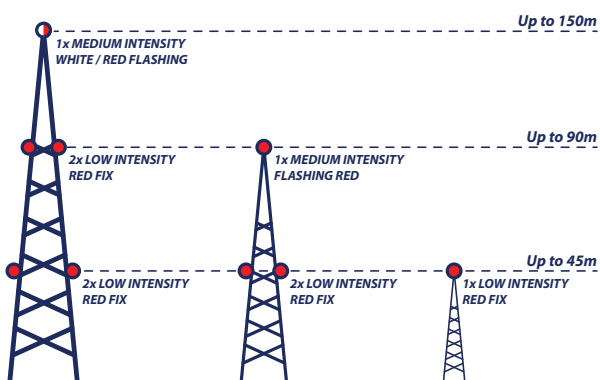
LUMIWAY AÉREO



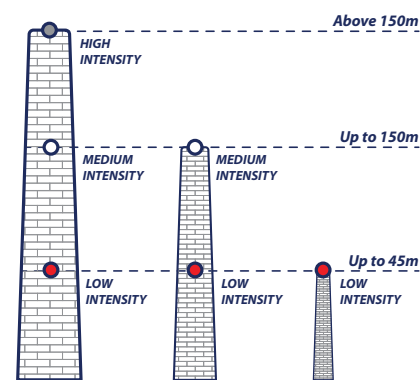
9

INSTALLATION GUIDANCE OF AIRCRAFT WARNING LIGHTS

TELECOM TOWERS



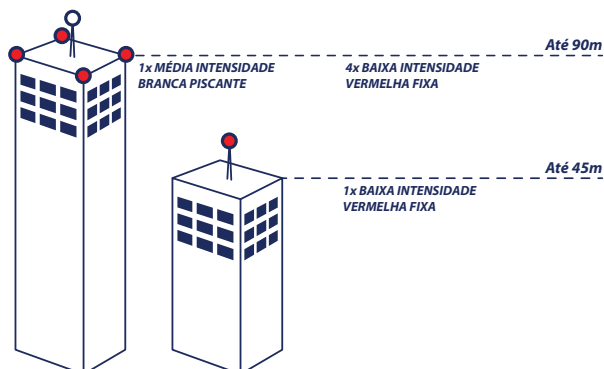
CHIMNEYS



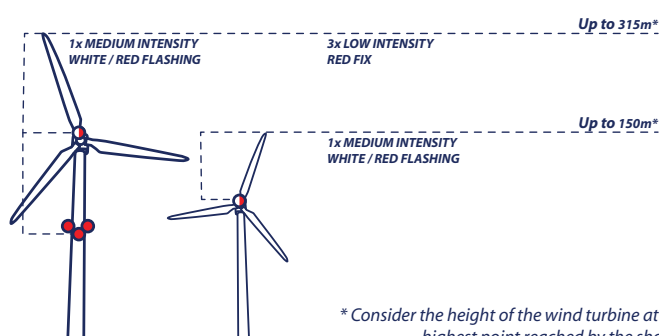
QUANTITY OF THE SIGNAL IN RELATION TO THE TOP DIAMETER

MINIMAL DIAMETER	MAXIMUM DIAMETER	QUANTITY OF SIGNS
Above 60m		8x
30,1m	60m	6x
6,1m	30m	4x
Up to 6m		3x

BUILDINGS TOP



WIND TURBINES



* Consider the height of the wind turbine at the highest point reached by the shovel.

ROAD SIGNS



STANDARDS AND CERTIFICATES (pg. 14)

IP-65 5410

The Input and Output Lumiway was specially developed to make security signaling to areas of entry and exit of vehicle and identifies a range of electronic flags manufactured by DBTEC.

In addition to the innovative technology and unique design, the Input and Output Lumiway differs by alternation visuals and sounds effects, that facilitates the visualization and increases the security of all, including the visually and hearing impaired.

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- It has LED technology, which offers greater reliability and reduce the frequency of the signal replacement;
- Power consumption up to 20 times smaller than the common incandescent bulb;
- Lighting fixtures finish made of polycarbonate, which increases the physical strength of the material;
- UV protection;
- Metal base made of steel carbon plate treated and painted, which increases the physical strength of the product;
- Visibility in 360° horizontal;
- It has 4 modes of visual effects;
- It has up to 4 modes of sound effects and switch between visual and sound effects (Optional);
- Enables the integration of sound effects with the drive opening of the gate (Optional);
- Combines the sound effects to sensors of position, presence and movements;
- Available in colors red and yellow.

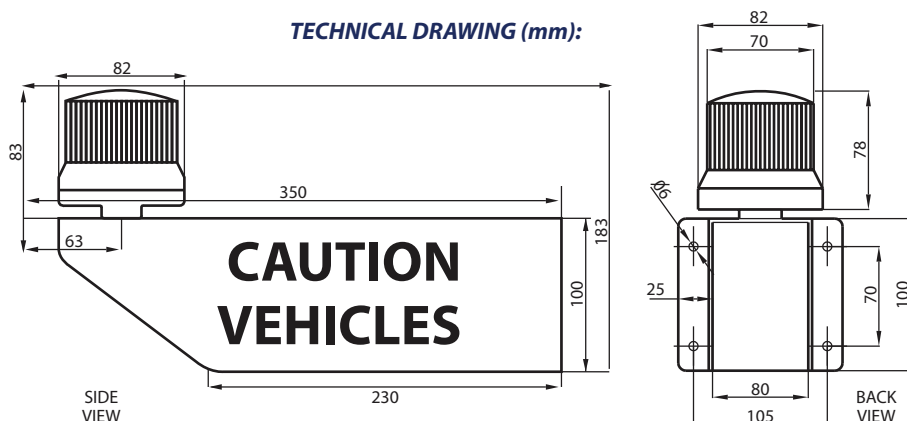


APPLICATION:

Garages, parking lots, gates or any other place with flow of vehicles incoming and outgoing.

TECHNICAL DRAWING (mm):

TECHNICAL SPECIFICATIONS	Lumiway Entrada e Saída
Alimentation	90Vac to 240Vac
Average consumption	< 3W
Color of Light	Red / Yellow
Operating Mode	Fixed / Flash / Rotary / Flashing
Photometric Coverage	360° Horizontal / 10° Vertical
Lens	Polycarbonate
Body	Black Engineering Plastic
Dimensions	183mm X 350mm
Approximate Weight	750g
Cable	2 way of 0,3mm X 0,5mm ²
Guarantee	12 months





Lumiway

E 27

- It has LED technology, which offers greater reliability and reduce the frequency of the signal replacement;
- Power consumption up to 20 times smaller than the common incandescent bulb;
- Available with or without built-in photocell;
- UV protection;
- Greater resistance of vibration;
- Available in red, yellow, blue, green and white;
- It allows the application to industrial and maritime signaling;
- It has up to four modes of visual effects;
- Versatile sign allows several applications;
- It has socket type E27, which facilitates the installation;
- Not require special disposal.



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STANDARDS AND CERTIFICATES (pg. 14)

I-AB C-AB F810 N810

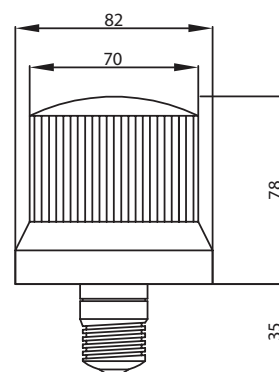
IP-65 5410

TECHNICAL SPECIFICATIONS	Lumiway E27
Alimentation	90Vac to 240Vac / 60Hz 12Vdc, 24Vdc and 48Vdc
Average consumption	< 3W
Color of Light	Red / Green / Blue / Yellow / White
Operating Mode	Fixed / Flash / Rotary / Flashing
Photometric Coverage	360° Horizontal / 10° Vertical
Lens	Polycarbonate
Body	Black Engineering Plastic
Dimensions	183mm X 350mm
Approximate Weight	200g
Connection	Socket type E27
Guarantee	12 months

APPLICATION:

Entries and exits of establishments on the edges of the roads, counter or free cash signal, beyond towers, silos, water towers, chimneys, among others.

TECHNICAL DRAWING (mm):



CONE AND REFLECTIVE



12

DBSIEMP

- Emergency lighting system multi point;
- In the absence of electrical power feeds up to 10 remote points with energy in 24Vdc and total power up to 500W;
- Greater than 1 hour autonomy;
- Dual-voltage automatic, can be supplied with electrical energy between 90 VAC and 250Vac without need of any configuration;
- Consist of a processing unit, two power distribution units, ten emergency lighting fixtures and two audible signaling of 100dB;
- Incorporates set of cable that allows the installation of emergency lighting fixtures up to 55m distant from the point of energizing;
- The electronic module of processing , provides secure and stable operation, as well as resources of time adjustment in re-energise, test and cycles of visual/sound signaling, easily user configurable;
- Mounted in panels with protection degree IP65, which provide their use in industrial environment;
- Modular Assembly, give ease of maintenance and high operational safety.

APPLICATION:
Industries, civil construction, mining, oil and gas, among others.



TECHNICAL SPECIFICATIONS	DBSIEMP
Alimentation	127Vac oR 220Vac 60Hz
Remote Points	Feeds up to 10 points
Total Power	500W
Autonomy	> 1 hour
Guarantee	12 months

NAUTICAL AND MARITIME SIGN

13



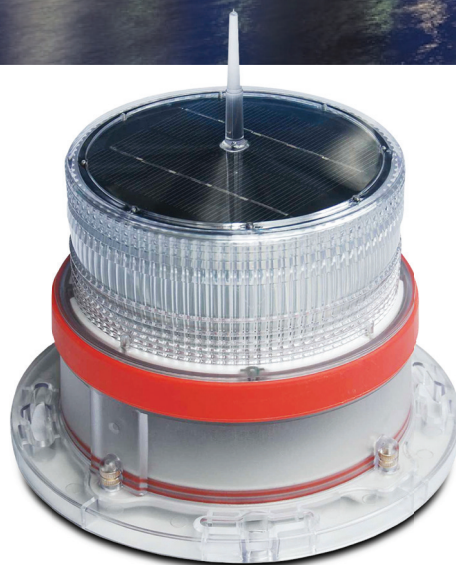
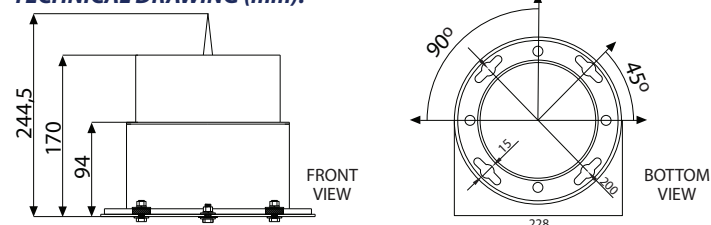
Sistema de Balizamento Autônomo Solar.

- Completely self-contained, not require any other energy source, start the beaconing during the night and turn off during the day;
- Beaconing low-intensity LED, ensuring long service life without maintenance;
- It allows up to 256 different configurations in accordance with IALA;
- Autonomy up to 3 days, which ensure a perfect operation, even in periods of low sunstroke ;
- Robust box with UV protection and degree of protection IP-68, operating for many years in the most critical applications at the time;
- High efficiency solar panel, encapsulated in the upper part of the lighting fixtures;
- Available in 5 different colors (red, yellow, green, blue and white).

APPLICATION:

Ideal for hazardous signaling, aquaculture, navigation, lighting of ports perimeter and offshore platforms, buoys, among others.

TECHNICAL DRAWING (mm):



TECHNICAL SPECIFICATIONS	SBAS
Alimentation	Autonomous
Autonomy	> 72 hours
Intensidade Luminosa	More than 10 candelas
Color of Light	Red / Green / Blue / Yellow / White
Operating Mode	Night / Day (> 256 settings)
PPM	Configurable between 20 / 40 / 60
Photometric Coverage	360° Horizontal / 9° Vertical
Lens	Polycarbonate UV
Body	Injected Aluminium
Dimensions	215mm X 226mm
Approximate Weight	1,7kg
Guarantee	12 months

STANDARDS AND CERTIFICATES

LIGHT INTENSITY

C-AB COMAR | PORTARIA 957 | TIPO "B" / TIPO "A"

C-B COMAR | PORTARIA 957 | TIPO "B"

C-A COMAR | PORTARIA 957 | TIPO "A"

F810 FAA-AC150/5345-43G | L-810 [1]

F864 FAA-AC150/5345-43G | L-864 [2]

F865 FAA-AC150/5345-43G | L-865 [3]

I-AB ICAO | ANNEX 14 | TYPE "B" / TYPE "A"

I-B ICAO | ANNEX 14 | TYPE "B"

I-A ICAO | ANNEX 14 | TYPE "A"

N810 NBR-15238:2005 | L-810 [1]

N864 NBR-15238:2005 | L-864 [2]

N865 NBR-15238:2005 | L-865 [3]

DEGREE OF PROTECTION

IP-65 NBR-IEC 60529 | IP-65

IP-66 NBR-IEC 60529 | IP-66 [4]

IP-54 NBR-IEC 60529 | IP-54

SAFETY

5410 NBR-5410

PAINTING

14125 NBR-14125

LENS

746C UL-746C | Classificação F1

I179 ISO-180 | ISO-179

I2039 ISO-2039-1 | Dureza H358/30 | 95MPA

VIBRATION

IEC IEC60721.3.3 | IEC60721.4.3 | IEC60068-2 | 3M5 [5]

ELECTROMAGNETIC COMPATIBILITY

EMC CISPR 22 | CISPR 24 | IEC 61000-4-2 | IEC 61000-4-3

IEC 61000-4-4 | IEC 61000-4-5 | IEC 61000-4-6

IEC 61000-4-8 | IEC 61000-4-11 | IEC 61000-3-2

IEC 61000-3-3

[1] Certification IPT 12 613-204

[2] Certification IPT 12 612-204

[3] Certification IPT 12 611-204

[4] Certification IPT Report 1 044 456-203-04

[5] Certification IBEC Report 130 896/2/2

**AVOID ACCIDENTS! ALWAYS USE CERTIFIED PRODUCTS,
THIS IS YOUR GUARANTEE OF SAFETY!**

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QUALITY GARANTEE

Since 2010, the DBTEC has the ISO 9001 certificate; one more differential that is a complement with the others and ensures that customer need will be addressed with excellence.

- Total focus on customer needs;
- Collaborators training;
- Optimization of the production process.



**DBTEC HAS THE ISO
CERTIFICATION 9001: 2008
WHICH GUARANTEES THE RELIABILITY
OF PRODUCTS AND SERVICES!**



Quality of the Product



Collaborators Satisfaction



Customer Satisfaction



Continuous Improvement



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