

# IVS 2.0



Solar power luminous signalling system  
for ULM airfields

**IVSOLAR**  
Powered by **JUU**Grup<sup>®</sup>

Change of luminous sign according to wing direction

Electronic system control

Maintenance-free, 5 years of useful service life

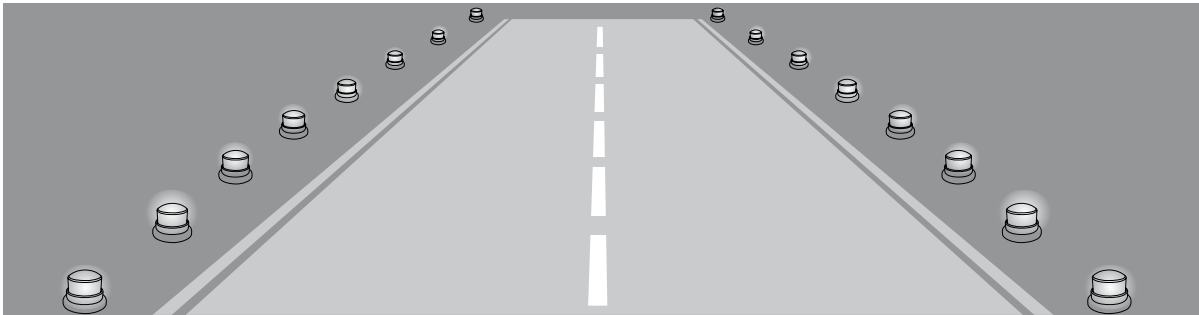
LED technology, luminous intensity of over 70 candelas

Simultaneous flashing white and red lights on the entire runway

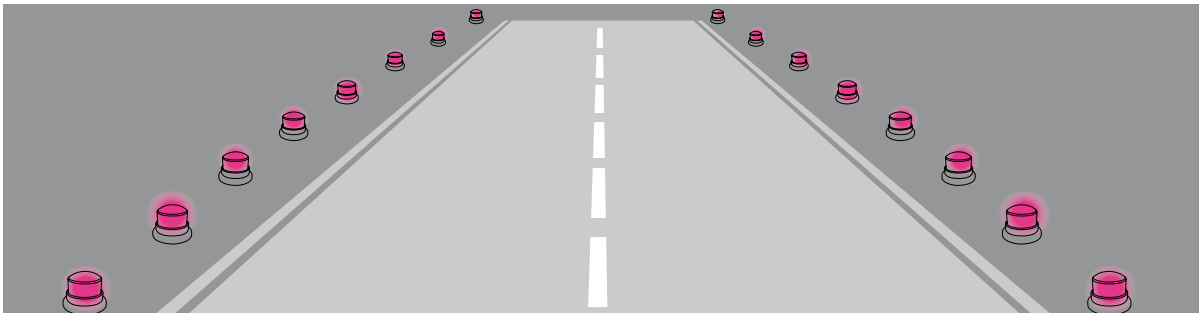
Wireless radio frequency synchronization system



OPERATION



Frontal wind. White light. Runway ready for take off / landing



Tail wind. Red light. Runway not recommended for take off / landing

- Autonomous system activated by a sensorial weathervane (optional)
- Activation by remote control (optional)
- Quick installation without cables
- Fixed or mobile anchorage by cones

GENERAL CHARACTERISTICS

- **Covering dome** Polycarbonate
- **Protective material and/or icon base** LURAN technical plastic
- **Energy** Photovoltaic
- **Source of energy** Optical power LEDs
- **Visibility** Bidirectional
- **Autonomy** 30 days with fog and/or clouds, but situated to receive radiation on a sunny day (diffuse light)<sup>1</sup>
- **Operative life** 5 years with unfavourable weather conditions<sup>2</sup>
- **Storage** Magnetic leak proof switch
- **Resistance** To blows; U.V. rays; saline conditions; corrosion; high and low temperatures
- **Autonomy without solar charge** 15 days continuous operation<sup>1</sup>
- **Anchor system** Sturdy; efficient and secure, with antitheft devise
- **Reflector** Added to the casing, level 3

1. With the accumulator 100% charged at the beginning of the cycle

2. Diminution of light emitted to less than 30% after 100,000 operational hours.

3. Visible at 1 Km. distance

## OPTICAL CHARACTERISTICS

Red and white LED diodes in each direction of the runway in service, depending on the direction of the wind  
 Diminution of light emitted to less than 30% after 100,000 operational hours.  
 Visible at 3 Km. distance, and 300 m. above sea level.

## ADVANTAGES

Safety; reliability and high luminous performance  
 Solar energy without maintenance  
 Environment friendly  
 Without electricity consumption and without battery replacement  
 Beacon synchronization without cables, without maintenance and with more than 100 meter range visibility  
 U.E. and U.S.A. patents granted among others

## SPECIFICATIONS MET (According to ICAO standards)

- 1.- Electromagnetic compatibility test under ENE EN 61000-4-3 (98) (radiation immunity) regulations
- 2.- Measurement tests of the degree of protection for the first and second feature figure under UNE 20-324-93 (EN 60520: 1991 + Erratum: 1993) (code IP IP 6x IP-66) regulations
- 3.- Luminous photometric distribution measurement tests, polar curves. Luminous range between 2 & 3 nautical miles with reference to colour and application. Exp. 21006536
- 4.- Cyclical humid heat test, under UNE-EN-60068-2-30:00 regulations
- 5.- Cyclical humid heat/cold test -10°C +80°C, under UNE-EN 60068-2-14:00 regulations
- 6.- Fast corrosion of neutral saline fog test over a 168 hour period, under NSS ISO 9227:1990 regulations
- 7.- Dry heat test. Climatic chamber up to 80°C, under UNE-EN 60068-2-2:97 regulations
- 8.- Measurement test of the protective casing, under UNE-EN 50102:96 A1:99 Degree IK08
- 9.- Measurement test of the protective casing at an ambient temperature of -50°C, under UNE-EN 50102:96+A1:99. IK transparent casing. IK08 opaque casing.
- 10.- 16 hours climactic chamber test at -33°C, under UNE-EN 0068-2-1:96

## SERVICE UNITS

8 units beacon pack, 4+4  
 12 units beacon pack, 6+6  
 24 units beacon pack, 12+12  
 32 units beacon pack, 16+16

**MECHANICAL DIMENSIONS**

