

PERFORMANCE SPECIFICATIONS

MINI-PLASI

PULSE LIGHT APPROACH SLOPE INDICATOR FOR EMERGENCY AND TACTICAL MILITARY OPERATIONS

The MINI-PLASI, Pulse Light Approach Slope Indicator, is a self-contained device which visually provides vertical glide path information including correct position and direction. It also indicates the degree of deviation and rate of change from the correct glide path. The pilot receives this information with minimum need for analysis and interpretation. A minimum range of 4 miles (6.5 kilometers) is sufficient for each aircraft to adjust to a steady-state glide position for desired touch down.

The device generates and projects four horizontal bands of light, only one of which can be seen from the landing pilot's view at any given instant. The center band is a steady white light projected as an angular wedge, 16 degrees wide with the apex at the PLASI approach aid. This center band defines the correct glidepath. An upper band of white light, pulsing at approximately 2 1/4 (2.25) pulses per second, is also a wedge of light which gives above glide path indication. A similar lower band of pulsing red light provides the below-glidepath information. In between the steady white on-glidepath signal and the pulsing red below-glidepath signal is a solid red sector which is the slightly below glidepath signal. The pulses of the white and red above and below light vary in length from continuous at the edge of the glidepath to zero length at the off-glidepath limit of visual contact. This variation in light pulse length (long near the path - shorter and shorter as deviation from the proper glidepath increases) give the pilot quantitative deviation information. This rate of change in pulse length provides rate of deviation from or closure with the glidepath.

The visual presentation is accomplished through the use of optical components, a moveable shutter, and a red filter. One (1) tungsten Halogen Lamp is positioned behind the condenser lens.

Signal (Beam) Angles:

For Use with Fixed Wing Aircraft:

Width: 16 degrees minimum.

Height: Above glide path signal pulsing white light - 2.5 degrees

On glide path signal steady white - 35 degrees, +/- .02 degrees.

Slightly below glide path signal steady red light - .175 degrees.

Below glide path signal pulsing red light - 2.5 degrees.

For Use with Helicopters:

Width: 16 degrees minimum

Height Above glidepath signal pulsing white light - 2.5 degrees

On glidepath signal steady white light - .57 degrees - .60 degrees

Slightly below-glidepath signal steady red light - .27 degrees-.30 degrees

Below glidepath signal pulsing red light - 4.75 degrees-5.0 degrees

Glidepath: The glidepath is defined as the vertical angle established between the center plane of the steady white light and the landing surface. This glidepath can be preset at any angle to accommodate the desired approach path, considering obstructions, type of aircraft, and applicable regulations. (See Figure 1)

Range: The range at which the signal is visible is at least four miles (6.5 km) under day and night conditions.

Pulsing Frequency: The above-glidepath white and below-glidepath red light pulse at approximately 2.25 pulses per second. These pulses vary in length from continuous at the edge of the 2.5 degrees off-glidepath signal at the limit of visual contact.

Environment: PLASI meets the environmental conditions as specified in FAA Advisory Circular 150/5345-52 dated June 21, 1988, and MIL-STC-810C.

Power Requirement: The PLASI is designed to operate on either 12 Volts DC, 28 volt DC or 120 volt AC portable generator. The 28 volt model can also be connected to a 28 volt battery for short term operation,

Night Dimming: A day-night switch is provided for day-night operation. Night operations are conducted at much lower voltage which has been preset at the factory.

Safety Devices: A 180 degree F high temperature overheat cut-off switch is incorporated into the system. A low temperature sensor switch prevents the cooling blower from operating at internal temperatures below 50 degrees F.

while a 28 volt generator should be used for extended operation.

Features: The MINI-PLASI contains an external bubble leveling device for setting the approach angle. A see-through sight tube is built into the box to ensure that the approach angle clears all obstacles. Internally mounted adjustable legs for leveling and setting the approach angle are part of the system. A spare lamp is included.