

APPROACH LIGHTING

PAPI

Precision Approach Path Indicator



Compliance with Standards

ICAO: Annex 14, Vol. 1, para. 5.3.5.23 to 5.3.5.45

Uses

A PAPI system uses either 2-light channel or 3-light channel units, which offer the pilot information to carry out the approach procedure with the utmost accuracy and safety.

The L-880 PAPI system consists of four light units located at the side of the runway adjacent to the origin of the glide path. The nominal glide slope angle is midway between the angular settings of the central pair of the four units. If an aircraft is on the correct approach path, the pilot will see two red and two white light indicators.

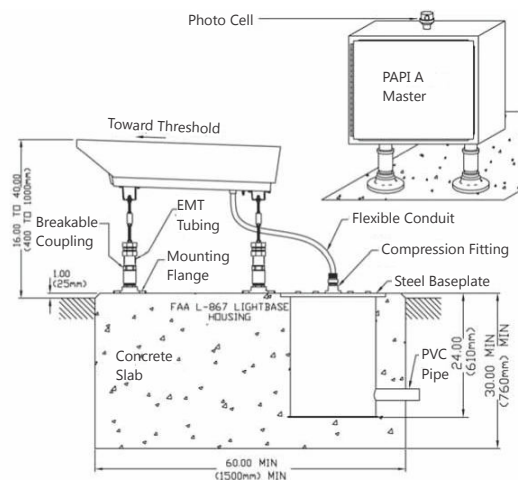
If the aircraft approach is too high, an increased number of white light indicators will be seen. If the approach is too low, the pilot will note an increased number of red light indicators. The L-881 PAPI system is identical to the L-880, except only two light units (instead of four) are used. The nominal glide slope is midway between the angular settings of the two units, and when the pilot is on or close to the correct approach path, the unit nearest the runway will be seen as red and the other unit as white.

The Style A system is for use with either a 220 or 240 VAC input voltage. The Style B system is for use on 6.6 or 20 A series circuits. A tilt switch assembly is provided on each PAPI unit to de-energize the system in the case that the optical pattern of any light unit is raised between 0.5° and 1.0° or lowered between 0.25° and 0.5° with respect to the setting angle of the unit.

Features

- The use of two lenses in tandem in each light channel makes a sharp transition from white to red (never exceeding three minutes of arc over the full beam width)
- ICAO chromatic conformity is maintained over the whole width of the red beam
- For FAA Style A systems, a photoelectric control on the master control cabinet automatically provides full intensity during the day and a reduced intensity (5% or 20% of full intensity) at night. A circuit breaker is provided to permit de-energization of the input power for field maintenance.
- Available in 2-lamp or 3-lamp configurations
- Easy to use digital aiming device
- Lenses protected from sandblast by a hardened front glass shield

- Long-life tungsten halogen lamps are 200 W PK30d with a rated life of 1,000 hours at 6.6 A
- Interlock Relay Option available for Style A
- Only one PAPI box assembly is used on either a Style A or Style B system, minimizing spare part requirements
- Available in 3-leg or 4-leg configuration
- A unique PC board inside the PAPI box indicates if it is tilted or not, minimizing troubleshooting time
- Reduced cabling between PAPI boxes
- Reduced maintenance. The unit is fully sealed and remains clean inside. Lamp and filter replacement does not require any tools.
- Condensation water is drained away through wire gauze covered drain holes
- No water can accumulate on the cover, so reflections that could constitute a false optical signal are eliminated
- Corrosion-resistant aluminum, stainless steel hardware, and optical glass are used in the assembly
- Fixture uses a black light box with an international orange cover and stainless steel hardware
- Meets both Class I and II temperature ranges:
 - Class I system operates down to -35 °C (-31 °F)
 - Class II system operates down to -55 °C (-67 °F)



PAPI A or PAPI B Overview

APPROACH LIGHTING

PAPI

Electrical Supply

Style A ¹	
Input Voltage: 220-240 VAC ± 10% (VA max.) ²	
L-880 (4-box) 2-lamps/optical box	1,800
L-880 (4-box) 3-lamps/optical box	2,700
L-881 (2-box) 2-lamps/optical box	1,650
L-881 (2-box) 3-lamps/optical box	1,650
Style B	
Two Lamp – 6.6 A through one 500 W isolation transformer	
L-880 (4-Box) – Total CCR Load ³	1960 VA maximum
L-881 (2-Box) – Total CCR Load ³	980 VA maximum
Three Lamp – 6.6 A through one 500 W and one 200 W isolation transformer	
L-880 (4-Box) – Total CCR Load ³	3,160 VA maximum
L-881 (2-Box) – Total CCR Load ³	1,580 VA maximum

Notes

¹ Limit on distance from Master to first light unit is 100 ft (30.5 m)

² As seen at input of PAPI Master

³ Includes PAPI light units and isolation transformers

Packaging

	2-Lamp	3-Lamp
Net weight:	44 lb (20 kg)	90 lb (41 kg)
In cardboard box:	25.6 × 13 × 40.2 in 65 × 33 × 102 cm	35.8 × 15.6 × 39.8 in 91 × 39 × 101 cm
Gross weight:	46 lb (21 kg)	103 lb (47 kg)
L-880 Master Box:	20 × 24 × 8 in 50.8 × 61 × 20.3 cm	20 × 24 × 8 in 50.8 × 61 × 20.3 cm
Gross weight:	65 lb (29.5 kg)	65 lb (29.5 kg)
L-881 Master Box:	20 × 24 × 8 in 50.8 × 61 × 20.3 cm	20 × 24 × 8 in 50.8 × 61 × 20.3 cm
Gross weight:	25 lb (11.3 kg)	25 lb (11.3 kg)

Note: Quantity of anchoring legs or adjustable frangible legs affects packaging data.

Ordering Code PAPI Style A

44A4733 / ☐☐☐☐

Style

1 = L-880 (4 Box)

2 = L-880 (2 Box)

Interlock Options

1 = With Interlock Relay

2 = Without Interlock Relay

Lamp

1 = 3-Lamp Optical Box

2 = 2-Lamp Optical Box

Legs

1 = Three Legs

2 = Four Legs

Notes

- Each PAPI system requires a digital aiming device kit, which is ordered separately.
- Interlock Relay Option provides ON/OFF control through current sensing of the runway series circuit during nighttime operations. During daytime, the PAPI is activated at the 100% step.
- Reference NTSB Cert Alert No. 02-08 dated Dec. 12, 2002, regarding prevention of the possibility of dew or frost forming on the light unit optics: At airports where PAPI units are activated when needed and thus are not operate continuously, change airport lighting circuitry to ensure PAPIs are preset to operate continuously on a low power setting, either 5 percent or 20 percent of full intensity as necessary for local site conditions.

Ordering Code PAPI Style B

44A5860 / ☐☐☐☐

Power

2 = Style B (Current Powered)

Style

1 = L-880 (4 Box)

2 = L-881 (2 Box)*

Lamp

1 = 2-Lamp Optical Box

2 = 3-Lamp Optical Box

Legs

1 = Three Legs

2 = Four Legs

Notes

- Each PAPI system requires a digital aiming device kit, which is ordered separately.
- Reference NTSB Cert Alert No. 02-08 dated Dec. 12, 2002, regarding prevention of the possibility of dew or frost forming on the light unit optics: At airports where PAPI units are activated when needed and thus are not operate continuously, change airport lighting circuitry to ensure PAPIs are preset to operate continuously on a low power setting, either 5 percent or 20 percent of full intensity as necessary for local site conditions.

Ordering Code Digital Aiming Device

44A6031

Field Splice Kits*

Table 1: Style A - 4-box w/out interlock option 2 or 3 lamp

Part No.	94A0235-3
Qty.	Description
4	Frangible coupling
6	6-pin female plug
4	1-inch (2.54 cm) cable clamp
15	Field splice heat shrink kit 6 inches (15.2 cm) long
30	Butt splices for wire

Table 2: Style A - 2-box w/out interlock option 2 or 3 lamp

Part No.	94A0235-4
Qty.	Description
2	Frangible coupling
4	6-pin female plug
2	1-inch (2.54 cm) cable clamp
6	Field splice heat shrink kit 6 inches (15.2 cm) long
12	Butt splices for wire

Table 3: Style A - 4-box with interlock option 2 or 3 lamp

Part No.	94A0235-1
Qty.	Description
4	Frangible coupling
6	6-pin female plug
4	1-inch (2.54 cm) cable clamp
15	Field splice heat shrink kit 6 inches (15.2 cm) long
1	Connector secondary plug kit
30	Butt splices for wire

Table 4: Style A - 2-box with interlock option 2 or 3 lamp

Part No.	94A0235-2
Qty.	Description
2	Frangible coupling
4	6-pin female plug
2	1-inch (2.54 cm) cable clamp
6	Field splice heat shrink kit 6 inches (15.2 cm) long
1	Connector secondary plug kit
12	Butt splices for wire

Table 5: Style B - 2 lamp, 2- or 4-box

Part No.	94A0255-1
Qty.	Description
1	Frangible coupling
1	Cable clamp
1	Wire harness, 44A5913-1
2	Butt splices
1	Heat shrink tubes

Table 6: Style B - 3 lamp, 2- or 4-box

Part No.	94A0255-2
Qty.	Description
1	Frangible coupling
1	Cable clamp
1	Wire harness, 44A5913-2
2	Butt splices
1	Heat shrink tubes

Table 7: Style B - 3 lamp, 2- or 4-box, ICAO

Part No.	94A0255-4
Qty.	Description
1	Frangible coupling
1	Cable clamp
1	Wire harness, 44A5913-4
2	Butt splices
1	Heat shrink tubes

Table 8: Style B - 1 lamp, 2- or 4-box

Part No.	94A0255-5
Qty.	Description
1	Frangible coupling
1	Cable clamp
1	Wire harness, 44A5913-5
2	Butt splices
1	Heat shrink tubes

Note: * One for each optical assembly. Included with PAPI System.