

SMF/PAPI - Photometric Instrument for automatic PAPI lights high accuracy assessment

DATABASE

System database has the capacity to store all the data relevant to measurements performed during the instrument lifetime.

Database stores information of Countries, Airports, PAPI brands and models, measurement results, graphics, pictures and statistical data.

REPORTING

System provides a full reporting capability of PAPI parameters as:

- Transition Elevation Angle
- Transition Divergence angle
- Transition Tilting
- Beam Aperture
- Beam Status
- Isocandela Diagram
- Chromaticity diagram

PAPI MAINTENANCE

System allows maintenance team to adjust in real time elevation angle and tilting of PAPI units, following the instructions given by system software to achieve a perfect aiming of each PAPI to nominal values.

SELF DIAGNOSTIC

SMF/PAPI features an automatic self-diagnostic subsystem to check the functionality of instrument components and performance status

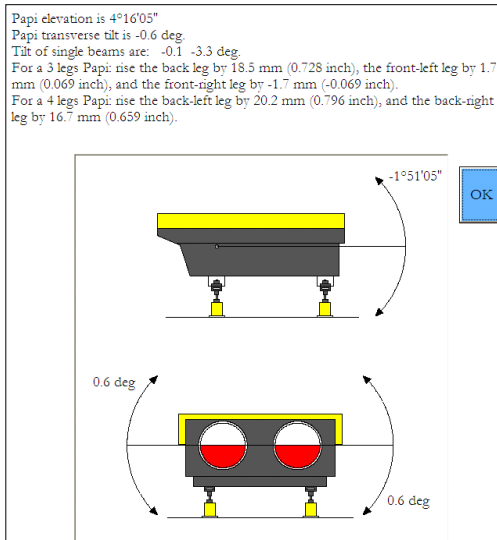
TRAINING

Customers will be provided with a theoretical and practical training course, covering all operating, reporting and maintenance topics to reach the full instrument control and achieve familiarity with PAPI units alignment procedures.



The SMF/PAPI is the unparalleled by ground instrument for the in-field assessment of PAPI lights with an overall accuracy better than 1 arc-minute. It is able to perform a complete PAPI wing bar, composed by 4 units, measurement in less than 30 minutes, giving the operator the easiest and most comfortable user friendly experience in in-field photometric testing of such units.

A built-in system database allows the maintenance team to check the PAPI units transition elevation against their nominal setting values, getting in real time the feedbacks to apply for properly setting the PAPI unit under test.

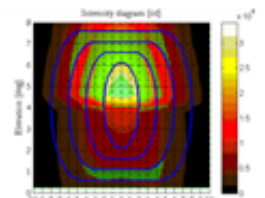
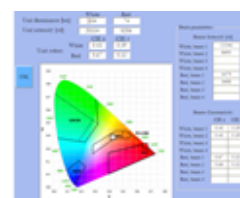
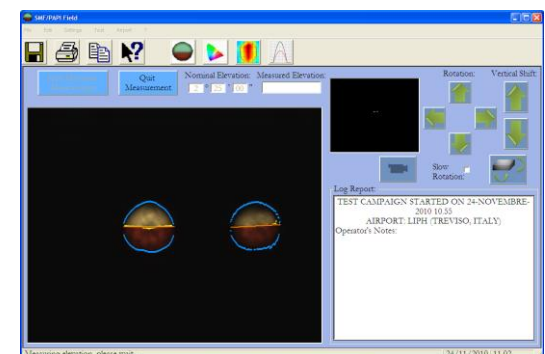
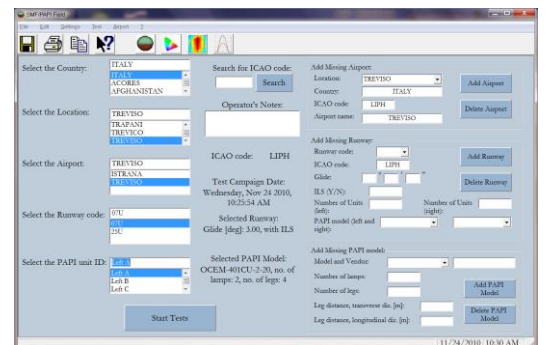


The high accuracy of SMF/PAPI instrument allows to perfectly synchronize left and right PAPI wing bars and to harmonize the PAPI visual approach slope with the glide path of the ILS, when required.

The instrument performs full beams diagnostic of PAPI unit including beam focusing, light bulb/filter or LED panels positioning, transition elevation, divergence and widening, beam chromaticity, intensity and aperture.

The instrument has been tested at ETL-Intertek laboratories in USA and certified by several CAAs for PAPI lights assessment as alternative to the traditional flight Inspections.

- PAPI units transition elevation measurements with 1' accuracy
- Night and Day operations
- LED PAPI units supported
- Light Intensity and Color Measurement according to ICAO Annex 14 /EASA recommendations
- Complete Beam Analysis
- GPS positioning to certify the instrument position and timing
- Quick reporting for real-time maintenance
- Automatic PDF complete reporting
- Wi-Fi Remote Control via Notebook PC / Laptop / Tablet PC
- 2 Light Li-Po batteries pack
- Mentioned in latest ICAO ADM 9157 Part IV July 2021 (see § 8.3.32) as reference instrument in image analysis method for PAPI ground measurement



SMF/PAPI - Components & Software

MULTILANGUAGE

SMF/PAPI supports a Multilanguage Human Machine Interface (HMI):

- English
- Spanish
- Russian
- Turkish
- German
- Chinese
- French

DOCUMENTATION

SMF/PAPI is delivered with System Manual, Operating Manual, Test Data Report and Calibration certificates

TECHNICAL SUPPORT

Argos Technical support assists customers along the whole system lifetime for calibration, repair and upgrading of SMF/PAPI

EFFICIENCY

Fast deployment in field
Rapid runway clearance
Quick feedback for real-time maintenance of PAPI units
Always available for instant checking of transition elevation angle

TURNKEY SOLUTIONS

The instrument comes with a complete set of accessories for a quick in field deployment

More information about Argos products and services at:
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SMF/PAPI Measurement head
3D movements
Self-stabilized platform
Aiming camera
12 VDC power
Power and data cables
Carrying case

Professional tripod
Extension up to 2 m
With carrying bag

Ruggedized fan-less field computer
Wi-Fi hot-spot
Solid state disk
Windows OS embedded

SBAS GPS receiver

Operator remote tablet
Wi-Fi Lan interface
Battery charger and AC adapter

High capacity system battery pack, composed by 2 x 8 Ah Li-Po batteries, with cables and chargers

Field PC, Tablet PC and accessories carrying bag

SMF/Parge: SMF/PAPI system software includes SMF/Parge, a powerful PDF report generator that allows user to create its own measurement reports on the basis of testing results. Report may contain data, diagrams and pictures relevant to parameters measured.



SMF/PAPI Certifications

AENA (Spanish CAA), Bureau Veritas (Third Part Lab), DGAC (Mexican CAA), ENAC (Italian CAA), ETL Intertek Laboratories, HCAA (Greek CAA), Canada

Component	Dimensions		Weight
SMF/PAPI Head including cover	H	345 mm	6,2 Kg
	L	188 mm	
	W	240 mm	
SMF/PAPI Head case	H	230 mm	3,8 Kg
	L	380 mm	
	W	490 mm	
Tripod including bag	H	950 mm	3.0 Kg
	W	250 mm	
Single 8Ah Li-Po battery	H	38 mm	0,6 Kg
	L	153 mm	
	W	80 mm	
Ruggedized Field PC	H	55 mm	1.7 Kg
	L	200 mm	
	W	175 mm	

Parameter	Accuracy
Elevation angle of each beam in the PAPI unit	Better than 1'
Average elevation angle of the unit	Better than 1'
Average elevation angle (Glide Path) of the PAPI bar (A,B,C,D units)	Better than 1'
Horizontality of colour transition of each beam	0.2°
Horizontality of colour transition of the PAPI unit	0.2°
Colour transition aperture of the PAPI unit	1'
Aperture angle of the PAPI unit	1°
Output intensity (CD) of the PAPI unit	10 %
Chromaticity of the PAPI unit according to CIE 1931	0.03 (on x and y)
Electrical & Environmental	
Power supply	12 VDC
Total average power consumption	3.0 A
Operating temperature	-20/+42 C°
Storage temperature	-30/+60 C°

SMF/PAPI References

Angola, Bangladesh, Barbados, Canada, China, Colombia, Croatia, Germany, Greece, Hong Kong, Indonesia, Ireland, Italy, Korea, Malta, Mongolia, Nigeria, Philippines, Republic of Kosovo, Romania, Russian Federation, South Africa, Spain, Sudan, Thailand, Turkey, USA