



PMAPI-SC37 w/AIS

Self Contained LED Marine Lantern

3 - 6.3 NM at 0.74T



OVERVIEW

The **PMAPI-SC37-AIS** is a 3 - 6.3NM weather-protected marine lantern with a high intensity LED light source paired with solar panel, battery array and AIS Aid to Navigation (AtoN) transceiver.

KEY FEATURES

- Solar power: 3 x 15W solar panels
- Rugged, weather-resistant construction materials: High impact resistant polycarbonate for ice, ultraviolet exposure, salt air and seawater spray at a wide range of ambient temperatures
- High intensity, energy efficient fan beam LED array: Maximum visible range up to 6.3NM at 0.74T pending flash character in optimal conditions
- IR Remote: Powering on & off, set / retrieve configuration parameters such as flash pattern, effective intensity, day/night control, etc.
- IALA approved colors: Single color LED engine - white, yellow, red or green
- Integrated bird deterrent: No additional accessories required
- Longevity - Estimated average service life of 10 years

PERFORMANCE FEATURES

- Power consumption: variable up to 8.3W
- Battery: (1) 12V 120Ah Lead Acid
- Operating voltage: 9 to 19VDC
- Intensity control: Effective lantern intensity set on modified Allard's Law
- Flash character control: 256 programmable flash characters and 2 custom flash characters
- Day/Night transition level settings: Programmable for active at all times or only after sunset. Day / Night level settings (sunset / sunrise transition) can be field programmed
- Calendar control - Programmable season on/off date
- Input protection - Lantern power input is reversed polarity protected for field repair
- Ripple delay - 0.05 to 12.7 seconds & master/slave sync options
- Storage mode - Automatic storage mode with adjustable automatic wake up
- Programmable sleep and test modes
- Dynamic compensation circuitry for the candela low output, based on internal temperature, LED flash duration and LED color, to always keep the same programmed output intensity

OPTIONAL FEATURES

- GPS Synchronisation: Optional internally mounted hardware will allow the lantern to flash in-sync with other PMAPI and third party lanterns that are GPS synced
- External I/O port: Allows connection to an external monitoring device or for hardwired synchronisation to other lanterns
- Charging port: Charge / recharge the battery prior to installation

PHYSICAL SPECIFICATIONS

Operating temperature range (°C)	-30°C to +50°C
Operation humidity (%)	100
IP Rating	IP68* Optic Head Only
Body material	UV stable polycarbonate
Lens material	Acrylic
Mounting	3 - 4 hole, Ø 200mm
Solar panels	Mono-crystalline
Solar body	Rotationally moulded

DIMENSIONS

Dimensions (HxD)	711.2 x 736.6 mm 28 x 29 in
Weight	Varies by battery used

ELECTRICAL SPECIFICATIONS

Power Consumption Type 1 AtoN (FATDMA)	Less than 0.09Ah/day (with 3 minute position reporting rate)
Power Consumption Type 3 AtoN (RATDMA)	Less than 0.8 Ah/day (with 3 minute position reporting rate)

GPS RECEIVER & ANTENNA

Channels	50
IEC 61108-1	Compliant
GPS Antenna	Internal or external available separately
GLONASS	Option available
Spurious Response Rejection	70dB

VHF TRANSCEIVER

Transmitter	X 1
Receiver	X 2
Frequency	156.025 to 162.025MHz in 25KHz steps
Output Power	1W, 2W, 5W or 12.5W
Channel Bandwidth	25KHz
Channel Step	25KHz
Modulation Modes	25KHz GMSK (AIS, transmit & receive)
Bit Rate	9600 b/s (GMSK)
Receiver Sensitivity	< - 110dBm @ 20% PER
Adjacent Channel Selectivity	70dB

AIS ENVIRONMENTAL

Waterproof	IP66 and IP67 rated for water ingress
IEC 60945	'Exposed' category
Operating Temperature	-25°C to +55°C

STANDARD COMPLIANCE

AIS Standard	IEC62320-2:2008
Environmental	IEC60945:2002-08
GPS Performance Standard	IEC61108-1:2002-07
Safety	EN60950-1:2006 +A11:2009 +A1:2010 +A12:2011
EMI/EMC	N55015:2013 radiated and conducted emissions*; EN61547:2009 Immunity; FCC 47 CFR Section 15 Class A*
Optical Test	IALA Recommendation E-122 (2001) and E-200-3 Part 3 (2008)
Colour	IALA Recommendation E-200-1 Part 1
Daylight	IALA Recommendation 1038
Power supply	IEC60945 Section 7 normal and peak voltage, and reverse polarity protection
Ingress	IPX8 to IEC60529
Shock	MIL-STD-202G Method 213B Cond. H*
Vibration	MIL-STD-202G Method 204D Cond. B*
Immersion	MIL-STD-202G Method 104A Cond. B with-stands immersion to 1m depth*

AtoN FUNCTIONS

Type 1 and Type 3 options available	✓
Supports configuration by VDL command	✓
Chaining option available as standard	✓
Customizable sensor interfacing	✓
X 10 Virtual AtoN support	✓

INTERFACES - VIA OPTIONAL SENSOR INTERFACE

Five isolated digital inputs	✓
Two isolated analogue inputs - 0 to 36VDC	✓
Three non-isolated analogue inputs	✓
Two relay drive outputs	✓
Analogue current sense (up to 5A)	✓
Four non-isolated logic level input / output channels	✓
NMEA0183 (IEC61162-1/2) port	✓
Two RS232 ports - at 38400 baud	✓
SDI-12 interface	✓



OPTICAL SPECIFICATIONS

LED COLOR	WHITE	YELLOW	RED	GREEN
Light source	12 White LEDs	12 White LEDs	12 White LEDs	12 White LEDs
Visible range (NM) ¹	3 - 6.3	3 - 6.3	3 - 6.3	3 - 6.3
Effective intensity range (cd) ²	10 - 180 ³	10 - 180 ³	10 - 180 ³	10 - 180 ³
Horizontal divergence	360°	360°	360°	360°
Vertical divergence at 50% intensity	± 3.5°	± 3.5°	± 3.5°	± 3.5°
Peak intensity (cd)F	325	325	325	325

¹ Visible range based on IALA standards at atmospheric transmissivity of 0.74

² Effective intensity computed from Blondel Rey method

³ Maximum Effective Intensity limited by ambient temperature and flash length. See PHAROS-SC35 Standby Calculator for expected performance.

*All values are subject to change without notice.

Pharos Marine Automatic Power, Inc.
Houston, TX - USA
sales@automaticpower.com
Phone: +1-713-228-5208

Pharos Marine Automatic Power
Gray, LA - USA
rleblanc@automaticpower.com
Phone: +1-985-223-8700

Pharos Marine Automatic Power, Ltd.
London, UK
sales@pharosmarine.com
Phone: +44-20-8538-

AB Pharos Marine Pte.
Singapore
sales@pharos-api.com
Phone: +65-6747-9325