WE ARE **JULIUS** MARINE. PRODUCT CATALOGUE

THE REAL PROPERTY AND







WELCOME TO **JULIUS** MARINE.

Safe navigation through aids to navigation (AtoN) for waterways and ports.

For centuries people have been using the world's oceans, rivers and lakes as well as their ports for trade and the exchange of goods and raw materials. Then as now, precise and safe navigation is of great importance.

As a manufacturer and supplier of marine aids to navigation, Julius Marine helps guarantee this precise and safe navigation. For this purpose, we offer navigational aids such as ocean and inland waterways buoys, marine lanterns, lock signalling systems, range lights, and floodlights. With our broad range of aids to navigation we enable safe navigation for shipping on all waters.



Member of the International Association of Lighthouse Authorities



ISO 9001 certified





ABOUT US

Dear customers, dear friends of Julius Marine,

Julius Marine is a young company with a highly skilled team of professionals and production facilities in Rostock, Germany. What distinguishes us in particular is on the one hand the pleasure we take in the continuous development and improvement of aids to navigation by working jointly with national and international regulators, and on the other hand a certain personal preference for the maritime in general - not least for this reason our company headquarters are located within a short distance from the port of Rostock, directly on the Baltic Sea.

Our company was foanded in February 2017 with the aim of planning, building and selling our own aids to navigation products in Germany. Thus we took over the business activities of IMT Marine Deutschland, Julius Signal and Pintsch Aben Marine. Since then we have been offering our customers everything from a single marine lantern or buoy to complete tailor-made solutions from a single source.

Furthermore, transparency in our customer relations is of particular importance to us; accordingly, you will find most of the company-relevant and technical information here in our catalogue. Should you not find what you are looking for, if you need individual advice or prefer direct contact, let us know and we will get in touch.







JULIUS MARINE

SELF CONTAINED LANTERNS

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Autonomous energy supply for navigation signs on waterways, fairways, canals, port entrances, obstacles, on mooring posts, etc.



5 nm

SolaMAX-5C

APRIN I



SELF-CONTAINED LANTERN SolaMAX-3A

APPLICATION

For marking on buoys of waterways and ports

The SolaMAX-3A is a self-contained, compact solar lantern with ranges of up to 3 nm. The ultra-low power and compact design makes it the ideal lantern for buoys, docks, costal, aquaculture fields, beacon towers and for marking waterways, inland waters and ports in northern latitudes and areas of low solar radiation.

High-efficient and compact solar arrays were selected, it combines with smart charging management system to provide a reliable power source.

FEATURES

- ease of maintenance
- quick plug-in type lithium-ion battery pack (1 to 3 packs) for different operating requirement
- with Bluetooth 4.2 communication protocol, capable to communicate remotely with BRC App installed in any Android devices, effective operation range up to 50 m radius from 360 degree of the lantern
- BRC App is a complete remote control, monitor, data acquisition and display App pre-installed in selected Android cell phone (via Bluetooth)
- position reporting and multi lights synchronization via built-in GPS module

OPTIONAL

 alarms including over / under voltage, light failure, off-position, abnormal temperature and humidity, collision and warnings that inferred from the data available









TECHNICAL SPECIFICATIONS	
Effective range	≥ 3 nm @ T=0.74
Quiescent current	< 10 mA
Dynamic power	< 1 W
Flash code	256 types, adjustable
Vertical divergence	> 8°
Light color	red, yellow, green, white (according to IALA guideline E-200-1)
Sunswitch threshold	300 Lux (100-2000 Lux, adjustable)
Remote control & monitoring	short distance: Bluetooth 4.2 long distance: GPRS, GSM, CDMA, BDS, NB-IOT
Positioning	GPS, BDS
Synchronization	GPS
Alarm	over / under voltage, light failure, off-position, abnormal temperature and humidity, collision etc.
Degree of protection	IP66 / IP68 (according to DIN EN 60529)
Photovoltaic power	4 x 3.5 W

Battery type	rechargeable Lithium-ion packs (plug-in type)
Battery voltage	3.7 V
Battery capacity	1 battery pack: 19 Ah (57.72 Wh) 2 battery packs: 38 Ah (115.44 Wh) 3 battery packs: 57 Ah (173.16 Wh)
Battery backup time	8.2 / 16.4 / 24.7 days (based on 14 hrs / day, 50 % duty cycle)
Operating temperature	-35 °C to +60 °C
Weight	1 battery pack: 3.39 kg 2 battery packs: 3.73 kg 3 battery packs: 4.07 kg
Dimension (Ø x H)	236 mm x 340 mm
Focal height	294 mm
Installation dimension	suitable for 200mm PCD, 3 or 4 bolts (equally distributed over 200mm PCD), 14mm diameter holes



Ø204.50 Ø187.50

MPRINT



SELF-CONTAINED LANTERN SolaMAX-5C

APPLICATION For marking waterways and ports



SolaMAX-5C is the latest self-contained LED lantern capable to achieve 5 NM visibility range. It was designed and built by gathering the latest trend technologies and intelligence features in a small form factor lantern.

SolaMAX lantern is compact, ultra-low power, ease of maintenance and able stay tough in the harshest marine environment, its tall version extended the operation in low solar irradiance region.

SolaMAX-5C-AIS is equipped with an internal integrated AIS AtoN unit and GPS module to provide simplified installation and ease of regular / routine maintenance to users and installer.

FEATURES

- quick plug-in type lithium-ion battery packs for different operating requirement, fully complied to international requirements for lithium-ion battery transportation
- with convenient external quick charge port for battery maintenance and plug-in type power ON/OFF magnet switch
- equipped with Bluetooth 4.2 communication module with an effective operating range up to 50 m radius from 360 ° of lantern
- built-in GPS module
- available in IALA colours of red, yellow, green and white

OPTIONAL

• Type 5CT or 5C-AIS

PARAMETERS	SolaMAX-5C	SolaMAX-5CT	SolaMAX-5C-AIS
Effective range	≥ 5 NM (a) T=0.74	≥ 5 NM @ T=0.74	≥ 5 NM @ T=0.74
Operating voltage	7.4 V _{DC}	7.4 V _{DC}	7.4 V _{DC}
Quiescent current	< 10 mA	< 10 mA	< 10 mA
Dynamic power	< 2 W	< 2 W	< 3 W
Flash code	256 types, adjustable	256 types, adjustable	256 types, adjustable
Vertical divergence	> 8 °	> 8 °	> 8 °
Colour	Red, green, yellow, white, blue, yellow / blue alternate flash	Red, green, yellow, white, blue, yellow / blue alternate flash	Red, green, yellow, white, blue, yellow / blue alternate flash
Sunswitch threshold	300 Lux (0-1000 Lux, adjustable)	300 Lux (0-1000 Lux, adjustable)	300 Lux (0-1000 Lux, adjustable)
Remote control & monitoring	Short distance: Bluetooth 4.2 Long distance: GPRS, GSM, CDMA, BDS, NB-IOT, AIS	Short distance: Bluetooth 4.2 Long distance: GPRS, GSM, CDMA, BDS, NB-IOT, AIS	Short distance: Bluetooth 4.2 Long distance: GPRS, GSM, CDMA, BDS, NB-IOT, AIS
Positioning	GPS (default), BDS, GPS+BDS (optional)	GPS (default), BDS, GPS+BDS (optional)	GPS (default), BDS, GPS+BDS (optional)
Synchronization	GPS Sync	GPS Sync	GPS Sync
Alarm	Over / under voltage, light failure, off-position, abnormal temperature and humidity, collision etc.	Over / under voltage, light failure, off-position, abnormal temperature and humidity, collision etc.	Over / under voltage, light failure, off-position, abnormal temperature and humidity, collision etc.
Photovoltaic power	5.7 W x 4	7.0 W x 4	9.0 W x 4
Battery type	Rechargeable Lithium-ion packs (Plug-in type)	Rechargeable Lithium-ion packs (Plug-in type)	Rechargeable Lithium-ion packs (Plug-in type)
Battery capacity	13 / 26 / 39 / 52 Ah	13 / 26 / 39 / 52 Ah	39 / 78 Ah
Battery backup time	22 days (based on 14hrs / day, 15% duty cycle)	22 days (based on 14hrs / day, 15% duty cycle)	27 days
IP Rating	IP67	IP67	IP67
Operating temperature	-15 °C to +60 °C	-15 °C to +60 °C	-15 °C to +60 °C
Weight (lantern, battery pack)	4.92 kg, 0.54 kg	5.15 kg, 0.54 kg	8.67 kg
Dimension	ø 271.8 mm x 439.2 mm	ø 271.8 mm x 489.7 mm	ø 271.8 mm x 600.0 mm
Focal height	355.8 mm	460.3 mm	532.1 mm
Installation dimension	Suitable for 200mm PCD, 3 or 4 bolts (equally distributed over 200mm PCD), 14mm diameter holes	Suitable for 200mm PCD, 3 or 4 bolts (equally distributed over 200mm PCD), 14mm diameter holes	Suitable for 200mm PCD, 3 or 4 bolts (equally distributed over 200mm PCD), 14mm diameter holes







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AIS

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MARINE BUOY



Marking of waterways, port entrances, canals, sandbanks and other maritime obstacles

PAS-630

Spar Buoy

Page 18-19



Julius MB120 Marker buoy



SK200 and SK280 Trawl Float

Page 16-17

B7

Inland Waterway Buoy





MARINE BUOYS



BET-1010 PE

Marking of waterways, canals, sandbanks and



The BET-1010 PE has been specially developed for use on inland waterways for various applications. It is especially suitable for use on rivers with moderate flow speeds of up to 3 m/s. Due to its low mass only a relatively light anchoring is necessary. Therefore the buoy is easy to handle.

The buoy consists of 2 parts mounted on a steel skeleton. The floating body is made of polyethylene and is manufactured by rotational casting. The floating body is durable, colourfast and therefore almost maintenance-free.

The buoy can be delivered in the standard IALA colours of red, yellow and green. A ballast weight can be attached to the lower part of the steel skeleton.

The inland waterbuoy buoy BET-1010 PE is supplied with two lifting eyes and an adjustable anchor fastening. Both are made of hot galvanized steel.

Optionally, a radar reflector can be supplied, which is attached to the upper part of the steel skeleton.

FEATURES

- durable, UV-resistant and maintenance-free body made of polyethylene (PE)
- service life up to 10 years

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APPLICATION

other maritime obstacles

OPTIONAL

- day marker with integrated radar reflector • ballast weight







TECHNICAL SPECIFICATIONS		
Diameter float construction	1,010 mm	
Wall thickness float construction	10 mm	
Total height	depending on the design	
Height above sea level	depending on the design	
Total weight	approx. 60 kg (unballasted)	
Steel skeleton, mooring eye	galvanised steel	
Float construction	polyethylene	

ARTICLE NUMBER	ARTICLE	SHAPE	COLOUR
1-T2-00-11-00	Inland waterway buoy BET-1010 PE	cylinder	red
1-T2-00-22-00	Inland waterway buoy BET-1010 PE	cylinder	yellow
1-T2-00-33-00	Inland waterway buoy BET-1010 PE	cone	green







The B7 type inland waterway buoy has been specially developed for various applications on inland waterways. It is especially suitable for use on rivers with high flow rates of more than 3 m/s.

Due to its low mass only a relatively light anchorage is necessary. This makes the buoy easy to handle and therefore also ideally suited for temporary markings.

The floating body is made of polyethylene, is produced by rotational moulding and is foamed with PUR. The floating body is durable, colour-fast and therefore almost maintenance-free. The buoy can be supplied in standard IALA colour of red, yellow and green.

A ballast weight is attached to the lower part of the floating body. The inland waterway buoy B7 is supplied with a lifting eye and an adjustable anchor plate. Both are made of hot-dip galvanised steel. A radar reflector made of aluminium is integrated in the upper part of the buoy.

FEATURES

- durable, UV-resistant and maintenance-free floating body made of polyethylene (PE)
- aluminium radar reflector integrated
- service life up to 10 years

OPTIONAL

• top marks according to IALA

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SELF CONTAINED LANTERNS

MARINE BUOYS

FLOODLIGHTS

LOCK SIGNALLING SYSTEM

OBSTRUCTION LIGHTS





Green







TECHNICAL SPECIFICATIONS		
Ballast weight	115 kg	
Float construction	polyethylene	
Radar reflector	aluminium, 2 mm thick	
Counterweight, lifting and anchor plate	galvanised steel	
Mooring eye	RVS	

TRANSPORT SPECIFICATIONS	
Net weight 170 kg	
Shipping weight	200 kg

ARTICLE NUMBER	ARTICLE	SHAPE	COLOUR
1-T1-Z-11-00	Inland waterway buoy B7	cylinder	red
1-T1-Z-22-00	Inland waterway buoy B7	cylinder	yellow
1-T1-K-33-00	Inland waterway buoy B7	cone	green





The type PAS-630 spar buoy was specially developed for use on icy waterways and harbours. The PAS-630 can also be used near the shore with shallow water depths and currents as well as in icy waters. Due to its low mass only a relatively light mooring is necessary. This makes the PAS-630 easy to handle and ideally suited for temporary applications.

The buoy body consists of three selfcontained sections made of UV-stabilized polyethylene in rotational moulding. The individual sections are welded together. The barrel body is durable, colour-fast and therefore almost maintenance-free. A ballast is located in the lower part of the barrel body.

The spar buoy PAS-630 is supplied with a lifting eye and with an adjustable anchor plate. Both are made of hot-dip galvanized steel. Reflective strips on the upper part improve visibility in the dark. A radar reflector made of aluminium is integrated in the upper part.

FEATURES

- more durable, UV-resistant and maintenance-free body made of polyethylene (PE)
- lifting and anchor plate made of hot-dip galvanised steel
- high visibility in the dark thanks to reflective strips on the upper part
- available as blunt, pointed or spherical

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ACCESSORIES

shape in standard IALA colour red, yellow and green

• aluminium radar reflector integrated

OPTIONAL

• top marks according to IALA



TECHNICAL SPECIFICATIONS	5
Diameter middle part	630 mm
Diameter upper part	400 mm
Total height	2,750 mm (no mooring eyes)
Height above waterline	1,600 mm
Total weight	190 kg
Ballast	120 kg
Float construction material	polyethylene
Radar reflector material	aluminium, 2 mm thick
Ballast material	cast GG15-20
Lifting and anchor plate material	galvanised steel

ARTICLE NUMBER	ARTICLE	SHAPE	COLOUR
1-T3-Z-11-00	Spar buoy PAS-630	cylinder	red
1-T3-Z-22-00	Spar buoy PAS-630	cylinder	yellow
1-T3-K-33-00	Spar buoy PAS-630	cone	green
1Z-T3-AB-00-00 PAS-630 sinker weihgt			
1Z-T3-AK-00-00 Anchor chain 18 mm x 1000 mm			

SELF CONTAINED LANTERNS

DATA BUOY 01

APPLICATION

Collection of environmental data at sea or in coastal sea areas such as e.g. B. in the Baltic Sea, North Sea or in ports

Self-sufficient data buoys equipped with various sensors and probes are an important tool for exploring coastal sea areas or in ports. The data buoy 01 has a very robust but light structure made of UV-resistant polyethylene and seawater-resistant chromium-nickel steel, which can be adapted to a wide variety of requirements and purposes. The brackets for installing different measuring devices is therefore an excellent basis for the reliable and precise collection of meteorological and oceanographic data.

The data obtained is synchronized in real time with the onshore operator terminal by the data management system SmartGuard and StormLogger. This allows for fast and efficient monitoring and analysis of the data needed to optimize operations and keep the facility safe. The data management system has high reliability and a user-friendly interface that allows for easy handling. All this with a very low total cost of ownership. The highly energy-efficient system structure of the data buoy also enables long periods of operation in the sea area.

OPTIONAL PROBES

• EXO

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• Seagurad

OPTIONAL SENSORS

- Conductivity
- Oxygen
- Temperature check

- PH
- Turbidity
- Algae etc.



The entire structure is made of seawater-resistant chromenickel steel which is powder-coated in RAL 1023 after the highest protection period.



TECHNICAL SPECIFICATION:	5
Construction	Rotationally moulded from UV-resistant, untreated medium- density polyethylene, 9.5 mm thick, with a superstructure of stainless steel 1.4571, powder- coated to DIN: 55633, 12944, corrosivity category C5
Foam filling	16 kg / m³ expanded polystyrene foam
IALA	Built to comply with existing IALA recommendations
Weight	600 – 650 kg
Max mooring weight	2100 kg
Submergence	24.7 kg / cm
Operating voltage	12 V _{DC}
Input voltage	600 Wp
Storage technology	LiFePO4
Storage capacity	200-800 Ah (20 HR, 12 V, 25 °C)
Operating temperature range	-20 – +45 °C





Thanks to the locking of the doors, it is possible to work on the system even when there are waves.



The facility is secured against unauthorised access.









Ease of maintenance thanks to large hatches.



The expandable battery rack ensures uninterrupted operation with different configurations.



The large float ensures safe floating behaviour even in rough conditions.

MPRINT



MARKER BOUY Julius MB120

APPLICATION

for all inland waters that are not used by commercial shipping

The Julius MB120 is made of durable, UV-stable polyethylene and is filled with polyurethane foam with a density of 36 kg/m³.

Without ballast weight the weight of the buoy is 20 kg and can take a chain weight of 80 kg.

APPLICATION

- marking of nature reserves
- marking of swimming areas
- inland water buoy without top mark
- inland water buoy with top mark or shield

CONSTRUCTION

The Julius MB120 buoy has a wall thickness of 6-8 mm and is filled with PUR foam, making it unsinkable. A galvanized steel tube runs through the middle of the buoy and is anchored at the bottom. A 5 mm thick steel disc with a diameter of 350 mm is welded to the upper end of the tube. The top mark is mounted on this. To achieve a stable floating position, a coated ballast weight is mounted under the buoy. This weight is used to anchor the buoy. All connecting elements are made of A2 stainless steel.

This buoy is available in the colours red, green and yellow.

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TECHNICAL SPECIFICATIONS		
Diameter float construction	600 mm	
Total height	580 mm (without top mark)	
Volume	120	
Total weight	approx. 44 kg (with ballast weight)	







MPRINT



The trawl floats is made of sturdy Hostalen and is therefore suitable for long-term and robust use in salt and fresh water.

The trawl floats are available in sizes of 200 mm and 280 mm. A rope is passed through the centre hole for fastening. The trawl floats can be fixed by means of an adjusting ring or rope clamps. The pressure resistance of the ball is guaranteed up to a water depht of max. 800 m.

APPLICATION

- as a marker buoy
- as a carrier buoy for a barrier rope
- as a sighting buoy for a guy rope
- as rope markers

TRAWL FLOAT **SK200 und SK280**

APPLICATION

for the boundary of inland waters, nature reserves and aquacultures





TECHNICAL SPECIFICATIONS			
A Diameter float construction	200 mm	280 mm	
B Centre hole diameter	21 mm	24 mm	
Buoyancy	3,2 kg	8,4 kg	
Impact strength	25 kg/m	35 kg/m	
Weight	2 kg	2,5 kg	





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FLOODLIGHTS





LED floodlights for illuminating e.g. navigation signs on waterways, mooring posts and sheet pilings



Wedel Solar System



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LED FLOODLIGHTS UAL-2-12VDC white

APPLICATION

Illumination of e.g. marine navigation signs on waterways, mooring post and sheet pilings

The UAL-2-12VDC type LED floodlight uses state-of-the-art LED technology to generate light and is used to illuminate marine navigation signs such as marine traffic signs, mooring posts and sheet pilings.

The LED technology combines low energy consumption with high luminous intensity, long service life and therefore enables an almost maintenance-free operation. The LED floodlight is suitable for illuminating marine traffic signs up to a size of 2,300 mm x 2,150 mm.

The compact and robust design of the LED floodlight luminaire is particularly noteworthy. The body is made of seawaterresistant aluminium with a lens cover of impact-resistant polycarbonate. A pressure compensation element prevents the condensation of water in the body. The light has an operating voltage of 12 V_{DC}, and the light colour is white.







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TECHNICAL SPECIFICATIONS	5
Operating voltage	12 / 24 V _{DC} (10 – 25 V _{DC})
Power consumption	< 10 W
Connection cable	3 G 1.5 mm², Length 8 m, PUR
Degree of protection	III (according to DIN EN 61140)
Light colour	neutral white (4300 K)
Illuminant	10 high-power LEDs with attachment optics
Operating temperature range	- 25 °C – + 55 °C
Relative humidity	max. 100 %
Degree of protection	IP66 (according to DIN EN 60529)
EMV	DIN EN 50293-200 DIN EN 61000-6-2 DIN EN 61000-6-3 DIN EN 61547
Dimensions (L \times W \times H)	260 mm x 80 mm x 65 mm
Body material	seawater resistant aluminium, RAL 9016 traffic white, powder-coated
Lantern glass	polycarbonate, impact resistant

TRANSPORT SPECIFICATIONS	
Net weight	2.0 kg
Shipping weight	3.0 kg
Volume	0.01 m ³

ARTICLE NUMBER	ARTICLE	VOLTAGE	light Colour	ANGLE	LENGTH
6-U2-00-44-12-VDC	LED steel luminaire UAL-2-12VDC including bracket, according to waterways and shipping administration, technical standard L-13	12 V _{DC}	white	30°	1,000 mm



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MPRINT

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LED FLOODLIGHT UAL-1-230VAC white

APPLICATION

Illumination of e.g. marine navigation signs on waterways, mooring post and sheet pilings

The UAL-1-230VAC type LED floodlight uses state-of-the-art LED technology to generate light and is used to illuminate marine navigation signs such as marine traffic signs, mooring posts and sheet pilings.

The LED technology combines low energy consumption with high luminous intensity, long service life and therefore enables an almost maintenance-free operation. The LED floodlight is suitable for illuminating marine traffic signs up to a size of 2,300 mm x 2,150 mm.

The compact and robust design of the LED floodlight luminaire is particularly noteworthy. The body is made of seawater-resistant aluminium with a cover lens of impact-resistant polycarbonate. A pressure compensation element prevents the condensation of water in the body. The light has an operating voltage of 230 V_{AC} and the light colour is white.







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TECHNICAL SPECIFICATIONS	5
Operating voltage	230 V _{AC} (- 20 % / + 10 %) / 50 Hz
Power consumption	20 W
Connection cable	3 G 1.5 mm², Length 8 m, PUR
Degree of protection	I (according to DIN EN 61140)
Light colour	neutral white (4300 K)
Illuminant	12 high-power LEDs with attachment optics
Operating temperature range	- 25 °C – + 55 °C
Relative humidity	max. 100 %
Degree of protection	IP66 (according to DIN EN 60529)
EMV	DIN EN 50293-200 DIN EN 61000-6-2 DIN EN 61000-6-3 DIN EN 61547
Dimensions (L x W x H)	260 mm x 80 mm x 65 mm
Body material	seawater resistant aluminium, RAL 7042 traffic grey, powder-coated
Lantern glass	polycarbonate, impact resistant

TRANSPORT SPECIFICATIONS		
Net weight	2.0 kg	
Shipping weight	3.0 kg	
Volume	0.01 m ³	

ARTICLE NUMBER	ARTICLE	VOLTAGE	light Colour	ANGLE	LENGTH
6-U1-00-44-230-VAC	LED Floodlight UAL-1-230VAC including bracket, according to waterways and shipping administration, technical standard L-13	230 V _{AC}	white	30°	1,000 mm



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LED FLOODLIGHT UAL-1-230VAC yellow

APPLICATION Marking of obstacles

The UAL-1-230VAC type LED floodlight uses the latest LED technology to generate light and is used to illuminate obstacle signs.

The LED technology combines low energy consumption with high luminous intensity, long service life and therefore enables an almost maintenance-free operation.

The compact and robust design of the LED spotlight luminaire is particularly noteworthy. The body is made of seawater-resistant aluminium with a plexiglass cover lens. A pressure compensation element prevents water condensation in the body. The light has an operating voltage of 230 V_{AC} and the light colour is yellow.

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TECHNICAL SPECIFICATIONS	5
Operating voltage	230 V _{AC} (- 20 % / + 10 %) / 50 Hz
Power consumption	20 W
Connection cable	3 G 1.5 mm², Length 8 m, PUR
Degree of protection	I (according to DIN EN 61140)
Light colour	yellow
Illuminant	12 high-power LEDs with attachment optics
Operating temperature range	- 25 °C – + 55 °C
Relative humidity	max. 100 %
Degree of protection	IP66 (according to DIN EN 60529)
EMV	DIN EN 50293-200 DIN EN 61000-6-2 DIN EN 61000-6-3 DIN EN 61547
Dimensions (L x W x H)	260 mm x 80 mm x 65 mm
Body material	seawater resistant aluminium, RAL 7042 traffic grey, powder-coated
Lantern glass	Plexiglass, impact resistant

TRANSPORT SPECIFICATIONS			
Net weight	2.0 kg		
Shipping weight	3.0 kg		
Volume	0.01 m ³		

ARTICLE NUMBER	ARTICLE	VOLTAGE	light Colour	ANGLE	LENGTH
6-U1-00-22-230-VAC	LED Floodlight UAL-1-230VAC including bracket, according to waterways and shipping administration, technical standard L-13	230 V _{AC}	yellow	30°	1,000 mm

IMPRINT

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SOLAR SYSTEM Wedel

APPLICATION

Autonomous power supply for marine lanterns, floodlights and AIS systems

The Wedel solar system was specially developed for use as a power supply for marine lanterns and floodlights and, thanks to its high degree of protection, is also suitable for use under harsh environmental conditions.

The solar system works with monocrystalline high-performance solar modules, which convert the generated electricity with an efficiency of up to 99.5% using advanced Maximum Power Point Tracking (MPPT) technology. The solar system has a protection function that protects the LiFePO4 battery from deep discharge. This automatically disconnects all consumers from the power supply until sufficient charging has been achieved by the solar panels.

The system can be used as a self-sufficient power supply, as a power failure backup or as a temporary battery generator. All operating data can be called up live online via the LTE 4G-M remote monitoring function. The system is set up on site using a protected Bluetooth connection, which means that it is not necessary to open the system. In addition, the facility has a geofence theft feature that will alert you should the facility leave its destination.

The solar system can be mounted on a wide variety of structures as required. In the standard version, the system has a mast with an outer diameter of 89 / 108 mm and a height of up to 3500 mm. The system can be expanded, adapted and combined as
required and is therefore versatile. Thanks to the Safeguard, the system can also be installed in places where vandalism is to be expected. All connecting cables are protected against polarity reversal, which ensures easy assembly and commissioning. Depending on the application, you can choose between three operating modes for the operation of different consumers.

TECHNICAL SPECIFICATIONS

Operating voltage	~ 12 V _{DC}
Input power	200 – 300 Wp
Maximum input voltage	75 V
Short-circuit current solar module	5–8 A
Storage technology	LiFePO4
Storage capacity	100 AH
Maximum rated charging current	15 A
Operating mode	Continuous operation / manual / automatic day-night operation with automatic time change
Maximum operating time without time charging	approx. 200 h in continuous operation
Degree of protection	IP66 (according to DIN EN 60529)
Maximum power output	180 W
Operating temperature	- 20 °C – + 55 °C
Connection type	polarized connectors IP67 (according to DIN EN 60529)
Operating weight of plenum box	50 kg
Overall dimensions of junction box	520 x 250 x 600 mm
additional options 230 V charger remote monitoring	internal / external LTE 4G-M





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AIS PRODUCTS



LOCK SIGNAL SYSTEMS





Signal lantern and exit signal transmitter for marking of lock systems or as special indicator

S 145 LED LED Lock and bridge signal lantern



Julux 200 LED

LED lock signal transmitter





APPLICATION Marking of locks and bridges on waterwa

The lock signal lantern type S 145 LED uses the latest LED technology for light generation. The individual high-power LEDs are tested for function during operation and thermally monitored to ensure optimum function.

During the development of the lantern, attention was paid to the design to enable easy integration into control systems. Digital inputs are available for direct control, which can be used to switch the lantern on/off and to lower it at night. The lantern can be directly supplied with 12 V - $30 V_{pc}$.

The intensity in day-night operation can be adjusted in four steps. This allows the signal to be optimally adapted to the task to be performed.

- lifetime of the LED's up to 100.000 hours
- control input for switching the day-night operation on / off
- adjustment of day-night intensity via DIP switch
- control input for switching the signal on / off
- failure monitoring of the LEDs
- potential-free output to
- signal lantern malfunctions
- telescopic mount



TECHNICAL SPECIFICATION	NS
Supply voltage	12 – 30 V _{DC}
Day mode	> 16.5 V _{DC}
Night mode	< 14.5 V _{DC}
Power consumption	4 – 20 W depending on colour, version and operating mode
Quiescent current consumption	< 5 mA
Light colour	red, green, white IALA Optimum (according to "IALA Recommendation E-200-1 Marine Signal Lights – Part 1 Colours")
Operating temperature range	- 25 °C – + 50 °C
Storage temperature range	- 30 °C – + 70 °C
Relative humidity	max. 98 %
Degree of protection	IP54 (according to DIN EN 60529)
EMV	DIN EN 60945 DIN EN 50293-200
Dimensions (Ø x H)	220 mm x 281 mm

TRANSPORT SPECIFICATIONS		
Net weight	8.0 kg	
Shipping weight	10.0 kg	
Volume	0.03 m ³	



LIGHT TECHNICAL SPECI (fixed intensity for whitees Licht)	FICATIONS		
Light colour IALA Rec E-200-1	Light intensity I _o (cd)	Scattering angle at 50 % of I _o horizontal / vertical (°) / (°)	Scattering angle at 10 % of I _o horizontal / vertical (°) / (°)
red	8,000	8/8	20/20
green	8,000	9/9	21/21
white	7,000	8/8	19 / 19

ARTICLE NUMBER	ARTICLE	CANDELA	LIGHT COLOUR
4-SCH1-00-11-2000 Candela	LED Lock and bridge signal lantern S 145 LED	2,000	red
4-SCH1-00-11-8000 Candela	LED Lock and bridge signal lantern S 145 LED	8,000	red
4-SCH1-00-33-2000 Candela	LED Lock and bridge signal lantern S 145 LED	2,000	green
4-SCH1-00-33-8000 Candela	LED Lock and bridge signal lantern S 145 LED	8,000	green
4-SCH1-00-44-2000 Candela	LED Lock and bridge signal lantern S 145 LED	2,000	white
4-SCH1-00-44-7000 Candela	LED Lock and bridge signal lantern S 145 LED	7,000	white



N ()



LED LOCK SIGNAL TRANSMITTER **Julux 200 LED**

APPLICATION Marking of lock on waterway



The Julux 200 LED lock signal transmitter uses the latest LED technology to generate light. The individual high-power LEDs are tested for function during operation and thermally monitored to ensure optimum function.

The LED lock signal transmitter Julux 200 is clearly visible even when the sun is low. The LED lock signal transmitter is equipped with particularly reliable and efficient control modules. Durable and robust components, a very stable and reliable LED technology as well as improved thermal management ensure particularly long service life and high availability.

Each Julux 200 LED light source has an electronic monitoring circuit. Current and voltage values of the LEDs are permanently monitored and controlled. If the corresponding limit values are exceeded or undercut, the input current is immediately interrupted so that the signal is safely switched off and the signal fuse of the control unit detects this.

- latest LED technology, low power consumption and high availability
- brilliant optics even with high ambient brightness
- reliability and longevity
- electronic monitoring ensures high security



TECHNICAL SPECIFICATION	S	
Light intensity	> 200 cd (red, ye	llow, green)
Uniformity of luminance	> 1 : 10	
Light colour	red 613–631 nm yellow 585–597 r green 489–508 r (according to DIN	nm nm N EN 12368)
Operating voltage	40 V / 50 Hz	230 V / 50 Hz
Power consumption	red 7 W yellow 7 W green 7 W	red 5 W yellow 5 W green 5 W
Performance factor	> 0.9	> 0.9
EMV	EN 50293	
Lenses	system specific coloured or colorless lenses	
Degree of protection	IP65 (according to DIN EN 60529)	
Operating temperature range	-40 °C−+ 60 °C	
Relative humidity	max. 95 %	
Housing colour	RAL 9005 deep l	black

ARTICLE NUMBER	ARTICLE	HOUSING COLOUR	LIGHT COLOUR
4-JL1-9005-11-8000	LED lock signal transmitter Julux 200 LED	black RAL 9005	red
4-JL1-9005-22-8000	LED lock signal transmitter Julux 200 LED	black RAL 9005	yellow
4-JL1-9005-33-8000	LED lock signal transmitter Julux 200 LED	black RAL 9005	green
4-JL1-9005-44-7000	LED lock signal transmitter Julux 200 LED	black RAL 9005	white

OBSTRUCTION LIGHTS









JULIUS MARINE

AIS ODUCTS

ACCESSORIES

44



Use on aviation obstacles such as masts, industrial plants, towers, chimneys and buildings



Fiete Windsock



OBSTRUCTION LIGHTS

LEDair 2

10 cd

Page 62-63



The obstruction lights H100 and H102 are intended for marking aviation obstacles, such as buildings, towers, masts and cranes in ports.

The obstruction lights H100 and H102 comply with the guidelines of the International Civil Aviation Organization (ICAO), Annex 14 Vol. I.

The body of the obstruction light is waterproof and made of seawater-resistant aluminium. The optical unit consists of a red all-round Fresnel lens hood. The light is available as single obstruction light H100 and as double obstruction light H102. The double obstruction light is mounted on a cross beam with terminal box.

FEATURES

- luminous intensity > 10 cd, red
- body made of sea-weather resistant aluminium
- mounting by means of 1.5 inch pipe thread

OPTIONAL

• the lens hood can be ordered individually

AND DOUBLE

Marking of aviation obstructions such as masts, towers,

10 cd

APPLICATION

chimneys and buildings

Lens hood





TECHNICAL SPECIFICATIONS	;
Operating voltage	230 V _{AC} (H100 / H102) 12 / 24 V _{DC} (H100 flashing)
Illuminant (H100/H102)	230 V _{AC} / 75 W Signal light bulb
Illuminant holder (H100/H102)	E27
Light intensity	> 10 cd (according to ICAO Annex 14, Low Intensity, Type A)
Light colour	red (according to ICAO Annex 14)
Mounting heights	213 mm
Operating temperature range	- 25 °C - + 60 °C
Storage temperature range	- 40 °C – + 80 °C
Relative humidity	max. 98%
Degree of protection	IP56 (according to DIN EN 60529)
Dimensions (Ø x H)	H100 225 mm x 306 mm H102 525 mm x 405 mm
Weight	2.5 kg
Body material	aluminium casting, RAL 2002 blood-orange, varnished
Mounting flange	1.5 inch pipe thread (R1 ½)

ARTICLE NUMBER	ARTICLE	HOLDER	OPERATING VOLTAGE
5-T1-00-11-E27	Obstruction light H100	E27	230 V _{AC}
5-T1-00-00-B	Obstruction light H100 flashing		12 / 24 V _{DC}
5-T2-00-11-E27	Double obstruction light H102	E27	230 V _{AC}
5Z-T1-00-00	Light bulb Sig.1543		
5Z-T00-00-11-LH	Lens hood		



LED OBSTRUCTION LIGHT AND LED DOUBLE OBSTRUCTION LIGHT LEDair

APPLICATION

Marking of aviation obstructions such as masts, towers, chimneys and buildings

The LEDair obstruction light is designed for marking aviation obstacles such as masts, chimneys, towers, cranes and buildings.

The LEDair obstruction light generates a continuous light with a very low power consumption. The LED technology combines low power consumption with high light yield, long service life and guarantees long maintenance intervals.

The LEDair obstruction light complies with the guidelines of the International Civil Aviation Organization (ICAO), Annex 14 Vol. I, and the AVV of the Federal Ministry of Transport, Building and Urban Affairs.

FEATURES

- luminous intensity > 10 cd, red
- low power consumption
- maintenance-free through the use of modern high-power LEDs
- failure monitoring and provision of a potential-free fault signal contact
- flexible mounting options through various brackets
- UV-resistant body and impact-resistant polycarbonate hood
- + 230 $V_{\rm AC}$ or 12 / 24 $V_{\rm DC}$
- cable length 750 mm

OPTIONAL

• double obstruction light mounted on cross beam with terminal box





Wall console

1.5" flange bracket



Body console



TECHNICAL SPECIFICATIONS	5
Operating voltage	230 V _{AC} 50 / 60 Hz optional 12 / 24 V _{DC}
Power consumption	≤ 4.8 W
Light intensity	> 10 cd (a) V (- 2°) – V (+ 10°)
Light colour	red according to ICAO Annex 14
Operating temperature range	- 25 °C – + 60 °C
Storage temperature range	- 40 °C - + 80 °C
Relative humidity	max. 98 %
Degree of protection	IP56 (according to DIN EN 60529)
Dimensions (Ø x H)	123 mm x 120 mm
Weight	1.2 kg

ARTICLE NUMBER	ARTICLE	VOLTAGE	CONSOLE	LIGHT COLOUR
5-LA1-E10-11-230WK	LED obstruction light LEDair 10 cd	230 V _{AC}	wall console	red
5-LA1-E10-11-230FK	LED obstruction light LEDair 10 cd	230 V _{AC}	1.5" flange bracket	red
5-LA1-E10-11-230AK	LED obstruction light LEDair 10 cd	230 V _{AC}	body console	red
5-LA1-E10-11-12WK	LED obstruction light LEDair 10 cd	12 / 24 V _{DC}	wall console	red
5-LA1-E10-11-12FK	LED obstruction light LEDair 10 cd	12 / 24 V _{DC}	1.5" flange bracket	red
5-LA1-E10-11-12Ak	LED obstruction light LEDair 10 cd	12 / 24 V _{DC}	body console	red



MPRINT



LED OBSTRUCTION LIGHT LEDair 2

APPLICATION

Marking of aviation obstructions such as masts, towers, chimneys and buildings

The LEDair 2 obstruction light is designed for marking aviation obstacles such as masts, chimneys, towers, cranes and buildings.

The LED technology used on the LEDair 2 Obstruction Light combines low power consumption with high light output, long service life and guarantees long maintenance intervals.

The LEDair 2 obstruction light complies with the guidelines of the International Civil Aviation Organisation (ICAO) Annex 14, 5th version and the General Administrative Regulation for the Marking of Aircraft Obstructions of 28 April 2007.

- ICAO Low Intensity 10 cd, Type A
- integrated brightness sensor
- horizontal radiation angle: 360
- vertical spreading width: > 12°.
- alarm contacts
- built-in surge protection: Class III according to IEC61643-1
- M16 connection for quick and easy installation
- maintenance-free
- water- and dust-tight body connections, temperature-resistant and resistant to mechanical stress
- shock and vibration resistant robust body

- corrosion-protected materials for all surfaces, electrical contact components and mounting accessories (seawater-resistant, anodised aluminium)
- high UV and ozone resistance, especially of optics and seals

OPTIONAL

- infrared version with 4 infrared LEDs (25 m W / sr)
- 24 V / 230 V variants

TECHNICAL SPECIFICATIONS	;
Operating voltage	230 V _{AC} / 24 V _{DC}
Power consumption	≤ 5 W
Light intensity	> 10 cd
Light colour	red according to ICAO Annex 14
Operating temperature range	- 40 °C – + 55 °C
Storage temperature range	- 40 °C – + 80 °C
Relative humidity	max. 100 %
Degree of protection	IP68 (according to DIN EN 60529)
Dimensions (Ø x H)	114 mm x 92 mm
LED	4 rede LEDs
Conformity	CE, RoHS
Mounting	2 M6 screws
Material	seawater resistant, anodised aluminium
Connection cable	15 m



ELECTRICAL	CONNECTIONS		
Terminal	Signal	Function	
1	24 V U+	supply voltage	
2	reserved	reserved / unconnect	
3	reserved	reserved / unconnect	
4	USB D-	PC terminal interface	
5	USB D+	PC terminal interface	
6	K2 / Fail	relay contact 2 open, if error present	
7	K1 / warning	relay contact 1 open, when warning or day mode is active	
8	GND	grounded	
9	SVInfo	test mode: GND (or open): inactive + 24 V: test mode	
10	K1 / 2 common	relay 1 and 2 common	
housing	shield	grounding	

Ø16,	3		
	TRANSPORT SPECIFICATION	IS	
	Net weight	0.76 kg	
	ARTICLE NUMBER	ARTICLE	VOLTAG

92,5

s,

Ø 92

ARTICLE NUMBER	ARTICLE	VULIAGE
5-LA2-E10-11-24	LED obstruction light LEDair 2 10cd	24 V
5-LA2-E10-11-230	LED obstruction light LEDair 2 10cd	230 V



Complies with the rules of the international aviation organization ICOA at all airports and heliports, in road traffic on bridges and roads with strong crosswinds, in offshore wind farms and in ports where the wind has a direct impact on safety, e.g. terminals of the petrochemical industry.

The Fiete windsock is made of weatherproof nylon fabric. It is pointed and a hose open at both ends, which is suspended from a mast in a rotating bearing.

The wind flows through its 50 cm aerodynamically shaped opening and inflates the windsock according to the wind force.

The small 25 cm opening at the end of the Fiete windsock always points downwind (the end facing away from the wind) indicating wind direction and approximate wind force.

APPLICATION

On airfields and helipads, in road traffic on bridges and roads with strong crosswinds, in offshore wind farms and in ports

JULIUS MARINE

SELF CONTAINED LANTERNS

OBSTRUCTION LIGHTS

AIS





TECHNICAL SPECIFICATIONS	
Colour	red / white striped
Material	Contender Maxilite (75 g/m²) – nylon fabric
Dimensions (Ø x L x Ø)	50 cm x 150 cm x 25 cm

TRANSPORT SPECI	FICATIONS	ARTICLE NUMBER	ARTICLE COLOUR
Net weight	0.5 kg	7-WSF1-00-14-50-150	Windsock Fiete red / white
Shipping weight	1.0 kg		









Autonomous power supply for hazard indication for shipping



Page 56-57

SRT Carbon AIS navigation aid



SRT Chronos AIS navigation aid AtoN





JULIUS MARINE



AIS-ATON Solar Compact Unit Till

APPLICATION

Autonomous power supply for AIS-AtoN for hazard indication for shipping

The AIS-AtoN solar compact unit Till combines the solar cabinet SK with the SRT Carbon AIS into one compact unit.

Thus this system can be mounted as a complete solution on any AtoN structure without any further mounting effort. All sensitive electrical components are protected from extreme weather conditions in a dry and ventilated environment.

- due to the low power consumption of 0.09 Ah/d, one solar module with one battery is sufficient
- a constructive ventilation design without additional compensating elements prevents explosion and corrosion with the best protection against external influences
- tilt angle of 21° on the module side optimises the light yield
- vandalism protected by profile cylinder
- expandable to two modules and two batteries







TECHNICAL SPECIFICATIONS	
Operating voltage	12 V _{DC}
Solar panel	110 Wp, very high solar yield in a small area
Solar battery	122Ah, cycle-resistant
Solar controller	ultra-fast MPPT tracking
AIS-AtoN	less than 0.09 Ah/d, 7 sensor interfaces IP 67 / 68
UKW antenna	146 - 165 MHz adjustable to 1, 2, 5, 12.5 W with polyurethane-coated glass fibre protection tube
Operating temperature range	- 25 °C – + 55 °C
Relative humidity	max. 100 %
Degree of protection	IP 55 (according to DIN EN 60529)
Dimensions (L x W x H)	1,479 mm x 710 mm x 500 mm with AlS, 2 370 mm x 710 mm x 510 mm with antenna

TRANSPORT SPECIFICATIONS		
Net weight	110 kg, complete	
Shipping weight	125 kg	





APRINT



AIS NAVIGATION AID ATON SRT Carbon

APPLICATION AIS for marine navigation signs SRT Carbon is an internationally certified AIS AtoN Type 1 and Type 3 with the lowest power consumption in its class worldwide.

The hardened housing of the Carbon AIS-AtoN is designed for continuous operation and is suitable for use under extreme weather conditions.

INTERFACES – VIA OPTIONAL SENSOR INTERFACES

- five isolated digital inputs
- two isolated analogue inputs 0 V_{DC} to 36 V_{DC}
- three non-isolated analog inputs
- two relay outputs
- analogue current sensor (up to 5 A)
- five non-isolated logic levels Input / output channels
- NMEA0183 port (IEC61162-1/2)
- two RS232 ports configurable baud rates
- SDI-12 interface

ATON FUNCTIONS

- type 1 and type 3 available
- supports configuration via VDL command
- chaining option available
- adaptable sensor interface
- supports virtual AtoN

- extremely low power consumption in all operating modes
- designed and manufactured for the toughest weather conditions
- integrated GPS antenna with optional external input

- several flexible sensor interfaces
- proven quality for continuous operation
- documentation in German







TECHNICAL SPECIFICATIONS		
Dimensions (W x H)	284 mm x 188 mm	
Weight	1.2 kg	
Power supply	$12 V_{DC} - 24 V_{DC}$	
Energy consumption Type 1 AtoN (FATDMA)	less than 0.09 Ah/day with 3 minute position reporting rate	
Power consumption Type 3 AtoN (RATDMA)	less than 0.8 Ah/day with message #21 transmission every 3 minutes	
USB	for configuration	
IEC61162-1 ports	two (NMEA0183) at 38400 baud	
Logic level IO lines	5 adjustable	
Degree of protection	IP66 (according to DIN EN 60529 VDE 0470 part 1)	
Standards	IEC60945, 2002 IEC62320-2, 2016-10 IEC60945, 2002-08 EN60950-1, 2006 +A11:2009, +A1:2010, +A12:2011, +A2:2013	
Operating temperature range	-25 °C to +55 °C	

TDMA TRANSMITTER AND RECEIVERS		
Number of transmitter	1	
Number of receiver	2	
Frequency range	156,025 MHz – 162,025 MHz in 25 KHz steps	
Power output	1 W, 2 W, 5 W or 12.5 W	
Channel bandwidth	25 KHz	
Modulation mode	25 KHz GMSK (AIS, senden and empfangen)	
Data transmission rate	9600 bits/s (GMSK)	
Sensitivity	< -110 dBm @ 20 % PER	
Adiacent channel sensitivity	70 dB	

GPS RECEIVER AND ANTENNA	
Channel	50
Standards	IEC 61108-1, Edition 1.0, 2002
GPS Antenna	internal or external
Spurious response rejection	70 dB



Extremely low power consumption



Designed for use in extreme weather conditions



AIS PRODUCTS





n

Chronos AIS AtoN Transceiver

LINK

PWR/USB

SRT

GPS

VHF

SRT Chronos

Chronos is an internationally certified AIS AtoN with the world's lowest power consumption. Available as either Type 1 or Type 3 configurations, it offers a full range of features, including transmission of virtual AtoN targets, over the air configuration and chaining. Chronos can be interfaced directly with lights and racons, and to an extensive range of sensors when connected to the Chronos Sensor Interface product accessory.

The small, tough enclosure is designed for continuous, long term use in even the most extreme environments from the equator to the poles and can be easily installed in even the tightest of spaces.

- available as Type 1 or Type 3
- proven operational reliability and performance
- ultra low power consumption in all operating modes
- small size for installation in the tightest of spaces
- designed and manufactured for the toughest of environments – IP66 and IP67
- multiple flexible sensor interfaces, when combined with the Chronos
- supports virtual AtoN
- unmatched capability to be customised for specific applications and markets



TECHNICAL SPECIFICATIONS		
Dimensions (L x W x H)	172 mm x 120 mm x 55 mm	
Weight	350 g	
Power supply	12 V _{DC} – 24 V _{DC}	
Power consumption Type 1 AtoN (FATDMA)	Less than 0.09 Ah / day (with 3 minute position reporting rate)	
Power consumption Type 3 (RATDMA)	Less than 0.8 Ah / day (with 3 minute position reporting rate)	
USB	for configuration	
IEC61162-1 ports*	NMEA0183 at 38,400 baud	
Light*	Status and health	
Racon*	Status	
Standards	IEC60945, 2002 IEC62320-2, 2016-10 IEC60945, 2002-08 EN60950-1, 2006 +A11:2009, +A1:2010, +A12:2011, +A2:2013	
Operating temperature range	-25 °C to +55 °C	
Ingress Protection	IP66 and IP67 rated for water ingress	
IEC 60945	'Exposed' category	
* Not available when connected to th	e Chronos sensor interface unit	

VHF TRANSCEIVER	
Transmitter	x1
Receiver	x2
Frequency	156.025 MHz to 162.025 MHz in 25 KHz steps
Output power	1 W, 2 W, 5 W or 12.5 W
Channel bandwidth	25 KHz
Channel step	25 KHz
Modulation modes	25 KHz GMSK (AIS, transmit and receive)
Bit rate	9600 b / s (GMSK)
Receiver sensitivity	< -110 dBm @ 20 % PER
Adjacent channel selectivity	70dB
AIS Receiver sensitivity at 20 % PER	< -110 dBm
AIS Transmitter Frequency Accuracy	< ±500 Hz
AIS Transmitter maximum transmit time for channel protection	1 Sec max on air

STANDARDS AND GUIDELINES

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

GPS RECEIVER AND ANTENNA			
Channels	50		
IEC 61108-1	Compliant		
GPS antenna	External antenna provided		
Glonass option	available		

JULIUS MARINE

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For marine lanterns, self-contained lanterns, marine buoys, floodlights, signalling systems and obstruction lights



top marks

Radar reflector



JULIUS MARINE

The beacons with top marks, which also serve as radar reflectors, are used for fixed day marks. They are used to mark the sides of waterways (lateral system) and to indicate the direction of danger areas (cardinal system).

The length of the mast can be adjusted as desired. The mast is available in the colours red / white and green / white. The top mark is available in the colours pure green and pure red.

DANGER SIGN Beacons with top marks

APPLICATION

Marking of waterways and other maritime obstacles



TECHNICAL SPECIFICATIONS			
Mast diameter	108 mm		
Mast length without radar reflector	1700 mm, 2400 mm, 3500 mm, 5000 mm		
Mounting	Heavy duty anchor / anchor box		
Material	S235JR		
Weight	50 kg (with a mast length of 3500 mm with top mark)		













ACCESSORIES



STEEL CHAIN FOR MOORING SOLUTIONS **Buoy and Barrel Chains**

APPLICATION Anchorages of buoys and barrels Julius Marine supplies all common buoy and barrel chains as well as accessories for sea mark mooring. The buoy and buoy chains are manufactured according to the current standards of DIN 5683.

For all buoy and buoy chains suitable swivels and shackles are available as accessories.

Manufactured in Germany.

OBSTRUCTION

JULIUS MARINE

SELF CONTAINED LANTERNS

MARINE BUOYS

FLOODLIGHTS

Swivels and shackles







DIMENSIONS AND WEIGHT				
Nominal thickness D	Limits	Partition T / limits	External width W / limits	Weight kg / m
16	± 0.8	144 / ± 4	88 / ± 3	4.4
18	± 0.9	162 / ± 4	99 / ± 3	5.6
20	± 1.0	180 / ± 5	110 / ± 3	6.9
23	± 1.2	207 / ± 5	127 / ± 4	9.1
26	± 1.3	234 / ± 6	143 / ± 4	12
30	± 1.5	270 / ± 7	165 / ± 5	15
33	± 1.7	297 / ± 7	182 / ± 5	19
36	± 1.8	324 / ± 8	198 / ± 6	22
39	± 2.0	351/±9	215 / ± 6	26

NOMINAL THICKNESS DEPENDENT OPERATING FORCE AND MECHANICAL FEATURES

Nominal thickness D	Operating force* kN max.	Test force kN	Breaking force kN min.
16	20	40	160
18	25	50	200
20	32	63	250
23	40	80	320
26	50	100	400
30	63	125	500
33	80	160	630
36	100	200	800
39	110	220	900

* According to DIN 5683, operating forces cannot be specified exactly. In practice, the values of the operating force are assumed according to the table.



Julius Marine offers different top marks, which are usually attached to the top of a navigation mark.

The top marks are used to mark the sides of waterways (lateral system) and to indicate the direction of danger spots (cardinal system).

OPTIONAL

• stainless steel mounting tube



TECHNICAL SPECIFICATIONS

Shape	cone	ball	horizontal cross	cylinder	cone
Dimensions (Ø / W x H)	300 mm x 300 mm	22.5 mm	750 mm x 950 mm	200 mm x 300 mm	300 mm x 300 mm
Weight	0.9 kg	0.9 kg	1.0 kg	0.9 kg	0.9 kg
Colour	black	black	yellow	red	green
Material	polyethylene	polyethylene	Aluminium sheet	polyethylene	polyethylene
Version	optionally with stainless steel mounting tube	optionally with stainless steel mounting tube	optionally with stainless steel mounting tube	optionally with stainless steel mounting tube	optionally with stainless steel mounting tube
Application	Direction designation, different combinations according to cardinal system	Marking of individual danger zones	Special characters e.g. oceanographic measuring stations in combination with barrel and spar buoys	incoming left side of the waterway	incoming right side of the waterway









LAMP CHANGER S-2086

APPLICATION

6-fold lamp changer for operation with an electronic flasher in marine lanterns

۲ • When designing the lamp changer type S-2086, great importance was attached to simplicity and reliability. It is suitable for operation with any electronic flasher which provides a filament failure monitor and a switching output for actuating the rotary magnet.

The rotary magnet locates the lamp rotary head via a spring-loaded detent mechanism. The lamp turning head holds six S-8, S-11 marine lamps or halogen lamps with P30s pre-focused collars and positions the filament with a maximum horizontal and vertical deviation of 0.8 mm in relation to the real centre

The lamp changer can be operated in any position and is not adversely affected by the usual shocks and vibrations that can occur when operating on buoys.

FEATURES

- capacity for 6 lamps
- 10 A current carrying capacity
- max. 24 V lamps
- 120 W halogen lamps
- gold-plated contacts

OPTIONAL

• light source e.g. 120 W lamps



TECHNICAL SPECIFICATIONS			
Number of illuminant	6		
Illuminant	S8, S11 and halogen P30s		
Max. Power consumption (Fixed light)	120 W		
Max. illuminant voltage	24 V		
Max. illuminant current	10 A		
Voltage rotary magnet	12 V		
Current rotary magnet	0.65 A		
Life cycle	1 million operations		
Positioning accuracy	0.8 mm		
Position detection	yes		
Vibration resistance	5 G		
Shock resistance	20 G		
Operating temperature range	- 25 °C – + 55 °C		
Storage temperature range	- 30 °C – + 70 °C		
Dimensions (L x W x H)	89 mm x 89 mm x 120 mm		

TRANSPORT SPECIFICATIONS		
Net weight	0.86 kg	
Shipping weight	1.00 kg	

ARTICLE NUMBER	ARTICLE	AMPERE
7-LW1-00-00-BPS-10A	Lamp changer S-2086BPS	10 A



The flasher transmitter of type 9020-03 is a microcontroller based module for generating flash codes in marine lanterns. It was designed for operation with marine lanterns and with double filament lamps.

It offers the possibility to synchronize several light sources with each other. The light identification, the regulated lamp output voltage and the operation of double filament lamps or 6-fold lamp changer is selectable. The pulse width control (PWM) provides a stable lamp voltage regulated to the effective value (RMS), this ensures a constant colour temperature of the filament over the entire supply voltage range.

- operation with 6-fold lamp changer
- max. lamp current 10 A
- operating voltage 12 / 24 VDC
- max. Power consumption 240 W
- synchronization input
- 256 flash codes




	TECHNICAL SPECIFICATIONS	
	Supply voltage	4.5 – 36 V _{DC}
	Illuminant voltage	6.2 V, 10.3 V, 12 V, 24 V (adjustable
	Max. Power consumption	120 W (12 V) / 240 W (24 V)
	Max. illuminant current	10 A
	Quiescent current consumption	< 5 mA
	Flash codes	252
	Programmable flash codes	4
	Accuracy	± 0.5 %
	Vibration resistance	10 G
	Shock resistance	40 G
	Operating temperature range	- 25 °C – + 55 °C
	Storage temperature range	- 40 °C - + 85 °C
	Dimensions (Ø x H)	113 mm x 38 mm

Net weight0.55 kgShipping weight0.75 kg	TRANSPORT SPECIFICATIONS		
Shipping weight 0.75 kg	Net weight	0.55 kg	
	Shipping weight	0.75 kg	

ARTICLE NUMBER	ARTICLE	TYPE	VOLTAGE	AMPERE
7-KG1-00-00-36-10A	Flasher 9020-03	9020-03	36 V	10 A



RADAR REFLECTOR SR6

For stationary and floating marine aids to navigation for

marking coastlines, moorings or fixed obstacles

APPLICATION



The radar reflector type SR6 is a passive radar reflector for use on buoys and beacons. Special features of this radar reflector are its 6-corner reflector plates in speckle design with optimised reflection properties.

The backscatter pattern is almost omnidirectional, not only in the horizontal axis from 0 ° to 360 °, but also in the vertical axis with a reflection angle of ± 30 °. This property is particularly important for good radar efficiency, which must be guaranteed regardless of the heeling of a buoy at sea.

The radar reflector is available in different sizes, which differ in diameter and height and thus have an influence on the radar reflecting surface. Depending on the design, it can be mounted between the lantern and its support plate or integrated into the structure of the buoy.

FEATURES

- 6-corner reflector plates
- speckle design
- radar area from 40 m^2 to 1200 m^2
- stainless steel



SR6-250/500

SR6-600...1000

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TECHNICAL SPECIFICATIONS									
Туре	Ø a (mm)	b (mm)	c (mm)	Ø d (mm)	e (mm)	f (mm)	Ø g (mm)	Reflecting area approx. m²	Weight
SR6-1000	1,000	1,050	1,060	890	180	180	25	1,200	180 kg
SR6-800/60	900	854	870	860			18	1,100	188 kg
SR6-800	800	840	850	746	50	66	18	500	120 kg
SR6-700	700	735	745	546	50	66	18	271	86 kg
SR6-600	600	630	640	546	50	66	18	145	70 kg
SR6-500*1	500		600	200			18	100	11 kg
SR6-250*1	250		300	200			10	40	6 kg

*1 also aluminium alloy available

ARTICLE NUMBER	ARTICLE	FLANGES	COLOUR	MATERIAL
7-RF1-00-00-316	Radar reflector SR6	2	blank	stainless steel
7-RF1-00-11-304	Radar reflector SR6	2	red	stainless steel
7-RF1-00-22-304	Radar reflector SR6	2	yellow	stainless steel
7-RF1-00-33-304	Radar reflector SR6	2	green	stainless steel

JULIUS MARINE

SELF CONTAINED LANTERNS

MPRINT

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The Julius Marine signal mast has been specially designed for the mounting and alignment of the Julux 200 LED lock signal transmitter and the Neblux 3 GLO lock signal transmitter fog.

It has a total height of 3.6 metres, is made of hot-dip galvanised steel and is therefore weather and seawater resistant.

In the lower part of the mast there is an opening with a triangular opening closure to ensure easy and lockable access to the cable distribution room. The mast is topped with a black plastic cap.

SIGNAL TRANSMITTER MAST JULIUS MARINE

APPLICATION

Julius Marine signal transmitter mast for Julux 200 LED and Neblux 3 GLO



TECHNICAL SPECIFICATIONS					
Туре	Cylindrically stepped double-shell mast (transition disrupted)				
Height above ground	3.6 m				
Mast foot (1st shot) (Ø x H x wall thickness)	133 mm x 1,800 mm x 4 mm				
Masthead (2nd shot) (Ø x H x wall thickness)	89 mm x 1,800 mm x 4 mm				
Door	100 mm x 400 mm, square - 12 mm opening lock				
Foot / flange plate	340 mm x 340 mm x 20 mm				
Drilled holes base plate	4 x Ø 22 mm – 280 mm x 280 mm				
Masthead	plastics				
Galvanization	according to DIN EN ISO 1461				

TRANSPORT SPECIFICATIONS

Shipping weight

20 kg

ARTICLE NUMBER	ARTICLE	MATERIAL
7-SGM1-00-00-00	Signal transmitter mast Julius Marine	hot-galvanised steel



The solar cabinet of the SK series is designed for the autonomous power supply of navigation signs on waterways.

The housing is made of stainless steel V2A and is equipped with a stable, lockable and triple locking door and is thus optimally protected against external influences.

The solar cabinet SK is equipped with a solar panel, up to 10 maintenance-free solar batteries and a solar charge controller as standard. Ventilation openings ensure sufficient ventilation of the cabinet.

FEATURES

- stainless steel housing, powder-coated
- vandalism protected
- profile cylinder

OPTIONAL

- SK5 with up to 5 solar batteries
- SK7 with up to 7 solar batteries
- SK10 with up to 10 solar batteries
- day-night switch
- holder for up to 3 solar panels
- radar reflector
- for use with LEDmin MKII, LEDmax, EE 155 LED and UAL-2-12VDC

JULIUS MARINE

ACCESSORIES



TECHNICAL SPECIFICATION	5
Operating voltage	12 V _{DC}
Solar panels	SK7 and SK10 max. 3 items 3 x 90 pW
Solar batteries	SK5 up to 5 items 12 V / 115 Ah SK7 up to 7 items 12 V / 115 Ah SK10 up to 10 items 12 V / 115 Ah
Operating temperature range	- 25 °C – + 55 °C
Relative humidity	max. 100 %
Degree of protection	IP54 (according to DIN EN 60529)
Dimensions (L x W x H)	650 mm x 500 mm x 1,106 mm
Body material	stainless steel V2A, white, powder-coated

TRANSPORT SPECIFICATIONS Net weight 200 kc

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Vet weight	200 kg (SK5 with 5 solar batteries)
ihipping weight	210 kg

ARTICLE NUMBER	ARTICLE
7-SK1-00-00-5	Solar cabinet SK5
7-SK1-00-00-7	Solar cabinet SK7
7-SK1-00-00-10	Solar cabinet SK10



The Beeke connection cable is available in various lengths from one meter to 100 meters.

CONNECTION CABLE Beeke

APPLICATION For marine lantern LEDmin MKII



Z

ACCESSORIES

JULIUS MARINE

SELF CONTAINED LANTERNS

MARINE BUOYS

FLOODLIGHTS

LOCK SIGNALLING SYSTEM

OBSTRUCTION LIGHTS

AIS ODUCTS



Cable plug with end housing, strain relief and screw connection



Tr26x2
Ø 31

k	
6	

CONNECTION CABLE FOR MARINE LANTERN - 3 WIRE		PLUG CONNECTORS	MATERIAL
summary	connection cable for marine lan- tern LEDmin MKII	cable plug with end housing, strain relief and fitting	M16 Z
		Cover for plug M16 Z with Schonly	M1 KS
		cable sleeve for M16 Z cable diameter 8 - 10 mm	T1-8/10
Connection cable	Ölflex 500P 7 G 1.5 mm ²	Socket insert 4 pole + PE for connections BAC / PE: SAC	M1 E-6S+PE
		1 x pin contact	SAC-1.50-Au
		6 x socket contact	BAC-1.50-Au
ARTICLE NUMBER	ARTICLE		
7-BK1-00-00-10	Connection cable Beeke		

for LEDmin MKII





IMPRINT



JULIUS MARINE GmbH Industriestr. 15 18069 Rostock Germany

T +49 381 1215 6001 vertrieb@julius-marine.com www.julius-marine.com

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