The company ASTEL d.o.o. was established in 1991 and has been one of the leading European manufacturers of video surveillance equipment for over a decade. Experience in the field of security systems led to the development and production of electronic marine equipment that provides a high level of safety and dependability of operation. The ASTEL MARINE brand name was launched in 2004 and very soon it has became one of the leading brand name in marine industry.
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Due to continuous product improvement all specifications and design are subject to change without notice.
Interior OLED Lights

Compact OLED modular designed interior light with electronic driver built-in anodized aluminium casing with different mounting assemblies for creating unique configurations and structures.

Built-in microprocessor enables network connections and remote control with digital dimming.

Built-in ASTEL protocol enables complete DMX512 lighting control by using optional interfaces.

Advanced lighting technology allows perfect light spreading and the best illumination quality (CRI 90) with two different white color temperature options.

All models are designed for operating at normal temperature conditions with thermal, transient and reverse polarity protections.

VERSAMWS02 – VERSA MWS01

- Power supply: 10-30Vdc, max. 500mA/12Vdc or 250mA/24Vdc
- Luminous flux: max. 300 lm
- Color Rendering Index (CRI): 90
- Operating temperature: -10°C ~ +40°C
- Casing: Anodized Aluminium
- Dimensions (panel): 155 x 155 x 5 mm
- Weight: 360 g

VERSAMWR01 – VERSA MWS01

- Power supply: 10-30Vdc, max. 500mA/12Vdc or 250mA/24Vdc
- Luminous flux: max. 600 lm
- Color Rendering Index (CRI): 90
- Operating temperature: -10°C ~ +40°C
- Casing: Anodized Aluminium
- Dimensions (panel): 155 x 155 x 5 mm
- Weight: 580 g

- Aluminium Casing
- Sand-Blasting and Anodizing E6C0 Finishing
- 1 or 2 OLED Panels
- Daylight White or Warm White
- Remote Control
- Digital Dimming
- Built-in ASTEL Protocol for DMX512 Control
- Polarity Protection
- Transient Protection
- Low Power Consumption
- Simple Installationns.

LG Chem

Simply...the brightest
**Interior & Exterior LED Lights**

Compact LED light with electronic driver built-in waterproof anodized aluminium casing designed by using 1 high-power LED or LED array with built-in microprocessor which enables network connections and remote control with digital dimming.

Multi-color RGBW models offer the best illumination quality of different white lighting and microprocessor-controlled changing of white and all other colors of lighting manually or automatically through the complete rainbow spectrum. The light is designed to adjust the requested white lighting in 21 steps.

Built-in ASTEL protocol enables complete lighting control by using optional DMX512 interface MXU01.

Advanced optical system with reflector and holographic diffuser allows perfect light spread with different color temperature options for interior and exterior.

Due to wide range of prestige massive face shapes made of aluminium or stainless steel the INTENSA is suitable to fit on both luxury yachts and superyachts.

All models are designed for operating at extreme temperature and voltage conditions with thermal, transient and reverse polarity protections.

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**INTENSA MRM0110**

- **Power supply:** 12 - 24 Vdc, max. 130 mA
- **Lens angle:** 130°
- **Optical window:** High Grade Polycarbonate Glass
- **Luminous flux:** max. 150 lm (daylight white)
- **White color temperature:** 4500K (daylight) or 3000K (warm)
- **Casing:** Black anodized aluminium
- **Protection:** IP 65
- **Dimensions:** max. Ø58 x 25 mm
- **Mounting hole:** Ø48mm x 24mm
- **Weight:** Aluminium front shape 70g, Stainless steel front shape 100g

---

**Control**

- **I** internal dimming control, 2-wire system
- **E** external dimming control, 3-wire system

**Front shape**

- **MAW** round, modern, painted white aluminium
- **MAB** round, modern, painted beige aluminium
- **MSP** round, modern, polished stainless steel
- **MSG** round, modern, polished gold (PVD) stainless steel
- **MSS** round, modern, satin stainless steel
- **QMAW** square, modern, painted white aluminium
- **QMAB** square, modern, painted beige aluminium
- **QMSP** square, modern, polished stainless steel
- **QMSG** square, modern, polished gold (PVD) stainless steel
- **QMSS** square, modern, satin stainless steel

**Color of lighting**

- **W** warm white
- **D** daylight white
- **B** blue
- **G** green
- **R** red
- **M** RGBW multi-color

---

**Simply...the brightest**
Interior & Exterior LED Lights

Compact LED light with electronic driver built-in waterproof anodized aluminium casing designed by using 1, 2 or 6 high-power LEDs with built-in microprocessor which enables network connections and remote control with digital dimming.

Multi-color RGBW models offer the best illumination quality of different white lighting and microprocessor-controlled changing of white and all other colors of lighting manually or automatically through the complete rainbow spectrum. The light is designed to adjust the requested white lighting in 21 steps.

Built-in ASTEL protocol enables complete lighting control by using optional DMX512 interface MXU01.

Advanced optical system with reflector and holographic diffuser allows perfect light spread with different color temperature options for interior and exterior.

Due to wide range of prestige massive face shapes made of aluminium or stainless steel the INTENSA is suitable to fit on both luxury yachts and superyachts.

All models are designed for operating at extreme temperature and voltage conditions with thermal, transient and reverse polarity protections.

- Innovative Design
- Anodized Aluminium Casings
- 1, 2 or 6 High-Power LEDs Design
- Different Face Shapes and Finishes
- White, Blue, Green, Red or RGBW Multi-Color Lighting
- Reflector with Holographic Diffuser
- Microprocessor Control
- Digital Dimming
- DMX512 Network Control
- Polarity Protection
- Transient Protection
- Thermal Protection
- Wide Range Power Supply
- Low Power Consumption
- Simple Installation
Interior & Exterior LED Lights

Compact LED light with electronic driver built-in waterproof anodized aluminium casing designed by using 2, 3 or 6 high-power LEDs with built-in microprocessor which enables network connections and remote control with digital dimming.

Multi-color RGBW models offer the best illumination quality of different white lighting and microprocessor-controlled changing of white and all other colors of lighting manually or automatically through the complete rainbow spectrum. The light is designed to adjust the requested white lighting in 21 steps.

Built-in ASTEL protocol enables complete lighting control by using optional DMX512 interface MXU01. Advanced optical system with reflector and holographic diffuser allows perfect light spread with different color temperature options for interior and exterior.

Due to wide range of prestige massive face shapes made of aluminium or stainless steel the INTENSA is suitable to fit on both luxury yachts and superyachts.

All models are designed for operating at extreme temperature and voltage conditions with thermal, transient and reverse polarity protections.

- Innovative Design
- Anodized Aluminium Casings
- 2, 3 or 6 High-Power LEDs Design
- Different Face Shapes and Finishes
- White, Blue, Green, Red or RGBW Multi-Color Lighting
- Reflector with Holographic Diffuser
- Microprocessor Control
- Digital Dimming
- DMX512 Network Control
- Polarity Protection
- Transient Protection
- Thermal Protection
- Wide Range Power Supply
- Low Power Consumption
- Simple Installation

**Control**
- **I** internal dimming control, 2-wire system
- **E** external dimming control, 3-wire system

**Front shape**
- MIAW round, modern, painted white aluminium
- MAB round, modern, painted beige aluminium
- MSP round, modern, polished stainless steel
- MSG round, modern, polished gold (PVD) stainless steel
- MSS round, modern, satin stainless steel
- QMAW square, modern, painted white aluminium
- QMAB square, modern, painted beige aluminium
- QMSM square, modern, polished stainless steel
- QMSG square, modern, polished gold (PVD) stainless steel
- QMSS square, modern, satin stainless steel

**Color of lighting • INTENSA MRM0230 and MRM0340**
- W warm white
- D daylight white
- B blue
- G green
- R red

**Color of lighting • INTENSA MRM0380**
- W warm white
- D daylight white

**Color of lighting • INTENSA MRM0625**
- M RGBW multi-color

**INTENSA MRM0230**
- Power supply 12-24 Vdc, max. 500 mA/12 Vdc or 260 mA/24 Vdc
- Reflector angle 130°
- Optical window High-grade polycarbonate glass
- Luminous flux max. 530 lm (daylight white)
- White color temperature 4500K (daylight) or 3000K (warm)
- Casing Black anodized aluminium
- Protection IP 65
- Dimensions Ø105mm x 30mm
- Mounting hole Ø79mm x 29mm
- Weight Aluminium front shape 190g
- Stainless steel front shape 250g

**INTENSA MRM0340**
- Power supply 12-24 Vdc, max. 800 mA/12 Vdc or 420 mA/24 Vdc
- Reflector angle 130°
- Optical window High-grade polycarbonate glass
- Luminous flux max. 800 lm (daylight white)
- White color temperature 4500K (daylight) or 3000K (warm)
- Casing Black anodized aluminium
- Protection IP 65
- Dimensions Ø105mm x 30mm
- Mounting hole Ø79mm x 29mm
- Weight Aluminium front shape 190g
- Stainless steel front shape 250g

**INTENSA MRM0380**
- Power supply 12-24 Vdc, max. 800 mA/12 Vdc or 420 mA/24 Vdc
- Reflector angle 130°
- Optical window High-grade polycarbonate glass
- Luminous flux max. 1300 lm (daylight white)
- White color temperature Adjustable, from 2500K to 7500K in 21 steps
- Casing Black anodized aluminium
- Protection IP 65
- Dimensions Ø105mm x 30mm
- Mounting hole Ø79mm x 29mm
- Weight Aluminium front shape 190g
- Stainless steel front shape 250g

**INTENSA MRM0625**
- Power supply 12-24 Vdc, max. 650 mA/12 Vdc or 350 mA/24 Vdc
- Reflector angle 130°
- Optical window High-grade polycarbonate glass
- Luminous flux max. 550 lm
- White color temperature Adjustable, from 2500K to 7500K in 21 steps
- Casing Black anodized aluminium
- Protection IP 65
- Dimensions Ø105mm x 30mm
- Mounting hole Ø79mm x 29mm
- Weight Aluminium front shape 190g
- Stainless steel front shape 250g
Interior & Exterior LED Lights

Compact LED light designed with 1, 3 or 6 high-power LEDs with electronic driver built-in waterproof anodized aluminium casing for surface mounting.

Innovative electronic design with built-in microprocessor enables network connections and remote control with digital dimming.

Built-in ASTEL protocol enables complete lighting control by using optional DMX512 interface MXU01.

Advanced optical system with reflector and holographic diffuser allows perfect light spread. Different color temperature options offer perfect solutions in the interior and exterior.

Due to wide range of prestige massive face shapes made of alluminium or stainless steel the ASTRA is suitable to fit on luxury yachts and superyachts.

All models are designed for operating at extreme temperature and voltage conditions with thermal, transient and reverse polarity protections.

Control
- internal dimming control, 2-wire system
- external dimming control, 3-wire system

Front shape
- AW painted white aluminium
- AB painted beige aluminium
- SP polished stainless steel
- SG polished gold (PVD) stainless steel
- SS satin stainless steel

Color of lighting
- W warm white
- D daylight white
- B blue
- G green
- R red

- 1, 3 or 6 High-Power LEDs Design
- Anodized Aluminium Casings
- Massive Face Shapes with Different Finishes
- White, Blue, Green or Red Lighting
- Reflector with Holographic Diffuser
- Microprocessor Control
- Digital Dimming
- DMX512 Network Control
- Polarity Protection
- Thermal Protection
- Wide Range Power Supply
- Low Power Consumption
- Simple Installation
Interior & Exterior LED Lights

Innovative multi-color RGB LED interior & exterior light built-in waterproof stainless steel casing with different front shapes. It is suitable for using as interior and exterior downlight and step or staircase light to light up the floor under the angle of 45 degrees or straight.

The main feature is that ARCUS series allows changing of the color of lighting manually or automatically through the complete rainbow spectrum.

The most advanced electronic design with built-in microprocessor enables network connection and simple control of complete group of the lights.

Built-in ASTEL protocol enables complete lighting control by using optional DMX512 interface MXU01.

All the models are available in polished stainless steel casings with multi-color RGB or WGB lighting with 1 high-brightness LED.

Innovative Design
Stainless Steel Casings
Different Face Shapes
Multi-Color RGB Lighting
Reflector with Holographic Diffuser
Microprocessor Control
DMX512 Network Control
Polarity Protection
Transient Protection
Wide Range Power Supply
Low Power Consumption
Simple Installation
Underwater LED Lights

Ultra-thin compact surface-mount design with built-in driver enables very simple installation on the stern and both sides of the hull without making any bigger holes through the hull under waterline.

Single-color light control by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

Multi-color RGB or WGB light control with dimming and changing of color of lighting manually or automatically through the complete rainbow spectrum by using optional momentary switch or optional DMX512 interface MXU01 with built-in ASTEL protocol.

- Innovative and Patented Design
- Aluminium Bronze or Stainless Steel Ultra-Thin Casing
- 6 Power LEDs Design
- White, Blue, Green, RGB or WGB Multi-Color Lighting
- High Grade Polycarbonate Glass Optical Window
- Vacuum Metalized Reflector
- Remote Control
- Digital Dimming
- DMX512 Network Control
- Polarity Protection
- Transient Protection
- Thermal Protection
- Wide Range Power Supply
- Low Power Consumption
- Simple Installation

**EQUATOR MSR0640**

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<th>Specification</th>
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<td>12-24 Vdc, max. 680 mA/12 Vdc or 380 mA/24 Vdc</td>
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<td>Lens angle</td>
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<td>Optical window</td>
<td>High-grade polycarbonate glass</td>
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<td>Luminous flux</td>
<td>max. 950 lm (white)</td>
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<td>White color temperature</td>
<td>6,000 - 10,000 K</td>
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<td>Operating temperature</td>
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<tr>
<td>Casing</td>
<td>Aluminium bronze (AB2) or stainless steel (SAE316L)</td>
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<td>Protection</td>
<td>IP 68</td>
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<tr>
<td>Dimensions</td>
<td>99 x 69 x 10 mm</td>
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<tr>
<td>Weight</td>
<td>0.3 kg</td>
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**Material of casing**

- AB2  aluminium bronze
- SSP  stainless steel

**Color of lighting**

- **W**  white
- **B**  blue
- **G**  green
- **M**  RGB multi-color
- **T**  WGB multi-color

**Simply...the brightest**
Underwater LED Lights

Ultra-thin compact surface-mount design with built-in driver enables very simple installation on the stern and both sides of the hull without making any bigger holes through the hull under waterline.

Single-color light control by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

Multi-color RGB or WGB light control with dimming and changing of color of lighting manually or automatically through the complete rainbow spectrum by using optional momentary switch or optional DMX512 interface MXU01 with built-in ASTEL protocol.

- Innovative and Patented Design
- Aluminium Bronze or Stainless Steel Ultra-Thin Casing
- 12 Power LEDs Design
- White, Blue, Green, RGB or WGB Multi-Color Lighting
- High Grade Polycarbonate Glass Optical Window
- Vacuum Metalized Reflector
- Remote Control
- Digital Dimming
- DMX512 Network Control
- Polarity Protection
- Transient Protection
- Thermal Protection
- Wide Range Power Supply
- Low Power Consumption
- Simple Installation

**EQUATOR MSR1280**
- Power supply: 12-24 Vdc, max. 1.4 A/12 Vdc or 650 mA/24 Vdc
- Lens angle: 60°
- Optical window: High-grade polycarbonate glass
- Luminous flux: max. 1.900 lm (white)
- White color temperature: 6,000 - 10,000 K
- Operating temperature: -10°C - +50°C
- Casing: Aluminium bronze (AB2) or stainless steel (SAE316L)
- Protection: IP 68
- Dimensions: 119 x 89 x 10 mm
- Weight: 0.4 kg

**Material of casing**
- AB2: aluminium bronze
- SSP: stainless steel

**Color of lighting**
- W: white
- B: blue
- G: green
- M: RGB multi-color
- T: WGB multi-color

**Simply...the brightest**
Underwater LED Lights

Ultra-thin compact surface-mount design with built-in driver enables very simple installation on the stern and both sides of the hull without making any bigger holes through the hull under waterline.

Single-color light control by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

Multi-color RGB or WGB light control with dimming and changing of color of lighting manually or automatically through the complete rainbow spectrum by using optional momentary switch or optional DMX512 interface MXU01 with built-in ASTEL protocol.

- Innovative and Patented Design
- Aluminium Bronze or Stainless Steel Ultra-Thin Casing
- 36 Power LEDs Design
- White, Blue, Green, RGB or WGB Multi-Color Lighting
- High Grade Polycarbonate Glass Optical Window
- Vacuum Metalized Reflector
- Remote Control
- Digital Dimming
- DMX512 Network Control
- Polarity Protection
- Transient Protection
- Thermal Protection
- Wide Range Power Supply
- Low Power Consumption
- Simple Installation

**EQUATOR MSR36240**

- **Power supply**: 12-24 Vdc, max. 4.3 A/12 Vdc or 1.9 A/24 Vdc
- **Lens angle**: 60°
- **Optical window**: High-grade polycarbonate glass
- **Luminous flux**: max. 5,700 lm (white)
- **White color temperature**: 6,000 - 10,000 K
- **Operating temperature**: -10°C - +50°C
- **Casing**: Aluminium bronze (AB2) or stainless steel (SAE316L)
- **Protection**: IP 68
- **Dimensions**: 139 x 109 x 10 mm
- **Weight**: 0.6 kg

**Material of casing**
- **AB2** aluminium bronze
- **SSP** stainless steel

**Color of lighting**
- **W** white
- **B** blue
- **G** green
- **M** RGB multi-color
- **T** WGB multi-color

Simply...the brightest
Underwater LED Lights

Registered slope-truncated cone designed casing for installation on the hull to light in different directions to the sea ground and to the both sides of the yacht.

Surface-mount designed casing enables very simple installation on the hull without making any bigger holes through the hull under water line.

Single-color light control by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

Multi-color RGB or WGB light control with dimming and changing of color of lighting manually or automatically through the complete rainbow spectrum by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

- Aluminium Bronze or Anodized Aluminium Casing
- 6 or 18 High-Power LEDs Design
- White, Blue, Green, RGB or WGB Multi-Color Lighting
- Tempered Glass Optical Window
- High-Efficiency Lens
- Polarity Protection
- Transient Protection
- Thermal Protection
- Low Power Consumption
- Simple Installation
- Remote Control
- Digital Dimming (optional)
- DMX512 Network Control (optional)

料材

・アルミニウムブロンズまたはアルミニウムオノダイズ
・6または18のハイパワーレーザー
・ホワイト、ブルー、グリーン、RGBまたはWGBマルチカラー
・透過ガラス光学窓
・ハイエフシレンズ
・ポラリティ保護
・トランジッテン保護
・セラミック保護
・低いパワーコンシューマー
・シンプルなインストール
・リモートコントロール
・ディジタルディミング（オプション）
・DMX512ネットワークコントロール（オプション）
Underwater LED Lights

Registered slope-truncated cone designed casing for installation on the hull to light in different directions to the sea ground and to the both sides of the yacht.

Surface-mount designed casing enables very simple installation on the hull without making any bigger holes through the hull under water line.

Single-color light control by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

Multi-color RGB or WGB light control with dimming and changing of color of lighting manually or automatically through the complete rainbow spectrum by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

- Aluminium Bronze or Anodized Aluminium Casing
- 6 or 18 High-Power LEDs Design
- White, Blue, Green, RGB or WGB Multi-Color Lighting
- Tempered Glass Optical Window
- High-Efficiency Lens
- Polarity Protection
- Transient Protection
- Thermal Protection
- Low Power Consumption
- Simple Installation
- Remote Control
- Digital Dimming (optional)
- DMX512 Network Control (optional)

**Material of casing**
- AB2: aluminium bronze
- ALN: anodized aluminium

**Color of lighting - CONUS MSR0680**
- W: white
- B: blue
- G: green

**Color of lighting - CONUS MSR18240**
- W: white
- B: blue
- G: green
- M: RGB multi-color
- T: WGB multi-color

CONUS MSR0680
- Power requirement: 1 A / 1.5A
- Lens angle: 50°
- Optical window: 6 mm depth tempered glass
- Luminous flux: max. 3,500 lm (white)
- White color temperature: 6,000 - 10,000 K
- Operating temperature: -10°C - +50°C
- Casing: Aluminium bronze (AB2) or anodized aluminum
- Protection: IP 68
- Dimensions: 160x103x85mm
- Weight: 2.4 kg (bronze) / 0.9 kg (aluminium)

CONUS MSR18240
- Power requirement: 3x1 A / 3x1.5 A
- Lens angle: 50°
- Optical window: 6 mm depth tempered glass
- Luminous flux: max. 10,700 lm (white)
- White color temperature: 6,000 - 10,000 K
- Operating temperature: -10°C - +50°C
- Casing: Aluminium bronze (AB2) or anodized aluminum
- Protection: IP 68
- Dimensions: 217x142x106mm
- Weight: 6.0 kg (bronze) / 2.3 kg (aluminium)

Power Supply Unit MPS021000 / MPS021500
- Input voltage: 24 Vdc
- Consumption: max. 1.7 Adc
- Operating temperature: -10°C - +50°C
- Casing: ABS
- Protection: IP 65
- Dimensions: 127x111x55.5mm
- Weight: 0.3 kg

Power Supply Unit MPS061000 / MPS061500
- Input voltage: 24 Vdc
- Consumption: max. 5 Adc
- Operating temperature: -10°C - +50°C
- Casing: ABS
- Protection: IP 65
- Dimensions: 200x160x55.5mm
- Weight: 0.6 kg
Underwater LED Lights

Truncated cone surface-mount designed casing enables very simple installation on the hull without making any bigger holes through the hull under water line.

Single-color light control by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

Multi-color RGB or WGB light control with dimming and changing of color of lighting manually or automatically through the complete rainbow spectrum by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

- Aluminium Bronze or Anodized Aluminium Casing
- 6 or 18 High-Power LEDs Design
- White, Blue, Green, RGB or WGB Multi-Color Lighting
- Tempered Glass Optical Window
- High-Efficiency Lens
- Polarity Protection
- Transient Protection
- Thermal Protection
- Low Power Consumption
- Simple Installation
- Remote Control
- Digital Dimming (optional)
- DMX512 Network Control (optional)

### CONVEX MST0680
- **Power requirement**: 1 A / 1.5A
- **Lens angle**: 50°
- **Optical window**: 6 mm depth tempered glass
- **Luminous flux**: max. 3,500 lm (white)
- **White color temperature**: 6,000 - 10,000 K
- **Operating temperature**: -10°C - +50°C
- **Casing**: Aluminium bronze (AB2) or anodized aluminium
- **Protection**: IP 68
- **Dimensions**: Ø136x34mm
- **Weight**: 2.0 kg (bronze) / 0.8 kg (aluminium)

### Material of casing
- **AB2**: aluminium bronze
- **ALN**: anodized aluminium

### Color of lighting - CONVEX MST0680
- **W**: white
- **B**: blue
- **G**: green

### Color of lighting - CONVEX MST18240
- **W**: white
- **B**: blue
- **G**: green
- **M**: RGB multi-color
- **T**: WGB multi-color

### CONVEX MST18240
- **Power requirement**: 3x1 A / 3x1.5 A
- **Lens angle**: 50°
- **Optical window**: 6 mm depth tempered glass
- **Luminous flux**: max. 10,700 lm (white)
- **White color temperature**: 6,000 - 10,000 K
- **Operating temperature**: -10°C - +50°C
- **Casing**: Aluminium bronze (AB2) or anodized aluminium
- **Protection**: IP 68
- **Dimensions**: Ø166x34mm
- **Weight**: 2.7 kg (bronze) / 1.1 kg (aluminium)

### Power Supply Unit MPS021000 / MPS021500
- **Input voltage**: 24 Vdc
- **Consumption**: max. 1.7 Adc
- **Operating temperature**: -10°C - +50°C
- **Casing**: ABS
- **Protection**: IP 65
- **Dimensions**: 127x111x65.5mm
- **Weight**: 0.3 kg

### Power Supply Unit MPS061000 / MPS061500
- **Input voltage**: 24 Vdc
- **Consumption**: max. 5 Adc
- **Operating temperature**: -10°C - +50°C
- **Casing**: ABS
- **Protection**: IP 65
- **Dimensions**: 200x160x55.5mm
- **Weight**: 0.6 kg

---

**Simply...the brightest**
Underwater LED Lights

Truncated cone surface-mount designed casing enables very simple installation on the hull without making any bigger holes through the hull under water line.

Single-color light control by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

Multi-color RGB light control with dimming and changing of color of lighting manually or automatically through the complete rainbow spectrum by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

- Aluminium Bronze or Anodized Aluminium Casing
- 6 or 18 High-Power LEDs Design
- White, Blue, Green, RGB or WGB Multi-Color Lighting
- Tempered Glass Optical Window
- High-Efficiency Lens
- Polarity Protection
- Transient Protection
- Thermal Protection
- Low Power Consumption
- Simple Installation
- Remote Control
- Digital Dimming (optional)
- DMX512 Network Control (optional)

**CONVEX MSR0680**
- Power requirement: 1 A / 1.5 A
- Lens angle: 50°
- Optical window: 6 mm depth tempered glass
- Luminous flux: max. 3,500 lm (white)
- White color temperature: 6,000 - 10,000 K
- Operating temperature: -10°C - +50°C
- Casing: Aluminium bronze (AB2) or anodized aluminium
- Protection: IP 68
- Dimensions: Ø136x34mm
- Weight: 2.0 kg (bronze) / 0.8 kg (aluminium)

**CONVEX MSR18240**
- Power requirement: 3x1 A / 3x1.5 A
- Lens angle: 50°
- Optical window: 6 mm depth tempered glass
- Luminous flux: max. 10,700 lm (white)
- White color temperature: 6,000 - 10,000 K
- Operating temperature: -10°C - +50°C
- Casing: Aluminium bronze (AB2) or anodized aluminium
- Protection: IP 68
- Dimensions: Ø166x34mm
- Weight: 2.7 kg (bronze) / 1.1 kg (aluminium)

**Power Supply Unit MPS021000 / MPS021500**
- Input voltage: 24 Vdc
- Consumption: max. 1.7 A
- Operating temperature: -10°C - +50°C
- Casing: ABS
- Protection: IP 65
- Dimensions: 127x111x55.5mm
- Weight: 0.3 kg

**Power Supply Unit MPS061000 / MPS061500**
- Input voltage: 24 Vdc
- Consumption: max. 5 A
- Operating temperature: -10°C - +50°C
- Casing: ABS
- Protection: IP 65
- Dimensions: 200x160x55.5mm
- Weight: 0.6 kg

**Color of lighting - CONVEX MSR0680**
- W: white
- B: blue
- G: green

**Color of lighting - CONVEX MSR18240**
- W: white
- B: blue
- G: green
- M: RGB multi-color
- T: WGB multi-color
Underwater LED Lights

The underwater light designed to use the latest LED lighting technology for flush-mount installation where the most important is low-profile casing to avoid high water resistance and quality materials to assure very reliability installation and operation.

Single-color light control by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

Multi-color RGB light control with dimming and changing of color of lighting manually or automatically through the complete rainbow spectrum by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

- Aluminium Bronze Casing
- 6 or 18 High-Power LEDs Design
- White, Blue, Green, RGB or WGB Multi-Color Lighting
- Tempered Glass Optical Window
- High-Efficiency Lens
- Polarity Protection
- Transient Protection
- Thermal Protection
- Low Power Consumption
- Remote Control
- Digital Dimming (optional)
- DMX512 Network Control (optional)

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Material of casing
AB2 aluminium bronze

Color of lighting - PLAQUE MFM0680
W white
B blue
G green

Color of lighting - PLAQUE MFM18240
W white
B blue
G green
M RGB multi-color
T WGB multi-color

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PLAQUE MFM0680
Power requirement 1 A / 1.5 A
Lens angle 50°
Optical window 6 mm depth tempered glass
Luminous flux max. 3,500 lm (white)
White color temperature 6,000 - 10,000 K
Operating temperature -10°C - +50°C
Casing Aluminium bronze (AB2)
Protection IP 68
Dimensions Ø110x135mm
Weight 2.3 kg

Power Supply Unit MPS021000 / MPS021500
Input voltage 24 Vdc
Consumption max. 1.7 A
Operating temperature -10°C - +50°C
Casing ABS
Protection IP 65
Dimensions 127x111x55.5mm
Weight 0.3 kg

PLAQUE MFM18240
Power requirement 3x1 A / 3x1.5 A
Lens angle 50°
Optical window 6 mm depth tempered glass
Luminous flux max. 10,700 lm (white)
White color temperature 6,000 - 10,000 K
Operating temperature -10°C - +50°C
Casing Aluminium bronze (AB2)
Protection IP 68
Dimensions Ø140x190mm
Weight 6.7 kg

Power Supply Unit MPS061000 / MPS061500
Input voltage 24 Vdc
Consumption max. 5 A
Operating temperature -10°C - +50°C
Casing ABS
Protection IP 65
Dimensions 200x160x55.5mm
Weight 0.6 kg

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Simply...the brightest
Superyacht Underwater LED Lights

Ultra-thin compact design with built-in driver for surface-mount installation or installation with optional cofferdam.

Single-color light control by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

Multi-color RGB or WGB light control with dimming and changing of color of lighting manually or automatically through the complete rainbow spectrum by using optional momentary switch or optional DMX512 interface MXU01 with built-in ASTEL protocol.
Superyacht Underwater LED Lights

Robust design with separate power supply unit (driver) for installation with optional cofferdam.

Single-color light control by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol

Multi-color RGB or WGB light control with dimming and changing of color of lighting manually or automatically through the complete rainbow spectrum by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

CONVEX MTH18240S
- Power requirement: 3 x 1 A / 3x1.5 A
- Lens angle: 50°
- Optical window: 6 mm depth tempered glass
- Luminous flux: max. 10,700 lm (white)
- White color temperature: 6,000 - 10,000 K
- Operating temperature: -10°C - +50°C
- Casing: Stainless steel (SAE316L)
- Protection: IP 68
- Dimensions: Ø110x125mm (MTH)
- Weight: 1.9 kg

CONVEX MSR18240S
- Power requirement: 3 x 1 A / 3x1.5 A
- Lens angle: 50°
- Optical window: 6 mm depth tempered glass
- Luminous flux: max. 10,700 lm (white)
- White color temperature: 6,000 - 10,000 K
- Operating temperature: -10°C - +50°C
- Casing: Stainless steel (SAE316L)
- Protection: IP 68
- Dimensions: Ø140x34mm (MSR)
- Weight: 2.3 kg

PLAQUE MFM18240S
- Power requirement: 3 x 1 A / 3x1.5 A
- Lens angle: 50°
- Optical window: 6 mm depth tempered glass
- Luminous flux: max. 10,700 lm (white)
- White color temperature: 6,000 - 10,000 K
- Operating temperature: -10°C - +50°C
- Casing: Aluminium
- Protection: IP 68
- Dimensions: Ø155x173mm (without cofferdam)
- Weight: 3.6 kg (without cofferdam)

Color of lighting:
- W: white
- B: blue
- G: green
- M: RGB multi-color
- T: WGB multi-color

- Innovative Design
- Stainless Steel Casing
- 18 Power LEDs Design
- White, Blue, Green, RGB or WGB Multi-Color Lighting
- Tempered Glass Optical Window
- High-Efficiency Lens
- Remote Control
- Digital Dimming
- DMX512 Network Control
- Polarity Protection
- Transient Protection
- Thermal Protection
- Low Power Consumption
Superyacht Underwater LED Lights

Professional robust design with separate power supply unit (driver) for installation with optional welded cofferdam.

White-color light control by using optional momentary switch or optional DMX512 interface MXU01 with built-in ASTEL protocol.

Multi-color RGBW light control with dimming and changing of color of lighting manually or automatically through the complete rainbow spectrum by using optional momentary switch or optional DMX512 interface MXU01 with built-in ASTEL protocol.

- Innovative Design
- Stainless Steel Ultra-Thin Casing
- 9 or 18 High-Power LEDs Design
- White or RGBW Multi-Color Lighting
- Tempered Glass Optical Window
- Vacuum Metalized Reflector
- Remote Control
- Digital Dimming
- DMX512 Network Control
- Polarity Protection
- Transient Protection
- Thermal Protection

**Color of lighting**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>W</td>
<td>white</td>
</tr>
<tr>
<td>MW</td>
<td>RGBW multi-color</td>
</tr>
</tbody>
</table>

### CONVEX MSR09200
- **Power requirement**: 1 A (white), 4 x 1 A (RGBW)
- **Lens angle**: 50°
- **Optical window**: 15 mm tempered glass
- **Luminous flux**: max. 14.000 lm (white)
- **White color temperature**: 6.000 - 10.000 K
- **Operating temperature**: -10°C - +50°C
- **Casing**: Stainless steel (SAE316L) or aluminium
- **Protection**: IP 68
- **Dimensions**: Ø192x54 mm
- **Weight**: 6.2 kg (stainless steel), 2.5 kg (aluminium)

### CONVEX MSR18300
- **Power requirement**: 2 x 1 A (white), 4 x 1 A (RGBW)
- **Lens angle**: 50°
- **Optical window**: 15 mm tempered glass
- **Luminous flux**: max. 28.000 lm (white)
- **White color temperature**: 6.000 - 10.000 K
- **Operating temperature**: -10°C - +50°C
- **Casing**: Stainless steel (SAE316L) or aluminium
- **Protection**: IP 68
- **Dimensions**: Ø242x54 mm
- **Weight**: 9.4 kg (stainless steel), 3.7kg (aluminium)

### Power Supply Unit MPS10000
- **Input voltage**: 120-277 Vac, 50/60Hz
- **Consumption**: 120W (white), 100W (RGBW)
- **Operating temperature**: -10°C - +50°C
- **Casing**: ABS
- **Protection**: IP 56
- **Dimensions**: 300x220x120mm
- **Weight**: 3 kg (white), 4 kg (RGBW)

### Power Supply Unit MPS181000
- **Input voltage**: 120-277 Vac, 50/60Hz
- **Consumption**: 240W (white), 200W (RGBW)
- **Operating temperature**: -10°C - +50°C
- **Casing**: ABS
- **Protection**: IP 56
- **Dimensions**: 380x300x120mm
- **Weight**: 4 kg (white), 5 kg (RGBW)
Superyacht Underwater LED Lights

Professional robust design with separate power supply unit (driver) for installation with corresponding cofferdam which enables reliable management from the inside of the hull.

White-color light control by using optional momentary switch or optional DMX512 interface MXU01 with built-in ASTEL protocol.

Multi-color RGBW light control with dimming and changing of color of lighting manually or automatically through the complete rainbow spectrum by using optional momentary switch or optional DMX512 interface MXU01 with built-in ASTEL protocol.

- Innovative Design
- High-Grade Aluminium or Stainless Steel Cofferdam with Aluminium Light Body
- 9 or 18 High-Power LEDs Design
- White or RGBW Multi-Color Lighting
- Tempered Glass Optical Window
- Vacuum Metalized Reflector
- Remote Control
- Digital Dimming
- DMX512 Network Control
- Polarity Protection
- Transient Protection
- Thermal Protection
Underwater LED Dock Lights

Truncated cone surface-mount designed casings enable very simple installations to the piers, floating pontoons and docks.

Single-color light control by using optional momentary switch or optional DMX512 interface MXU01 and PWM dimmer MDU13 with built-in ASTEL protocol.

- Aluminium Bronze Casing
- 18 High-Power LEDs Design
- Cool White Lighting
- Tempered Glass Optical Window
- Wide Range Power Supply 100-240 Vac
- High-Efficiency Lens
- Polarity Protection
- Transient Protection
- Thermal Protection
- Low Power Consumption
- Simple Installation
- Digital Dimming (optional)
- DMX512 Network Control (optional)

CONVEX MST18240 AB2WD / MSR18240 AB2WD

<table>
<thead>
<tr>
<th>Lens angle</th>
<th>50°</th>
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<tr>
<td>Optical window</td>
<td>6 mm depth tempered glass</td>
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<tr>
<td>Luminous flux</td>
<td>16,000 lm</td>
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<tr>
<td>White color temperature</td>
<td>6,000 K</td>
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<tr>
<td>Operating temperature</td>
<td>-10°C - +50°C</td>
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<tr>
<td>Casing</td>
<td>Aluminium bronze (AB2)</td>
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<tr>
<td>Protection</td>
<td>IP 68</td>
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<tr>
<td>Dimensions</td>
<td>Ø166x34mm</td>
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<tr>
<td>Weight</td>
<td>2.7 kg</td>
</tr>
</tbody>
</table>

Power Supply Unit ELG-150-C2100B

| Input voltage   | 100-240 Vac, 50/60 Hz |
| Consumption     | max. 140 W |
| Operating temperature | -10°C - +55°C |
| Casing          | Aluminium |
| Protection      | IP 67    |
| Dimensions      | 219x63x35.5mm |
| Weight          | 1 kg     |
Wireless Yacht Control Systems

Patented RF microprocessor-based high-reliable wireless remote control system for motor yachts designed especially for controlling engines, thrusters and anchor windlass. By using the remote controller the skipper has control over his vessel from any spot on the yacht. High-quality switches and keys are used to control both engines, bow and stern thrusters as well as the anchor windlass during anchoring.

The remote controller is encased in an ergonomically designed watertight housing ensuring simple operation and portability. Thanks to the carrying cord provided it can even be worn around the neck thus freeing the hands for other tasks during docking. The steering of the vessel is thus always at the skipper’s fingertips in case of any corrections of the vessel’s movement due to wind or other factors are required.

During anchoring, complete control of the vessel is possible from the bow which allows the skipper to precisely determine the position of the anchor and avoid any underwater obstacles. During the weighing of the anchor, proper manoeuvring of the vessel is possible right from its bow, thus avoiding any overloads on the anchor windlass and possible entanglement with another anchor.

Dangerous and unforeseeable situations, due to incorrect instructions from crew members, are thus effectively eliminated also during the procedure of tying a line onto a floating buoy. Thanks to the remote controller the skipper can manoeuvre the vessel to the buoy with pinpoint accuracy and secure the line without any assistance.

Additional control unit MYW868BE can be supplied to connect the system to the special electronic control heads or to connect to the secondary electronic control head if the yacht is fitted with a fly-bridge.

- High-Reliable Patented Design
- Port Engine Control
- Starboard Engine Control
- Anchor Windlass Control
- Bow Thruster Control
- Stern Thruster Control
- Transmit LED Indicator
- Low Battery LED Indicator
- ABS Casings with IP65 and IP67 Protection
- Low-Power Consumption
- Simple Connecting

### MYW868B/CP

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
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<tbody>
<tr>
<td>Number of channels</td>
<td>6, 8 or 10</td>
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<tr>
<td>Transmission code</td>
<td>40 bit</td>
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<td>Frequency</td>
<td>868 MHz</td>
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<td>Transmitter</td>
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<td>RF output power</td>
<td>max. 10 mW</td>
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<td>Power requirement</td>
<td>3V lithium battery CR2</td>
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<tr>
<td>Operating temperature</td>
<td>0°C - +50°C</td>
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<tr>
<td>Casing</td>
<td>ABS, IP65 protection</td>
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<tr>
<td>Dimensions (L x W x H)</td>
<td>150 x 60 x 34 mm</td>
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<tr>
<td>Weight (incl. battery)</td>
<td>0.2 kg</td>
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</table>

### Receiver

<table>
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<th>Details</th>
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<tr>
<td>Power requirement</td>
<td>12 - 24Vdc</td>
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<tr>
<td>Consumption</td>
<td>max. 300 mAdc</td>
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<td>Operating temperature</td>
<td>0°C - +50°C</td>
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<td>Casing</td>
<td>ABS, IP65 protection</td>
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<tr>
<td>Dimensions (L x W x H)</td>
<td>200 x 120 x 55 mm</td>
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<tr>
<td>Weight</td>
<td>0.5 kg</td>
</tr>
</tbody>
</table>

### Number of Control Functions

<table>
<thead>
<tr>
<th>Control Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 2-function control system</td>
</tr>
<tr>
<td>3 3-function control system</td>
</tr>
<tr>
<td>41 3-function control system</td>
</tr>
<tr>
<td>4 4-function control system</td>
</tr>
<tr>
<td>51 4-function control system</td>
</tr>
<tr>
<td>5 5-function control system</td>
</tr>
</tbody>
</table>

- Multi-Control Relay Outputs
- LED indicators
- Wide Range Power Supply
- Low Power Consumption
- ABS Casings with IP65 Protection
GSM Alarm and Remote Control Units

GSM remote controllers specially designed to use in marine applications. The built-in GSM module with different interfaces enables simple and easy control and management of complete yacht electrical and electronic equipment through GSM mobile phone. Alarm inputs enable intruder, fire and water income alarming and voltage and temperature alarming and measuring, etc. The built-in relays enable the remote control of different yacht devices. The built-in GPS receiver enables the position tracking and alarming in the case of leaving or approaching to the hold position.

The control of the unit is possible by the help of SMS text messages or by the help of tone (DTMF) dialing. Alarming is possible by receiving the SMS text messages or by alarm calls or by the combination of both of them. Interactive voice responder confirms the requests during DTMF control or inform about the type of alarm when alarm occurs. The unit enables speaker and microphone connection for remote communication. Programming is possible by the help of SMS text messages or with PC by the help of RS-232 serial interface.

By the help of wireless sensors and wireless keyfob transmitter the installation, control and management become more simple and user-friendly.

- Built-In GSM Module with SIM Interface
- Built-In GPS Module for Location Management and Alarming
- SMS Control
- DTMF (PSTN, ISDN, GSM) Control
- IVR (Interactive Voice Responder)
- Temperature Measuring and Management
- Analog Voltage Measuring and Management
- Alarm Sensors Management
- Wireless Sensors Connection Capability
- Remote Keyboard Interface
- Speaker and Microphone Interface
- PC Remote and Local Management
- Rechargeable Battery Supply
- ABS Casing

### GSM Alarm and Remote Control Units

|----------------|---------------|---------------|-----------------|-------------------------------|-------------------|--------------------------|---------------|-----------------|-------------------------------------|-----------------------------|---------------------------|-------------------------------|--------------|--------------------------|---------------|-----------------|-----------------|-------------------------------|-------------------|--------------------------|---------------|-----------------|-------------------------------------|-----------------------------|---------------------------|-------------------------------|--------------|--------------------------
| MGR 100 Basic  | 8             | -             | -               | (Yes)                         | -                 | -                        | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | Yes                       | Yes             | -               | Yes             | (Yes)                         | -                 | -                       | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | -                       |
| MGR 100G Basic | 8             | -             | -               | (Yes)                         | -                 | -                        | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | Yes                       | Yes             | -               | Yes             | (Yes)                         | -                 | -                       | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | -                       |
| MGR 100W Basic | 8             | -             | -               | (Yes)                         | -                 | -                        | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | Yes                       | Yes             | -               | Yes             | (Yes)                         | -                 | -                       | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | -                       |
| MGR 100GW Basic| 8             | -             | -               | (Yes)                         | -                 | -                        | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | Yes                       | Yes             | -               | Yes             | (Yes)                         | -                 | -                       | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | -                       |
| MGR 100 Advance| 8(6)          | 4             | 4               | 3                             | Yes               | Yes                      | Yes           | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | Yes                       | Yes             | -               | Yes             | (Yes)                         | -                 | -                       | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | -                       |
| MGR 100G Advance| 8(6)         | 4             | 4               | 3                             | Yes               | Yes                      | Yes           | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | Yes                       | Yes             | -               | Yes             | (Yes)                         | -                 | -                       | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | -                       |
| MGR 100W Advance| 8(6)          | 4             | 4               | 3                             | Yes               | Yes                      | Yes           | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | Yes                       | Yes             | -               | Yes             | (Yes)                         | -                 | -                       | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | -                       |
| MGR 100GW Advance| 8(6)         | 4             | 4               | 3                             | Yes               | Yes                      | Yes           | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | Yes                       | Yes             | -               | Yes             | (Yes)                         | -                 | -                       | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | -                       |
| MGR 100 Reference| 8(6)          | 4             | 4               | 3                             | Yes               | Yes                      | Yes           | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | Yes                       | Yes             | -               | Yes             | (Yes)                         | -                 | -                       | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | -                       |
| MGR 100G Reference| 8(6)          | 4             | 4               | 3                             | Yes               | Yes                      | Yes           | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | Yes                       | Yes             | -               | Yes             | (Yes)                         | -                 | -                       | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | -                       |
| MGR 100W Reference| 8(6)          | 4             | 4               | 3                             | Yes               | Yes                      | Yes           | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | Yes                       | Yes             | -               | Yes             | (Yes)                         | -                 | -                       | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | -                       |
| MGR 100GW Reference| 8(6)         | 4             | 4               | 3                             | Yes               | Yes                      | Yes           | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | Yes                       | Yes             | -               | Yes             | (Yes)                         | -                 | -                       | -             | Yes             | Yes                                | Yes                         | Yes                       | Yes                           | -            | -                       |

**MGR100**

- Power supply: 12.30 Vdc
- Accumulator (option): the same voltage as power supply
- Relays*: 2 x NO/COM, 2 x NO/NC/COM
- Digital outputs*: 4, open-collector
- Digital inputs: 8, NO, TTL, 12V
- Analog inputs*: 4 (6), 0-30 Vdc (10 bit, ±2LSB)
- Temperature sensor interface*: 3, I2C interface
- Keyboard interface**: 1
- Audio interface**: 1, speaker, microphone
- I2C interface**: 1
- PC serial interface**: 1, RS-232
- Casing: ABS
- Protection: IP-65 (VDE)
- Dimensions: 210x165x55mm
- Weight: 0.7 kg

**GSM module**

- Quad-band: E-GSM-900, GSM-850, DCS-1800, PCS-1900
- SIM card interface: 3V
- Antenna connector: SMA

**GPS module***

- GPS receiver: 12-parallel channel GPS receiver
- 1 second update rate
- Accuracy position: 15m, 95% typical
- Sensitivity: -165 dBW min.
- Antenna connector: SMA

(*) - only for ADVANCE and REFERENCE models
(**) - only for REFERENCE model
(***) - only for MGR100G models with GPS receiver
Accessories

Synchronization of color of lighting for complete group of multi-color lights when automatical changing of color of lighting through the complete rainbow spectrum is selected and controlled by using optional momentary switch.

**Synchronization Unit MSU08**

- 8 Synchronization Outputs
- Wide Range Power Supply
- Low Power Consumption
- Polarity Protection
- Transient Protection
- Short Circuit Output Protection
- Simple Installation

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>12-24 Vdc</td>
</tr>
<tr>
<td>Consumption</td>
<td>max. 10 mA dc</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-10°C - +50°C</td>
</tr>
<tr>
<td>Casing</td>
<td>ABS</td>
</tr>
<tr>
<td>Protection</td>
<td>IP 65</td>
</tr>
<tr>
<td>Dimensions</td>
<td>max. 181x122x55.5mm</td>
</tr>
<tr>
<td>Weight</td>
<td>0.3 kg</td>
</tr>
</tbody>
</table>

Dimming of single-color lights or group of lights by using optional momentary switch. Three-color light control with dimming and changing of color of lighting manually or automatically through the complete rainbow spectrum by using optional momentary switch. Built-in ASTEL protocol to control single-color lights or three-color lights by using optional DMX512 interface MXU01 or MXU03.

**PWM Dimmer MDU13**

- 3 Control Outputs
- Adjustable PWM Frequency
- Wide Range Power Supply
- Low Power Consumption
- Polarity Protection
- Transient Protection
- Short Circuit Output Protection
- Simple Installation

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>12-24 Vdc</td>
</tr>
<tr>
<td>Consumption</td>
<td>max. 10 mA dc</td>
</tr>
<tr>
<td>ASTEL protocol default address</td>
<td>1</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-10°C - +50°C</td>
</tr>
<tr>
<td>Casing</td>
<td>ABS</td>
</tr>
<tr>
<td>Protection</td>
<td>IP 65</td>
</tr>
<tr>
<td>Dimensions</td>
<td>max. 106x122x55.5mm</td>
</tr>
<tr>
<td>Weight</td>
<td>0.2 kg</td>
</tr>
</tbody>
</table>
Accessories

DMX512 to ASTEL protocol multi-light converter to control multi-color light or one group of multi-color lights with built-in ASTEL protocol or to control single-color light or one group of single-color lights by the help of PWM Dimmer MDU13 with built-in ASTEL protocol.

- 1 Control Output
- DIP-switch Programmable
- Multi-Speed Mode
- Wide Range Power Supply
- Low Power Consumption
- Polarity Protection
- Transient Protection
- Short Circuit Output Protection
- Simple Installation

**DMX512 Interface MXU01**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>12-24 Vdc</td>
</tr>
<tr>
<td>Consumption</td>
<td>max. 50 mAdc</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-10°C - +50°C</td>
</tr>
<tr>
<td>Casing</td>
<td>ABS</td>
</tr>
<tr>
<td>Dimensions</td>
<td>max. 67x80x21mm</td>
</tr>
<tr>
<td>Weight</td>
<td>0.1 kg</td>
</tr>
</tbody>
</table>

![Diagram of DXM512 Interface MXU01](image)
Accessories

To protect the Underwater LED Lights against galvanic corrosion where the underwater lights are installed on steel or aluminium hull.

**Isolation Board IB01**
- Thickness: 1 mm
- Material: polycarbonate

**Underwater Light series**
- EQ06: for Equator MSR0640 series
- EQ12: for Equator MSR1280 series
- EQ36: for Equator MSR36240 series
- CU06: for Conus MST0680 and MSR0680 series
- CU18: for Conus MST18240 and MSR18240 series
- CX06: for Convex MST0680 and MSR0680 series
- CX18: for Convex MST18240 and MSR18240 series
- PQ06: for Plaque MFM0680 series
- PQ18: for Plaque MFM18240 series

**Superyacht Underwater Light series**
- EQ36P: for Equator MSR36240P series

To install the Superyacht Underwater LED Lights. Enables reliable installation and maintenance. Made of material as specially requested.

**Cofferdam CD01**

**Superyacht underwater light series**
- EQ36S: for Equator MSR3624OS series
- CX18S: for Convex MTH18240S series
- CX09P: for Convex MSR09150 series
- CX18P: for Convex MSR18300 series
- PQ09P: for Plaque MFM09150 series
- PQ18P: for Plaque MFM18300 series