

# L240-XX-IRG-G

German 'Feuer W, (Rot)' LED obstacle light

The L240 'Feuer W, (Rot)' is a nacelle light for the German wind market. This red flashing obstacle light for night time marking fully complies with the German Hindernisfeuer AVV. The light incorporates the benefits of advanced LED, optical and system control technologies visible for flying under Night Vision Goggles (NVG).



## KEY FEATURES

- Five year warranty
- Housing based on 30 years of
- offshore product design experience
- Lightweight and easy to install
- Extremely low wind factor
- Integrated design with built-in photocell and monitoring –
- no additional power supply enclosures required
- Integrated GPS based flash synchronisation between lights. UTC 0.0.0
- No maintenance required over service life
- Orga optical design produces highly accurate and uniform narrow light beam
- Extremely low power consumption
- Long life power supply to match LED life, does not use electrolytic capacitors
- flashing visible red light output and or only additional IR flashing light output
- Made in The Netherlands

## STANDARDS/CERTIFICATION

- In compliance with AVV (2020) (German “General Administrative Regulation for the marking and lighting of obstacles to air navigation”) “Feuer W, Rot”

## PERFORMANCE CHARACTERISTICS

- Horizontal beam pattern: 360°
- Intensity Red light: See table
- Intensity IR light: See table
- Infra-Red wavelength ~850nm
- Infra-Red beam is according to AVV standards

## ELECTRICAL CHARACTERISTICS

- Operating voltage: 120-240Vac nominal 50-60Hz
- Power consumption: See table
- Overvoltage protection: Class III according to IEC61643-1

## PHYSICAL CHARACTERISTICS

- Dimensions: (L x W x H): See drawing
- Weight: <3kg
- Design degree of protection: IP66
- Operating temperature range: -40°C/+55 °C
- Supplied with pre-mounted Orga cable for easy installation and high reliability
- Cable bending radius: static 7x cable diameter
- Outer cable diameter Ø12.5 +/- 0.5 mm
- Cable weight: 261 g/m

## SYSTEM DESIGN, CONTROL AND MONITORING

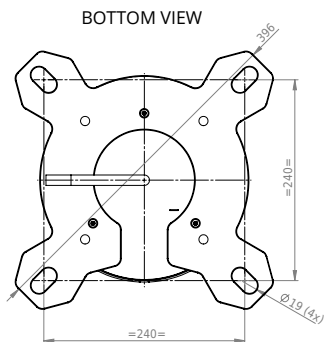
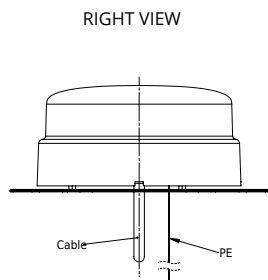
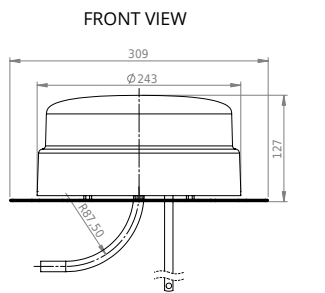
- Use as a stand-alone light, or in a multiple light system with an Orga CIP controller
- Optional Orga CIP controller facilities provides control interfaces for:
  - “smart switch” aircraft detection input
  - Visibility condition variable intensity input; intensity steps 30% and 10%
  - Remote photocell control input/override



# L240-XX-IRG-G

German 'Feuer W, (Rot)' LED obstacle light

Product	Additional information							
Type	Light performance			Power consumption (W) @ 20 °C			Standard	Mounting Bracket
	Day	Twilight	Night	Day	Twilight	Night		(240x240mm)
L240-GFW-IRG-G	-	-	„Feuer W“ + IR 60 fpm	1 W	1 W	9 W	AVV	- BR
L240-IRG-G	-	-	IR flashing 60 fpm	1 W	1 W	2 W	AVV	- BR



# L92-XXX-E

## Low intensity red obstruction light

The L92-XXX-E is Orga's low intensity tower light specifically designed for the offshore wind industry. This red LED obstacle light marks the tower of a wind turbine at night. The light fixture is equipped with a main and standby LED light source and is positioned on the outside of the tower, where its power supply is mounted inside the tower to provide easy access. Designed with smart LED technology including IR and robust due to its sealed housing.



### KEY FEATURES

- Steady burning red obstacle light (10-50 cd)
- Light fixture installed on the outside of wind turbine tower
- Sealed enclosure light design with no maintenance required over service life
- Power supply unit installed inside the tower reducing the need for external access
- Redundant long-life LED light source including Infra-Red, for visibility using Night Vision Goggles
- Directional light emission which increases product efficiency and eliminates polluting light reflection on the tower
- Optical design produces highly accurate and uniform light beam
- Lightweight and easy to install
- Made in the Netherlands

### PERFORMANCE CHARACTERISTICS

- Horizontal beam pattern: See table
- Intensity Red light: See table
- Intensity IR light: See table
- Infra-Red wavelength ~850nm
- Infra-Red beam follows visible light, or beam is according to local standards

### STANDARDS/CERTIFICATION

- Certified to ICAO Annex 14 Volume 1, Seventh Edition, July 2016, Chapter 6, Low Intensity type A & B
- Certified to AVV (German "General Administrative Regulation for the marking and lighting of obstacles to air navigation") type Hindernisfeuer and Hindernisfeuer ES
- Certified to French Arrêté du 23 avril 2018 relatif à la réalisation du balisage des obstacles à la navigation aérienne. Basse intensité type A & B.

### ELECTRICAL CHARACTERISTICS

- Operating voltage: 24 Vdc
- Power consumption: See table
- Overvoltage protection: Class III according to IEC61643-1

### PHYSICAL CHARACTERISTICS

- Dimensions: (L x W x H):  
See drawing
- Weight: 1 kg
- Design degree of protection: IP66
- Operating temperature range:  
-40°C/+55 °C

### SYSTEM DESIGN, CONTROL AND MONITORING

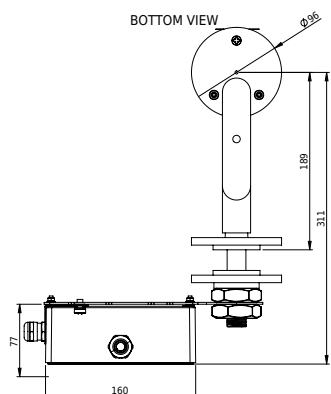
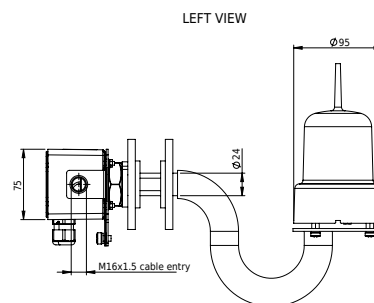
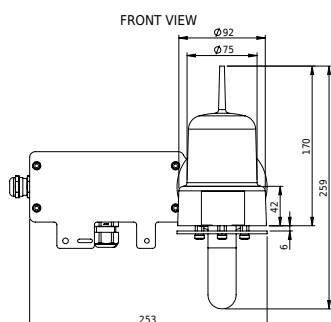
- Use multiple L92 lights in a wind turbine tower light system with an Orga MLC400 controller
- Delivered with standard bracket. Custom bracket available upon request



# L92-XXX-E

Low intensity red obstruction light

	Intensity	Intensity IR	Power consumption visible light	Power consumption IR light (added to visible light power consumption)	Horizontal beam pattern
L92-62A-IRF-E	10 cd	>25 mW/sr	1 W	1 W	Min. 120°
L92-62B-IRF-E	32 cd	>25 mW/sr	3 W	1 W	Min. 120°
L92-NL5-IRF-E	50 cd	>25 mW/sr	5 W	1 W	Min. 120°
L92-AVV-ES-IRF-E	10 cd	>25 mW/sr	2 W	1 W	Min. 180°
L92-62E-IRF-E	32 cd	>25 mW/sr	2 W	1 W	Min. 120°



# SWSxxx-N-AC

Weather sensor / visibility meter

Compact and well proven present weather visibility sensor specially selected to be integrated in the Orga Aviation obstruction light systems, which are required to adjust the operating intensity of the obstruction light in accordance with present visibility conditions.



## KEY FEATURES

- 3 levels of visibility ranges used to control the light intensity
- Easy installation
- Supplied with pre-mounted Orga cable for easy installation and high reliability ready for use
- Robust housing, suitable for offshore use
- No dew heaters
- De-icing heaters
- Made in Europe

## SYSTEM DESIGN, CONTROL AND MONITORING

- Designed to be used in combination with the Orga CIP controller unit. Obstacle light intensity on several turbines can be controlled using data from one visibility sensor.

## STANDARDS / CERTIFICATION

- Complies with generic EMI (NEN-EN-IEC 61000-6-2) and EMC (EN 61326) RF immunity and emission standards

## ELECTRICAL CHARACTERISTICS

- Operating voltage: 120-240Vac nominal 50-60Hz
- Power consumption: See table

## PERFORMANCE CHARACTERISTICS

- Back scatter operating principle
- Measurement time interval 10–300 seconds (default 60 seconds)
- Visibility < 5 km = 100% intensity
- Visibility between 5 and 10 km = 30% intensity
- Visibility > 10 km = 10% intensity

## PHYSICAL CHARACTERISTICS

- Operating temperature range: -40 °C to +60 °C
- Design degree of protection: IP66
- Material: powder coated aluminium
- Weight: 5 kg
- Dimensions (L x W x H): 811 x 270 x 375 mm
- Shipping information: 920 x 350 x 480 – 13kg (including Strobeline cable)
- Cable bending radius static: 7x cable diameter
- Outer cable diameter: Ø12.5 +/- 0.5 mm
- Cable weight: 260 g/m

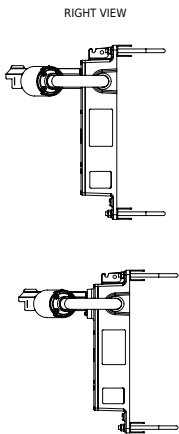
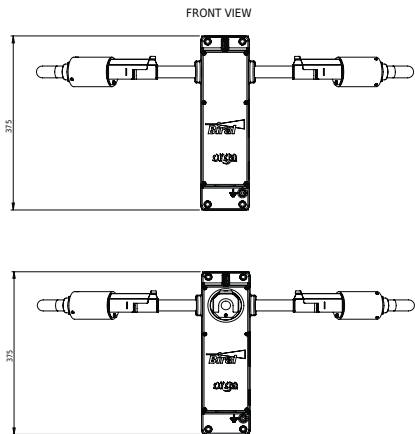


# SWSxxx-N-AC

Weather sensor / visibility meter

	Visibility information	Present weather information	Selectable measurement range (at time of ordering)
SWS050-N-AC	V	X	10m-40km
SWS200-N-AC	V	V	10m-75km

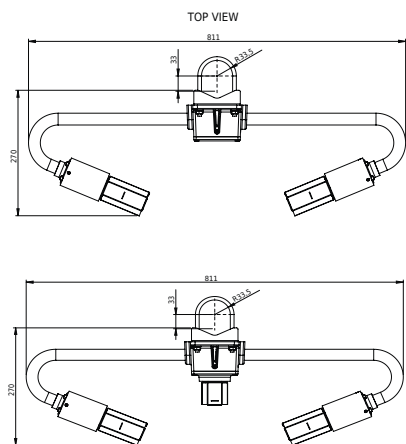
	Power consumption normal operation (no dew window heaters ON)	Power consumption de-icing heaters (added to normal operation power consumption)	Power consumption in "low power mode"
SWS050-N-AC	11W	39W	3W
SWS200-N-AC	11W	39W	3W





# SWSxxx-N-AC

Weather sensor / visibility meter



# CIP402-22

## Obstruction Light System Controller

The CIP402 is Orga's obstruction light system controller specifically designed for the wind industry. This controller provides full system operation management, advanced control facilities, status information and system diagnostics. Available in different housing sizes, with smart backplane and prefixed connections, making the CIP402 a reliable obstruction light controller.



### KEY FEATURES

- Controller for systems with Orga Aeronautical Obstruction Lights, Helihoist Lights, Search and Rescue Lights, ID Lights and Visibility Sensors
- System status monitoring and fail interface
- Manual control override of connected lights
- No (internal) wires
- Integrated Over Voltage Protection
- Communication via Modbus over TCP/IP
- Ethernet communication, with Cyber Security elements implemented
- Base module with Input & Output (I/O) for dedicated functions
- Cost-efficient housing design, meeting C3 corrosion robustness
- Simple cable connection for easy installation
- Supplied with EMC cable glands and blind plugs
- No maintenance during service life
- Two-year warranty

### STANDARDS/CERTIFICATION

- ICAO Annex 14, volume I; International standards and recommended practices: Aerodrome design and operations, 8th Edition, 2018, chapter 6 (for systems incl. CIP402 controllers and obstruction lights)
- United States Federal Aviation Administration AC 70/7460-1L; Obstruction Marking and Lighting, 2018 (for systems incl. CIP402 controllers and obstruction lights)
- Various national approvals (for systems incl. CIP402 controllers and obstruction lights)

### PHYSICAL CHARACTERISTICS

- Dimensions See drawing
- Weight: 4 Kg
- Design degree of protection: IP65
- Operating temperature range: -40° C to +55° C
- Shipping information: 351x215x123 Cm; 4 kg

### PERFORMANCE CHARACTERISTICS

- Controls up to ninety Orga aeronautical obstruction lights
- Ethernet interface for remote system monitoring and control
- Ethernet connection CAT6 with RJ45
- connection compatible with standard IEEE 802.3u
- Overall system fail contact
- I/O interface for control using 24Vdc input
- signals optional main-standby light

### ELECTRICAL CHARACTERISTICS

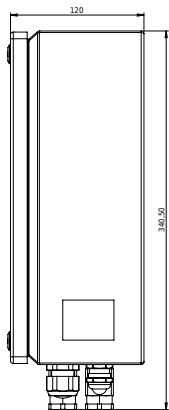
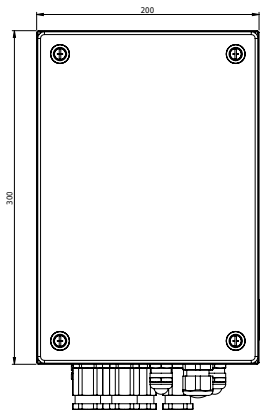
- Operating voltage: See table
- Power consumption: 3 W
- Overvoltage protection: Class III according to IEC61643-1



# CIP402-22

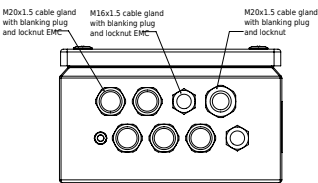
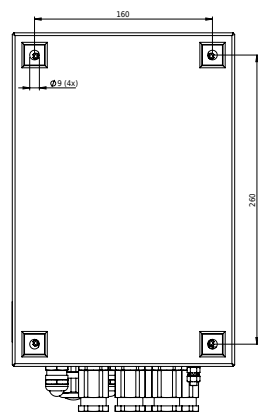
## Obstruction Light System Controller

CIP type name	Operating voltage	Med. / High Int. Lights	Tower light controller support	Visibility meter with Ortalk connection	Reduced intensity control	Aircraft detection Lighting System (ADLS)	Additional class 2 overvoltage protection	Active Voltage outputs for hard wired I/O
CIP402-22	120-240 Vac 50-60 Hz	V	V	V	V	V		
CIP402-22-R	120-240 Vac 50-60 Hz	V	V	V	V	V	V	
CIP402-22-VVN	120-240 Vac 50-60 Hz	V	V	V	V	V		V



# CIP402-22

Obstruction Light System Controller



# MLC402-XX

## Tower Light System Controller

The MLC402 is Orga's tower light system controller specifically designed for the wind industry. The smartly designed backplane with wiring interface terminals on a Printed Circuit Board (PCB) and dedicated modules create an easy to install and configure controller set-up. The prefixed connections increase reliability and the cost-efficient housing delivers a compact and flexible marker light controller.



### KEY FEATURES

- Use in Orga Obstacle Light System with appropriate low intensity Tower Lights, in a system with a CIP402 controller and Aeronautical Obstruction Lights
- Integrated Over Voltage Protection
- No (internal) wires
- Connect up to 4 compatible tower lights, including IR functionalities
- Cost-efficient housing design, meeting C3 corrosion robustness
- Simple cable connection for easy installation
- Heated lighting control fixture optional available
- Supplied with EMC cable glands and blind plugs
- No maintenance during service life
- Two-year warranty

### STANDARDS/CERTIFICATION

- Complies with generic EMI (NEN-EN-IEC 61000-6-2) and EMC (NEN-EN-IEC 61000-6-4) RF immunity and emission standards

### PHYSICAL CHARACTERISTICS

- Dimensions: see table
- Weight: 4 kg
- Design degree of protection: IP65
- Operating temperature range: -40 °C to +55 °C
- Shipping dimensions: 220 x 350 x 130 mm, 4 kg

### PERFORMANCE CHARACTERISTICS

- Individual light monitoring status reported on CIP controller
- Remote monitoring output for light status on CIP controller

### ELECTRICAL CHARACTERISTICS

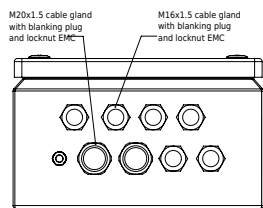
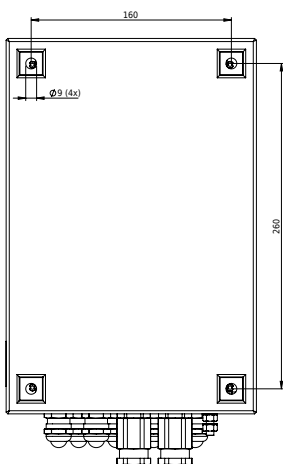
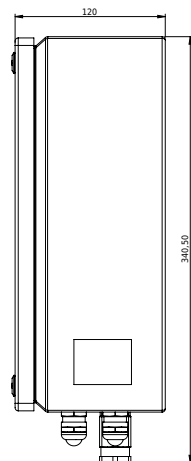
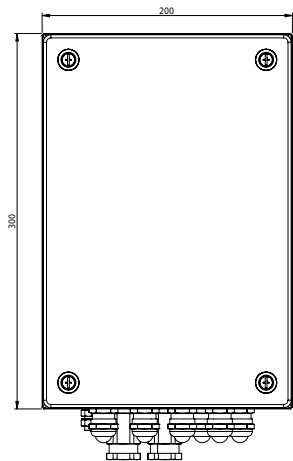
- Wide input voltage range 120-240 VAC nominal, 50-60 Hz
- Power consumption 5.5 W, excluding connected low intensity light
- Output voltage 24 Vdc
- Number of output channels: 4
- Overvoltage protection: Class III according to IEC61643-1



# MLC402-XX

Tower Light System Controller

MLC type name	Length	Width	Height	Additional overvoltage protection
MLC402-22	200	341	123	
MLC400-22-R	212	341	123	V



# SPS60-G2

## Battery backup system

Battery backup system for Orga obstacle lights



### KEY FEATURES

- Battery Backup system for Orga Obstacle and Tower lights system
- Mains power available status contact
- Easy to operate
- No maintenance required over service life

### PERFORMANCE CHARACTERISTICS

- Switch mode battery backup
- Nominal battery capacity: 60Ah at 20°C

### PHYSICAL CHARACTERISTICS

- Dimensions (H x W x D): 600 x 400 x 300 mm
- Mounting on vertical surface with M10 bolts
- Weight: 71 kg
- Design degree of protection: IP54
- Operating temperature range: -20°C to +40°C
- Shipping information: up to 4 items on EUR-pallet 1200×800mm
- Top Entry cable glands and shrouds: 3 x M25 gland for Ø 8-15mm cable 1 x M16 gland for Ø 5-10mm cable
- Enclosure colour: RAL7035 textured gloss, paint powder coating
- Standard industrial sheet steel enclosure

### ELECTRICAL CHARACTERISTICS

- Operating voltage: 230 V<sub>AC</sub> nominal, 50-60 Hz
- Output voltage range: 230 V<sub>AC</sub> nominal, 50-60 Hz
- Output power 375VA 300W / 260W at 25°C /40°C
- Battery voltage: 24 V<sub>DC</sub>

### SYSTEM DESIGN, CONTROL AND MONITORING

- Power Net status contact

# SPS60-G2

## Battery backup system

