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# LT Dirigens LUX / MINI

LED floodlight for Dirigens Lux / Mini

**Product Manual**



**Document Revision History**

Revision	Date	Comments	Made by
1.02	22. Nov 2022	Product Codes/Descriptions Corrected	PL
1.01	25. April 2017	Minimum battery voltage added	JoL
1.00	8. Feb 2016	First Release	JoL
0.10	29. Jan. 2016	First Draft	JoL

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## 1. Introduction

The LT Dirigens Lux / Mini is an LED based light tube. It has been developed to replace traditional floodlights with maintenance free LED technology of low power consumption. The light tubes combined with a solar power system can easily be installed to marine environment. There is no need for an underwater cable to difficult places. The light tubes can provide help on demanding sea routes. They have a totally sealed construction.

### 1.1. Standard Features

- Rugged aluminium housing for installation in marine environment
- Extremely low power consumption, suitable for solar and battery operation
- Integrated day light switch

### 1.2. Product Codes

Product	Order code
LT Dirigens MINI	930050
LT Dirigens LUX	930060

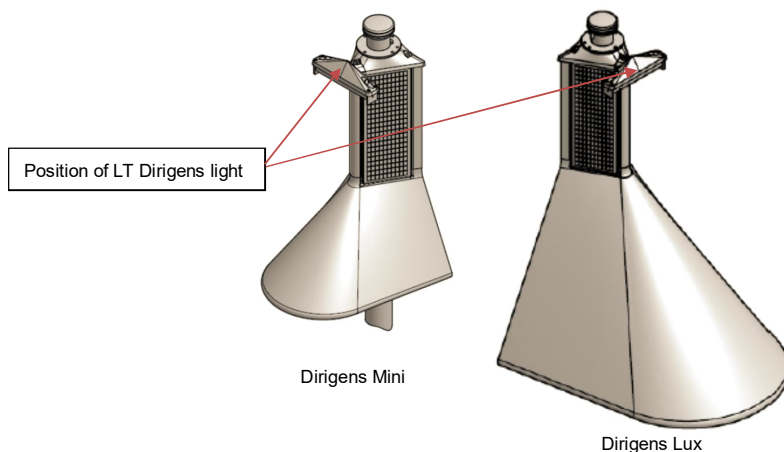
### 1.3. Light distribution

The LT Dirigens Lux is designed to floodlight the daymarks of the Dirigens Lux structure and LT Dirigens Mini has a beam profile to match the daymark structure of the Dirigens Mini.

The beam profile is optimized by the combination of:

- individual LED beam axis adjustments
- individual LED secondary lens profiles
- individual LED drive current

The two units looks almost identical externally, but they are not interchangeable. Special attention should therefore be paid to ensure the correct unit is installed on each type of structure.



## 2. Technical Details

### 2.1. Main Technical Specification

Type	Description
Lens material	UV stabilized acrylic
Light source	Light Emitting Diodes (LEDs)
Weight	1,3kg
Temperature range	-40°C to +60°C
Supply voltage	10VDC to 30VDC
Low voltage disconnection	12,5VDC (only available with serial number $\geq 1625133$ )
Power consumption	0.9W Lux Version / 0.6W Mini Version
Degree of protection	IP65

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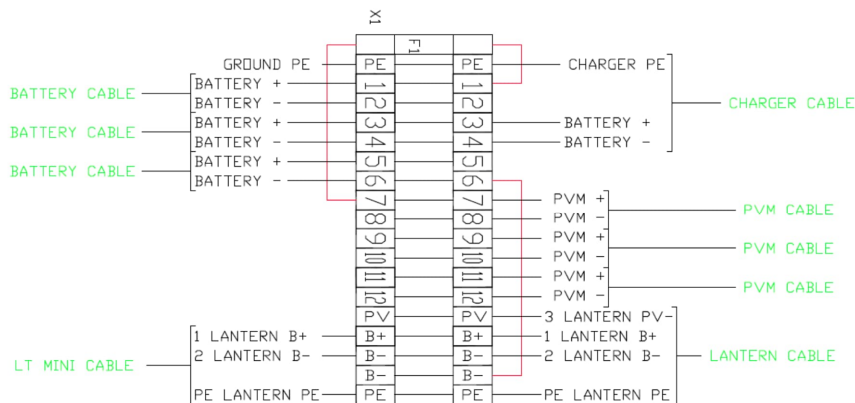
### 2.2. Power Consumption

The luminaire is designed for solar powered energy systems. A high overall efficiency is maintained over a wide range of supply voltages and daytime idle consumption is minimized.

Specification	Value
Input voltage range	10VDC to 30VDC
Max power consumption	0.9 W Lux version / 0.6 W Mini Version
Daytime idle consumption	< 0.6 mA @ 12 VDC

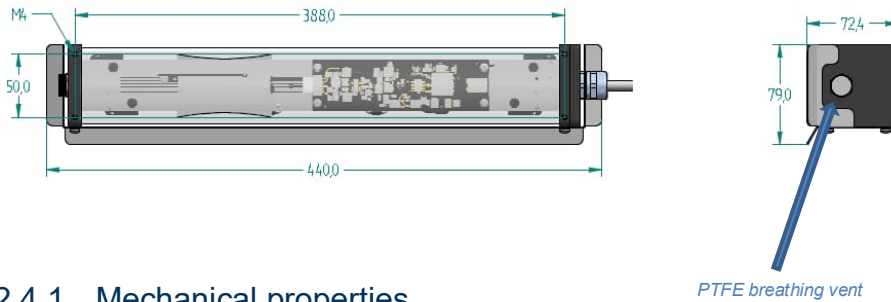
### 2.3. Dirigens wiring diagram

The LT Mini is connected to the junction box inside the Dirigens. There is a dedicated cable gland for the supply cable to connect the unit to the Dirigens power system.



## 2.4. Dimensions and Mechanical Properties

Specification	Value
<b>Weight</b>	1.3 kg
<b>Material</b>	Aluminum, stainless steel A4 and UV stabilized acrylic tube
<b>Total height</b>	79 mm
<b>Total width</b>	440 mm
<b>Total depth</b>	72.4 mm
<b>Mounting base</b>	4pcs M4 bolts c.t.c 50mm x 388mm



### 2.4.1. Mechanical properties


The luminaire is pressure tested at factory before shipment. "Breathing" is arranged through a PTFE membrane mounted on the side of the luminaire, enabling equalization of pressure without the risk of letting the moisture into the housing.

## 2.5. Electrical installation

Wire	Value
1	Battery positive (10VDC to 30VDC)
2	Battery negative ( 0 VDC)
<b>PE (Green / Yellow)</b>	Ground wire

### 3. APPENDICES

#### 3.1. LT Dirigens Mini Assembly



The diagram shows an exploded view of the LT Dirigens Mini Assembly. Component 1 is the main light fixture housing. Component 2 is a cable with a connector. Component 3 is a mounting bracket. Components 4, 5, and 6 are small screws used for assembly.

Item Number	Document Number	Title	Revision number	Quantity
1	M01A57	Light tube	8	1
2	M01A50	Mini light unit	0	1
3	0-AHW S04Z EPDM	O-ring S04Z EPDM		1
4	M01A18	Mask plate	8	1
5	S04A301	Spring lock washer M4		4
6		Long recessed head screw M4x 0,8x1,95x 4x		4

REV	DATE
0	01.11.2016
TS	
RA	
RB	
RC	
RD	

DESIGN	DATE	BY	CHK
1.1	01.11.2016		
<p><b>Oy Sabik Ab</b>                  Pelturitie 17, 06151 Porvoo, puh. 019-5601100</p>			
<p>PROJEKT / PRODUCT: LT Dirigens Mini</p>			
<p>TE: 010 40000270</p>			
<p>SCALE: 1:1</p>			

### 3.2. LT Dirigens Mini Light Unit Assembly

The diagram shows an exploded view of the LT Dirigens Mini Light Unit Assembly. The components are numbered 1 through 18. Component 1 is the main light unit housing. Components 2 through 10 are various mounting and adjustment parts. Components 11 through 18 are the LED light sources and their associated mounting hardware.

Item Number	Description	Quantity
1	Main light unit housing	1
2	Lower mounting bracket	1
3	Dirigens driver	1
4	Washer M4 DIN934 1.4	2
5	Hexagon socket head cap screw M4x5 DIN 912 A4	2
6	Hexagon socket-head screw DIN 913 HX42 A4	4
7	Hexagon socket-head screw DIN 913 HX42 A4	4
8	LED light source cable	1
9	Hexagon socket-head screw M4x5 A4-10	20
10	Hexagonal metal spacer	4
11	Hexagonal metal spacer	2
12	Hexagon socket-head screw M4x5 A4-10	2
13	Hexagon socket-head screw M4x5 A4-10	2
14	Hexagon socket-head screw M4x5 A4-10	2
15	Hexagon socket-head screw M4x5 A4-10	1
16	Hexagon socket-head screw M4x5 A4-10	1
17	Hexagon socket-head screw M4x5 A4-10	1
18	Hexagon socket-head screw M4x5 A4-10	3

**REVISION HISTORY**

REV	DATE	DESCRIPTION	DATE
0	15.08.2017	Initial release	03.11.2019

**Technical Specifications:**

PARAMETER	VALUE
Model	LT Dirigens
Material	Aluminum
Weight	0.15 kg
Dimensions (L x W x H)	100 x 50 x 100 mm
Power Consumption	10W
Light Output (lm)	1000
Beam Angle	60°
Color Temperature	4000K
IP Rating	IP65
Operating Temperature	-20°C to 40°C
Warranty	3 years

**Assembly Instructions:**

- Insert the LED light source (18) into the housing (1).
- Attach the lower mounting bracket (2) to the housing (1).
- Secure the LED light source (18) with the hexagon socket-head screw (17).
- Attach the Dirigens driver (3) to the housing (1).
- Secure the driver (3) with the washer (4) and hexagon socket-head screw (5).
- Attach the hexagon socket-head screw (6) to the housing (1).
- Attach the hexagon socket-head screw (7) to the housing (1).
- Attach the LED light source cable (8) to the housing (1).
- Attach the hexagon socket-head screw (9) to the housing (1).
- Attach the hexagonal metal spacer (10) to the housing (1).
- Attach the hexagonal metal spacer (11) to the housing (1).
- Attach the hexagon socket-head screw (12) to the housing (1).
- Attach the hexagon socket-head screw (13) to the housing (1).
- Attach the hexagon socket-head screw (14) to the housing (1).
- Attach the hexagon socket-head screw (15) to the housing (1).
- Attach the hexagon socket-head screw (16) to the housing (1).
- Attach the hexagon socket-head screw (17) to the housing (1).
- Attach the hexagon socket-head screw (18) to the housing (1).

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### 3.3. LT Dirigens LUX Assembly

Item Number	Doc. part Number	Title	Revision number	Quantity
1	M010197	Lamp tube	8	1
2	M010103	Lamp light end	F	1
3	M010148	U-ring 55x2 D30M	8	1
4	SK-35301	Mod. plate	8	1
5		Spring lock washer M4	DN27	4
6		Long threaded head screw M4x DN70x2.5x4		4

DATE	REV	DATE	REV
02.10.2016	1	10.11.2016	1

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 LT Dirigens Lux  
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LT Dirigens Lux

REV	DATE	REVISIONARY
F	15	R.N.Z. RE: > RIF
		30.11.2016

### 3.4. LT Dirigens LUX Light Unit Assembly

Item Number	Descrpt Number	Title	Part No	Quantity
1	M001046	Light led fixture	L	1
2	M001047	Lower	A	1
3	M001047	Hexagon socket counterbore head screw DIN 9131 M4x2 M4	A	4
4	M001025	Hexagon socket head cap screw M4x8 DIN 912 A4	A	2
5	M001025	NKT Screw M4x8 M3x10	B	8
6	M001030	LT Dirigens supply cable	A	1
7	M001026	Washer M4 DIN912 A4	A	2
8	M001026	NKT Screw M4x8 M3x10	A	5
9	M001017	Dirigens driver	A	1
10	M001017	Hexagonal steel spacer	A	4
11	M001017	Hexagonal steel spacer	A	4
12	M001017	Hexagonal steel spacer	A	4
13	M001017	Hexagonal steel spacer	A	4
14	M001017	Hexagonal steel spacer	A	4
15	M001017	Hexagonal steel spacer	A	4
16	M001017	Hexagonal steel spacer	A	4
17	M001017	Hexagonal steel spacer	A	4
18	M001017	Hexagonal steel spacer	A	4

OWNER	DATE	<b>Oy Sabik Ap</b>	
DESIGNER	REV	LT Dirigens	
PROJECT / PRODUCT	SCALE	1:1	

### 3.5. LT Dirigens junction box connection diagram

