

**BEST IN CLASS**

*'Reduce CO2 emissions & minimize your OPEX'*

**ALL THE LIGHTING  
FOOTPRINT OF DIESEL  
VERSION WITH**



**EMISSIONS**



DIMMING		25%	50%	100%
Battery/ies				
Emissions	Kg CO2 e/h	0,53	0,84	1,23
Carbon Footprint Reduction		-63%	-41%	-14%
Fuel Consumption (*)	l/h	0,20	0,32	0,47
Run Time Before Fuel	h	491	308	211
Silent Running Time	h	8	4	2
Re-Charge Time with Lamps ON	h	3,5	6,25	6,75
Maintenance Interval	h	1971	1286	943
Light Coverage @20lux avg.	m²	1600	3200	6400
Lamps Power	W	350	700	1400
Battery Capacity	Wh	3550	7100	3550
Recharge Power	W	1100	1100	1100

(\*) Fuel consumption according to ISO

Average fuel consumption calculation based on ideal ambient conditions (temperature, pressure and humidity). It could vary depending on the ambient conditions

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HIMOINSA Company with quality certification ISO 9001  
HIMOINSA gensets are compliant with EC mark which includes the following directives:

- 2006/42/CE Machinery safety.
- 2014/30/UE Electromagnetic compatibility.
- 2014/35/UE electrical equipment designed for use within certain voltage limits
- 2000/14/EC Sound Power level. Noise emissions outdoor equipment. (amended by 2005/88/EC)
- 97/68/EC Emissions of gaseous and particulate pollutants. (amended by 2012/46/EU)
- EN 12100, EN 13857, EN 60204

Ambient conditions of reference according to ISO 8528-1:2018 normative:  
1000 mbar, 25°C, 30% relative humidity.

Prime Power (PRP):

According to ISO 8528-1:2018, Prime power is the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output (Ppp) over 24h of operation shall not exceed 70 % of the PRP.



### General Specifications 100% Hybrid

Power (P.R.P.)	2,8 kVA
Voltage (2 + N)	230 V
Max. Dimensions (operating mode) LxWxH	1895 x 1810 x 8300 mm
Min. Dimensions (transport mode) LxWxH	1190 x 1150 x 2435 mm
Weight (no fuel)	1094 Kg

Fuel Tank Capacity	100 L
Fuel Consumption (only lights)	0,55(*)
Fuel Tank Filling	Internal
Max. Running Time (only lights)	491 hours
Noise Level @ 7m	55 dB(A)

(\*) According to ISO standard conditions



### Battery Specifications

Type	LFP (LiFePo4)	
Quantity	Unit	1 Standard - 2 (Optional)
Re-charge time (with lamps ON)	h	3,75 (1Battery) - 6,75 (2Batteries)
Battery Sistem Voltage	VDC	48
DoD % (depth of discharge)	90%	
Energy Density	Wh/kg	111

Overcurrent Capability	up to 2 x recommended current	
Lifetime (90% DoD)	Cycles	6000
Battery Management System	LFP with built-in BMS	
Maintenance Charge Cycles	1 week	
Weight	kg	32 (1Battery) - 64 (2Batteries)



### Engine Specifications | 1.500 .P.M.

Model	YANMAR - 2TNV70WHR
Emissions	Stage V
Engine Type	4-stroke diesel
Injection Type	Indirect
Aspiration Type	Natural
Number of cylinders and arrangement	2 -L
Bore and Stroke	70 x 74 (mm)

Displacement	0,57 L
Cooling System	Liquid (water + 50% glycol)
Engine Oil Specifications	Class SAE3 10W30/API CD,CF degree
Compression Ratio	23,4
Governor	Mechanical
Air Filter	Dry
Inner Diameter Exahust Pipe	40 mm
Service Interval	600 hours



- Diesel engine
- Water-cooled
- Water separator filter (visible level)
- Radiator with pusher fan
- Hot parts protection
- 4-stroke cycle
- 12V electrical system
- Mechanical governor
- Dry air filter
- Moving parts protection

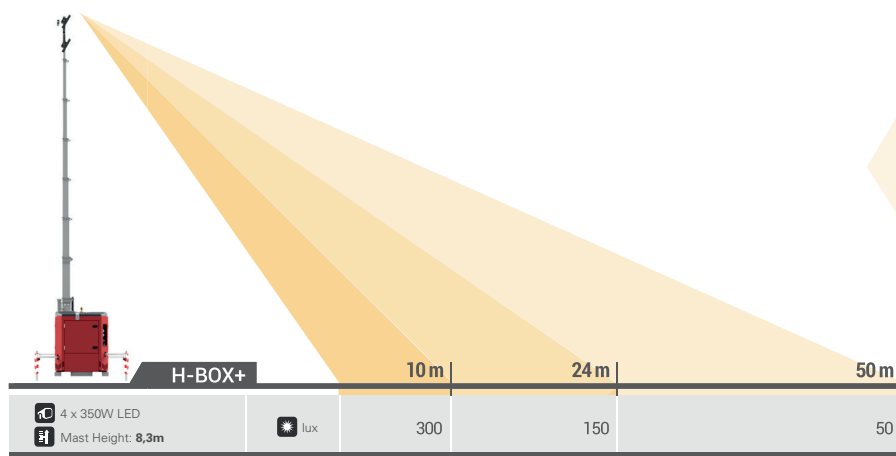
## MAST

Mast type	Hydraulic
Mast sections	8
Mast speed (up/down)	13/25 sec.
Rotation	360° (manual)
Double security lock	Standard
Lamps	4 x 350W
Lamps type	LED
Total lumens	4 x 52.500 = 210.000
Coverage area	6.400 m2
Remaining power	1,4 kW

## CANOPY & CHASSIS

Canopy	Standard. PE Heavy duty
Aux. sockets	2 x 16A - IP67
Input supply	1 x 16A - IP67
Bunded tank	110%
Door in the roof	Standard
Lifting hook	Standard, integrate in the PE roof
Stabilizers	4 with internal lock
Forklift pockets	4 sides. Hot galvanized

## AVERAGE ILLUMINATION vs DISTANCE



Same lighting footprint  
than the diesel version!

## Features

### Lighting tower

- Hydraulic telescopic mast with 8 sections
- Reaches a working height of 8,3 m
- Bubble level located at the bottom of the mast
- Guide system for fixing during transport
- 4 extensible stabilizers to guarantee stability
- Exhaust outlet
- Inclination of lamps up to 180°
- Top door with gas springs and indoor pushbutton opening system
- Lifting hook and hot galvanized forklift pockets on all 4 sides
- Emergency stop
- Wide access for maintenance and control
- Area Coverage > 20 lux average: 6400 m2
- Light power output control system
- C4Cloud (Optional)

### Lighting tower electrical system

- Electrical control panel with earth leakage protection
- Siren
- Circuit breakers for lamps and auxiliary sockets
- CET8 Hybrid control unit
- Embedded assistant for easy set up!
- Manoeuvring joystick (up/down mast)
- Two 16A-IP67 auxiliary sockets for the supply of power to auxiliary equipment
- One 32A-IP67 supply auxiliary entry that allows the supply of current from an external source
- Watertight panel for control, protection and managing

### CONTROL PANEL

Control and protection controller	CET8 HYBRID
Circuit breakers + Earth leakage relays for the protection of lamps and auxiliary sockets protection	Standard
Mast maneuvering	Joystick (up/down)



### EASE OF USE



Embedded assistant for easy set up!



#### Just only 4 clicks:

- Working mode
- Auto or Manual
- Lighting footprint
- Zero noise period



#### Led Dimming System

The HBOX+ Hybrid provides a **continuous running time of up to sixteen hours with zero emissions and zero noise**. This hybrid lighting tower **has an integrated dimming system that can automatically regulate the different variables** (light intensity, battery running time, etc.) and select, in a flexible way, the best working mode according to each case.



#### Connectivity & remote control



**CET8 HYBRID App** to control the lighting tower from smart phone or tablet.

### WORKING MODES



#### HYBRID

- Lamps and sockets will be powered from batteries or diesel
- Sockets will be trip off to assure the autonomy when battery driven
- If SoC<10%, the diesel engine will start up to power the lamps, sockets and recharge the batteries
- This working mode will be set up through the assistant



#### GRID / EXTERNAL SOURCE

- **AUTOMATIC DETECTION.** Grid/External Power will be a priority. HBox+ Hybrid will detect automatically the presence of grid and will provide the priority, stopping the engine and recharging the batteries, in whatever mode it will be working.
- Lamps and sockets will be powered from grid
- Power exceed will recharge batteries



#### BATTERY

- Lamps will be powered from batteries
- Sockets will be trip off to assure the autonomy
- If SoC<20%, the lighting tower will stop
- Diesel never start up in this working mode



#### DIESEL

- Lamps and sockets will be powered from diesel genset
- Power exceed will recharge batteries

### DIMENSIONS AND WEIGHT

Max.Dimensions (operating mode) LxWxH	1.895 x 1.810 x 8.300 mm
Min.Dimensions (transport mode) LxWxH	1.190 x 1.150 x 2.435 mm
Maximum shipping volume	3,33 m <sup>3</sup>
Weight (no fuel)	1094 Kg

*Dimensions of lighting tower mounted with lamps*

HBOX+



1,150 mm MIN / 1,810 mm MAX



1,190 mm MIN / 1,895 mm MAX

2,435 mm MIN / 8,300 mm MAX

### TRANSPORTABILITY



**20 units** | 40'HC Container



**22 units** | Truck 13m

*Quantity corresponding to lighting towers with lamps*



Compliant with international transport regulations ADR/IMO , Hbox+ Hybrid is rated UN3481 9A Rating. It should be noted that when the total weight of the batteries exceeds 330kg it is essential that the transport is carried out in accordance with the appropriate protocols established in applicable regulations. ADR applies for the transport of more than 10 units of Hbox+ Hybrid lighting tower with one battery or more than 5 units for the version with two batteries

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