

HANS BUCH

LED tubes & floodlights

Hans Buch // Marine

Hans Buch supplies extremely durable LED tubes and floodlights, contributing to energy and CO2 savings on vessels. So far, we've delivered more than 150.000 units to companies such as Maersk, Shell LNG, DSB, and many others.

 www.hansbuch.dk

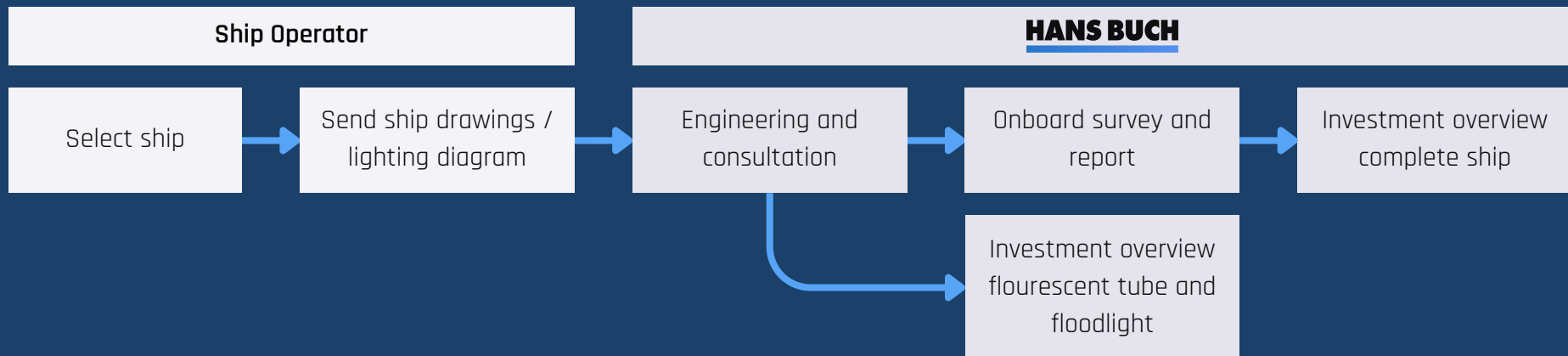
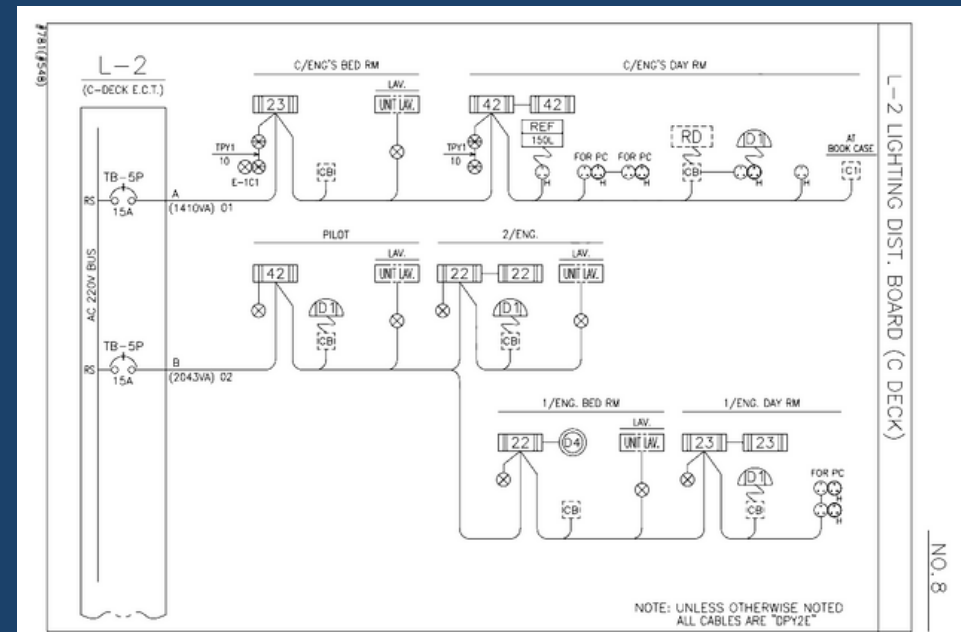
 [@company/hans-buch-as/](https://www.linkedin.com/company/hans-buch-as/)



A JOURNEY THAT BEGINS WITH YOU

Our Engineering and Investment Process

Based on your good vessels light diagram, we calculate the estimated CO2 & kWh savings obtained by converting the lights on your vessel to LED. If the lighting diagrams won't suffice, we offer a free onboard survey (excl. lodging and transport) to determine the exact number of tubes, floodlights and bulbs. Finally, we present an investment overview for the complete ship including total kWh and CO2 savings along with an estimated return of investment.



LED Power Saving Estimate

Hans Buch delivers a detailed investment overview showcasing the energy and CO2 savings obtained by converting fluorescent tubes and light bulbs to LED on your specific vessel.

The example shown to the right side of this page is from an LED/light bulb conversion on a tanker.

Annual energy savings: 201.470 kWh

Annual decarbonization: 100.730 kg CO2

Return of investment: 6 months

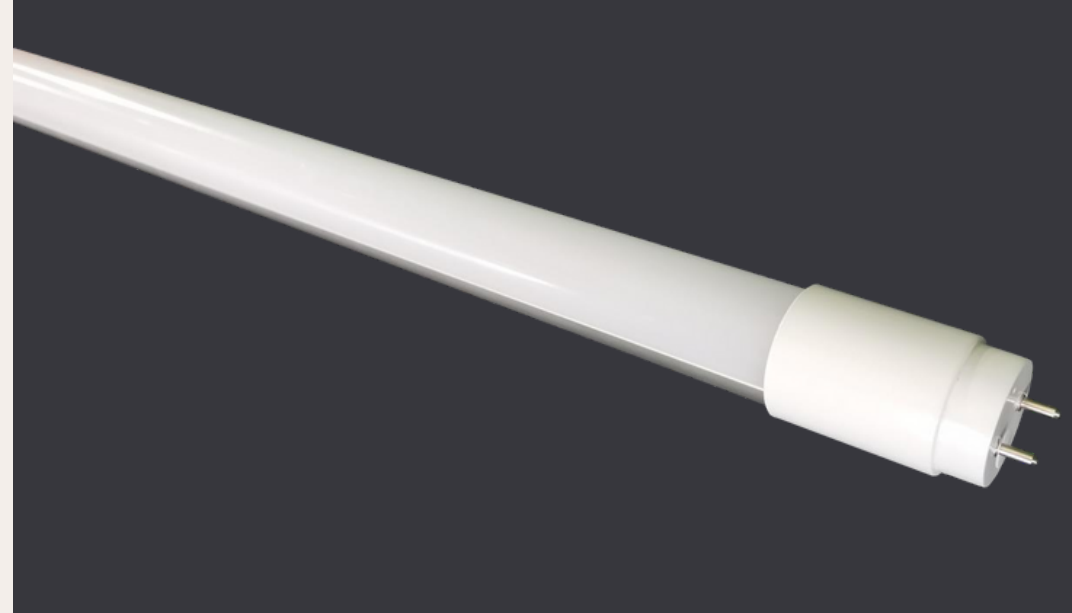
BASIS SAVING FROM SIMPLE SHIFT TO LED TUBES		Old Flourescent Tubes		New LED tubes	
Total No. of light tubes	Number of lamps	148	656	148	656
Tube dimensions	length in (m)	1,20	0,6	1,20	0,60
Number of tubes in accomodation	tubes / ship	60,00	260,00	60,00	260,00
Rated power	W	36,00	18,00	20,00	10,00
Actual power consumed with magnetic ballast	W	42,00	23,00	20,25	10,25
Average hours of running per day	hrs/day	24,00	24,00	24,00	24,00
Units of power consumed /year /tube	kWh/Yr/tube	367,92	201,48	177,39	89,79
Number of tubes in engine room	tubes / ship	60,00	260,00	60,00	260,00
Rated power	W	36,00	18,00	20,00	10,00
Actual power consumed with magnetic ballast	W	42,00	23,00	20,25	10,25
Average hours of running per day	hrs/day	24,00	24,00	24,00	24,00
Units of power consumed /year /tube	kWh/Yr/tube	367,92	201,48	177,39	89,79
Number of tubes on deck and other areas	tubes / ship	28,00	136,00	28,00	136,00
Rated power	W	36,00	18,00	20,00	10,00
Actual power consumed with magnetic ballast	W	42,00	23,00	20,25	10,25
Average hours of running per day	hrs/day	12,00	12,00	12,00	12,00
Units of power consumed /year /tube	kWh/Yr/tube	183,95	100,74	88,70	44,90
Units of power consumed /year /group		49.301	118.470	23.770	52.797
Total power consumed in one year			167.772		76.567
Saving in the kWh power units using LED tubes			kWh/yr/ship	91.205	
Total no. of Light bulbs	Number of lamps	-	295	-	295
Tube dimensions	Power	100W	60W	12W	8W
Number of bulbs in accomodation	tubes / ship		90,00	-	90,00
Rated power	W	100,00	60,00	12,00	7,00
Actual power consumed	W	100,00	60,00	12,00	7,00
Average hours of running per day	hrs/day		24,00	-	24,00
Units of power consumed /year /bulb	kWh/Yr/tube	-	525,60	-	61,32
Number of bulbs in engine room	tubes / ship		90,00	-	90,00
Rated power	W	100,00	60,00	12,00	7,00
Actual power consumed	W	100,00	60,00	12,00	7,00
Average hours of running per day	hrs/day		24,00	-	24,00
Units of power consumed /year /bulb	kWh/Yr/tube	-	525,60	-	61,32
Number of bulbs on deck and other areas	tubes / ship		115,00	-	115,00
Rated power	W	100,00	60,00	12,00	7,00
Actual power consumed	W	100,00	60,00	12,00	7,00
Average hours of running per day	hrs/day		12,00	-	12,00
Units of power consumed /year /bulb	kWh/Yr/tube	-	262,80	-	30,66
Units of power consumed /year /group		-	124.830	-	14.564
Total power consumed in one year			124.830		14.564
Saving in the kWh power units using LED bulbs			kWh/yr/ship	110.267	
Saving in the fuel costs by using LED tubes & bulbs	EUR/year				37.561,97€
Cost for replacement of old fluorescent tubes & bulbs	EUR/unit	3,00	2,00		
Saving from biannual replacing fluorescent tubes	EUR/year	222	656		878,00€
			GRAND TOTAL SAVING EUR/YEAR		38.439,97€

T8 LED tubes

Our robust design ensures that our LED tubes are resistant against vibrations, making it ideal for environments within the offshore and the maritime industry. Additionally, it is equipped with anti-corrosion WF2 technology, ensuring its longevity even in harsh environments. The reinforced polycarbonate construction further enhances its durability.

The T8 LED tubes comes in a version with explosion-proof capabilities and approval for Zone 1 & 2. The ex-proof grade Ex db IIB T5 guarantees its reliability in potentially explosive atmospheres. Furthermore, the stainless steel mounting brackets (SS 316) provide secure installation.

With a protection grade of IP66, our product is fully protected against dust and water ingress. It operates on AC/DC 12-220 volt power and utilises 2 drivers and a high-quality cooling fan to ensure a long lifespan.



Certificates

EN 45545-1

EN 55015-2013 EMC

- Radiation Emission
- Magnetic
- Power Line Conducted Emission

EN 61000-3

- Voltage Fluctuations & Flicker
- Harmonic Current

L70

- IES LM 84-14
- TM 21-11

EN 61373

CRI

EN 61547

- Electrostatic Discharge
- Radio Frequency Electromagnetic Fields
- Electrical Fast Transient/Burst
- Surge
- Injected Currents Susceptibility
- Magnetic Field Immunity
- Voltage Dips and Interruptions

T8 Specifications

T8 LED Tube uses 50% - 90% less energy compared to conventional tubes, depending on the age and type of the lamp in question. The lifespan of T8 LED Tube is many times that of a conventional tube, thus reducing the repair costs of lighting significantly. Easy installation process, low replacement cost, saving labor cost, no need to remove the original magnetic ballast and rewiring again.

Color Temperature	600-9000 Kelvin
Power Factor	6500K > 0.9
LED Type	2835
LENS Angle	Adjustable 180°
Life Span	+78,000 hours
Operating Temperature	-20°C ~ +55°C
Operating Humidity	<80%
Compatible With Magnetic Ballast	Yes
Efficiency	>90%
Warranty	5 years
Markings	CE、RoHS



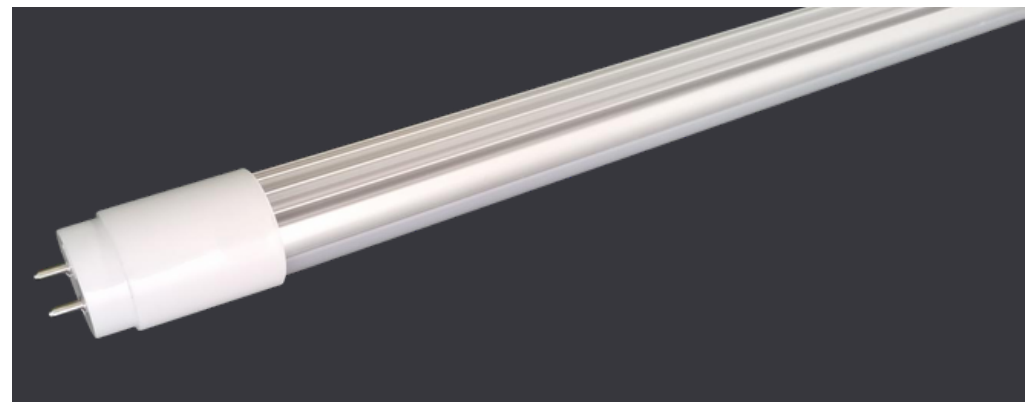
Better luminance T8 LED Tube performs well with high color rendering. There is an unbroken full spectrum which helps us to distinguish colors for the whole area of visible light. The light is also available for your use without delay and without the flickering normally associated with the switching-on stage.



Eco-friendly By choosing T8 LED Tube, you will also have a positive impact on the environment. T8 LED Tube does not contain mercury, lead or any other heavy metals. This is why T8 LED Tube are not categorized as hazard waste. Moreover, the need for electricity produce from fossil fuels decreases, as the T8 LED Tube is more energy efficient



Safer lighting By replacing your traditional lights with T8 LED Tube, you will eliminate many of the risks related to lighting such as UV light that is harmful to people. Also LED lamps contain no dangerous substances such as mercury. No radiation, no frequency flash, instant startup, no hurting eyes.



NavyBasic Floodlight

Optimised smooth curve heat-sink body with a perfect thermal management ensures efficient heat dissipation and prevents overheating. Additionally, the heat-sink design allows for easy flushing out of dirt and debris, ensuring optimal performance. The marine rate anti-corrosion coating protects the light fixture from the harsh effects of saltwater and other corrosive elements. The LED system is available in various wattages ranging from 30W to 1500W, offering a wide range of options to suit different lighting needs.

The LED is available in Cool, Natural, Warm White, or Amber, with the Amber option being turtle-friendly. The choice of narrow, medium, or wide LED lenses or reflectors further enhances the adaptability of the fixture. The light fixture has instant switch ON/OFF capability for immediate illumination.

Optional features include 1-10V DALI dimming for enhanced control and secondary HV surge protection for added safety. The LED drivers ensure a reliable and durable lighting solution with a long lifespan.



NavyBasic Specifications

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Power	30W	50W	100W	150W	200W	250W	300W
Size	242*169*51mm	283*220*52mm	369*278*52mm	394*392*57mm	445*392*57mm	497*392*59mm	524*545*65mm
Input Voltage	AC90-305V 50/60Hz PF>0.95			Ambient temp. (°C) - 40° to +50°			
Luminous Flux	130-150LM/W						
CCT	3000K/4000K/6500K						
Light Source	3030x36pcs	3030x60pcs	3030x120pcs	3030x180pcs	3030x240pcs	3030x300pcs	3030x360pcs
CRI	>Ra80						
Lumens Outout as per LM79	3900-4500LM	6500-7500LM	13000-15000LM	19500-22500LM	26000-30000LM	32500-37500LM	39000-45000LM
Beam Angle	30°/60°/90°/120°			/T2M/T3M			
LED Power (W)	25W	45W	93W	140W	188W	235W	285W
System Current (A)	0.7A	1.5A	3.1A	4.66A	6.3A	6.5A	7.8A
LED Current (mA)	0.9A	1.8A	3.6A	5.4A	7.2A	7.5A	9A
Dimmable	1-10V / DALI Optional						
Certifications	CE rohs TUV ETL FCC SAA IP66 IP67 IP68(Optional) system life(hours) > 50000H						



NavyTech Floodlight

The aluminum alloy construction of the NavyTech floodlight ensures durability and strength, making it suitable for heavy-duty applications. The 4mm thick tempered glass provides excellent protection and clarity, with over 95% light transmission.

This floodlight is designed to withstand shock and vibrations, making it reliable in harsh environments. With a high efficiency of up to 110 lm/w, it offers bright illumination while conserving energy. The L70 rating of over 54,000 hours guarantees a long lifespan.

Additionally, it is dust tight and can withstand immersion in water up to a depth of 1 meter. This makes it ideal for various industries, including heavy industry, mining, refineries, Oil&Gas, chemical industry, coastal marine facilities, and corrosive applications. The product comes with a standard surface/wall mount, as well as an adjustable mount bracket. A pendant kit is also available as an optional accessory.



Safety Standards

- UL 844, Luminaires for Use in Hazardous (Classified) Locations
- CSA C222 N o.137-M1981, Luminaires for Use in Hazardous Locations
- UL 1598A for Marine Environments
- ATEX - DEMKO 18 ATEX 1 765 Rev. 0
- IECEx UL 180046
- LM79 Data Available Upon Request

NavyTech Specifications

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LED Source	Bridgelux 3030
CCT	3000-6500K
Luminous Efficiency	110~130lm/W
Beam Angle	60/90/120 degree
Power Supply	Meanwell HLG
Input	100-277 VAC / 50, 60 HZ
PF	0.98
THD	< 10%
IP Rating	IP67
Operating Temp.	-30°C to +50°C
Certifications	UL844, ATEX, IECEx, CNEX, UL, CUL, DLC, CE, ROHS, SAA
ULL844 Approved	Class I, Division 2, Groups A, B, C and D
ATEX & IECEx Approved	II 2 G Ex eb mb IIA T4 Gb II 2 D Ex tb IIIC T(95°C) Db II 3G Ex ec IIC T4 Ge

Model No.	J40	J100	J200
Dimensions (mm)	200x200x270	300x300x185	400x400x185
Watt Options (W)	30, 40, 50	60, 70, 100	120, 150, 185
Net Weight (kg)	4	8	10.5

