SILENT SAILING

ELECTRIC PROPULSION

www.eptechnologies.dk

EPTechnologies
Energy Power Technologies

EPTechnologies

Kasper Falkenberg
CEO & Founder

Marco Ottiker
Co-Owner

What EPTechnologies offers you

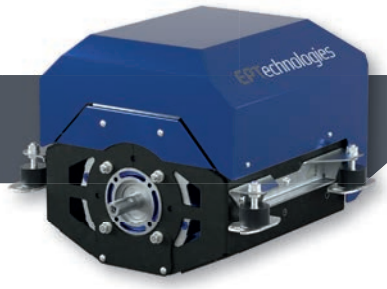
EPTechnologies has been in the field of electric propulsion for over 18 years. As long-time sailors and boat owners we are well aware of the problems that can occur on a daily basis. Therefore, we believe in systems designed with backup options and design systems to be as simple as possible.

- Silent sailing. Representing the smartest and most cost-efficient systems available today.
- Real quiet time. Environmentally friendly and luxurious boats with no engine noise so you can enjoy your journey.
- We keep it simple. Beautiful design, easy to maintain and cost effective. Most of our systems, including batteries and electric motors, are designed and produced in Germany and Denmark.
- One exception is the battery cells, we buy them from one of the best suppliers in Asia. The raw materials are from Australia, China and Indonesia.
- We are a complete system provider where you get all out of one hand.

Extraordinary products with consistent high quality

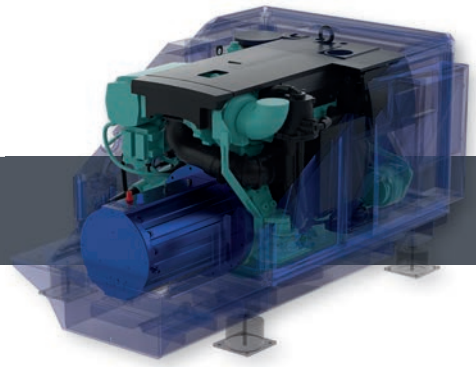
- Lightweight and compact.
- Powerful permanent magnet AC motors, with efficiency of up to 96%.
- Motors with extremely high torque for direct drive on shaft as low as 400 rpm no gear needed.
- EPT designed/manufactured Lithium NCM and LFP batteries 24-800 VDC.
- EPT junction box for plug and play.
- EPT designed variable speed PM DC generator, direct charge on the battery packs.
- Custom shape solar panels (Sunpower german design) including MPPT and integration.
- EPT designed touchscreens on Raymarine or our own HMI for bigger systems, integratable in upper bridge control IAMCS via mod bus if needed.

Catsy



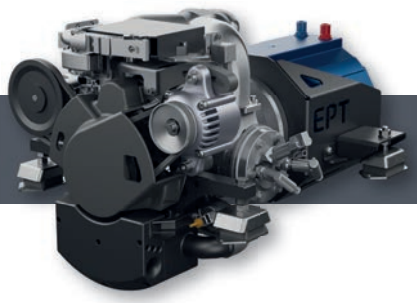
SHAFT DRIVES

- Power 10 to 900 kW
- RPM 400 to 3000
- Voltage 24 to 800 VDC



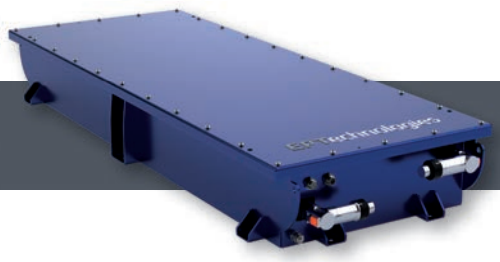
VARIABLE SPEED DC GENERATORS

- Power 8 to 350 kW
- RPM 1500 to 3000
- Voltage 24 to 800 VDC



UC8 DC MINI GENERATOR

- Power 8 kW peak 10 kW
- Voltage 48 to 700 VDC
- Ultra compact
- Light weight, under 80 kg
- Plug & Play

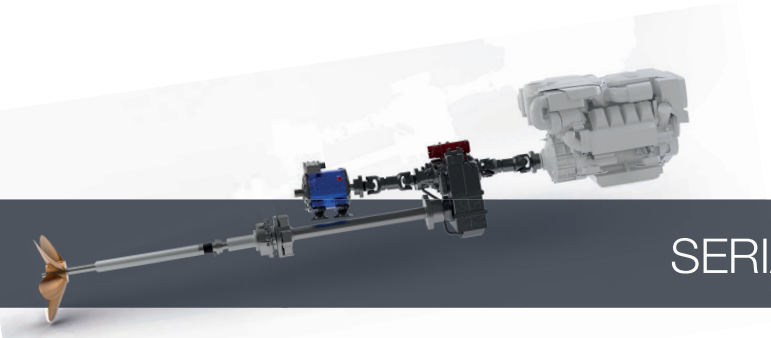


EPT HV MARINE BATTERIES

- One of the worlds lightest batteries made with these power ratings
- 5.2 kg per kWh
- Voltage up to 900 V
- IP 65, 67 on request
- ALU casing SS on request
- With pre-charge, fuses, main relays and state of the art BMS
- Parallel strings can have optional redundant pack control units PCU with double PLC's for back up
- DNVGL in process
- More than 6 MWH sold already

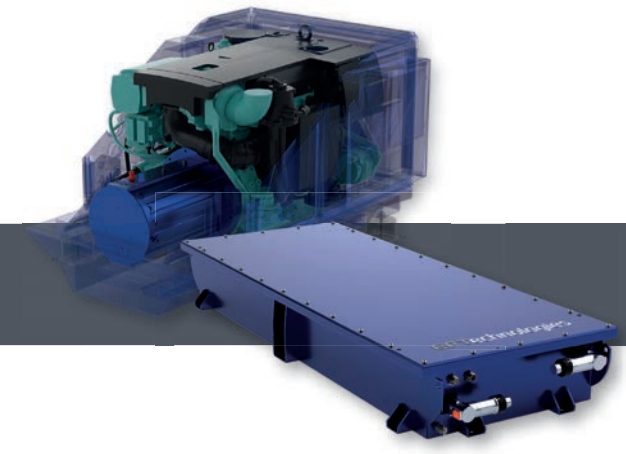
SERIAL HYBRID INLINE SHAFT

- Thermal engine, Volvo, MAN, MTU or XXX 150 to 1500 HP
- E- Motor 50 to 360 kW
- RPM 1200 to 2200 on the engine shaft



SERIAL HYBRID ON ZF PTI/PTO

- Thermal engine, Volvo, MAN, MTU or XXX 150 to 3000 HP
- E- Motor up to 1000 kW
- RPM will be set according PTI/PTO needs
- We also deliver complete drive shaft lines with our partner Piening propeller, including CPP



SILENT NIGHT MODE SET FOR YACHTS AND SUPER YACHTS

- Variable EPT DC Genset, 40 to 300 kw
- EPT EMS/PMS control system including 15” HMI
- EPT Battery 622 V, 110 kWh, factor x of according to yacht size
- Optional aircon system, direct from the HV DC link

Service and support

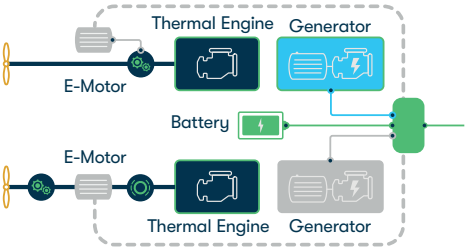
At EPTechnologies we stand by our service and won’t let you down. We offer wide-ranging and creative options in warranty service worldwide. We understand the customer needs for quick repair and on-site support, even at the far reaches of the world. We believe we are unique in this approach.

We also offer full remote technical support and online diagnostics for our systems. Depending on the issue, it will be solved either remote or an EPT technician or affiliate comes onboard on the vessel world wide.

Demonstration of a parallel set up in 2 variants, port as PTI/PTO, stbd as inline version. They have the same functionality but depending on the vessel, one or the other makes more sense.

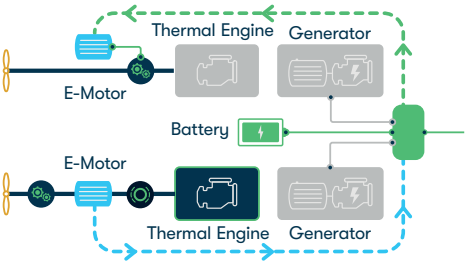
THERMAL DRIVE MODE

- E-motor OFF
- Propulsion by thermal engine
- Hotel load by battery or generator



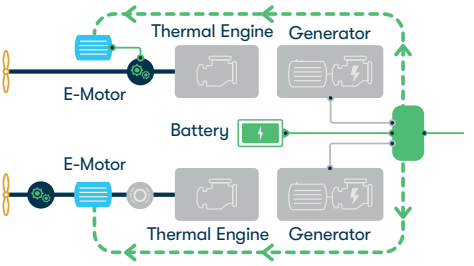
MULTI MODE

- E-motor port propulsion
- Thermal engine other side as propulsion
- E–motor stbd uses uses spare thermal
- Hotel load by battery or e-motor generation



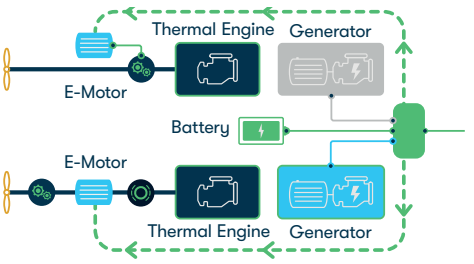
ELECTRIC DRIVE MODE

- E-motor ON
- Propulsion by electric motor
- Hotel load by battery or generator
- Second drive option via generator



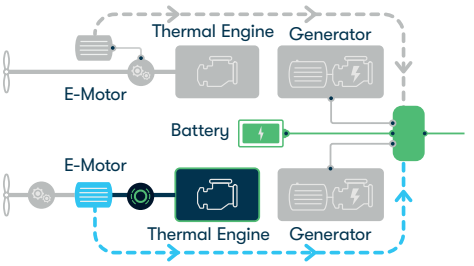
BOOST MODE

- E-motor ON
- Propulsion by electric motor and thermal engine
- Hotel load by battery or generator
- Hotel load by battery or generator



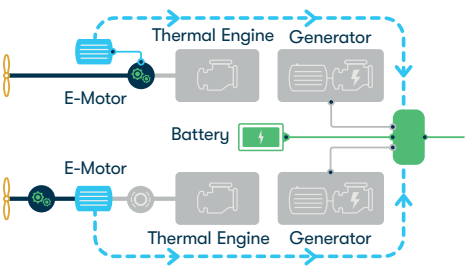
GENERATOR MODE

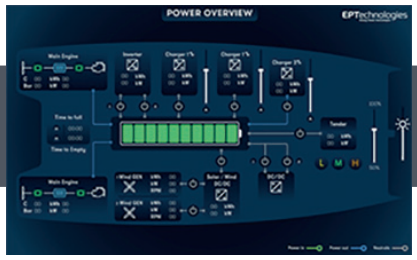
- E-motor in generator mode
- Propulsion by thermal engine
- Hotel load by battery
- Battery charged via E-motor generation
- Propulsion OFF
- Generator mode not possible with PTI/PTO



RECUPERAITION MODE

- E-motor as generator
- Propulsion by wind
- Hotel load by battery or E-motor regeneration

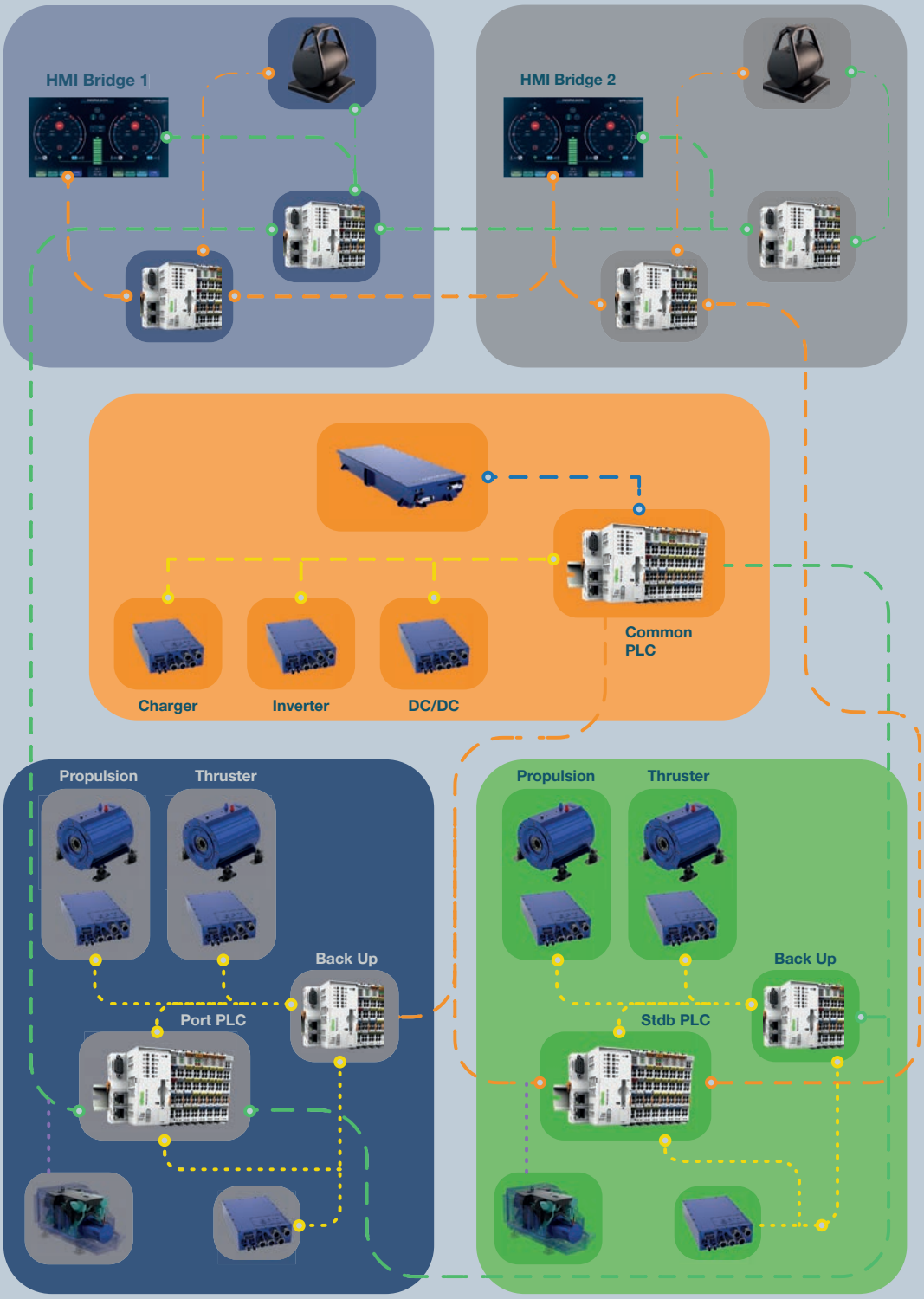


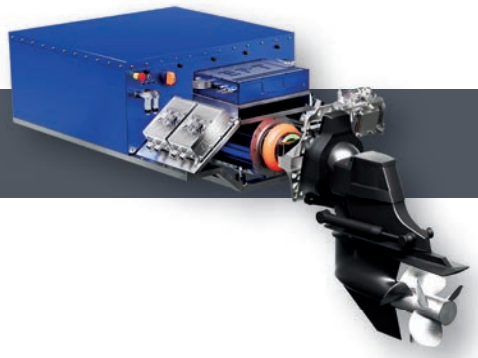


EPT THRUSTER AND ENERGY MANAGEMENT CONTROL SYSTEM

- Smart control logic for your vessel including alarm handling
- Energy/fuel saving
- Integrable to upper bridge control systems IAMCS via Mod buss
- Redundant network with back up control
- State of the art components
- Interface to e-motors and thermal engines
- Flexible customer options possible
- Remote monitoring and updates possible

EPT THRUSTER & EPMS CONTROL SYSTEM





DROP-IN WITH BATTERY ON FRAME

- Power 40 – 400 kW
- Battery 70 – 500 kWh
- Voltage 48 – 800 VDC
- RPM 2000 – 6000
- Charger, DC/DC, throttle, cooling system, shore power, display, etc.
- Quick and easy installation

Z, JET & SURFACE DRIVE DROP-IN UNIT

- Power 50- 400 kW
- RPM 2000 – 6000
- Voltage 48 – 800 VDC

OUTBOARD ENGINE

- Power 35 to 260 kW
- RPM 4000 to 6000
- Voltage 48 to 800 VDC
- 130 kW is available, 45 kW in spring 2023 and 260 kW in fall 2023

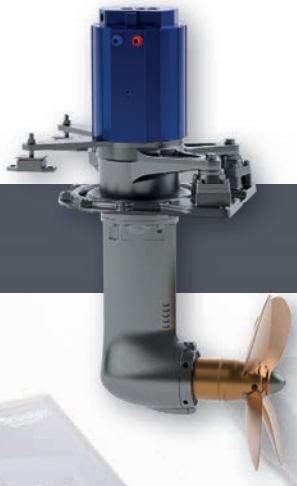
Batteries

We are working on a proper life-cycle strategy for the lithium batteries as recycling is a part of our future strategy. This will be done in an ethical and an environmentally conscious way. The battery cells we acquire are from one of the best suppliers in Asia.

The raw materials for the batteries are coming from big industrial mines in Australia, China and Indonesia.

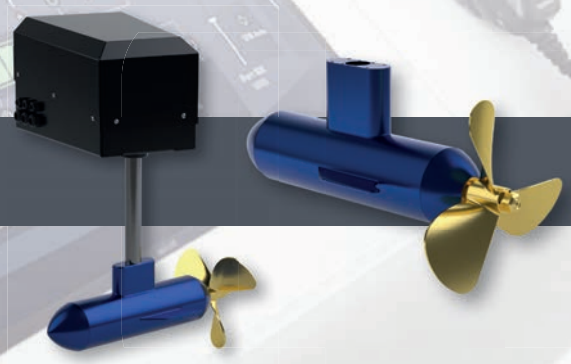
EPT HV BOW THRUSTER

- Power 15 to 400 kW
- RPM 1500 to 3000 according gear leg chosen
- Voltage 24 to 800 VDC



SAIL DRIVES

- Power 6, 14, 24, 30, 50, 70 kW
- RPM 2000 to 3000
- Voltage 24 to 800 VDC



POD DRIVE

- Power 5 to 30 kW
- RPM 500 to 2000
- Voltage 48 to 100 VDC

EPT LV LITHIUM BATTERIES

- Capacity 2.8 KWh, NCM (each battery)
- Max continues discharge 120 A, peak 200 A (each battery)
- CANBUS monitored
- Smart Racking system available with integrated fuses

Our vision

EPTechnologies overall vision is to transform the marine industry into becoming greener and more sustainable. Our vision is also to become the leading manufacturer of electric boats Jet-, Z-, Sail, or Shaft- drives for the pleasure boat market. We provide complete systems including batteries, DC generators and with a control system starting from 30 kW to 400 kW engine capacity.

Furthermore, it's to be the leading company in the medium sized pleasure and ferry market, hence, to build complete electric or hybrid solutions for vessels from 12 m to 80 m in size. We aim to do so by producing the key elements ourselves, like batteries, DC generators and control systems as well as to find the utmost suppliers to develop the best solutions for the marine market.

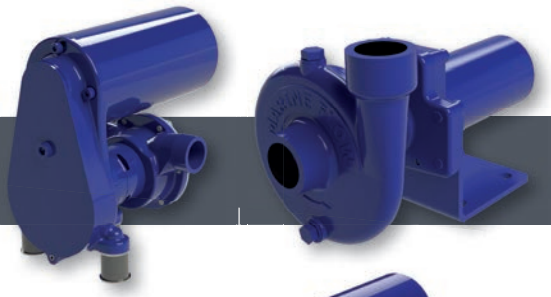
We are a technical innovator who creates simple design and cost-effective propulsion systems for the customer. This, with the finest quality that makes economic sense.

The future is now and we know that with building hybrid and electric vessels it reduces the CO2 footprint drastically. The data we have is clear: the vessels save between 30% to 70% in diesel per week of operation.

Let us transform your dreams to reality.

EPT BOATCONTROL APP

- Monitor your boat systems from the fingertip of your phone
- Easy customizable
- Switching and alarms for functions you decide on
- Easy to integrate into NMEA 2000 network



EPT COOLING PUMPS

- Salt water pump
- Glycol pump
- Double Glycol pump
- Variable speed

EPT SHORE POWER INLET

- Various Voltages 110 V, 220 V and 400 V 1 to 3 Phase 50 and 60 hZ
- Selectable amp drawings from shore, 4 A to 32 A
- Remote controllable via the EPT BoatControl App

In spring 2022 we are ready with fast DC charging, up to 60 kW depending on the battery size.

KISS

We believe in open architecture. At EPT you will not buy over-complicated systems or black boxes that no one, except the manufacturer, understands.

We want the customer to see what's inside and to be able to understand how the system works, within some limits of course.

Powered by
EPTechnologies
Energy Power Technologies

GERMANY

EPTechnologies GmbH

Senefelder Ring 51
21465 Reinbek
Germany
Office: +49 40 7900 8969
Sales: +45 52 380 800
sales@eptechnologies.de
www.eptechnologies.de

DENMARK

EPTechnologies Aps

Ellegårdsvej 25 N
6400 Sønderborg
Denmark
Sales: +41 76 411 27 70
+45 52 380 800
sales@eptechnologies.dk
www.eptechnologies.dk

The copyright for published objects created by the author himself remains solely with the author of the pages. Any duplication or use of such graphics, sound documents, video sequences and texts in other electronic or printed publications is not permitted without the express consent of the author.

© EPTechnologies ApS 2022 10.22