



PowerPlex[®]
Marine





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ON-BOARD MANAGEMENT WITH *PowerPlex*®

Everyone is talking about digitisation and also in the marine industry, it is an essential feature of modern boats, motors and sailing yachts. Modern on-board systems reliably and conveniently control a range of loads and functions. *PowerPlex*® is E-T-A's comprehensive on-board management system, reliably connecting, regulating, controlling and monitoring loads, switches and sensors via CAN.

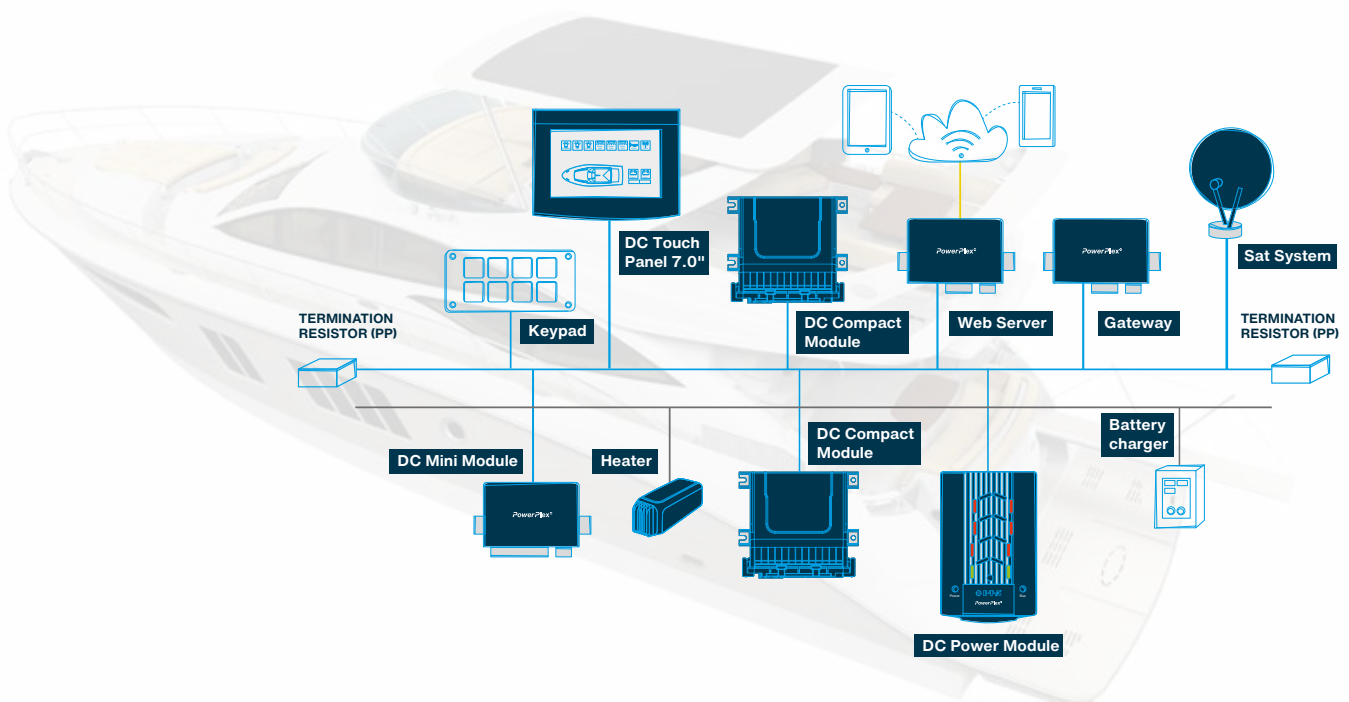
DIGITAL SWITCHING TECHNOLOGY

Digital Switching Systems such as *PowerPlex*® offer comprehensive options for controlling and monitoring up to automation of important functions. They provide power distribution as well as control of all electrical and electronic systems such as illumination, heating, air conditioning, pumps and fans.

A configured system automatically switches loads and immediately alerts the skipper to undesired conditions of the devices or of the entire electrical installation. This ensures that everything works precisely – which is reassuring, as most of the loads are often not in plain sight.

Central operation is done via user-friendly operating interfaces with multifunctional displays, touch panels and smart phones.

The *PowerPlex*® system is customised to your needs and becomes an integral part of your yacht.





YOUR BENEFITS

- **On-board management with centralised operating options** for the various devices and systems
- **Comprehensive product range** and modular system set-up
- **Fast and easy wiring** thanks to standardised plug connections
- **Enhanced reliability** through integral diagnosis and safety functions

DIGITAL SWITCHING: SIMPLE AND SMART

Fuse distributors, cross switches and other complex cabling are a thing of the past. Manufacturers of boats, motors and sailing yachts appreciate the easy installation and the clear innovative edge. The modular design increases flexibility, saves weight and decreases production times. The system scope can individually be adjusted for each yacht series. Users appreciate the convenience

of operating their yacht systems via intuitive user interfaces and benefit from new technologies, which are fit for the future.

RELIABLE OPERATION

The well-proven CAN bus technology used in the automotive sector is the basis of the **PowerPlex®** system. Your customers are supplied with an on-board electrical system that offers safety, reliability and user-convenience.

It regulates, controls and monitors many different loads conveniently, reliably and – if required – automatically, e.g. lighting, heating, air conditioning, pumps, bathing platforms, blinds, tanks and more. Special diagnosis and safety functions alert the user in the event of disturbances or malfunctions, e.g. leakage detection of the water pump, exhaustive discharge of battery (with time stamp upon request), error list.





FUSES ARE ELIMINATED

E-T-A's **PowerPlex**[®] is a decentralised power distribution system with electronic overcurrent protection. Replacement of defective fuses is eliminated. The system is designed for the specific requirements in vehicles and boats and has continuously been enhanced over the past 10 years. Perfectly matched software and hardware components, suitable for industrial use, offer a complete solution with maximum customisation potential. Market-specific product approvals round off the overall concept.

MODULAR DESIGN INCREASES FLEXIBILITY

Together with you we customise the **PowerPlex**[®] system individually adapted to the lifestyle and the requirements of your brand and customers. There is no "one size fits all" package. The strength of **PowerPlex**[®] is the possibility to design your own digital switching and automation solutions – exactly matching your ideas and visions.

The **PowerPlex**[®] system can be a single module or else a complex system consisting of several modules and control devices. The system will be as compact or comprehensive as you need it. Upon request, it can be pre-configured, for easy boat or luxury yacht automation. The possibilities are endless. **PowerPlex**[®] provides perfectly tailor-made automation technology for your yacht.



VERSATILE OPERATING OPTIONS, COMPLETELY INDIVIDUAL

PowerPlex® allows controlling and monitoring of the on-board electrical system via smart phones, tablets, multifunctional displays, touch panels or keypads. Thanks to the various operating options, controlling the entire on-board equipment is child's play. Our touch panels are cost-effective displays, allowing state-of-the-art

access and monitoring of the on-board electrical systems. There are significantly more communication and configuration options than with conventional control panels. Relevant system data of electrical loads, sensors and operating conditions are processed and displayed on the customer-specific user interfaces.

CRUISE WITH CONFIDENCE: TECHNICAL SUPPORT VIA REMOTE MAINTENANCE

If your customers require support with their on-board system, it may be helpful to receive support promptly and regardless of the present location. Upon request, we can analyse the electrical system remotely via an existing internet connection thanks to our worldwide service network. This remote maintenance enables trouble-shooting of customer-specific problems and challenges, dramatically reducing downtime, interruptions and costs.



YOUR BENEFITS

- **Customer-specific power distribution, controlling and monitoring (DC / AC)**
- **Intelligent lighting scenes** to create the perfect atmosphere
- **Automated temperature control and monitoring**
- **Automated tank level control**, e.g. fresh water and black water, gas
- **Reliable control and monitoring** of water pumps
- **Well-proven control and display** of third party systems of major manufacturers
- **Control and monitoring option** via multifunctional displays, touch panels, smart phones and tablets
- **Automated scenes** for enhanced user friendliness and convenience
- **Remote maintenance** via internet connection

PowerPlex® SYSTEM COMPONENTS

PowerPlex® simply connects all kinds of loads. Light, heating, air conditioning, pumps and more. Our modular system design makes your engineering work even more flexible. Various




DC- and AC-control modules as well as different operating devices make up the comprehensive **PowerPlex®** product range for implementing intelligent on-board electronics. The

system scope is a direct result of your application specification and individual control and automation requirements.

A POWERPLEX® SYSTEM CONSISTS OF A SELECTION OF THE FOLLOWING COMPONENTS

<p>PowerPlex® Mini Module MM500</p>		<p>The PowerPlex® MM500 is perfectly suitable for LEDs and ambient lighting. Its small size allows installation in places where space is at a premium. As a standard the PowerPlex® mini module is equipped with eight multifunctional inputs. They can be configured as digital or analogue inputs. Its multi-functionality makes it suitable for battery monitoring as well as for voltage and resistance measurement, e.g. with level sensors.</p>
<p>PowerPlex® Compact Module CM500</p>		<p>The PowerPlex® Compact Module is designed for DC 12 V and DC 24 V on-board electrical systems of recreational vehicles and boats. It offers eight multi-functional inputs, which can be used for measuring current, voltage, temperature and/or liquid levels, as well as 14 load outputs. For the motor control of e.g. step treads, lift-up beds, sun blinds, two outputs can be used as H-bridges.</p>
<p>PowerPlex® Power Module PM500</p>		<p>The PowerPlex® PM500 includes a physically isolated CAN bus interface and redundant protective functions for connected DC loads. One power module can control and monitor a total of twelve electrical loads. Each module has a manual override function for each 8 A and 25 A output via integral electro-mechanical mini circuit breakers. This allows manual and direct switch-over and ensures access to critical functions.</p>
<p>PowerPlex® Gateway CG300</p>		<p>The PowerPlex® Gateway is a multiprotocol module for the connection of PowerPlex® systems with other networks. It allows the combination of the PowerPlex® CAN bus with different bus systems: CAN (e.g. NMEA2000, SAE J1939), Modbus. The Gateway automatically translates and filters incoming messages so that only relevant data will be transmitted or received. This ensures a consistent flow of information for controlling and monitoring of the entire application.</p>

A POWERPLEX® SYSTEM CONSISTS OF A SELECTION OF THE FOLLOWING COMPONENTS

<p>PowerPlex® Web Server WS300</p>		<p>With the PowerPlex® web server you can display, monitor and control the PowerPlex® system via smartphones, tablets, multifunctional displays and computer. Up to eight devices can be integrated into a system either via WiFi (WLAN) or via LAN.</p>
<p>PowerPlex® Touch Panel TP071</p>		<p>The PowerPlex® Touch Panel TP071 is a robust, highly reliable panel PC with a 7.0" capacitive touch screen for easy control of PowerPlex® installations. You can make a pinpoint entry with a light touch on the screen. Conventional devices can be combined with it or completely replaced.</p> <p>Relevant system data of electrical loads, sensors and operational states are recorded and displayed on the customer-specific user interfaces. The ON/OFF operation for all connected loads is accessible via touch operation. Various monitoring functions enable the user to act preventively.</p>
<p>PowerPlex® Keypad series KP100/120/200</p>		<p>Our PowerPlex® Keypads are universal operation units for various control and visualisation demands. Matching your wishes and requirements, they offer flexible programmability. They switch loads and visually indicate their operating conditions. Keypads of the 200 series can additionally show measuring values on a 7-segment display, e.g. the room temperature. The colour of the LED background illumination can be selected by means of a sample board. The colours per keypad can be defined in relation to events.</p>

PowerPlex® MODULES TO SUIT YOUR NEEDS

<p>PowerPlex® AC Modules</p>		<p>Our PowerPlex® AC modules are specifically designed to meet the needs of customers in different markets. The specific requirements of our customers determine our AC solutions. They vary in the number of slots, the circuit breakers used to protect AC loads and the type of enclosure.</p>
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PowerPlex® HMI SOLUTIONS

Standardised and individual

The **PowerPlex®** HMI devices allow convenient monitoring and intuitive operation and visualise status, alarm or error messages.

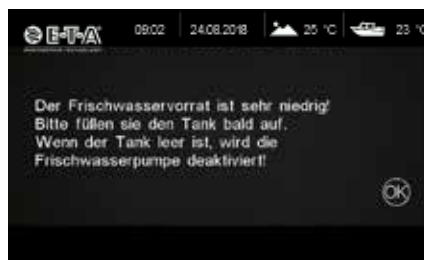
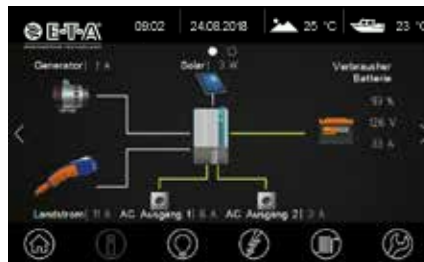
Select your favourites from various keypads and touch panels for your **PowerPlex®** application.

E-T-A'S STANDARD DESIGN

E-T-A's standard design already covers many boat or yacht functions. It will be adapted to your application and yacht and provided with your company logo.

INDIVIDUAL DESIGN

Simply create your own operating interfaces. Our **PowerPlex®** Suite is ideal for system configurations and designing individual user interfaces. The easy-to-use software provides a selection of various graphically high-quality objects, which can be combined and adapted as required using drag & drop. Actions for touch-buttons, for example, are easy to create. No limits for your creativity.



PowerPlex® SERVICE & SUPPORT

Our specialists will support you with the best service regarding product, system or application. We assist you with a suitable selection of **PowerPlex®** components and help you with technical queries during

system planning, installation and start-up. Many things can easily and quickly be clarified on the phone or via remote maintenance without having to be on site. Upon request, we can provide you with a complete

system configuration and tailor-made user interfaces. We will be pleased to give you a comprehensive **PowerPlex®** training.

OUR PARTNERS

All over the world, we serve our national and international customers as partners and offer comprehensive support. Thanks to long-term relationships with established manufacturers, we have continuously adapted our

performance promise to the requirements of the marine industry. For the realisation of different system solutions we are working with a network of partners who complete E-T-A`s **PowerPlex®** product portfolio.



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