# E-T-A *PowerP*lex®
## Get Smart With Your Systems

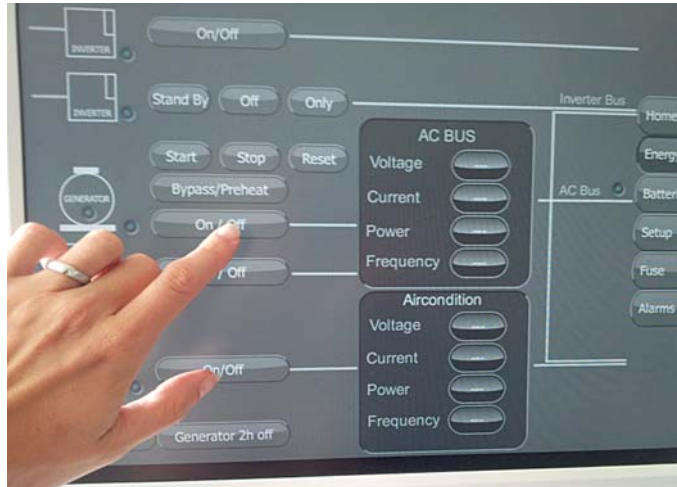**PowerPlex® – At a Glance:**

**Enhanced Safety by**
- Switching and monitoring of electrical loads
- Energy management
- Tank and pump monitoring
- Displaying single alarms and alarm lists

**Increased User Comfort by**
- Integration of modern color displays and Touch PCs
- PowerPlex® Remote App
- Individual illumination concepts
- Time control and scenarios
- Visualization of tank levels, battery states and motor data
- Displaying information from external systems via SAE J1939 and NMEA 2000

# *PowerPlex*®
## Digital Switching System
## for Tomorrow's Needs

With *PowerPlex*®, E-T-A offers a comprehensive, on-board system which combines safety and reliability for you and your customer's convenience. The time has passed when electrical systems were just about power distribution. A modern on-board system connects, regulates, controls and monitors a wide variety of loads – easily and securely. It allows individual and flexible illumination concepts on and below deck, automatically switches loads and will immediately inform the crew about active alarms. This will ensure that everything works as it is designed to – reassuring when loads are not always visible. E-T-A *PowerPlex*® is all about the future. Ideally matched software and hardware components provide a total solution with an enormous potential for individual customization. You need smart electrical systems on your boats – install and configure *PowerPlex*®.



*PowerPlex*® is certified by Germanischer Lloyd. It ensures reliable control and monitoring of all electrical equipment and functions. *PowerPlex*® is the smart digital switching system for today's and tomorrow's needs.

**Your Benefits**
- Increased flexibility for your on-board systems
- Professional and fast *PowerPlex*® installation
- Variety in design and function
- More comfort
- Opportunity for customization – your competitive advantage

# More Flexibility
## Modern on-board System Concept – Today and Tomorrow

With *PowerPlex*®, you have access to a modern, forward-looking system, today. You and your customer´s vessel specifications and requirements determine the complexity and flexibility of the electrical system. Choose the *PowerPlex*® components from our product range that best fulfill these requirements. All products are easy to install. The *PowerPlex*® Configuration Software is used to configure all system components and enables intelligent power distribution. A configured system does not require a central computer. Should one *PowerPlex*®component fail, all others remain fully functional. Replacement devices are detected automatically and configured via the neighbor module.



*PowerPlex®is a system that you offer a wealth of options for controlling your on-board systems through modern power electronics.*
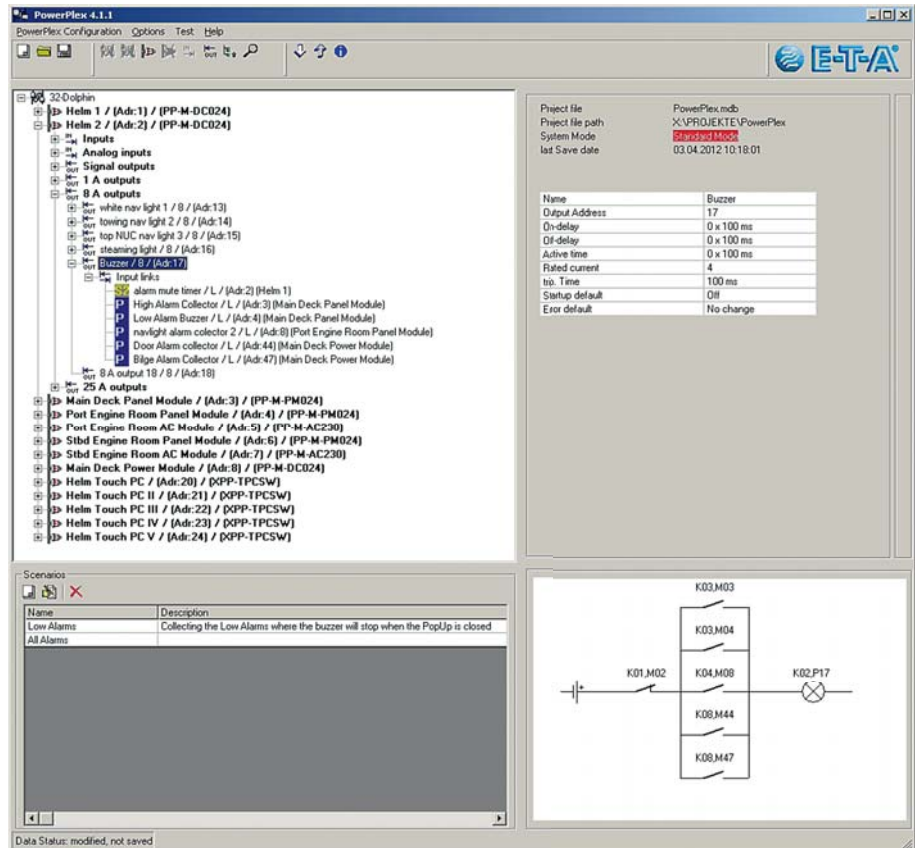
**Your Benefits**
- Exceptional reliability via Four Level Protection Concept (FLPC)
- Easy to install
- Easy to configure
- Less cable and required space
- No central computer needed
- Flexible arrangement of the *PowerPlex*® components
- Auto-configuration of exchanged *PowerPlex*® components
- Smart power distribution using well-proven CAN technology
- Protection and control of your electrical DC and AC consumers
- Integrated diagnostic and monitoring functions

# Professional *PowerPlex®* Installation
## *PowerPlex®* Configuration Software

The installation of *PowerPlex®* was intended from the beginning to be user-friendly. With this in mind, we designed the *PowerPlex®* configuration software so that it is both intuitive and logical. The software is easy to use and the same software is used for each *PowerPlex®* system solution. It allows each user to define, to save and to modify individual configurations for power distribution, control and monitoring. The „intelligence" contained in the configuration is transferred to the *PowerPlex®* system over off-the-shelf components. Your electrical installation is then complete, professionally and quickly. With *PowerPlex®*, all electrical system components work, act and communicate with each other in the way you decide. You determine the individual character and complexity of your boat's electrical systems and, by doing so, enhance your competitive advantage.



*Easy configuration and visualization of the corresponding circuit with the E-T-A **PowerPlex®** Configuration Software.*



### Your Benefits
● Professional and fast installation
● Easy configuration of individual rules
● Easy transmission of new or saved configurations
● No programming skills required - intuitive to understand

# Variety in Design and Function
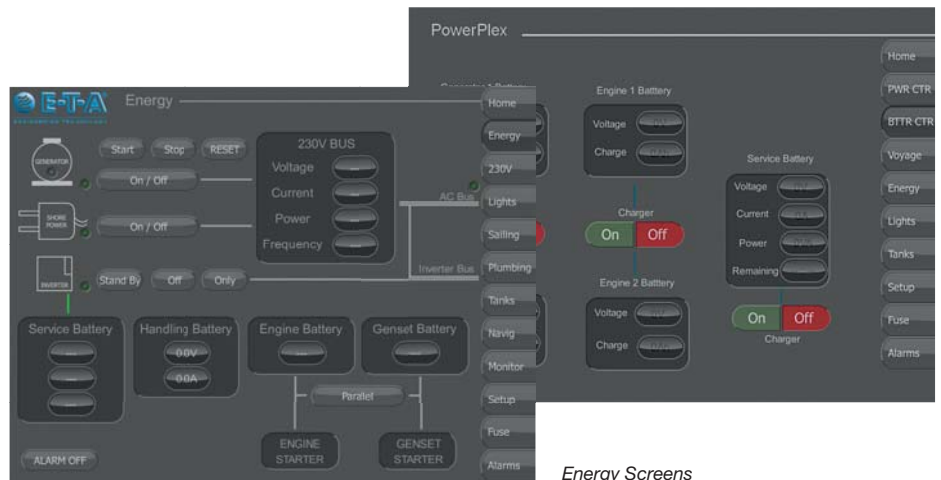## *PowerPlex*® TouchPC Software

### Your Main Page

Unnecessary trips to various areas of your boat are a thing of the past. Let *PowerPlex*® do this for you with the practical scenarios feature. *PowerPlex*® examines each power consumer, and determines if and for how long it´s needed for a selected board scenario. Increase the security and comfort for your customers through intelligent power distribution, control and monitoring.


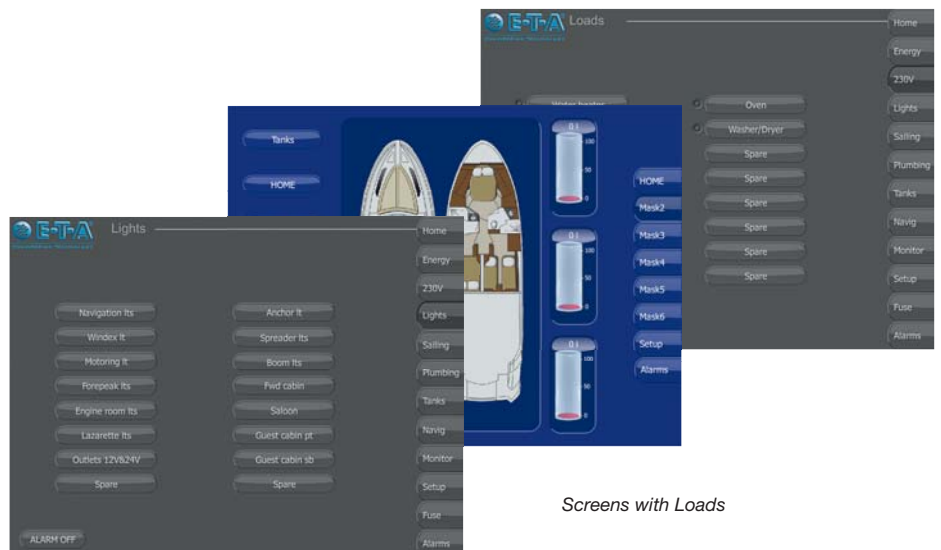
*Home Screens*

### Energy Management

Electrical equipment increases comfort on board and various energy concepts can be configured using *PowerPlex*®. This allows the generator to start automatically when AC devices are switched on - depending on the configuration. With an existing shore connection, the generator would not be turned on by *PowerPlex*®. For each on-board battery, the current status will determined and displayed. This allows the automatic shutdown of unimportant loads when pre-determined battery levels have been reached, preserving the limited available battery capacity.



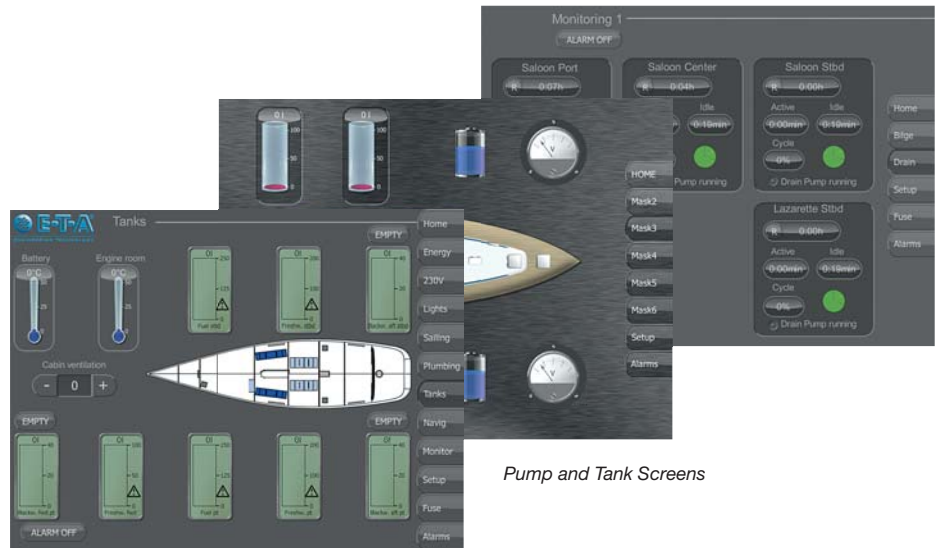*Energy Screens*

### Panel Management

The conventional switch panel can be combined with or completely replaced by *PowerPlex*®. All loads with 12 V DC and 24 V DC as well 120 V AC and 230 V AC can be switched on or off via the touch screen. On-screen buttons provide the on/off function of switches. Here, *PowerPlex*® opens up new possibilities for the boat designer. Via the systems configuration, it is possible to switch several loads simultaneously using just one button. The complete electrical on-board system can also be configured to operate in a pre-determined way using the scenario-functions i.e. night-mode or party-mode.



*Screens with Loads*

## Pump and Tank Management

*PowerP*lex® controls and monitors the status of the pumps and, via sensors, the various tank levels. The system provides information via the displays, alerts the crew when critical levels have been reached and activates the pumps. The monitoring function of *PowerP*lex® switches off the respective pump when pre-set tank levels have been reached again and prevents their idling. On the user interface, the state and location of the pumps and the tanks will be indicated.
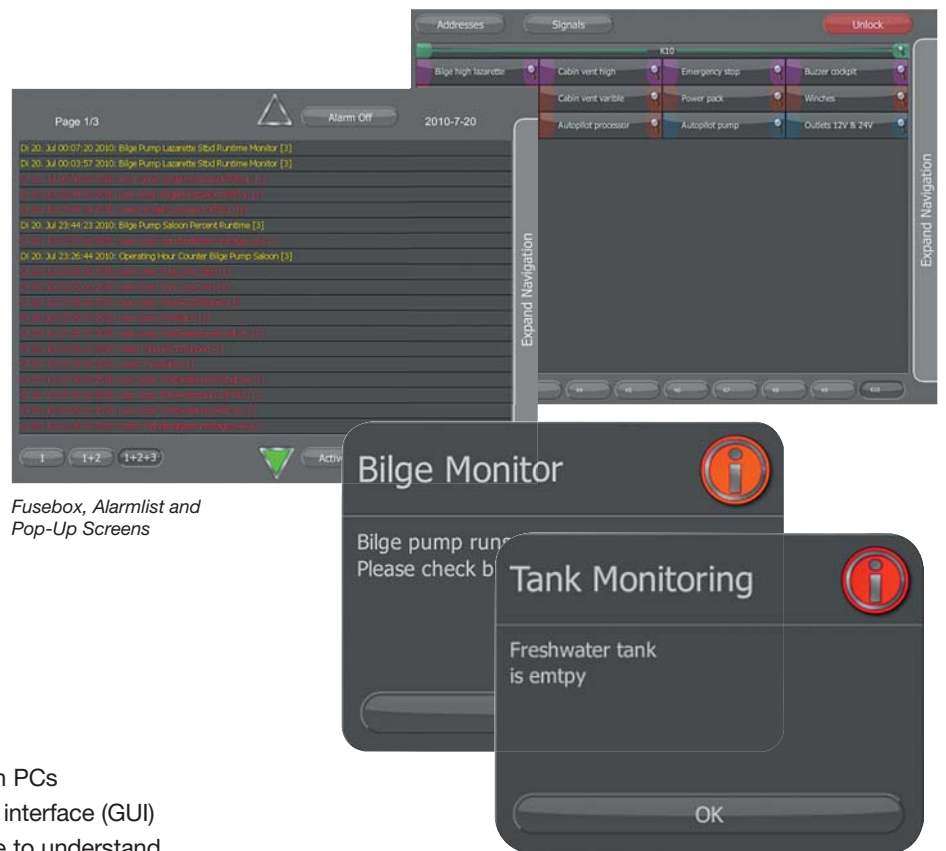
*Pump and Tank Screens*

## Safety Management

Increased safety on-board is made possible by using special customized safety management functions.

*PowerP*lex® monitors, informs and alerts the crew of any malfunctions of the electrical installation. For example, the bilge tank or the fresh water alarm will be clearly displayed in a list. In order to better see any malfunctions, all alarms of the last 30 days are listed in an alarm history. Warnings and other messages are displayed as pop-up´s and also entered into the alarm history

*Fusebox, Alarmlist and*
*Pop-Up Screens*

## Your Benefits
- Integration of any Windows-based Touch PCs
- Individual designs of your graphical user interface (GUI)
- No programming skills required - intuitive to understand
- Increased usability

*PowerPlex*® **Remote App**

- Remote access to important loads and sensors
- Status control from a distance
- Easy to install
- Available for iPhone and iPad

# More Comfort
## Modern Control and Monitoring

**PowerPlex® Remote App**
Increase your clients comfort. The PowerPlex® Remote App allows control and monitoring of important PowerPlex® functions with smartphones and tablets. Thus, these mobile devices can be used to check the shore connection, batteries or tank levels, but also for switching loads such as air conditioning or the heating system. A WiFi router connected via a LAN/CAN converter makes it possible to control your PowerPlex® installation directly from these mobile devices.





*PowerPlex® Remote App*

**PowerPlex® Touch PC**
The PowerPlex® Touch PC is a high performance 12" Panel PC to control and display the installed system. Thanks to its design and its adjustable brightness, it is possible to install the Touch PC in different areas of your boat. The Touch PC and its high performance enhance your control systems versatility.



*PowerPlex® Touch Panel 4.3"*



*PowerPlex® Touch Panel 7.0"*

**PowerPlex® Touch Panel 4.3" and 7.0"**
These high resolution color touch panels offers a modern and easy-to-use interface for all kinds of installations. By default, six pages are provided. Time, details of tank levels, battery voltage, electrical switching and alarms can be displayed accordingly. In addition to these predefined standard displays, customized pages can be implemented.



*PowerPlex® Touch PC*

**Your Benefits**
- Increased convenience for your customers
- Comfortable control and monitoring of the electrical installation
- Status control at a glance - on board or from a distance
- Superior performance and high quality
- Easy to install

# Your Customization Potential
## Overview of the *PowerPlex*® Components

**DC Modules**



| | Power Module | Panel Module | Compact Module |
|---|---|---|---|
| **Total voltage** | DC 12 V<br>DC 24 V | DC 12 V<br>DC 24 V | DC 12 V<br>DC 24 V |
| **Total current max.** | 102 A per module | 20 A per module | 60 A per module |
| **Inputs  digital** | 8 | 32 | 10 |
| **         analog** | 4 | 4 | 3 |
| **Outputs** | 4 (max. 1 A)<br>6 (max. 8 A, FLPC)<br>2 (max. 25 A, FLPC) | 4 (max. 1 A)<br>2 (max. 8 A, FLPC) | 8 (max. 8 A, two are<br>configurable as H-bridge)<br>2 (max. 10 A) |
| **Protection class** | IP22 | IP22 | IP20 |
| **Approvals** | GL, RL | GL, RL | E1 |
| **Order number** | PP-M-DC024-000-0-0-00 | PP-M-PM024-000-0-0-00 | PP-C-COM24-00E-0-Z-00 |
| **Description** | *PowerPlex*® for DC systems incorporates high-end power semiconductors with integral protective elements for switching and protecting electrical loads. The DC modules are free of any mechanical components and thus hardwearing as well as shock- and vibration-proof. | | |

**Your Benefits**
- Four Level Protection Concept (FLPC)
   - Software-controlled overcurrent protection with current measurement
   - Hardware-controlled safety disconnection
   - Intrinsic protection of power transistors
   - Thermal protective elements with manual switching function
- Override function for the unlikely event of a catastrophic failure

**Control Elements**



| Technical data | Touch Panel 4.3" | Touch Panel 7.0" | Touch PC |
|---|---|---|---|
| **Size** | 4.3" | 7" | 12" |
| **Pixel number** | 480x272 | 800x480 | 1024x768 |
| **Order number** | PP-C-CDP24-00E-0-Z-00 | Please contact us or<br>visit www.e-t-a.de/e | XPP-TPCHW -<br>without TouchPC Software<br><br>XPP-TPC-Z001 -<br>incl. SW and USB/CAN converter<br><br>XPP-TPC-Z002 -<br>incl. SW and USB/CAN converter<br>(opto-decoupled) |

**AC Modules**

|  | **AC Module Wall-mount** | **AC Module Flush-mount** |
|---|---|---|
| **Total voltage** | AC 120 V<br>AC 230 V | AC 120 V<br>AC 230 V |
| **Total current max.** | 75 A per module<br>30 A per channel | 75 A per module<br>30 A per channel |
| **Channels** | 16 (single pole)<br>8 (double pole) | 16 (single pole)<br>8 (double pole) |
| **Protection class** | IP65 | IP65 |
| **Order number** | PP-M-AC230-000-0-Z-00 | Please contact us<br>or visit www.e-t-a.com |
| **Description** | *PowerPlex*® for AC systems incorporates high-end power semiconductors with integral hydraulic-magnetic circuit breakers for protection of overcurrent. Due to the integrated switch-mode power supply, the *PowerPlex*® AC module is independent of the battery. | |

**Your Benefits**
- Integral, easily replaceable hydraulic-magnetic circuit breakers
- Perfect separation of the AC and DC side
- Changes of the nominal current settings of a channel possible

**Others**

| | **Keypad Power Key Pro** | **Remote App** | **Switch Panels** | **TouchPC Software** | **USB/CAN Converter** | **USB/CAN converter, opto-decoupled** |
|---|---|---|---|---|---|---|
| **Order number** | Please contact us or visit www.e-t-a.com | Please contact us or visit www.e-t-a.com | Please contact us or visit www.e-t-a.com | XPP-TPCSW | XPP-USBC0 | XPP-USBC1 |

# E-T-A
## Worldwide Service Network



**Europe**
- Austria
- Belgium
- Bosnia-Herzegovina
- Bulgaria
- Croatia
- Czech Republic
- Denmark
- Finland
- France
- Germany
- Hungary
- Ireland
- Italy
- Luxembourg
- Macedonia
- Montenegro
- Netherlands
- Norway
- Poland
- Portugal
- Russia
- Serbia
- Slovakian Republic
- Slovenia
- Spain
- Sweden
- Switzerland
- Turkey
- United Kingdom

**America**
- Argentina
- Brazil
- Canada
- Chile
- Mexico
- USA

**Asia**
- Brunei
- China
- Hong Kong
- India
- Indonesia
- Japan
- Korea
- Malaysia
- Philippines
- Singapore
- Taiwan
- Thailand

**Africa**
- South Africa
- Tunisia

**Oceania**
- Australia
- New Zealand