GARMIN®

EMPIRBUS™

CONTROL - AUTOMATION - MONITORING

THE POWER OF DIGITAL SWITCHING

EmpirBus is a generic electrical distribution system, suitable for different fields of application, with almost endless possibilities of integration. Founded in 2003, EmpirBus has great experience of demanding installations in various environments such as boating, transport and industrial/recreational vehicles. With more than 50,000 installations in operation worldwide, we demonstrate every day the robustness, the reliability and the versatility of our technology.

With EmpirBus customers can experience the power and convenience of advanced home and luxury car automation in their RV by controlling and monitoring all onboard electronic systems from a Garmin infotainment system. That includes lighting, slide-outs, entertainment, security systems, cameras, air-conditioning, temperature and much more.

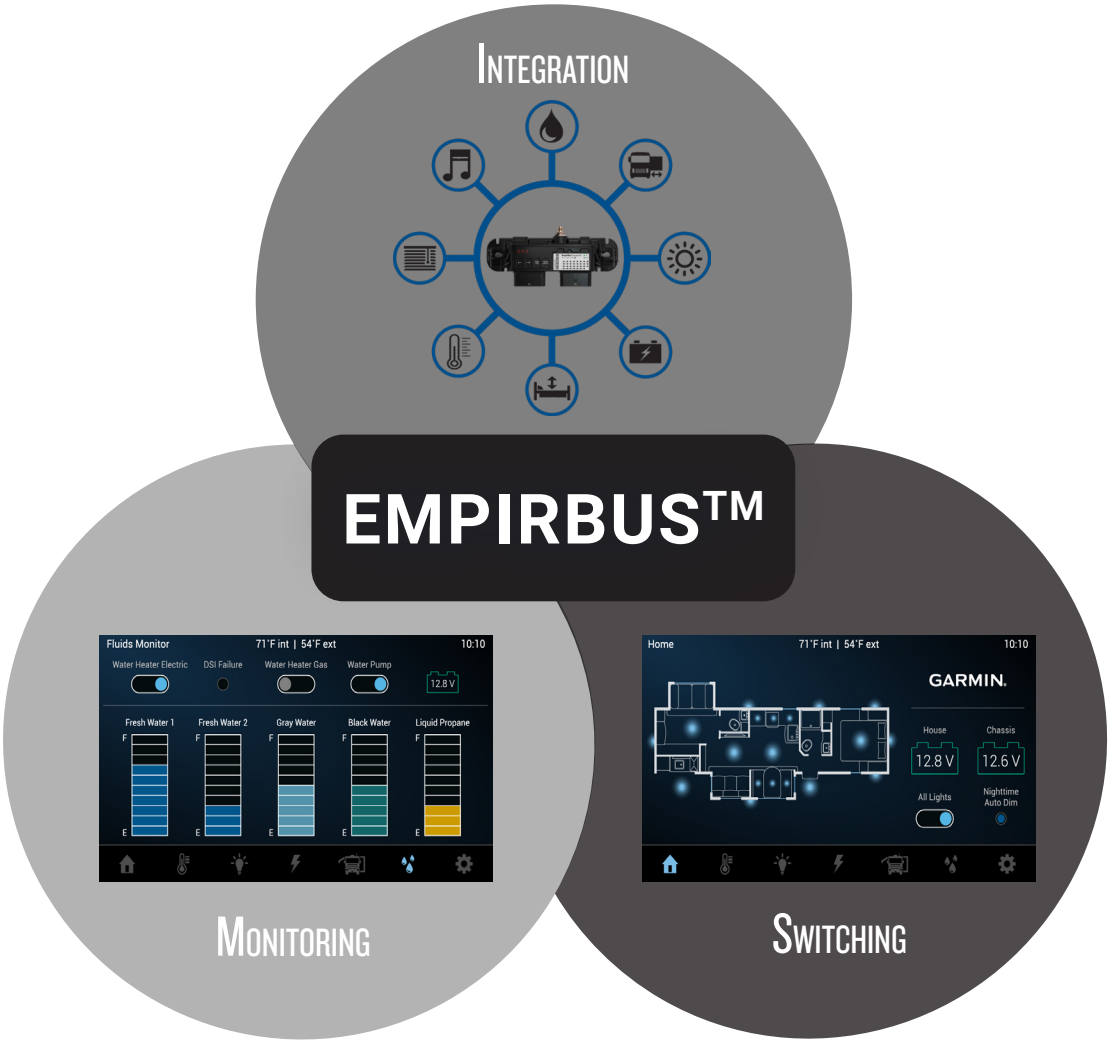
With EmpirBus, complexity is forgotten.

ELEGANT SIMPLICITY

The EmpirBus Digital Switching system is ideally suited to new-build installations.

- OEMs can choose the module(s) that best fits the power requirements and monitoring needs for each custom integration.
- Compiling the desired features into our provided module/channel templates lends to development of programming to meet each OEM's needs.

Any programming can easily be reused for any new installation or modified for options. EmpirBus experts will help create a customized list of requirements and specifications that best apply to specific modules and accessories.



SIMPLER, MORE FLEXIBLE, MORE EFFICIENT

Instead of space-consuming and labor-intensive fuse and circuit breaker assemblies, EmpirBus™ Digital Switching uses compact digital control modules to simplify a user's control system resulting in lower warranty and labor costs per unit. Each module can support between 16 and 31 input and output circuits that are customized to meet the exact needs of the equipment being controlled or monitored.

Each EmpirBus system connects to the existing network, which lets it communicate with the Garmin Display or infotainment system and other technology on the network. Flexible network architecture enables EmpirBus systems to be mounted near the equipment they are controlling, reducing the amount of necessary cabling. This makes the system easier to install and troubleshoot than traditional switch systems, reducing cost and complexity. EmpirBus Digital Switching paired with Garmin fixed or wireless touchscreens brings a whole new level of freedom and flexibility to your design.

A PROVEN DESIGN

AUTOMATE, MONITOR, PREVENT

Set free your imagination and create your own scenario and logic. The EmpirBus solution allows for example:

- Creating automation and scenarios
- Monitoring energy consumption
- Displaying alarms
- Prevent abnormal use of equipment (motors, batteries)
- Recording of events

SYSTEM RELIABILITY AND REDUNDANCY

An EmpirBus installation is completely independent from the multifunction display. System startup is automatic as soon as the battery switches are on.

The user can intervene on several levels via:
- Garmin multifunction display(s)
- A programmable keyboard
- A smartphone, tablet or laptop
- Or directly from EmpirBus modules

MULTILINGUAL INTERFACE

A traditional electrical panel, is by nature locked in a language that requires the use of symbolism which is not always easy to interpret.

The EmpirBus solution is designed to work in several languages and automatically adapts to the default language of the navigation system. It is ideal for rental or export sales.

CIRCUIT BREAKERS

EmpirBus modules replaces circuit breakers and protect the equipment connected to them. The user can enable the integrated circuit breakers directly from the Garmin Display or infotainment system.

In the event of an anomaly, the user is immediately informed of the failure encountered and the time-stamped information is recorded within the Garmin event log.

BUILT TO LAST

All EmpirBus products are designed to withstand the harsh conditions of outdoor environment. Robust and waterproof to the IP65 standard, the EmpirBus modules are also shock and vibration resistant.

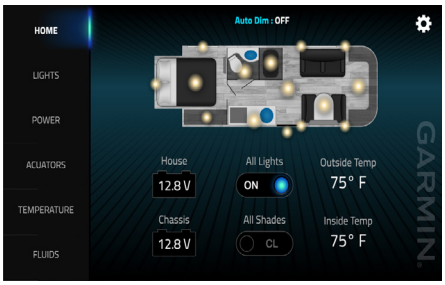
MOLEX® industrial connectors provide optimal contact, while NMEA 2000 compatibility ensures perfect integration with on-board electronics.

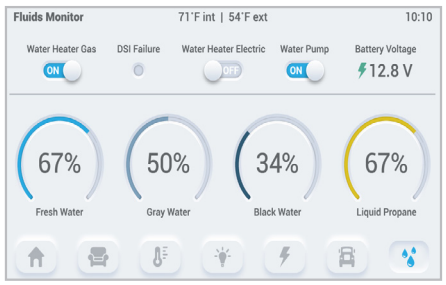
MONITORING, SWITCHING AND AUTOMATISATION

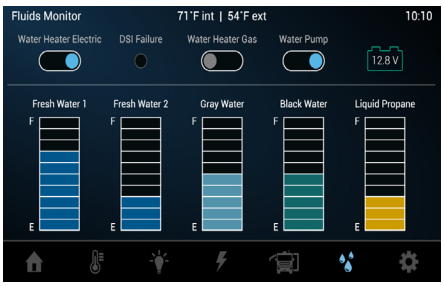
MONITORING

Thanks to the Monitoring function, the owner can see the status of all technical equipment on board at a glance. EmpirBus is compatible with many sensors, whether analogue or digital, and has partnerships with market leading HVAC and power management manufacturers.

- Tanks
- Temperatures, pressures
- DC / AC converter
- Battery charger
- Energy balance, maintenance
- Status of Locks



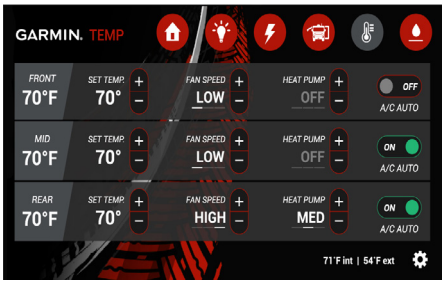


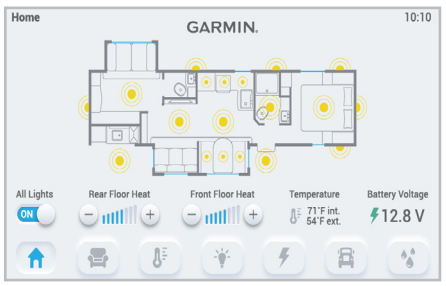


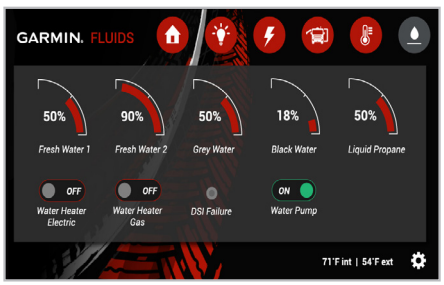
DIGITAL SWITCHING

EmpirBus is a new generation of digital distribution system, replacing standard mechanical circuit breakeres and switches with a state-of-the-art digital power distribution. Simple, easy to use, cost-effective and with seamless, reliable operation, EmpirBus digital switching makes a perfect solution to centralize all controls. The modules can be distributed in different places of the RV in order to reduce the length of the harnesses and free up the space usually dedicated to conventional switches.

- ON/OFF/AUTO
- Lighting
- LED dimmer
- Leveling
- Reversible motor
- CAN, NMEA2000, CI-Bus (LIN), RVC





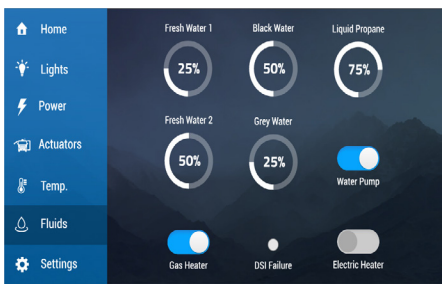


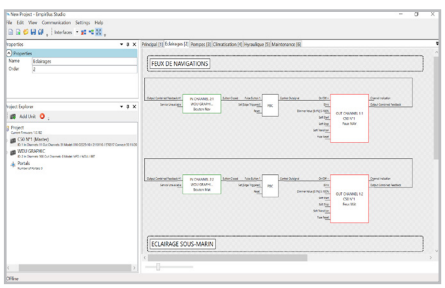
AUTOMATISATION

Empirbus offers the possibility of improving safety and comfort on board through the creation of automated systems. Whether it's lighting scenarios, displaying pop-up alerts, or creating automated modes, the only limit to EmpirBus is your imagination.

Examples:

- Night/Romantic Dinner Lightning Mode
- Timed total shutdown
- Prevent to run out of battery by informing the owner
- Alert if shore power is connected when engine starts
- Alert when tank level is full
- Automatic tank level release
- Set your desired temperature before you arrive at the RV
- Check the status of your locks from anywhere





EMPIRBUS INSTALLATION EXAMPLES

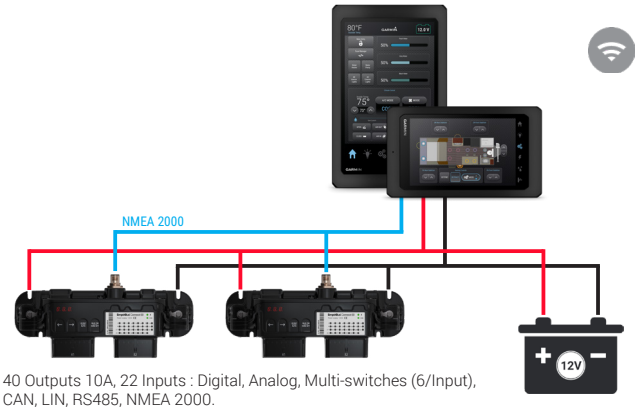
PANEL VAN

© Robeta d.o.o.

20 Outputs 10A, 11 Inputs : Digital, Analog, Multi-switches (6/Input), CAN, LIN, RS485, NMEA 2000

MOTORHOME

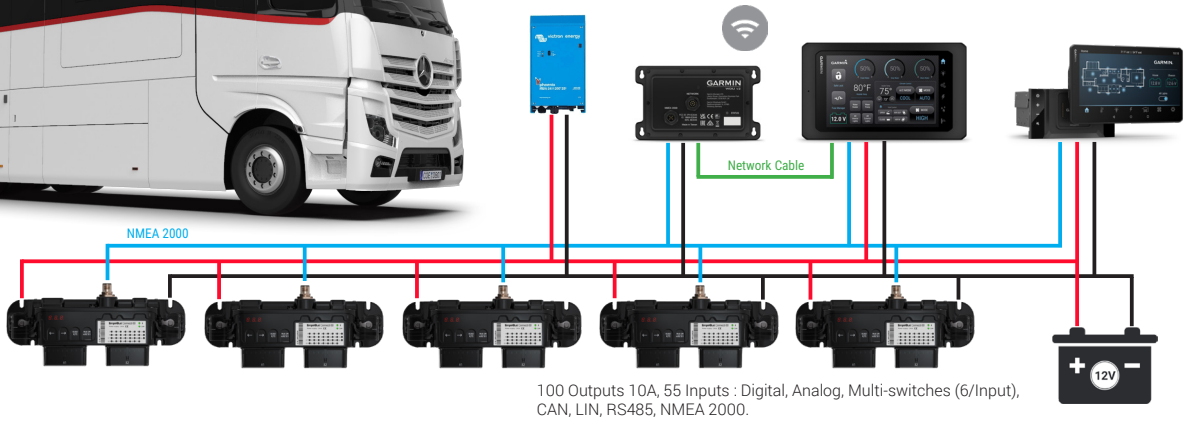
© LMC Caravan GmbH & Co. KG



40 Outputs 10A, 22 Inputs : Digital, Analog, Multi-switches (6/Input), CAN, LIN, RS485, NMEA 2000.

LINER

© Dembell Hungary Kft.



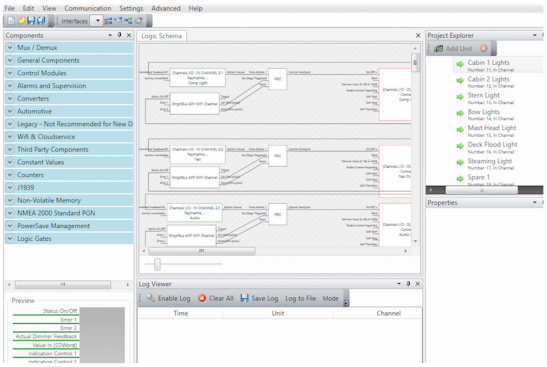
100 Outputs 10A, 55 Inputs : Digital, Analog, Multi-switches (6/Input), CAN, LIN, RS485, NMEA 2000.

THE CUSTOMIZED SOLUTION

The Empirbus solution is universal and based on a set of modules which can be customised according to your needs. It offers total flexibility as well as development and commissioning times reduced to the absolute minimum. A unique and common firmware gives you the assurance of a sustainable and evolving system, while keeping control of your development budgets.

To carry out your projects, Garmin puts at your disposal all the tools necessary to be autonomous.
And thanks to the Cloud, you can share your projects with Garmin EmpirBus development teams and benefit from specialised technical assistance.

EMPIRBUS LogiX - POWER AND FLEXIBILITY



The EmpirBus LogiX software allows you to configure each of the EmpirBus modules. It is a powerful graphic programming tool that defines all the features and characteristics of your installation:

- Configuration of EmpirBus modules
- Declaration of each module of your installation
- Definition of the properties of each channel
- Creation of automatisms

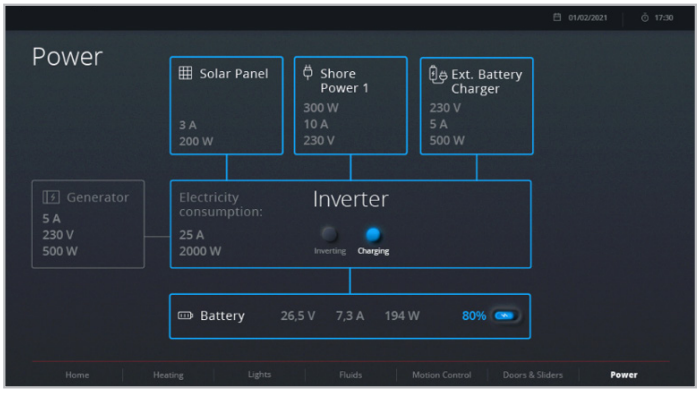
EMPIRBUS GraphiX - UNLIMITED CREATIVITY

EmpirBus GraphiX is the software that allows you to transpose the EmpirBus logic into a modern and intuitive graphic interface.

This software provides all the functionality you need for the design of Monitoring and / or Digital Switching pages with almost endless possibilities:

- Create your personalised graphical interface construction / RV colors
- Respect your graphic charter (colour codes, typography, layout, naming)
- Use your own icons, symbols, illustrations.
- Choose the menu organisation according to your preferences / needs.
- And offer a personalised mobile application in the colours of your site, can be used immediately and at no additional cost from a mobile device (smartphone / tablet).

EXAMPLES



EMPIRBUS COMPONENTS

CONNECT 50

COMPATIBLE 12/24V

IP65

NMEA 2000

- 10A Max per output / Max Total Load : 50A
- Circuit breaker for each channel
- Up to 11 inputs and 20 outputs
- 1x Bus CAN, 1x Bus RS485, 1x Bus LIN Bus
- Multi-Switch (up to 6 switches/input)
- Dimensions : 230 x 106 x 38 mm

WDU v2

COMPATIBLE 12/24V

IP65

NMEA 2000

- Delivers graphic content to Garmin/Volvo MFD's as well as for Smartphones (WiFi)
- Ethernet & WiFi
- Dimensions : 155 x 92 x 46 mm

CONNECT HPR

NMEA 2000

IP65

- Outputs 10 x 18A Max per output, could be configured to 5 pair H-bridge
- Outputs 2 x 5A Max per output
- Circuit breaker for each channel
- Max Total Load : 50A
- 4 inputs
- 12V
- Dimensions : 230 x 106 x 38 mm

MCU V2

COMPATIBLE 12/24V

IP65

NMEA 2000

- PC Interface, USB port
- 2 x CAN
- 2 x RS485
- 1 Digital IN
- 2 Digital OUT

DCM

COMPATIBLE 12/24V

IP65

NMEA 2000

- 18A Max per output / Max Total Load : 100A
- Circuit breaker for each channel
- 16 user configurable bidirectional (I/O) channels
- Multi-Switch (up to 6 switches/input)
- Dimensions : 230 x 106 x 38 mm

SCREENS

- Serv 7" & 10" Touch screen displays
- Vieo headunit with 8" and 10" screen

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