

PIONEERING  
NEW MOBILITY



# MOBILE AUTOMATION

b-plus mobile control GmbH

Rev 2.0





## + Your partner for mobile automation

### About b-plus

b-plus is a development partner for measurement technology, software and hardware in the field of autonomous driving and mobile automation. Customers trust in the many years of expertise and receive customized solutions to advance automation projects, the further development of driver assistance systems and autonomous driving. The closely networked teams offer technologies in the areas of development tools, automotive software and mobile automation.



### Expertise in the field of mobile automation

In mobile automation the team of b-plus mobile control offers a wide range: in addition to engineering and programming, the portfolio is rounded off by the sale of components for the electrification of off-highway applications such as mobile machinery, construction machinery, agricultural machinery and special vehicle construction. An experienced team of engineers accompanies the customers from concept design through programming control components and visualizations to initial set up and series production.

Tailored solutions are developed to match the individual needs of each client. Customers receive competent and hardware-independent advice on the selection of their control and HMI products. In the process, b-plus mobile control works together with a strong network of trading partners. In addition, customer-specific hardware solutions are developed and qualified in-house.

With decades of experience in mobile automation, b-plus mobile control can draw on in-depth expert knowledge in the following areas:

- + CAN bus technologies (CANopen®, J1939 engine monitor / truck communication, ISOBUS)
- + Ethernet/WLAN, BroadR-Reach®
- + Programming in C, C++, Qt, CODESYS®
- + Functional safety (ISO13849, ISO25119)



## + Project examples

### STRAMAT: Self-propelled road marking machine RMCD

- + Millimeter-accurate line-gap-machine for road marking
- + Detection of environmental conditions such as ground temperature and air temperature
- + Calculating the speed for the desired wet layer thickness
- + Creation of a work report and transmission of the data via telematics system



### ZECK: Rail-road elevated working platform A-POD

- + Programming of a safety control for rail-road elevated working platform with hydrostatic drive
- + 360° endless rotation, jib and basket each rotatable +/- 90
- + Safety-related detection of tower position, inclination and basket load
- + Functional safety according to ISO13849
- + Connected radio remote control with CANopen® safety protocol

## + Partnerships



## + Memberships



+ Control and display devices to use in and on the truck body



TruckMonitorMini

Monitor for the J1939 body builder CAN bus / FMS of trucks

- + Coolant temperature, fuel level
- + Oil pressure, oil temperature
- + Engine speed, engine hours
- + Weight of the truck and the trailer



TruckMonitorCabin

Additional instrument cluster for displaying CAN bus / FMS data

- + Vehicle speed
- + Engine speed
- + Parkingbrake
- + Flasher left / right
- + Main beam



TruckControlSwitch

Remote engine control for the J1939 body builder CAN bus of trucks

- + Motor start/stop
- + Engine speed control
- + Power take-off activation

+ Off highway solutions for industrial engines



EngineMonitorMini

Monitor for industrial engines with CAN J1939 interface

- + Visualization of various CAN-Bus signals via pointer or digital instruments
- + E.g. Engine speed, engine load, fuel consumption, etc.
- + Error codes (DM1), service message



EngineMonitorPlus

Configurable monitor for industrial engines with CAN J1939 interface

- + Visualization of various CAN-Bus signals, up to 4 values at the same time
- + Error codes (DM1), service messages
- + Engine speed control, start/stop, DPF regeneration
- + Multilingual



EngineMonitorMaxi

PC configurable monitor for industrial engines with CAN J1939 interface

- + Freely configurable pages and CAN signals: engine speed, oil pressure, coolant temperature, fuel level etc.
- + Adjustable display icons for each signal
- + TSC1 speed control via push buttons or onboard inputs
- + 4 configurable multi-functional inputs (digital, current, voltage, resistance)
- + 3 outputs for external relays, LEDs and audible buzzer
- + DTCs for the display of DM1 and DM2 diagnostic trouble codes

Supported manufacturers:

- + Mercedes-Benz/Daimler
- + MAN
- + Scania
- + Volvo
- + DAF
- + Renault
- + Iveco
- + FMS-Standard
- + etc.

Supported industrial engines (with SAE J1939):

- + Caterpillar
- + Cummins
- + Daimler
- + Deutz
- + Perkins
- + Scania
- + Volvo Penta
- + FPT/Iveco
- + Hatz Diesel
- + John Deere
- + MAN
- + etc.

## + Control solutions / controllers for mobile applications



### b-CANCubeNano

Small controller with RS232

- + 2 digital inputs and outputs
- + CAN bus interface
- + Serial interface RS232
- + Freely programmable in C
- + Operating temperature -40 ... +80°C, IP54 (optional: IP65)



### b-CANCubeNano 12IN

CAN bus small controller

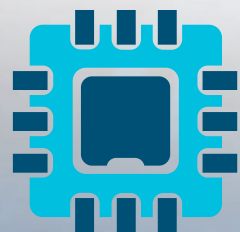
- + 12 digital inputs
- + CAN bus interface
- + Freely programmable in C
- + Operating temperature -40 ... +80°C, IP67



### b-CANCubeMicro

Compact controller for mobile machines

- + 2 CAN interfaces
- + 4 parameterizable inputs
- + 1 digital output
- + Freely programmable in C
- + Operating temperature -40 ... +80°C, IP67



### Customized development of controllers

We would be happy to develop a control solution entirely according to your requirements. Please contact us!



### b-CANCubeMini

Compact controller for mobile machines

- + CAN bus I/O controller
- + 2 CAN-Bus interfaces
- + 5 parametrizable inputs
- + 6 parametrizable outputs
- + CANopen®- / J1939 slave or freely programmable in C
- + Operating temperature -40 ... +80°C, IP54



### b-CANCubeMini Sealed

Compact controller for mobile machines

- + CAN bus I/O controller
- + 3 CAN bus interfaces
- + 2 serial interfaces RS232
- + 1 RS485 interface
- + 6 parametrizable inputs
- + 6 parametrizable outputs
- + Freely programmable in C
- + Operating temperature -40 ... +80°C, IP67/IP69k



### b-CANCubeMini Sealed Plus

Compact controller for mobile machines

- + CAN bus I/O controller
- + 3 CAN bus interfaces
- + 2 serial interfaces RS232
- + 1 RS485 interface
- + 8 parametrizable inputs
- + 8 parametrizable outputs
- + 4 digital outputs
- + Freely programmable in C
- + Operating temperature -40 ... +80°C, IP67/IP69k

### Controllers from renowned manufacturers

Whether our own small controllers or powerful solutions from our partners – thanks to our many years of experience as system integrator and our expertise in bus communication (ISOBUS, J1939, CANopen, CAN) as well as programming (C, C++, CODESYS), we find the suitable control unit for every project.



**TTControl**  
HYDAC INTERNATIONAL



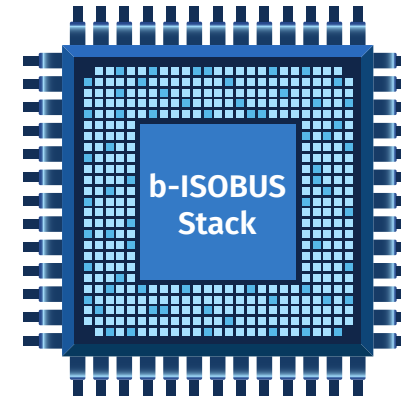
## + ISOBUS solutions



### b-ISOBUS IO Gateway

Compact ISOBUS I/O gateway

- + Display and operate the inputs and outputs of the implement on the terminal
- + Configuration directly via the virtual terminal
- + 5 free parametrizable inputs
- + 6 parametrizable outputs
- + Supports VT client and AUX-N functionality
- + Up to 24 outputs possible with slave modules



### b-ISOBUS-Stack

Plattform- and hardware independent ISOBUS stack

- + Standardized, hardware independent communication between tractor and implement
- + Easy integration on every hardware
- + Automatic scaling of the masks for every display size
- + Compatible with ISOBUS object pools
- + ISO25119 compliant (Software Requirements Level 1)



### b-ISOBUS CAN Gateway

Compact ISOBUS CAN gateway

- + Connection of existing implement controls to an ISOBUS network
- + Supports VT client and AUX-N functionality
- + Optional task controller functionality available
- + Optionally with 11 fully parameterizable inputs/outputs



### b-ISOBUS Spy

ISOBUS message analysis tool

- + See all nodes in an ISOBUS network
- + Interpret data according to ISO11783
- + Recording traces of the ISOBUS network
- + Set filters to see only the data you need
- + Works with PEAK™ and CANfox™ CAN hardware



### b-ISOBUS AUX-N Gateway and b-ISOBUS Keypad

ISOBUS gateway for non-ISOBUS compatible CAN operating elements

- + Gateway for converting CAN signals like J1939/CANopen to ISOBUS
- + Digital / Analog Joysticks
- + Keypad modules with 6/8/12/15 keys
- + ISOBUS InCab connection available



### b-ISOBUS-Cable and b-ISOBUS InCab Cable

ISOBUS cables

- + ISOBUS cable with open end
- + Power wires in 6mm<sup>2</sup>, 10mm<sup>2</sup> or 16mm<sup>2</sup>
- + ISOBUS InCab connection cable with open end
- + Molded InCab connector



## + Operation and control



### b-Drive Cab Control G2

HMI with SAE J1939 or CANopen® interface

- + Analog Joystick with push button
- + Dimmable backlight
- + Each button with 3 status LEDs
- + Individual customized symbols
- + Operating temperature -40 ... +85°C, IP67



### b-Drive Cab Control

HMI with SAE J1939 or CANopen® interface

- + Joystick or encoder version
- + Dimmable backlight
- + Individual customized symbols
- + Operating temperature -40 ... +85°C, IP67



### SwitchModulesSealed

IP68 modular switch modules with SAE J1939 interface

- + Push buttons or switch keys freely selectable
- + Individual customized symbols
- + Lighting of the symbols and 4-color status indicator bar
- + Operating temperature -40 ... +85°C, IP68



### KeypadModules Touch

Touch-button module combination

- + 6/12 buttons
- + Freely configurable background icons
- + Simple PC configurator
- + Configurable CAN bus interface
- + Operating temperature -25 ... +70°C, IP67



### KeypadModules

IP68 switch modules with SAE J1939 interface

- + 6/8/12/15 keys
- + 4 color LEDs for demonstration of states
- + Dimmable backlight
- + Individual customized symbols
- + Operating temperature -40 ... +85°C, IP68



### eao - Rugged CAN Keypads

Keypads for E1 applications with Functional Safety

- + Individual 4-segment and RGB halo ring illumination
- + Designed for Functional Safety: ISO 26262 and ISO 13849
- + Intelligent HMIs with CAN bus integration
- + Interchangeable ISO 7000 symbols or customized symbols
- + Operating temperature -40 ... +85°C, IP67

Customized lasering  
of control elements:



### Displays for mobile machines

As a system integrator, we offer a wide range of displays from leading manufacturers such as ifm electronic, CrossControl, TTControl/HYDAC, Topcon, and Deep Sea Electronics. We are happy to integrate these into customized solutions and develop tailor-made software in CODESYS and Qt.



CROSScontrol

TOPCON



TTControl  
HYDAC INTERNATIONAL



# Partner landscape

ES

**SGL Group, Spain**  
[www.sgingenieria.es](http://www.sgingenieria.es)



Scandinavia

**Thorsen-Teknik, Scandinavia**  
[www.thorsen-technik.dk](http://www.thorsen-technik.dk)

THORSEN-TEKNIK

PL

**ARETE, Poland**  
[www.e-arete.pl](http://www.e-arete.pl)



**CAN Automation, Australia**  
[www.canautomation.com.au](http://www.canautomation.com.au)

AU

## Agricultural technology partners DACH

- + EMDS  
[www.emds.eu](http://www.emds.eu)
- + geo-konzept  
[www.geo-konzept.de](http://www.geo-konzept.de)
- + GRANIT  
[www.granit-parts.com](http://www.granit-parts.com)
- + KRAMP  
[www.kramp.com](http://www.kramp.com)
- + PRILLINGER  
[www.prillinger.at](http://www.prillinger.at)

# Contact us

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