

# Product Platform MOBILE

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We drive e-Mobility



# About Bucher Hydraulics Mobile Drives

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Mobile Drives is a department of Bucher Hydraulics that develops and supplies frequency converters, DC/DC converters and drive technology for mobile applications.

Since 2021, the department has been part of Bucher Hydraulics, which designs and manufactures electrohydraulic system solutions and hydraulic components. The Bucher Hydraulics division is part of the Bucher Industries group.

## Innovation with a global network

We are focused on the development of technology that is energy-efficient and therefore causes less harm to the environment – an extremely creative activity that requires a flair for experimentation with and investigation of new technologies. With several globally distributed competence centers and production sites, Bucher Hydraulics is a dynamic player in the global market from whose know-how you as a customer benefit directly.

## What drives us

Our engineers work on innovative drive solutions that are ready for use and available today while also providing longterm perspectives for future development cycles. Creativity and openness to new technologies form the basis for adapting to basic conditions, which are changing faster than ever.

## What we offer

- Off the shelf product platform MOBILE containing solutions for the electrification of auxiliary drives in commercial vehicles
- Case and system studies as well as concepts for individual customized applications

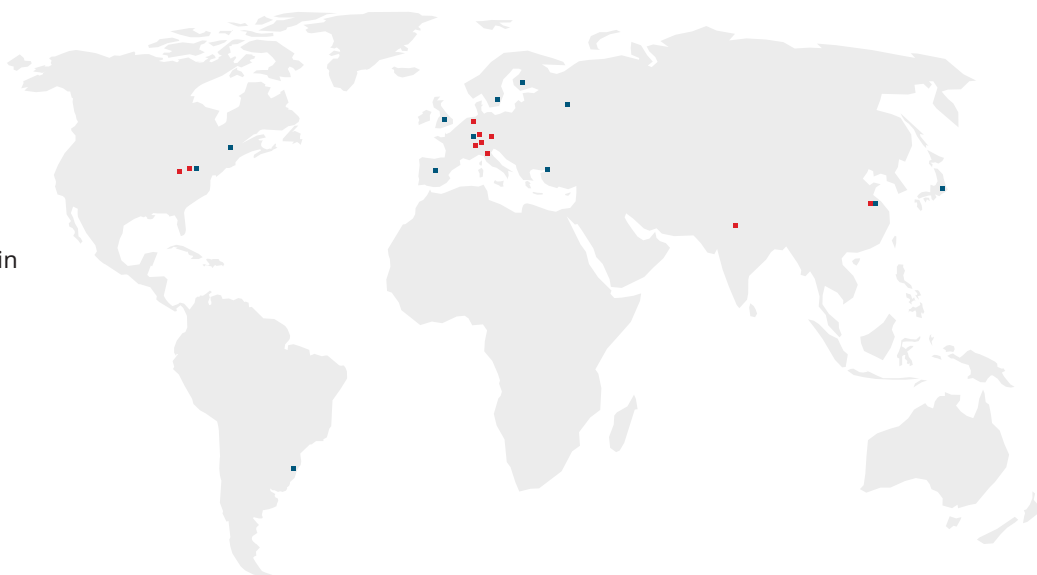




Bucher Hydraulics Mobile Drives in Romanshorn, Switzerland

### Bucher Hydraulics worldwide locations

- Germany:  
Klettgau, Erding,  
Remscheid, Dachau
- Switzerland: Frutigen,  
Neuheim, Romanshorn
- Italy: Reggio Emilia
- USA: Grand Rapids, Elgin
- China: Wuxi, Suzhou
- India: Gurgaon
- Brazil: Canoas



- Bucher Hydraulics  
Competence Center
- Bucher Hydraulics  
Sales Center

# Shaping the Market Together

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The use of electric drives opens up an increasing number of possibilities for your forward-looking, green and economical vehicle concepts.

Leading the way in mobile drives, we develop innovative, reliable, and economical solutions for electric and hybrid vehicles: from the concept to consulting and guidance in the prototype project as well as production. The experience and know-how of our employees and network of experts,

who are showing the way forward in the area of mobile applications, are poured into all the work they do – from the concept stage to production.







### What sets us apart on the market

Thanks to our many years of experience and our technical knowledge, we offer more than just development. Drawing on our specialist knowledge, production facilities and secure supply chains, we can produce power electronics in requested quantities.

### Seamless integration, long-term security

Our MOBILE product platform was designed to considerably reduce the effort and time required for integration into your vehicle concept. This means you can implement your projects more efficiently and more sustainably. At the same time, the product platform ensures that the required components remain available in the long term. It will fit seamlessly into your vehicle concept for many years to come, with form, fit and function all perfectly coordinated with each other.

### The full package is what makes the difference and ensures success



# MOBILE Product Platform

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For electrical units in  
commercial vehicles

## **Consistent development**

The compact MOBILE product platform with multi-inverters and DC/DC converters – for successful integration into your commercial vehicles. When looking for the right products to suit your requirements, you have the option of choosing from our MOBILE modular drive system for applications in commercial vehicles.

## **Catalog-based modular drive systems**

The catalog approach makes it easy to find the right type for your application. Furthermore, its scalability covers a wide power range with identical overall external dimensions.

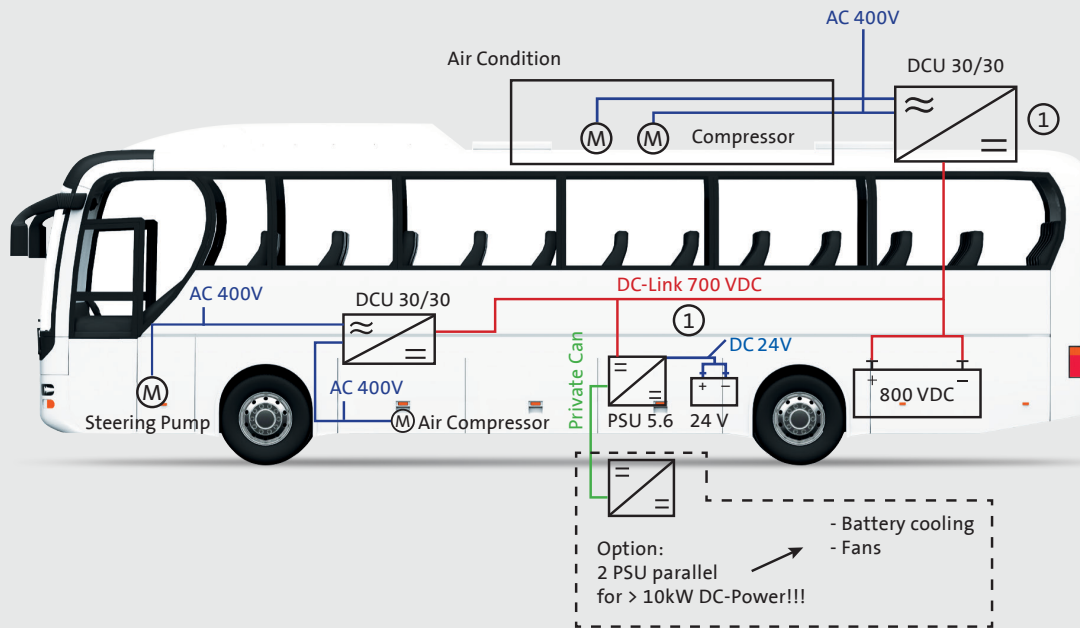
Whether you are a vehicle manufacturer or a supplier, you can configure and implement optimally tailored drive solutions for the respective task both quickly and with ease.

Together, we will select the appropriate solution for your application. Integration into the vehicle then takes place with the aid of a uniform concept for the connection system.

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**Designed specifically for use in  
commercial vehicles in rough  
environments:**

- City buses
- Airport buses
- Low floor trains
- Trucks
- Mobile working machines such as
  - Construction vehicles
  - Mining vehicles
- Municipal vehicles such as:
  - Sweepers



Typical auxiliary drives  
in a city bus – smart  
electrified with the  
MOBILE platform



MOBILE platform:  
ready to solve  
different applications

# Auxiliary Drives: Value-Adding Solutions

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## Designed specifically for use in commercial vehicles in rough environments:

- Ready-to-use modular system
- Device versions and outputs can be chosen to suit your requirements
- Adjustment begins at a high development level

## Designed specifically for applications in commercial vehicles:

- Service life and designed for applications in commercial vehicles exposed to rough environments

## Easy integration into your system:

- Each model variant comes with the same external dimensions and interfaces
- Extremely easy to integrate into the vehicle system via a standard communication bus

## Wide range of versions available starting from series production:

- Large-scale production
- E1-qualified and -certified

## Base housing concept for the entire modular system:

- Uniformly fulfills mechanical requirements
- Features plug connections

## Short product launch times:

- Minimal development effort
- Low process complexity thanks to tried-and-tested series-produced components





# Establishing Efficient Networks: Communication

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Our offer for vehicle communication helps you to easily integrate the solution into the vehicle system via a standard communication interfaces.

## Kommunikation zwischen Fahrzeug und MOBILE-Geräte

Equipped with two independent CAN buses:

### PrivateCAN

PrivateCAN parameterization and communication between multiple interconnected devices – CANopen

### PublicCAN

PublicCAN communication with the primary vehicle control system

- CANbus J1939
- UDS according to ISO14229
- CAN FD capable

## The MOBILE devices have two different micro controllers:

### Application Controller (AppC)

AppC takes care of controlling and integrating the auxiliary equipment into the vehicle and provides powerful diagnostics in accordance with UDS (Unified Diagnostic Services).

### Motor Controller (MC)

The two motors or the DC/DC converter are controlled by a powerful digital signal processor (DSP) that has been optimized for real-time control.

## Complete access at any time: Parameterization

With our communication tools for parameterization and diagnostics, you always have complete access to the devices. The MOBILE tools simplify commissioning, optimize energy management and support troubleshooting.

Choose the ideal parameterization tool in line with your requirements. Either the free-of-charge MOBILE Starter Tool that offers basic functions or the MOBILE Engineer with its useful additional functions.

# MOBILE

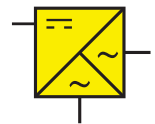
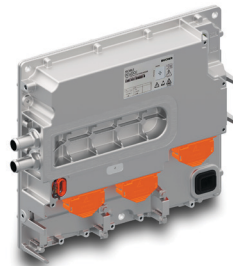
## Product Platform at a Glance

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### MOBILE DCU / DCU

Double inverter  
DC/AC + DC/AC

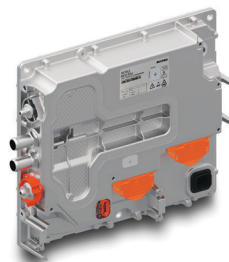
- Max. operating voltage:  
100...848VDC
- Peak power:  
7,5 / 15 / 30 / 60kW



### MOBILE DCU / PSU

Inverter and converter  
DC/AC + DC/DC

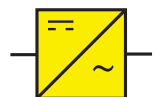
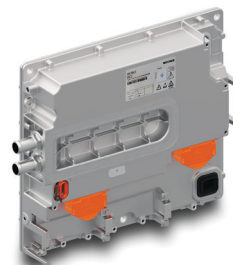
- Max. operating voltage:  
100...848VDC
- Peak power AC:  
15 / 30 / 60kW
- Peak power DC:  
2,8 / 4,2 / 5,6 / 8,4kW
- Secondary DC voltage:  
14 / 28VDC
- Secondary DC current:  
up to 300A



### MOBILE DCU

Single inverter DC/AC

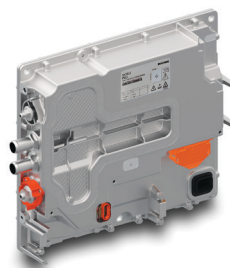
- Max. operating voltage:  
100...848VDC
- Peak power:  
30 / 60kW



### MOBILE PSU

#### Converter DC/DC

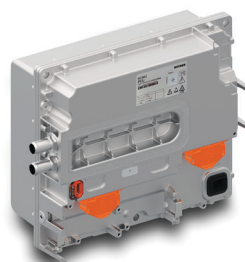
- Max. operating voltage:  
100...848VDC
- Secondary DC voltage:  
14 / 28VDC
- Secondary DC current:  
up to 300A



### MOBILE PCU

#### Converter DC/AC | DC/DC

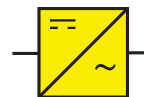
- Max. operating voltage:  
100...848VDC
- Secondary DC voltage:  
120...780VDC
- Secondary DC current:  
2x ± 50A / 1x ± 100A
- Secondary DC current:  
– 3 x 0...230Veff ±15% L1, L2, L3, N  
– 3 x 0...400Veff ±15% L1, L2, L3
- Secondary AC current 63Arms
- Power @ 3 x 400Vrms: 44kVA



### MOBILE DCU S

#### Single inverter DC/AC

- Max. operating voltage:  
100...848VDC
- Peak power:  
11 / 22kW



### Accessories

Bucher Hydraulics offers an extensive range of accessories including connection technology, control boxes and further auxiliary tools. The connection technology impresses with its compact and powerful design. It offers coding, finger protection and easy termination. The newly developed cable bushing enables efficient and uncomplicated assembly. The plugs are available individually or as a set

with matching cable bushing. Single-ended cable harnesses in various performance classes are also available at short notice.

You can find detailed information about our extensive range of cables and plugs on our website.



bucherdrives.com

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**Smart Solutions.  
Superior Support.<sup>®</sup>**