



# Operating instructions

## Active Reverse Control - APP



# Table of contents

|     |   |                |
|-----|---|----------------|
| ◎ 1 | <b>Structure and use of BPW ARC</b> .....                 | <b>Page 3</b>  |
| ◎ 2 | <b>BPW ARC App</b> .....                                  | <b>Page 4</b>  |
| 2.1 | Introduction  | Page 4         |
| 2.2 | Requirements  | Page 5         |
| 2.3 | Installing the app  | Page 5         |
| 2.4 | Device pairing  | Page 6         |
| 2.5 | User interface  | Page 6         |
| 2.6 | Navigation bar  | Page 7         |
| ◎ 3 | <b>User profiles</b> .....                                | <b>Page 8</b>  |
| ◎ 4 | <b>Settings and command tab</b> .....                     | <b>Page 9</b>  |
| 4.1 | Settings tab - Adjusting the reactivity values in the app | Page 9         |
| 4.2 | Command tab - Testing the warning lamp                    | Page 9         |
| ◎ 5 | <b>Memory tab</b> .....                                   | <b>Page 10</b> |
| ◎ 6 | <b>Alarms tab</b> .....                                   | <b>Page 11</b> |
| ◎ 7 | <b>Commissioning</b> .....                                | <b>Page 12</b> |

Valid: 01/09/2022

2nd edition

Subject to change without notice.

Current versions and additional information can be found online at [www.bpw.de](http://www.bpw.de).

---

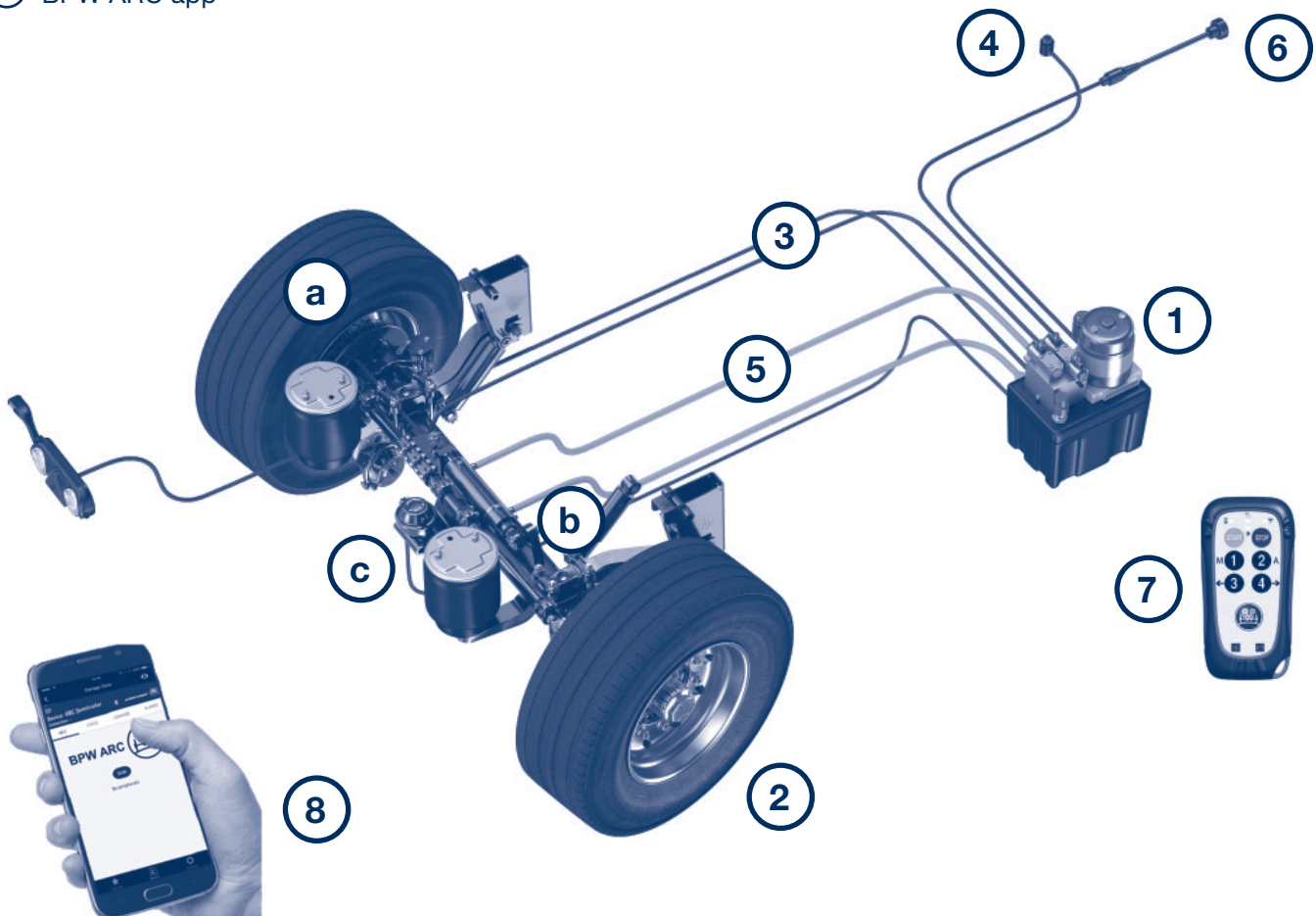
# Structure and use of BPW ARC 1

## Structure and use of BPW Active Reverse Control (ARC)

BPW Active Reverse Control (ARC) is an innovative, electrohydraulic auxiliary steering system for BPW self-steering axles. The auxiliary steering system automatically steers the self-steering axle backwards during manoeuvring operations. The control process is electronic, the steering process is hydraulic.

The system consists of the following components:

- ① BPW ARC control and hydraulic unit
- ② BPW self-steering axle (LL) with steering cylinder and sensors
  - a. BPW speed and rotational direction sensors (in the wheel end, on the left side)
  - b. Displacement sensor (in the steering cylinder)
  - c. Proximity switch (on the steering lock unit)
- ③ Electrical lines between self-steering axle and ARC control and hydraulic unit
- ④ Warning lamp
- ⑤ Hydraulic lines (optional from BPW)
- ⑥ High-power line (optional from BPW)
- ⑦ Radio remote control (optional from BPW)
- ⑧ BPW ARC app



## 2 BPW ARC app

### 2.1 Introduction

#### The BPW ARC app

##### 2.1 Introduction

With the BPW ARC app, you have the option of retrieving some information about the steering system and executing some services, such as initial commissioning and system diagnosis, with the aid of a mobile device (e.g. smartphone).

Displaying notifications, alarms and information about the system status is straightforward. It is also possible to adjust configuration settings and test some functions by manually controlling the system while the vehicle is stationary.

The app can be linked to a PC portal via the internet.

This allows data to be collected and commands to be executed on a system from remote workstations for support purposes.



Please note that this remote connection is only possible with an active Bluetooth connection, functioning internet connection and with the location service activated.



**Note!**

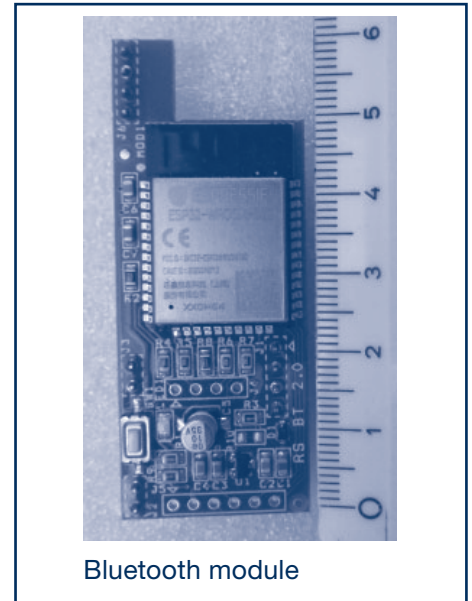
Given the fact that the BPW ARC app is subject to ongoing further development, there may be some changes to the app's range of functions. Please make sure you have the latest version of the app installed.

# BPW ARC app 2

## Requirements for using the BPW ARC app 2.2

### 2.2 Requirements for using the BPW ARC app

- You have an internet-enabled mobile device, e.g. a smartphone or tablet
- The BPW ARC app is installed on your mobile device
- There is a Bluetooth connection (pairing) between the mobile device and the ARC control unit
- Make sure that your ARC control unit (05.801.47.09.0 or 05.801.47.65.0) has a Bluetooth module.  
The ARC control unit (1) is equipped with a Bluetooth module by default as of serial number 044/21.  
It is easy to retrofit previous versions with a Bluetooth module.  
Please contact BPW Support if you require assistance.
- A functioning internet connection is required for the app to work smoothly and for the data to be sent to BPW Support whenever necessary.



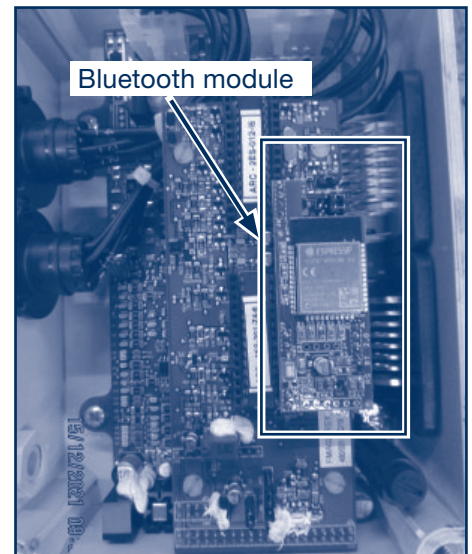
**Attention!**

The app only works when the vehicle is stationary.  
The Bluetooth connection is automatically interrupted when the vehicle starts moving.



**Attention!**

The app cannot be used for manual steering while driving.  
Use the remote control kit for this.



## 2 BPW ARC app

### 2.3 Installing the app

### 2.4 Device pairing

#### 2.3 Installing the app

The BPW ARC app is available in the Play Store for Android devices and in the App Store for IOS devices. It is available in German, English, French and Italian.

Download the BPW ARC app and install it on your mobile device.

Links for download:   for IOS:           BPW ARC - Apps on Apple App Store  
                                  for Android:       BPW ARC - Apps on Google Play

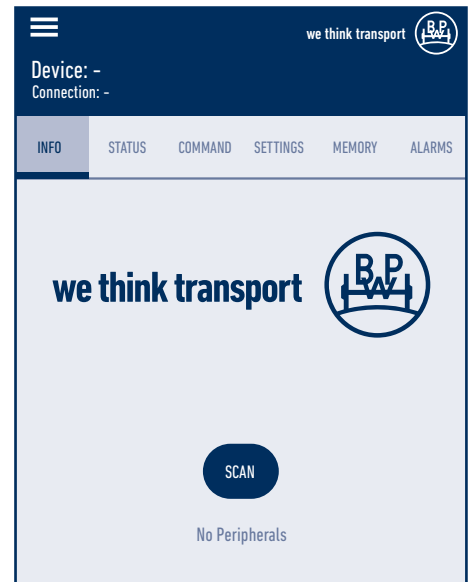


**Note!**

**Make sure that the APP software is up-to-date and that you are always using the latest version.**

#### 2.4 Device pairing

- Switch on the steering by switching on the ignition or the lights.
  - Make sure that Bluetooth is switched on on your mobile device.
  - Open the BPW ARC app.
  - Click on the “SCAN” button when you are near of the vehicle to find the accessible systems.
- 
- As soon as the ARC system is recognised in your vehicle, it is displayed under the Devices button, e.g. ARC-S1.
  - Click on the system that is displayed on the app interface to establish a connection.
  - As soon as a connection has been established, confirmation of activation appears in the header bar of the APP: “Connection: ACTIVATED”.



# BPW ARC app 2

User interface 2.5

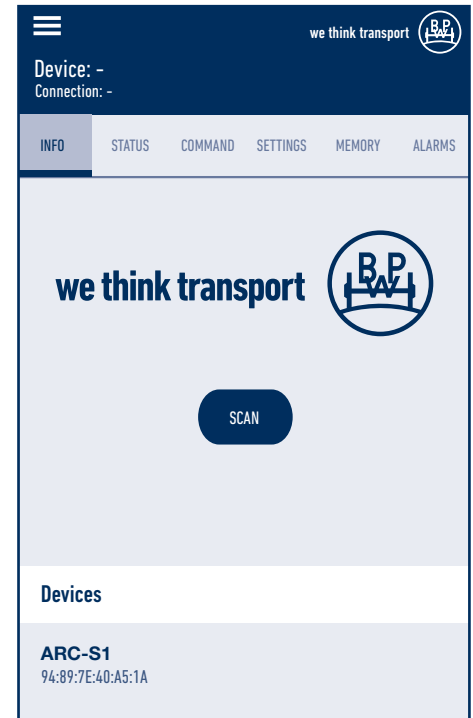
Navigation bar 2.6

## 2.5 User interface

- The other tabs on the menu bar such as INFO, STATUS, COMMAND, SETTINGS, MEMORY and ALARMS only become active once the connection to an ARC system has been established. You can access the respective submenus for additional system-relevant information, as well as configuration options, by clicking on the button of the respective tab, subject to the user profile in use. The submenus of the Command, Settings and Memory tabs are not available if you are not logged in. The remaining tabs are only visible in read-only mode.
- The device name, the connection status and, if you are logged in, the user name and the user profile are displayed at the top of the app's main interface.

## 2.6 Navigation bar

- Once the app is running, the other menu options are accessible from the navigation bar - via the three-line menu icon in the upper left corner.
- There are four tabs to choose from in the navigation bar; Device, Contacts, Manuals and Log on/Log off. In addition, at the bottom of this app interface, next to the language selection button, you will find information about the firmware version of the Bluetooth module as well as the software version installed.  
You can select a language from the drop-down menu. There are 4 languages to choose from: German, English, French and Italian.



### Device

Tapping this button takes you back to the main menu.

### Contacts

As soon as a connection to the ARC system has been established, the contact details for ARC support are displayed below this button.

### Manuals

The digital versions of the user manuals, installation instructions, etc. can be retrieved from the BPW homepage by clicking on the respective document name. These documents are only available once a connection to an ARC system has been established.

### Logging in / logging out

Please register for an account. Create a user account to make full use of the app. In read-only mode, basic access to the system is severely restricted if you are not logged in.

If you are registering with a validated email address, a one-time activation code will be sent to this email address during the initial registration process.

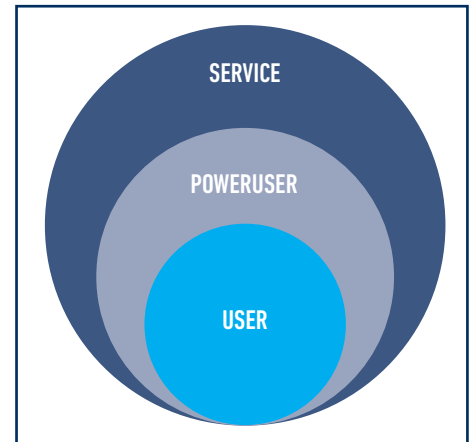
If registering as a POWERUSER, the system administrator will carry out an additional approval procedure.

## 3 User profiles

### User profiles (ACCESS levels):

For different use cases, 3 different user profiles with increasing user privileges are provided:

- USER:** ordinary user with basic access, with/without login (registration), read-only function, e.g. driver.
- POWERUSER:** can adjust certain settings, e.g. carry out initial commissioning, etc..  
Registration and approval of the administrator required.  
e.g. vehicle manufacturer, workshop employees, etc.
- SERVICE:** can make changes and adjust settings, registration and approval of the administrator are essential.  
e.g. BPW Support, customer service employee



### User profile “USER”:

#### Basic access without registration

The following functions are available to those with basic access:

- Retrieving system information  
The Info, Status and Alarm tabs are only available in read-only mode. The Memory and Command tabs are displayed but cannot be selected. The Settings tab is only visible after registration.
- Status test by reading the signal status
- Displaying alarms  
The alarms are only displayed on the app interface. Alarms cannot be shared or passed on in basic access mode.

#### Basic access with registration

If a user is logged in as a USER, then the Settings tab becomes available.

- In Settings, the user can change the reactivity values to either + 20 % or - 20 %.
- The user can also test the function of the warning lamp in the Command tab by switching it on and off.
- The registered user has access to memory only in read mode, but can release it (see page 9).

### User profile “POWERUSER”:

In addition to all privileges granted to a USER profile, the following functions are available to a POWERUSER:

- Carrying out commissioning
- Resetting alarms
- Some commands are available, such as activating the pump, controlling the solenoid valves and manual commands for steering, which are also carried out during initial commissioning.



# Settings and Command tabs

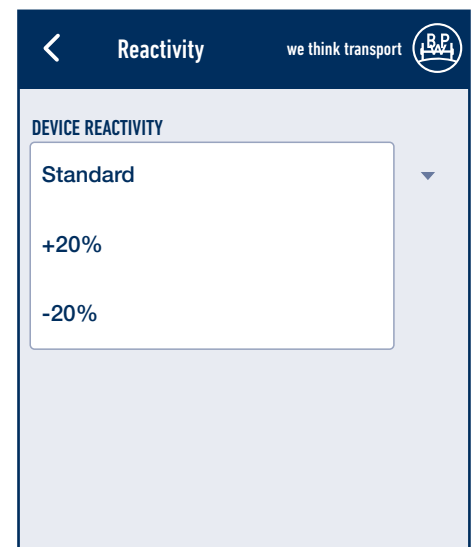
4

## 4.1 Settings tab - Adjusting the reactivity values in the app

The reactivity of the device can be changed by either + 20 % or - 20 % compared to the default setting (see figure on the right). Changing the reactivity causes the trailer to behave slightly differently. The driver can choose the appropriate option depending on their experience and the application.

A higher degree of reactivity causes the axle to react earlier, meaning that the axle adopts a greater angle at the beginning of the turn and is steered to a greater extent at the moment when the vehicle needs to be realigned. It should be noted that the vehicle moves more slowly during the alignment phase. Conversely, a lower degree of reactivity means that the axle turns into the curve to a lesser extent at the beginning of the curve and realigns itself more quickly. The higher or lower degree of efficiency depends on the driver's habits and their manoeuvring experience.

You can change the reactivity value to Default (factory setting), + 20 % or - 20 % as needed via the drop-down menu under the tab "Settings" -> "Device reactivity" -> "Change".

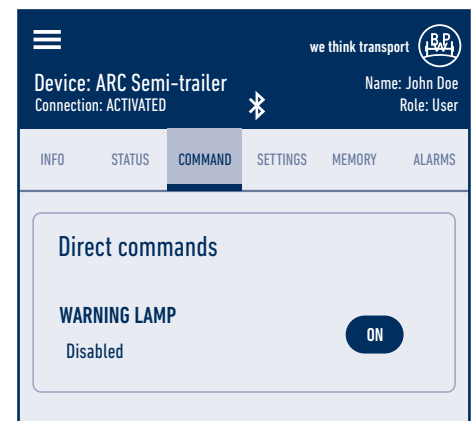


### **Attention!**

**Changing the reactivity values alters the steering behaviour of the trailer.**

## 4.2 Command tab - Testing the warning lamp

Someone with a USER profile can also test the function of the warning lamp in the "Command" tab by switching it on and off.

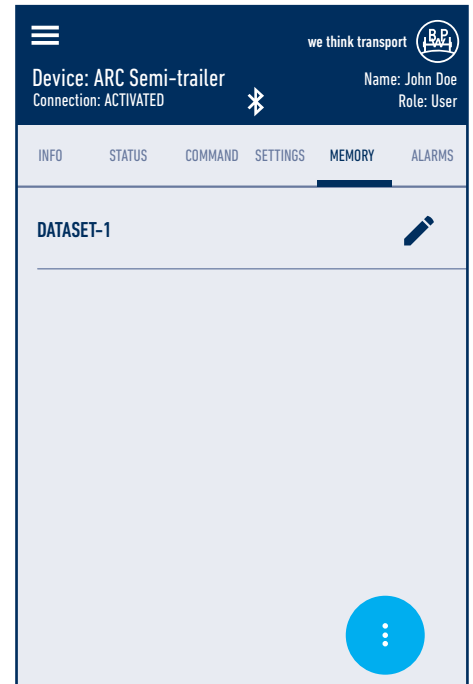


## 5 Memory tab

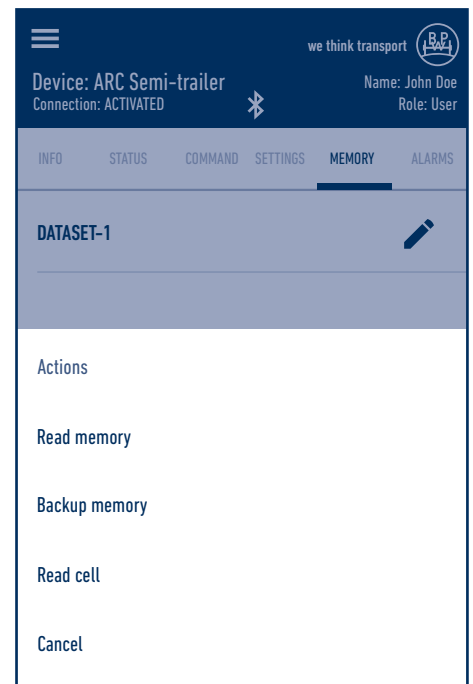
### Reading and sharing the memory

A person logged in as USER has access to the stored data sets in read-only mode, but can share them if needed.

In the “MEMORY” tab, the USER can read out the saved system information by clicking on the blue triple-dot button.



Clicking on the blue triple-dot button opens a drop-down menu with further options. The USER can share the content with BPW Support as a report by clicking on “Save memory”.



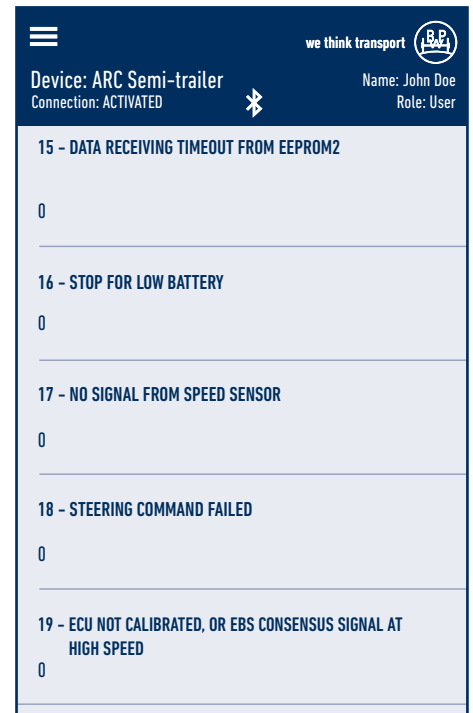
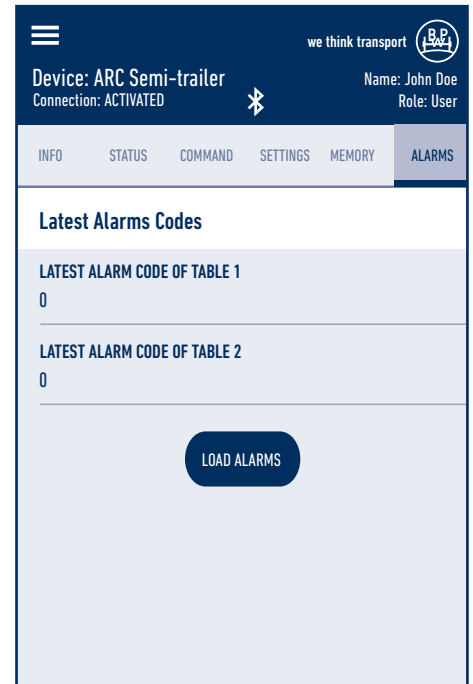
# Alarms tab 6

## Reading out alarms

A user who is logged in as a USER can make use of the “ALARMS” tab to read out the errors that have been reported since the last erasure process, together with the error code and frequency.

Two alarm code tables are listed under the Alarms tab. Clicking on the individual tables lists the reported alarms.

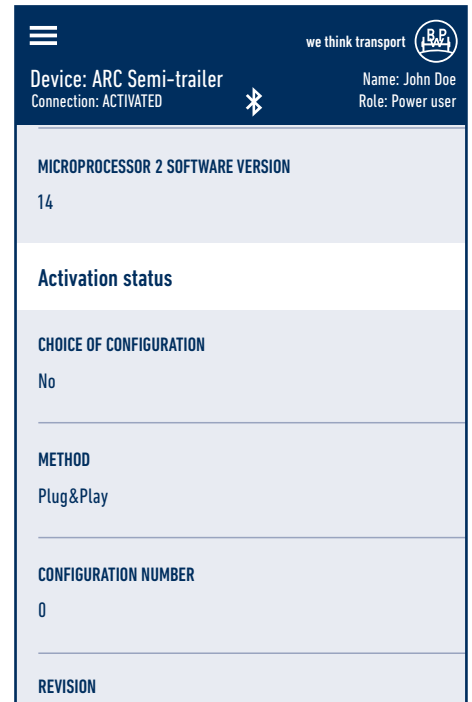
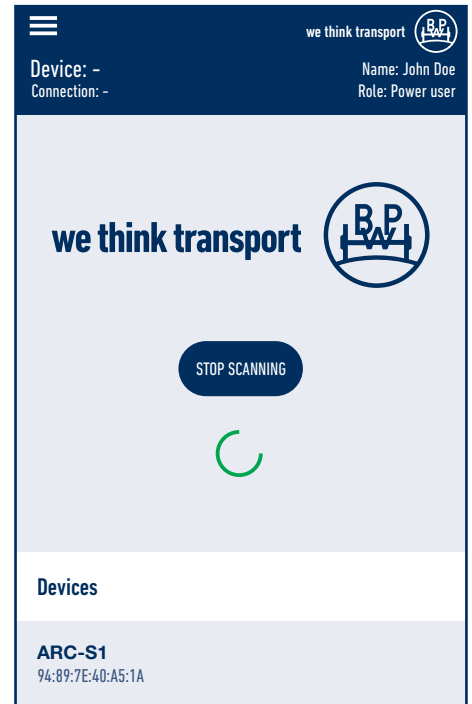
For detailed information on the individual alarm codes, please read chapter 5 “Maintenance” in the ARC installation manual.



# 7 Commissioning

## Carrying out commissioning

- [1] Switch on the steering by switching on the ignition or the lights of the vehicle.
  - [2] Engage reverse gear (switch on reverse light) and ensure that the axle is unlocked.
  - [3] Open the ARC app and log in as a POWERUSER.
  - [4] Use the Bluetooth connection to search for the built-in ARC system by clicking on the "Scan" button.
  - [5] Under "Device", select the ARC system displayed.
  - [6] Select the menu item "Configuration" from the menu item "Settings".
- 
- [7] Select the configuration number determined previously from the installation instructions (chapter 4.3) using the drop-down menu and save it with Back (<).
  - [8] In the menu item "Command", go to the "Manual commands" section.

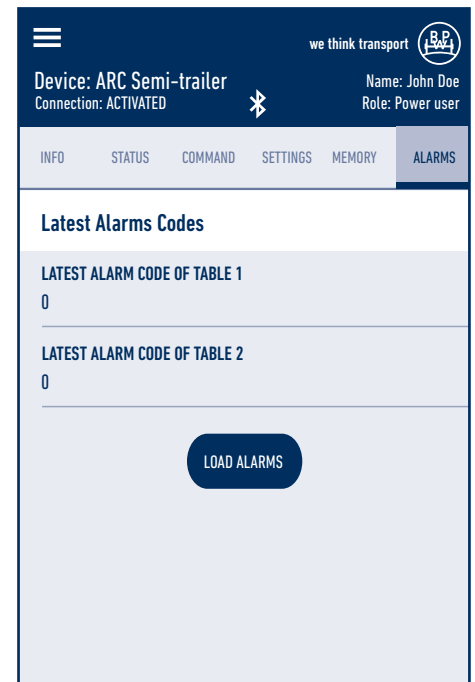


# Commissioning 7

- [9] Turn the axle to both sides several times using the function buttons Left, Stop and Right, and bleed it (see chapter 4.4 of the ARC installation instructions for information on venting).
- [10] After bleeding, check that the steering responds to the steering commands without delay. If it does not, carry out step 9 again.
- [11] To set the maximum steering angles after the bleeding procedure, refer to chapter 4.5 of the ARC installation instructions.



- [12] When commissioning is complete, all alarms must be reset. To do this, click on the "Reset alarm messages" button in the "Alarms" tab.
- [13] Once the commissioning procedure has been completed, the system must be restarted. You will be alerted to this on the app.



**BPW is a globally leading manufacturer of intelligent running gear systems for trailers and semi-trailers. As an international mobility and system partner, we offer a wide range of solutions for the transport industry from a single source, from axle to suspension and brake to user-friendly telematics applications.**

**We thereby ensure outstanding transparency in loading and transport processes and facilitate efficient fleet management. Today, the well-established brand represents an international corporation with a wide product and service portfolio for the commercial vehicle industry. Offering running gear systems, telematics, lighting systems, composite solutions and trailer superstructures, BPW is the right system partner for automotive manufacturers.**

**BPW, the owner-operated company, consistently pursues one target: To always give you exactly the solution which will pay off. To this end, we focus our attention on uncompromising quality for high reliability and service life, weight and time-saving concepts for low operating and maintenance costs as well as personal customer service and a close-knit service network for quick and direct support. You can be sure that with your international mobility partner BPW, you always use the most efficient method.**

# Your partner on the path to economic viability



**BPW Bergische Achsen Kommanditgesellschaft**

Postbox 12 80 · 51656 Wiehl, Germany · Phone +49 (0) 2262 78-0  
info@bpw.de · [www.bpw.de](http://www.bpw.de)