

# OPERATING INSTRUCTIONS

## HorschConnect

# **HORSCH**



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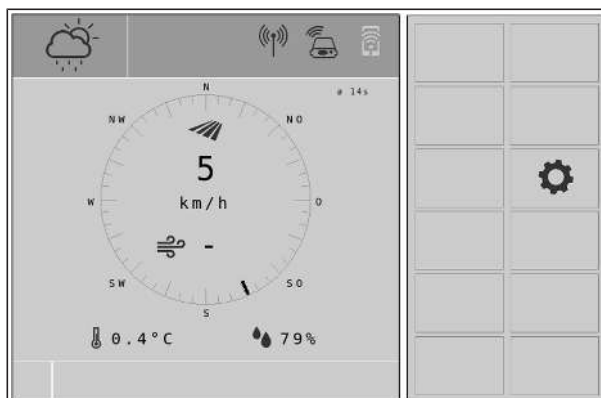
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# 1 Introduction

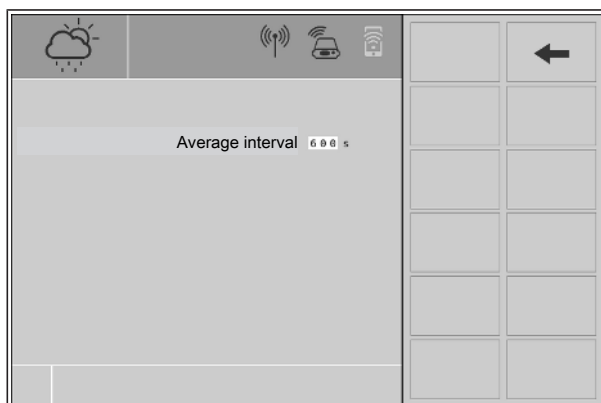
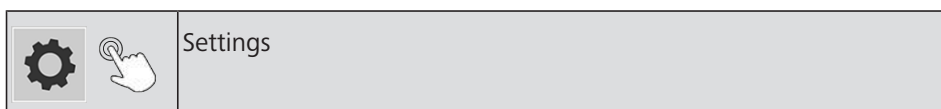
## 1.1 Notes on Representation/Navigation

- Buttons to be pressed are listed together with the "hand symbol" and the designation.
- The screen that then opens is shown below.
- Buttons to be pressed can alternatively be addressed by (numbered) arrows and instructions for actions.

Example



Weather station



Screen accessed after pressing the button

## 1.2 HorschConnect

HorschConnect facilitates linking customers, their machines and HORSCH. Connectivity is ensured by the SmartCan module on the machine.

The recorded data is made available in the Cloud or transmitted to a mobile device via WLAN. A GPS receiver complements the system and allows recording telemetric data.

The HORSCH MobileControl is an app available for Android and iOS and enables performing machine functions via smartphone, for example, calibration of HORSCH drills, nozzle tests of Leeb crop protection sprayers and single row tests for HORSCH Maestro.

Additional functions, such as wireless software updates or remote diagnostics of data to Farm Management Systems, can be performed in the future with HorschConnect.

## 2 SmartCan LED

The LED on the SmartCan indicates its status.

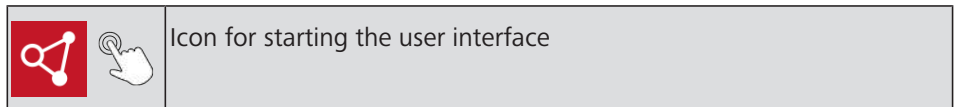
LED	Meaning
off	SmartCan receives no power
flashing green	SmartCan is in the start phase
lit green (permanently)	SmartCan is operational; Internet reception via mobile communication is established
lit red (permanently)	SmartCan is operational; there is no Internet reception via mobile communication

## 3 Terminal UT client

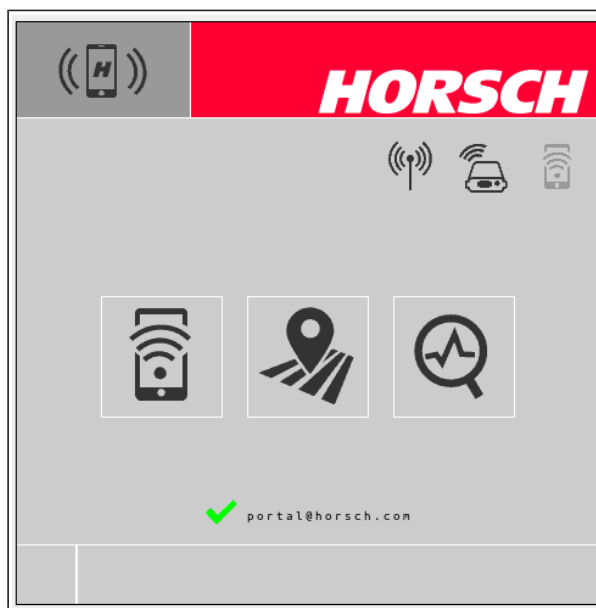
### 3.1 Prerequisites

ISOBUS-capable terminal

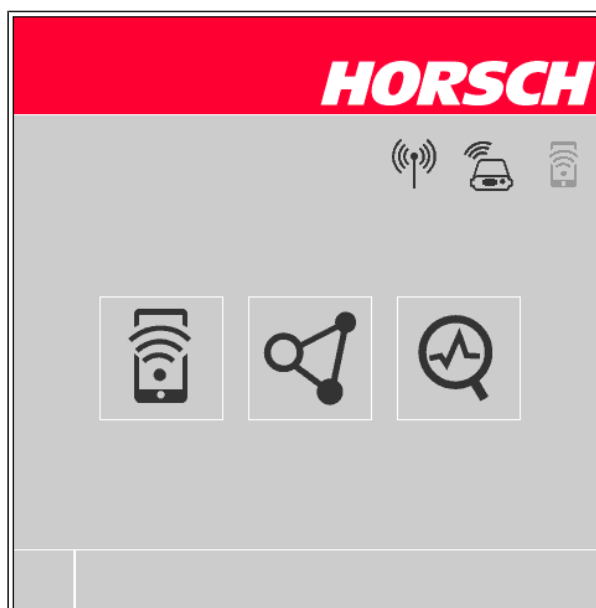
### 3.2 Start page



- Press the icon on the terminal for starting the user interface.









Start page






Start page – Machine not activated

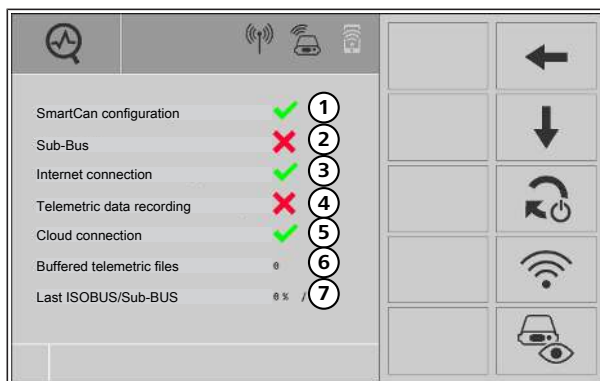
The icons in the upper area indicate the status of various functions:

	Mobile connection active
	Mobile connection inactive
	SmartCan hotspot active
	SmartCan hotspot inactive
	MobileControl active
	MobileControl inactive




The buttons framed white are used to access the corresponding subpages.

	MobileControl
	Telematics
	Diagnostics

### 3.3 Diagnostics

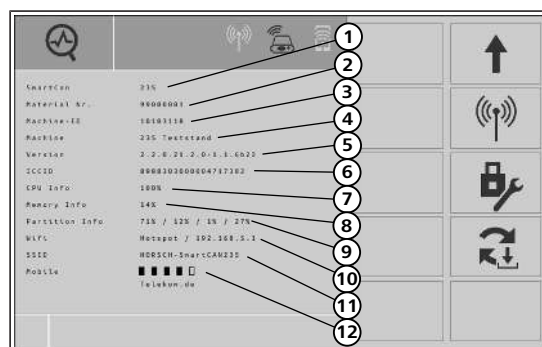


Diagnostics page 1




	Restart SmartCan
	Access the WiFi client page
	Establish remote support connection A connection to HORSCH is established to allow HORSCH Service to access the SmartCan.

On the first page of diagnostics general functions are checked.

1	SmartCan configuration Testing of the basic configuration of the SmartCan, e.g. Serial or material number.
2	Sub-Bus Connection of the SmartCan with the CanBus/Sub-Bus.
3	Internet connection Connection of the SmartCan with the Internet.
4	Telemetric data recording Connection of the SmartCan with a compatible machine.
5	Cloud connection Data transfer to the HORSCH Cloud
6	Buffered telemetric data The SmartCan has buffered data, for example, because the SmartCan does not/did not have an Internet connection.
7	Last ISOBus / Sub-Bus



Diagnostics page 2

	Accessing mobile communication settings
	Access the Secure Config page
	Checking and starting online update

1	Name of the SmartCan / production number
2	Material number of the SmartCan
3	Machine ID
4	Machine type
5	Version of the SmartCan
6	Serial number of the SIM card
7	CPU utilisation
8	Memory utilisation
9	Assignment of individual partitions
10	WiFi mode, hotspot or client and IP address
11	Name of WiFi network
12	Connection quality / provider / IP address

## GPS source

- 3.4 On this page, the current coordinates and speed for each GPS source are displayed. Depending on the Service level, the respective sources can be selected with the buttons. The active source is indicated by the green square.



	Internal GPS
	GPS via serial interface
	GPS via CAN bus

### 3.5 Mobile communication settings

The access data for the SIM card can be entered here to use one's own SIM card.



1	APN (Access Point Name) Enter the APN.
2	Enter the user name
3	Enter the password
4	Enter the PIN of the SIM card.

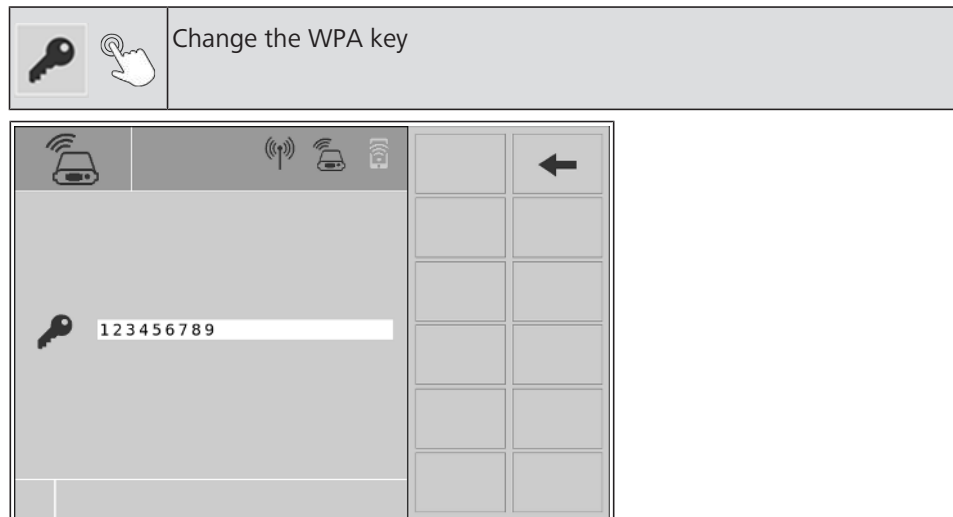
### 3.6 Hotspot



	Change the WPA key
---	--------------------

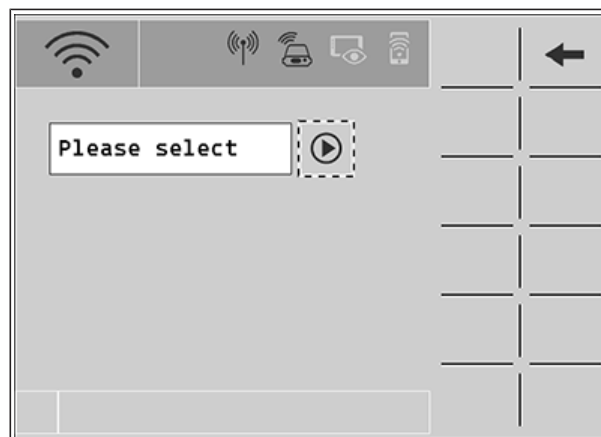
1	Name of the hotspot
2	Password for the hotspot
3	QR code for automatic connection with the hotspot.

### 3.6.1 WPA key



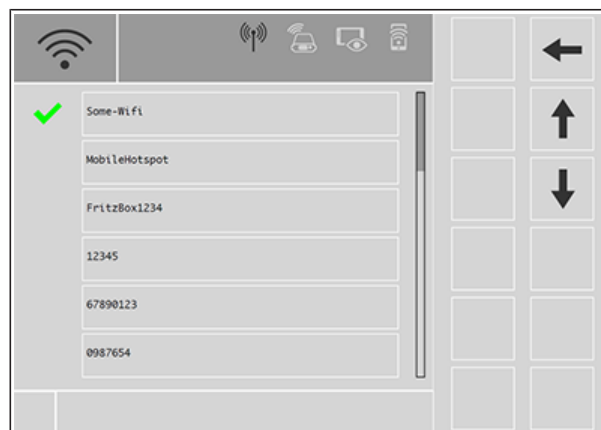
A new WPA key can be entered in the white field.

## 3.7 WiFi Client

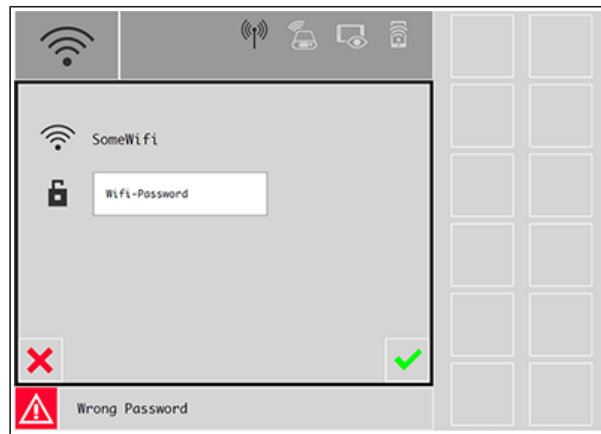


- Select a hotspot in the white field.
- The connection to the selected hotspot is established by pressing the Play button.

Clicking on the white field opens the list of available hotspots (SSID):



After selecting the hotspot (SSID) an input field for entering the hotspot password is displayed:



	Cancel
	Connect to the hotspot.

### 3.8 MobileControl

On the start page of MobileControl the connection information of the WiFi hotspot is displayed, together with its name and the password. The QR code replaces the password entry.



	Hotspot screen
	List of paired devices

➤ For more information on MobileControl, see section *MobileControl App*.

### 3.9 Installation and Update of SmartCan

SmartCan features an automatic update function via the Internet. Regular scanning for updates is performed, and they are installed in the background. An update becomes active at the next system start.

## 3.10 Weather station

An optional Weather station is available for HorschConnect.

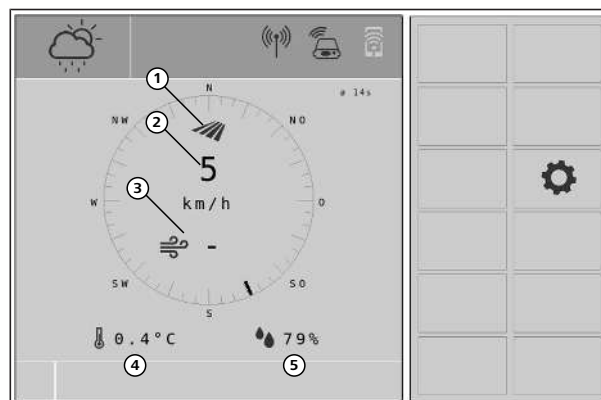


The weather station can capture and display the following data:

- Speed and direction of the actual wind relative to North.
- The speed of gusts.
- Temperature
- Humidity

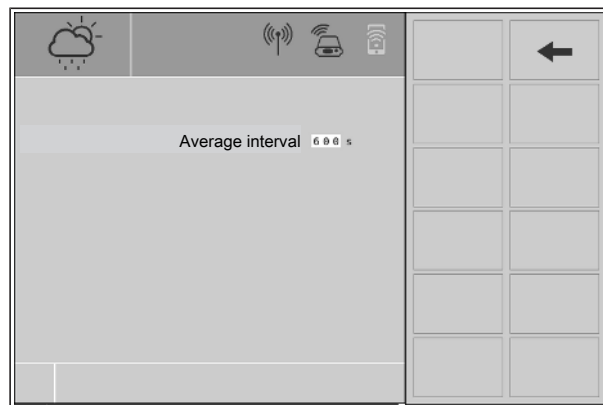
The values are recorded every second and displayed as average. The average value is formed using a configurable time interval.

A value is displayed for gusts if the wind speed is 10 knots above average. The highest value in the current time interval is then displayed.



Weather station

1	True wind speed The speed and course of the machine are calculated from the measured data.
2	Wind speed
3	Gusts
4	Ambient temperature
5	Humidity



- The *Average interval* can be entered on the *Settings* screen. This is the interval (in seconds) for calculating the average values.

## 4 MobileControl App

### 4.1 Supported mobile operating systems

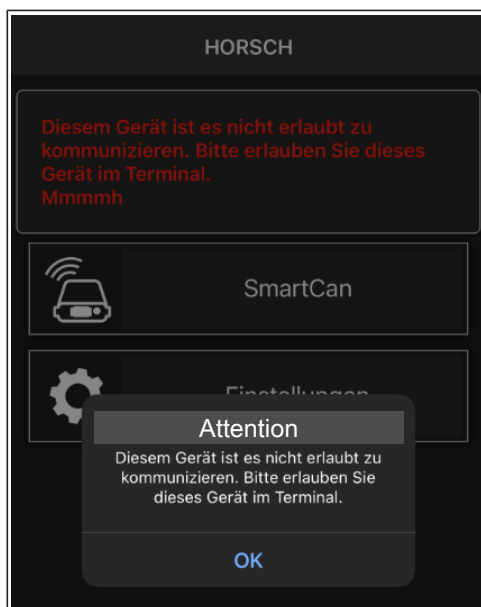
- Google Android: 9 and higher
- Apple iOS: 14.2 and higher

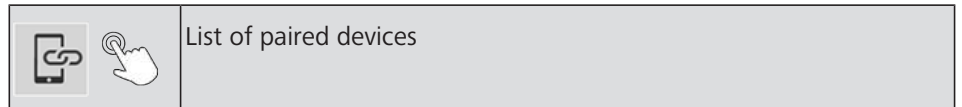
### 4.2 Pairing mobile device – SmartCan

To be able to utilise all HorschConnect functions, a tablet or smartphone must be connected with the system.

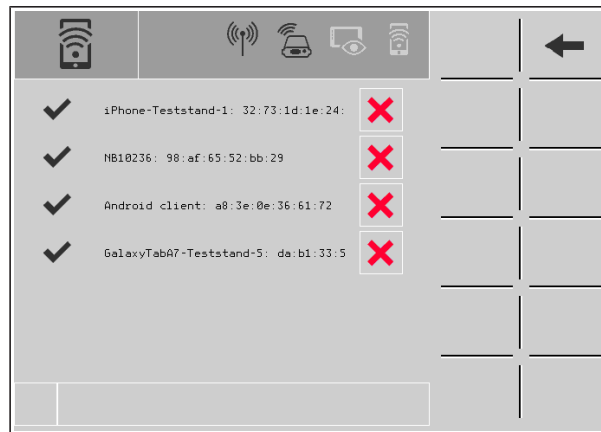
- Connect the HORSCH machine with a suitable tractor via ISOBUS.
- Switch on the ignition or start the engine of the tractor.
- Open the WiFi settings on the smartphone or table to connect with the HorschConnect WiFi. After a few seconds the "HORSCH SmartCan-<Name of the SmartCan / Production umber>" WiFi is displayed on the mobile device.
- The three-digit production number is shown on the terminal or the housing of the SmartCan; remove the grey plastic cover from the HorschConnect to locate it.
- Select the network and connect the mobile device with this network.
- Enter the password supplied when prompted and confirm the input. The mobile device is connected with the HorschConnect.
- Confirm the device on the terminal, refer to the Paired Devices section.

The following message is displayed if the device was not yet confirmed in the UT client:

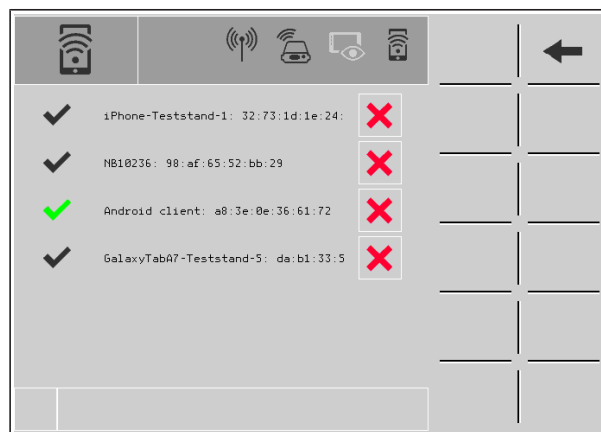




➤ Select and confirm the desired device from the list:



⇒ The device will be marked with a green checkmark and is now permanently paired:



## 4.3 Functions

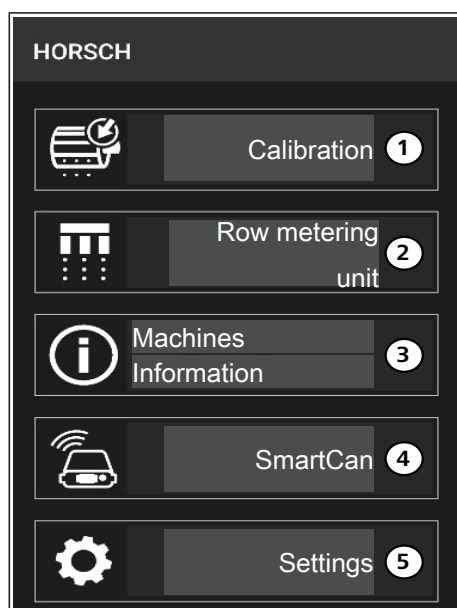
To be able to use MobileControl, the app must first be downloaded and installed. The app is available at the AppStore (iOS) and the Google Playstore (Android).

The HORSCH MobileControl app allows executing various machine functions for HORSCH implements:

- Calibration of HORSCH drill metering units
- Row tests for HORSCH single grain drills

The smartphone or table is connected with the SmartCan of the machine via local WiFi which avoids having to leave the tractor frequently. This increases user friendliness.

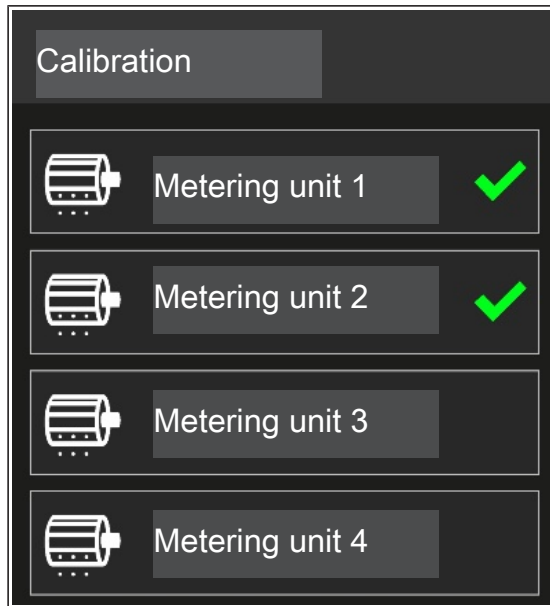
## 4.4 Start screen



1	Calibration menu
2	Detail view of row metering unit
3	Machine information
4	SmartCan – Information/Status
5	Settings

## 4.5 Calibration

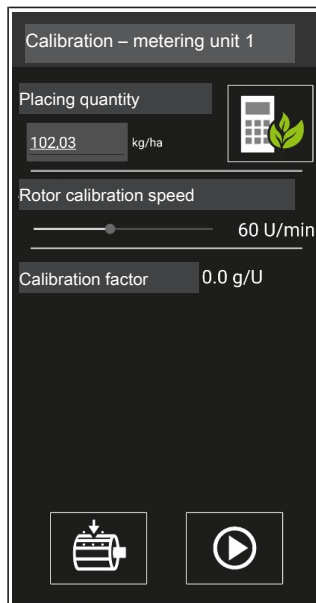
All metering units already calibrated are identified by a green checkmark. All configured metering units are displayed. The corresponding calibration menu is opened by selecting the respective metering unit.






### 4.5.1 Metering unit calibration menu

1. For calibration, refer also to the operating instructions for the drill controls.

The quantity to be placed can be set here. If it is not yet known, it can be calculated by pressing the button.



	Calculate calibration quantity
	Pre-metering/Fill rotor
	Start calibration process

2. Set the calibration figure with the slide control.

A speed of 60 rpm is stored as default. This speed is sufficient under normal conditions. The calibration speed should approximately correspond to the speed during field work to ensure the filling in the metering cells is roughly the same.

3. For the calibration process, the hopper must be filled with a sufficient amount of the product to be placed. For correct calculation of the calibration quantity all cells in the rotor must be filled when starting the calibration process. Press the **Fill Rotor** softkey to this end.

During Calibration the calculation basis for exact metering control is determined.

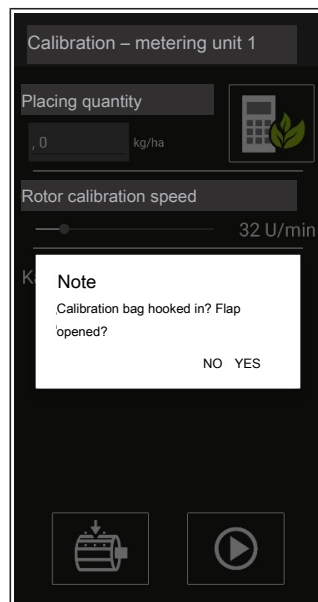
The computer needs the product weight that was removed during calibration as input value.

The product quantity taken should be as large as possible to keep measuring errors low. However, the quantity taken must not exceed 10 kg if the pulling scale supplied is used.

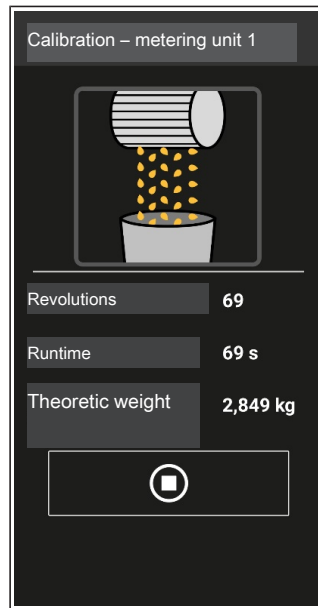
#### 4.5.1.1 Start the calibration

- Weigh the calibration container and write down the weight.
- Place the container under the metering unit and open the covering. Residual quantities must be removed from the fall sluice.
- Press the softkey to start the calibration process.

The following pop window-up appears:

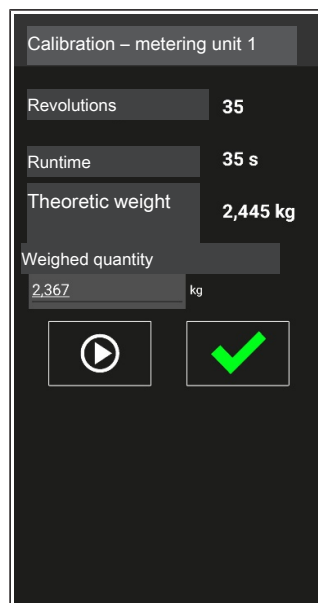


1. The rotor turns and fills the calibration container.



After finishing calibration, the menu for entering the calibration quantity appears.

2. Remove the calibration container. Should product residues remain in the fall sluice they must be removed.
3. Weigh the calibrated product.  
Deduct the weight of the calibration bag, as otherwise the placing quantity will be considerably falsified.
4. Enter the weight at the *Calibration quantity* item. A prompt asks whether the calibration value entered shall be saved.
5. Confirm the value with the green checkmark. The process can be repeated with the *Play* softkey.



The calibration process is closed with the green checkmark. A prompt asks whether the calibration value entered shall be saved.

After confirming the calibration weight, the possible speed range will be calculated and displayed:

**Abdrehergebnisse - Dosierer 1**

Number of revolutions  
**59**

---

Weighed quantity  
**4,401 kg**

---

Speed range  
**1,92 bis 16,83 km/h**

---

Calibration factor

Old	<b>114,95</b>	g/U
New	<b>126,60</b>	g/U

✕

✓

<span style="color: red; font-size: 2em;">✕</span>	Discard results – Calibration must be performed again.
<span style="color: green; font-size: 2em;">✓</span>	Accept results

If the results are accepted, calibration for additional metering units or drilling can be started. A message appears that must be confirmed with *OK*:

**Calibration results – metering unit 1**

Number of revolutions  
59

---

Weighed quantity  
4,401 kg

---

Speed range

Information

Value successfully accepted

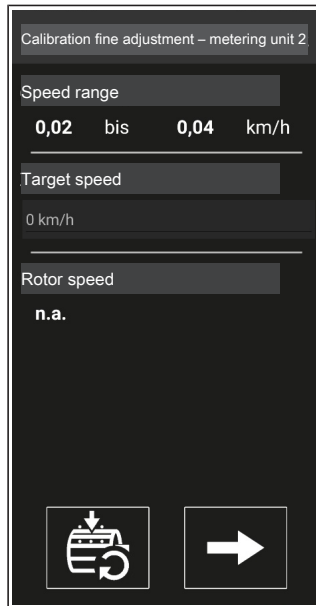
OK

✕

✓

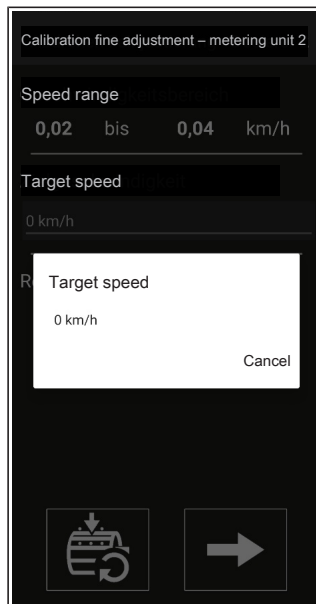
If the displayed speed range does not correspond to the desired working speed the rotor must be selected larger or smaller accordingly.

The calibration process must be repeated in this case.



	Repeat the calibration process
	Confirm

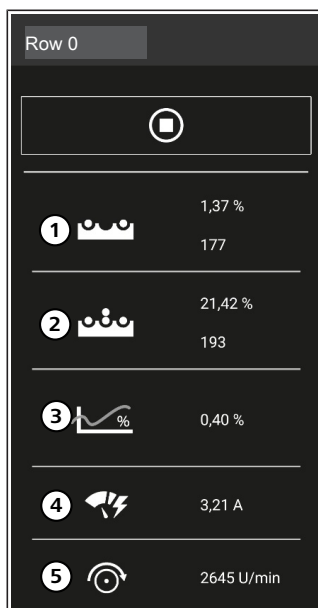
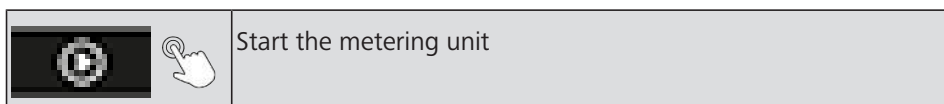
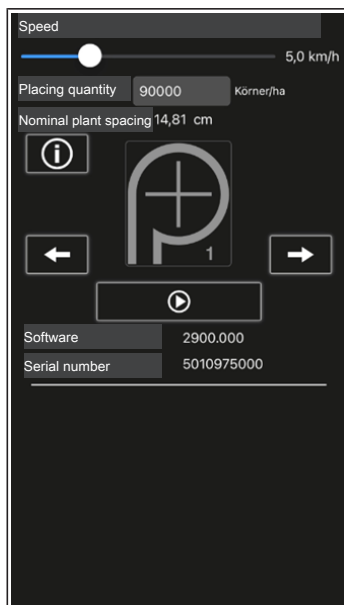
The following message is displayed after confirming:



The adjustment range of the metering motor lies between 15 rpm and 120 rpm. At speeds higher than 120 rpm a warning is displayed stating that the rotational speed is too high. At higher speeds uniform filling of the metering cells can no longer be guaranteed. For most applications, the speed should lie between 50 rpm and 90 rpm.

## 4.6 Row metering unit test

- Select the desired row with the arrows.

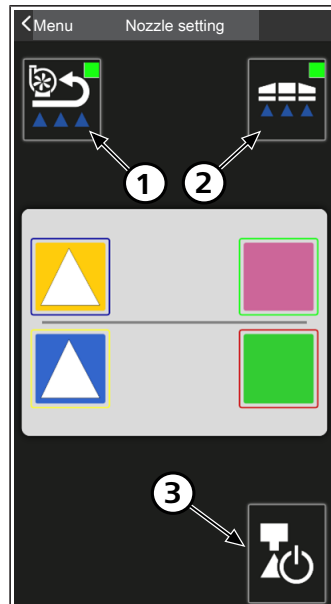


1	Display of missed seeds in %
2	Display of double seeds in %
3	Variation coefficient in %
4	Present current consumption Current consumption must not exceed 3 Ampere permanently during operation.
5	current speed

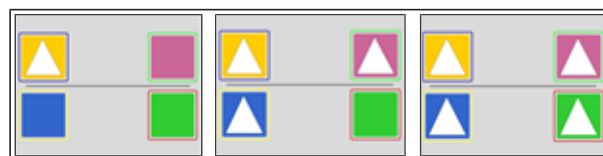


The previous menu can be accessed with the softkey.

## 4.7 Nozzle test

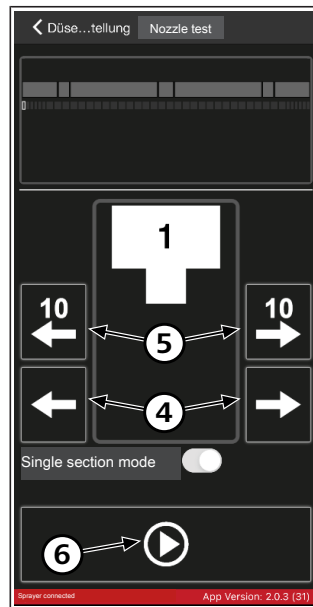


1. Activate the pump to start circulation thereby generating flow in the nozzle tube.  
A green square appears on the icon (1) when the circulation is active.
2. Activate the main nozzle switch.  
A green square appears on the icon (2) when the main nozzle switch is active.
3. Select the nozzles required for the test.  
One or several nozzles can be selected:

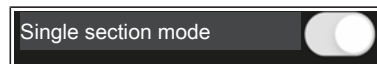


Nozzle selection examples

4. Access the nozzle test mode (3).



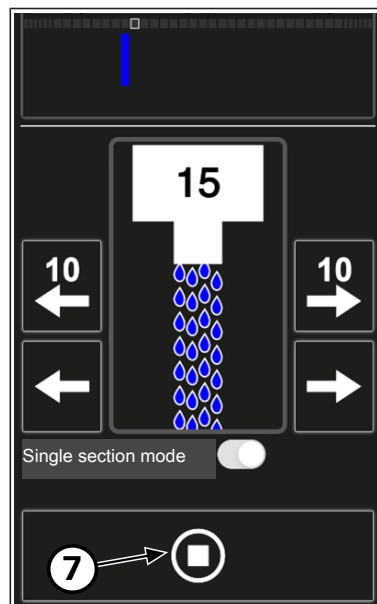
5. Select the required sections with the arrows (4).  
The arrows (5) allow jumping forward or back by 10 sections each.
6. Activate the single section mode if only the selected section is supposed to spray (standard scenario):



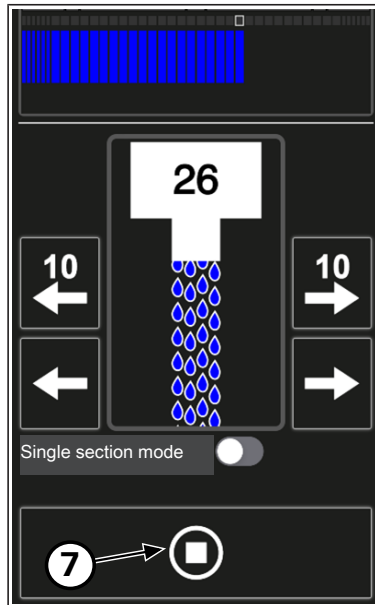
Single section mode active

When the single section mode is deactivated, all sections spray up to the selected section (option).

7. Start the nozzle test (6).



Nozzle test – Single section mode active



Nozzle test – Single section mode deactivated

- 8. Stop the nozzle test (7).
- 9. Close the App to finish.

## 4.8 Machine information

Machine information is displayed here. The error memory can be accessed with the softkey.



The error messages are sent to the connected device by e-mail.

Info Fehlercodes	
158	30.12.2020 02:08:48 Reihenmodul: Schardrucksensor Versorgung Strom zu hoch
231	30.12.2020 01:28:41 Elektrischer Schardruck kleine Drille: Sensor Senken Leitung Kabelbruch
78	29.12.2020 18:51:52 n.a.
190	29.12.2020 12:10:27 Reihenmodul: Dünger-/Saatflusssensor Signal Spannung 0-10V Bereich zu niedrig
230	29.12.2020 08:49:14 Schardruckrechner ausgefallen
193	29.12.2020 06:22:04 Reihenmodul: Fallrohrsensoren Kurzschluss
177	28.12.2020 23:24:58 Reihenmodul: Elektronikspannung kritisch
43	28.12.2020 18:56:08 Flüssigdüngermenge Null
204	28.12.2020 00:16:38 Reihenmodul: CAN-Busstörung Bus 1
70	27.12.2020 11:36:01 Powerpack Drehzahl zu niedrig

Error memory e-mailing

## 4.9 SmartCan status

Information and the status of the SmartCan is displayed here. Switching to the previous page is done with the softkey.

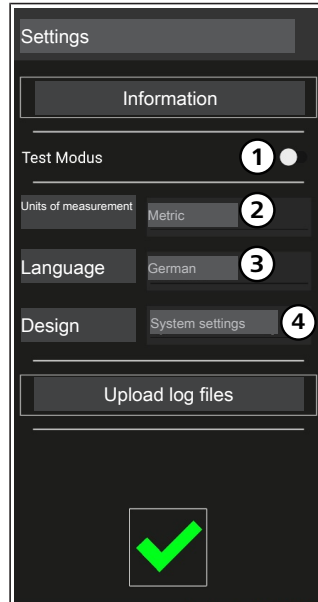
IP address	192.168.5.1
<b>VIN:</b>	
Machine	-
software version	10.13.01.00
Serial number	30193548W00300
Working width	16,20 m
SmartCan Status	0x01, DeviceConnected
ISOBUS name	0xA00884F8375B0BA 3
Time difference	226 ms

## 4.10 Settings

Different settings can be made here.

Log files can be uploaded with the softkey.

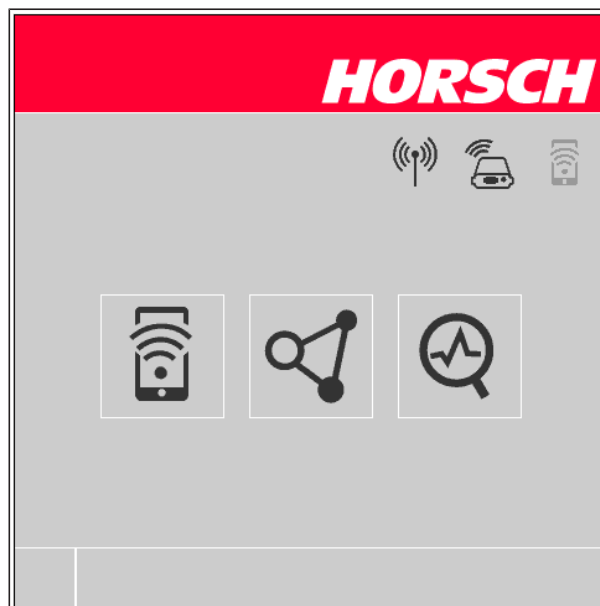
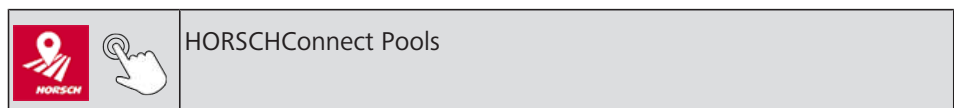
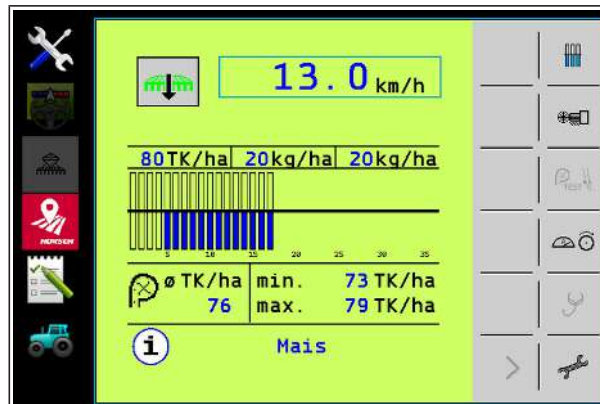
The changes are accepted with the *Checkmark* softkey; in some cases, the app is re-started.



1	<p>Test mode On/Off</p> <p>The app can be tested in test mode; a SmartCan or a machine is not required here.</p>
2	<p>Units of measurement</p> <p>A selection can be made between metric and imperial.</p>
3	<p>Language</p> <p>Setting the language</p>
4	<p>Design</p> <p>Setting the design</p>

## 5 Machine activation

### 5.1 Machine not activated



Start page

A message is displayed stating that the machine is not yet activated.

## 5.2 Create an account

- On the <https://portal.horsch.com> website click on the button *Register now as end customer.*

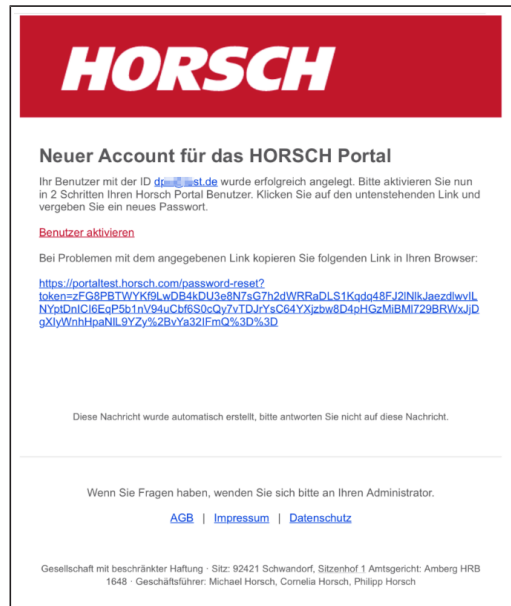
Enter the email address

- Enter the email address and click on *Next.*

- ⇒ Within a few minutes, an email is sent to confirm the email address:

Confirmation link

➤ Click on the confirmation link in the email.



Complete the data

➤ Assign a new password and complete the contact information.

**HORSCH**

**HORSCH Endkunden Account erstellen**

Passwort und Benutzerdaten eingeben

Neues Passwort

Neues Passwort bestätigen

Vorname

Nachname

Telefon

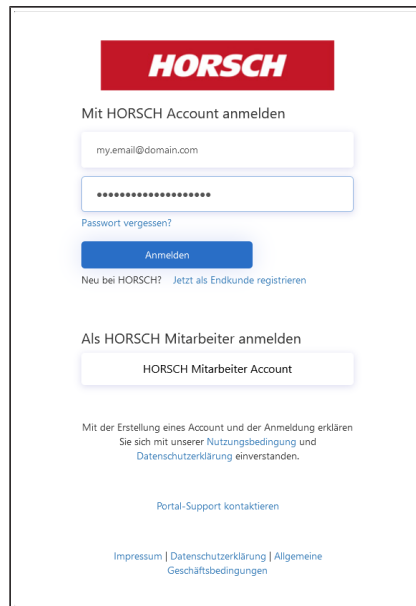
[Speichern](#)

[Portal-Support kontaktieren](#)

[Impressum](#) | [Datenschutzerklärung](#) | [Allgemeine Geschäftsbedingungen](#)

## 5.3 HORSCH Portal login

- Login with the previously created account.



Terms and conditions and legal information

- Review the *General terms and conditions* and the *HORSCH privacy statement* and click on *Accept*. **The portal cannot be used without acceptance.**



## 5.4 Activate the HorschConnect machine

Start the activation

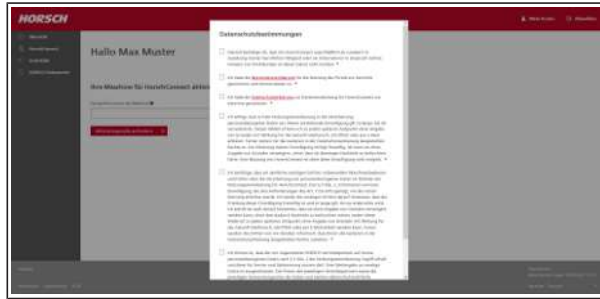
The activation process is started via the menu item *HorschConnect* and the button *Activate new machine*. The machine ID or the serial number of the machine is required here.



The machine ID or the serial number are shown on the type plate of the machine or in the *HorschConnect Pool* under *Info*.

Confirm the terms of used and data protection rules

The service cannot be used without confirmation.

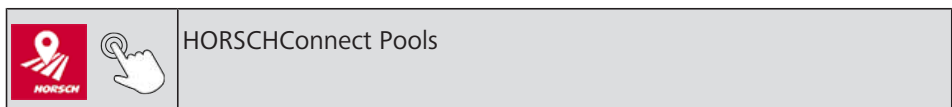
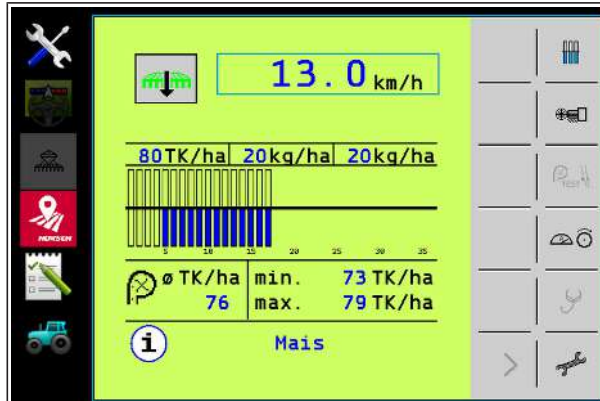


Activation code

The activation code is displayed here.



Open the HorschConnect Pool on the terminal



Open the activation screen

Enter the activation code

- Press the button to open the HORSCHConnect Pool on the terminal. **HorschConnect is loaded as additional pool in the terminal.**
- Press the button to open the screen.
- Enter the code generated in the port in the *Activation code* field. **The activation code is valid for 4 hours.**



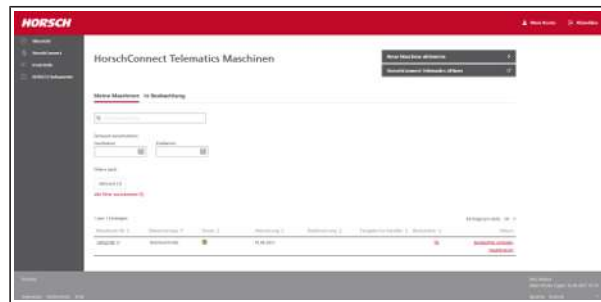
- Complete the activation process with the *Play* button.

⇒ After successful activation, the email address used to activate the machine appears on the terminal.



Machine list

Telematics portal can be opened in the machine list. Press the button *Open HorschConnect Telematics*.







All details on technical specifications and illustrations are approximate and non-binding.  
Subject to technical product revisions.

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***HORSCH***