

Translation of the original operating manual

6.2

Before commissioning
Read the "Quick start" menu item carefully!

From serial number:
6.2-01000 –



CE

Version: 02/2018, V1.2

Order no.: 00601-3-151

It may NOT

seem inconvenient and unnecessary to read and observe the operating instructions. It is not enough to hear and see from others that an implement is good, and then to buy it and believe that everything takes care of itself. The person concerned would then not only cause damage to himself, but also make the mistake of assuming that the cause of any problems is due to the implement, instead of himself. To ensure success, one has to go into the spirit of things, and instruct oneself about the purpose of all equipment on the implement and gain experience with its handling. Only then can one be satisfied both with the implement and oneself. These operating instructions aim to achieve this.

Leipzig-Plagwitz 1872

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1 Warranty

Please check the implement for any transport damage immediately upon receipt. Later claims regarding transport damage can no longer be considered.

We provide a one-year factory warranty as of the date of delivery (your invoice or the delivery slip serve as a warranty certificate).

This warranty is applicable for cases of material or construction faults and does not include parts that are damaged by normal or excessive wear.

The warranty expires

- if damage is caused by external forces (e.g. opening of the controller).
- if the control box is opened.
- in cases of operating errors.
- if the prescribed requirements are not met.
- if the implement is modified, expanded or equipped with third-party spare parts without our permission.

2 Initial commissioning

2.1 Scope of delivery and attachment

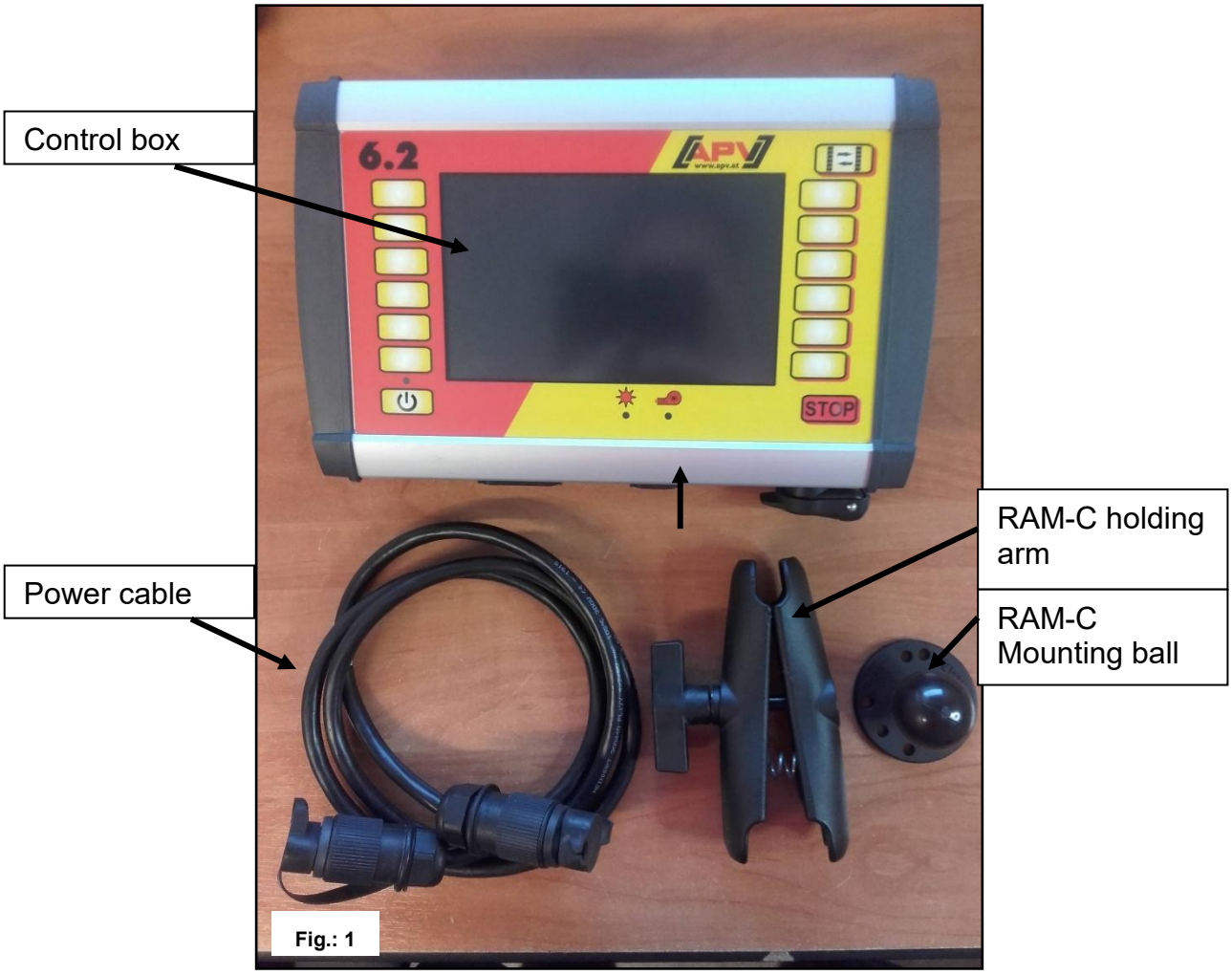


Fig.: 1

- Fasten the control box with the standard supplied RAM bracket.
- To do so, install the mounting ball anywhere in the cab.
- Connect the mounting balls and the control module with the holding arm.
- Swivel the control module to the desired position and tighten the bolt on the holding arm.

2.2 Electrical connection



Fig.: 2

Plug the supplied cable directly into the 3-pin power socket on the tractor. The other end is connected to the control box.

The fuse (30 A) is located on the bottom side of the control box.

Stow the excess cable in the driver's cab to avoid pinching.

CAUTION: if possible, do NOT roll up the cable into a coil!

CAUTION: the 12 volt power supply must NOT be connected to the socket for the cigarette lighter!

After use of the implement, the control box should be disconnected again (for various safety-related reasons).

CAUTION: if these instructions are not complied with, the control box can be damaged!

TIP: if your tractor does not have a 3-pin power socket, this can be retrofitted with cable set item no. 00410-2-022 - 8 m length or item no. 00410-2-027 – 3 m length.

CAUTION: if your battery is charged by a charger that is in "Start" mode, this can result in voltage peaks! These can cause damage to the electronics in the control box if it is also connected when the battery is being charged!

2.3 Plug overview

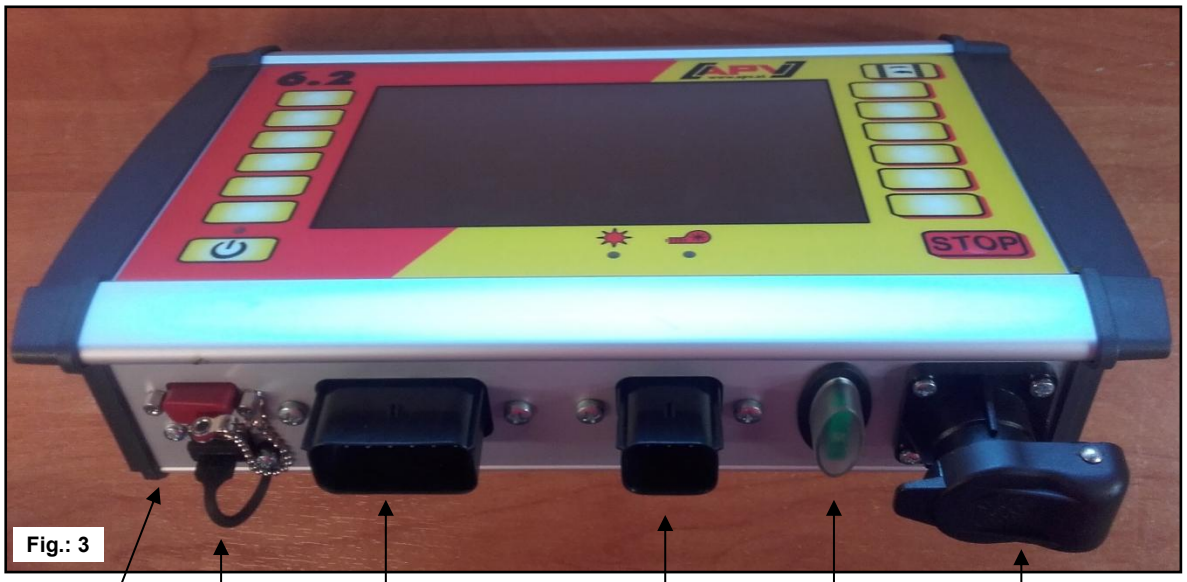


Fig.: 3

USB port
9-pin DSuc plug
12-pin plug
6-pin plug
30 A fuse
3-pin plug

12-pin plug	Speed & headland sensors	7-pin signal cable (for standard socket)
		Lifting unit sensor
		Wheel sensor
		Radar sensor
		GPSa sensor
6-pin plug	Connection to the seed drill (implement cable)	Seeding shaft motor
		Electrical blower fan
		Fill level sensor
		Pressure switch
		Calibration button
		Blower fan speed sensor
3-pin plug	Connection to the battery (power cable)	+12 V/ground
USB plug	Software update via USB flash drive	
9-pin DSuc plug	Diagnostic plug for customer service	

The different types of sensors are explained in more detail in the accessories.
Upon customer request, these are available as accessories!

2.4 Control box

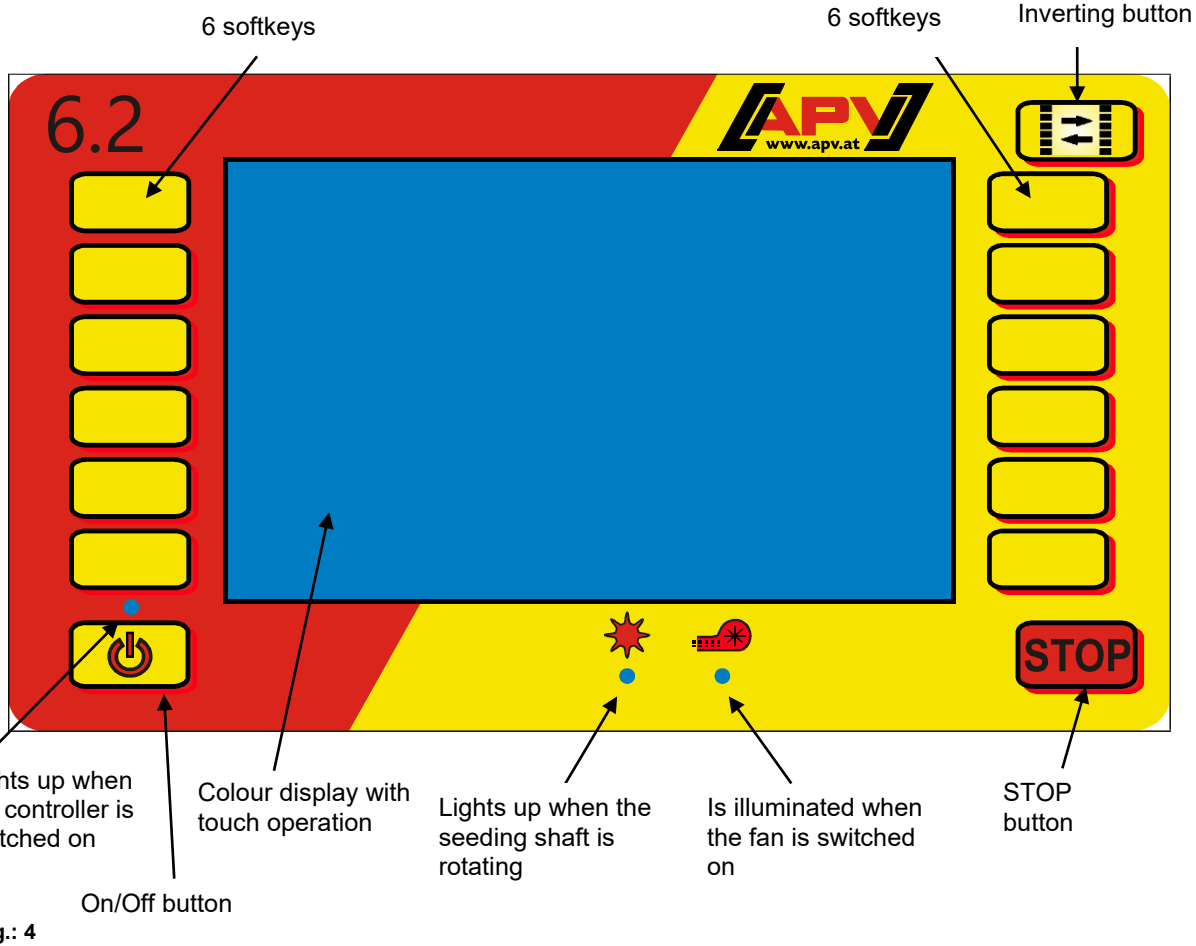


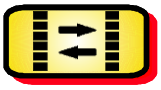
Fig.: 4



The "On/Off" button, which is used to turn the implement on and off is at bottom left.



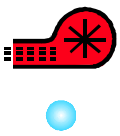
The STOP button is used to immediately turn off all of the motors. The controller switches to the start menu.



The inverting button switches the functions of the softkeys (left and right). This allows for one-handed operation of the controller, without having to reach over the display.



The control lamp lights up as soon as the seeding shaft rotates. When the control lamp is flashing, the seeding shaft is activated but it is blocked by a sensor (speed = 0 or lifting unit is not in working position!)



The control lamp lights up as soon as the electrical blower fan is running. At start-up the LED flashes for approximately 2 seconds.
If a hydraulic fan with a pressure switch is installed, the LED lights up as soon as the fan has built up enough air pressure.
If a hydraulic fan with a speed sensor is installed, the LED lights up as soon as the fan speed is within the set limits.

2.5 Initial operation menu (basic settings menu)

For the initial operation or when it was restored to factory setting in the SET menu, the following settings must be entered on your 6.2 control box:

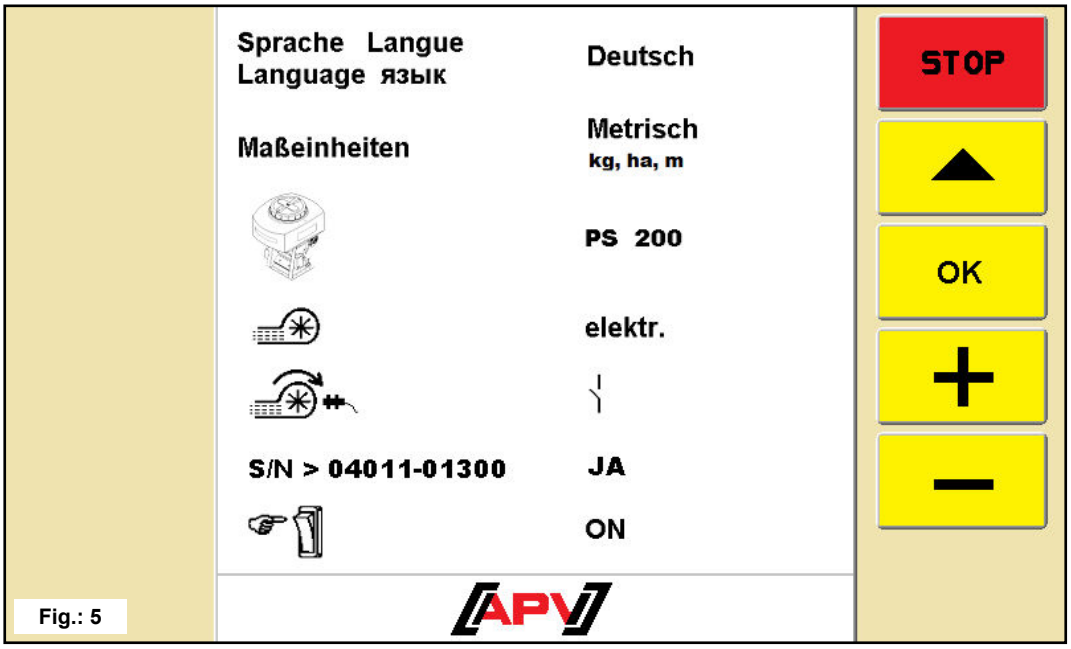


Fig.: 5

Select the desired parameter using the +/- buttons, confirm by pressing OK and continue to the next point. If you have incorrectly confirmed a parameter, with the arrow button you can move upward one item.

Sprache Langue Language язык — Select the desired menu language.

Maßeinheiten — Select metric (m, ha, km/h, kg) or imperial (ft, ac, mph, lb) measuring units.

 — Select your PS type (PS 120, PS 200, PS 300, PS 500, PS 800, PS 1200, PS 1600).

 — Select whether an electric or hydraulic / external fan is installed on your PS.



Select whether a sensor for fan monitoring is installed on your PS.

OFF	No sensor is installed.
	A pressure sensor is installed.
	A speed sensor is installed.

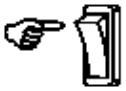
S/N > 04011-01300 Select whether the serial number on your PS800 is greater than 04011-01300.



TIP: the serial number is on the rating plate of your PS, which is located on the side of the implement (see Fig.: 6).



Fig.: 6



Here, you can set whether a calibration button is installed on your implement (available as an accessory).



TIP: depending on the selected settings, not all of the points will be requested. However, you can also change the settings retroactively, as described under Point 4.

3 Menu structure

3.1 Start menu



Fig.: 7

This screen appears after the controller has started up. From here, the different menus can be called up.



The STOP button is used to immediately turn off all of the motors. The controller switches to the start menu. This button can be found in every menu.



In the WORK menu, all of the important information for field operation is displayed. Here, the motors can be switched on or off and information such as the forward speed, working position, and seeding shaft speed is displayed. A more detailed description can be found under Point 3.2.



The implement settings are entered in the SET menu. Here, a calibration test is performed, the seed is selected, the forward speed is calibrated, and the terminal settings, such as language and units of measure are changed.
Press and hold the button for 2 seconds to call up a basic settings menu, fundamental changes can be made here, (e.g. engine type, which speed sensor should be used, whether an electric or hydraulic fan is installed). A more detailed description can be found under Point 3.3.



In the Info menu, the area and hour counters are displayed. The trip counters can be set to zero, however, the total counters cannot. A more detailed description can be found under Point 3.4.



In the Diagnostic menu, the switching states of the sensors, the supply voltage and the power consumption of the motors are shown. A more detailed description can be found under Point 3.5.

3.2 Work menu

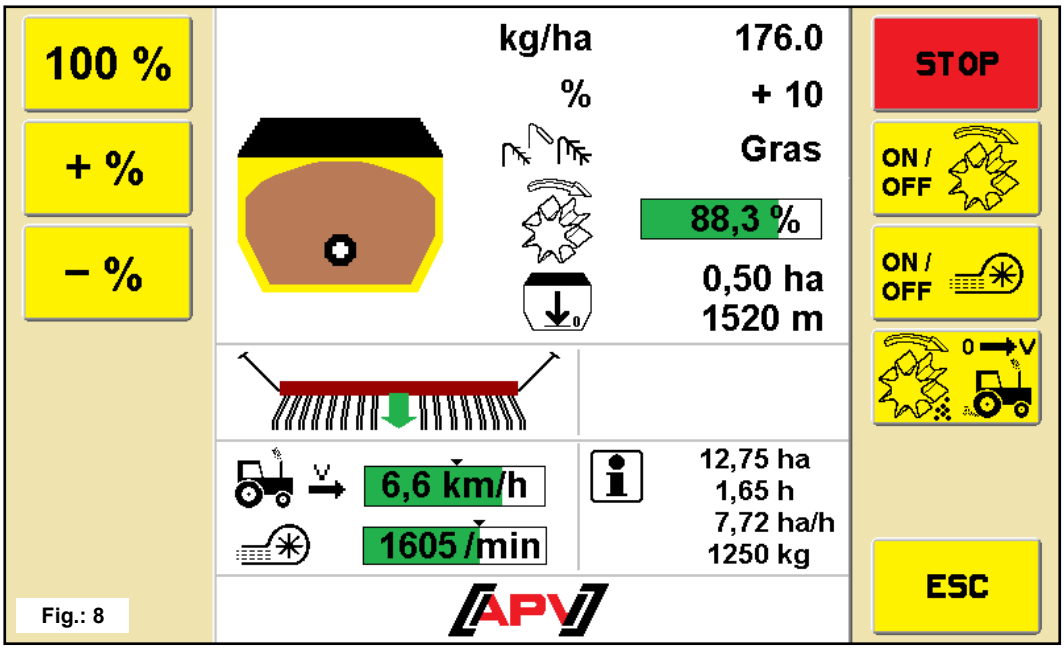


Fig.: 8

Description of the button functions



With this button, the seeding shaft can be switched on or off.
If an electrical blower fan is installed, it will start running automatically. Only then does the seeding shaft also start rotating.



With this button, the electric fan can be switched on or off. If an electric fan is not installed, this button has no function.



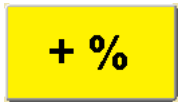
With this button, the pre-metering can be started.
Press and hold the button and the seeding shaft will rotate at the forward speed set in the pre-seeding menu. When the button is released the current forward speed is used again to regulate the seeding shaft.
Touch the button briefly and the seeding shaft rotates for the time set in the pre-metering menu and in accordance with the forward speed set there. Then the current forward speed will again be used to regulate the seeding shaft.
This allows you to avoid gaps in the seeded area at the beginning of the field or when standing still on the field.



With the ESC button, you go back one menu level, in this case, to the Start menu.



With the 100 % button, you can set the spread rate back to the value determined during calibration.



With the +% button, you can increase the spread rate during operation in 5% increments, up to max. 50%.

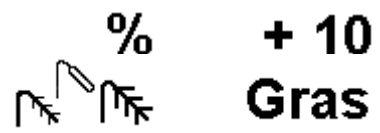


With the -% button, you can reduce the spread rate during operation in 5% increments, up to max. 50%.

Description of the display elements



Displays the currently set spread rate.
Note: however, a valid calibration test must have been performed so that a value can be displayed.



Displays the currently set change in the spread rate.

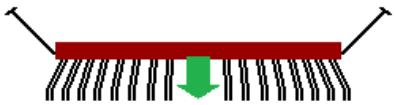
Displays the currently selected seed type.



Displays the current seeding shaft speed in %. If the seeding shaft is switched off, the bar is coloured red and STOP will be displayed. If the required seeding shaft speed cannot be reached, the bar is coloured yellow and an alarm is issued (see Point 5 for error messages).
If the seeding shaft is blocked (implement is lifted or forward speed is 0), the bar is coloured orange.



Displays the calculated still possible remaining area/remaining distance. For the calculation, however, the fill quantity of the hopper must be entered in the Set menu (see Point 3.3.2).



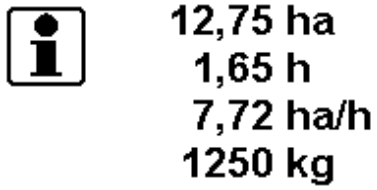
If a working position sensor (lifting unit sensor) is installed, the position of the mounted implement is shown here. If the arrow is green and is pointing down, the implement is in working position. If the arrow is orange and pointing up, the mounted implement is lifted. To change the working position, read Point 4.2.



Displays the current forward speed. The black mark shows the forward speed set during calibration. If the forward speed is so high or so low that the required rotational speed of the seed shaft can no longer be maintained, the bar turns red and an alarm sounds (for controller messages see Point 5).



Displays the current blower fan speed. The black mark shows the set speed. When using an electrical blower fan, the speed is displayed in %. If the set speed limits are exceeded or under-ranged, the bar turns red and an alarm sounds. Details on how to set the fan speed or the speed limits can be found under Point 3.3.8, and more information on the error messages is provided under Point 5.



Here, information is displayed on the seeded area, seeding time, area output, and spread quantity of the currently selected seed.

3.3 SET menu

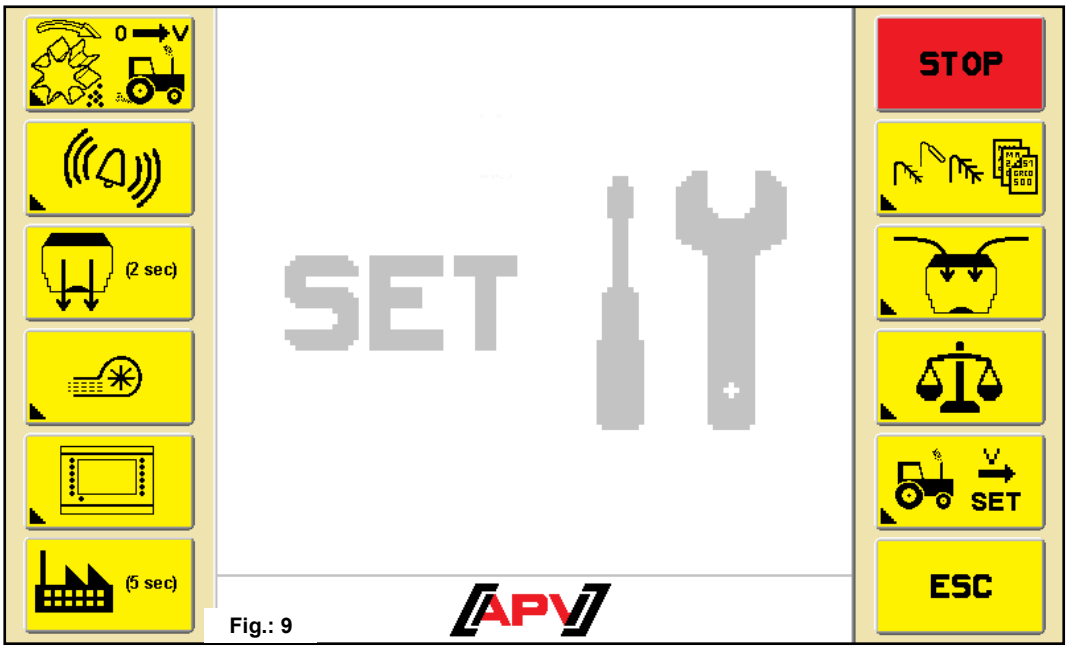


Fig.: 9

Description of the button functions



Seed library: here, a seed type already saved can be selected. Detailed description under Point 3.3.1.



Fill menu: the fill quantity can be entered here. The fill quantity used to calculated the possible remaining distance/area for display in the Work menu. Details under Point 3.3.2.



Calibration menu: in the calibration menu, in addition to the desired spread rate, the forward speed and the working width can also be set and subsequently the right seeding drill rotational speed is determined. Details under Point 3.3.3.



Speed calibration menu: the forward speed can be calibrated here. Moreover, several calibration values for different vehicles can be saved and loaded. Details under Point 3.3.4.



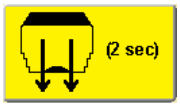
With the ESC button, you go back one menu level, in this case, to the Start menu.



Pre-metering menu: here, in addition to setting the pre-metering speed, you can also set whether and for how long automatic pre-metering should be performed. Details under Point 3.3.5.



Alarm menu: here, the alarm times can be set and the acoustic alarm signal can be deactivated. Details under Point 3.3.6.

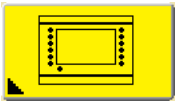


Empty hopper: by pressing and holding the button for 2 seconds, the emptying procedure is started.

CAUTION: before emptying, the calibration lid must be removed and the calibration bag must be attached (see operating manual for the spreader).



Fan menu: here the rotational speed of the electric fan can be set. When using a hydraulic blower fan with speed sensor, the alarm limits can be set here. Details under Point 3.3.8.



Terminal menu: here the language, the units of measure (metric / imperial), the brightness and the sound volume can be set. Details under Point 3.3.9.



Restore factory settings: by pressing and holding the button for 5 seconds, the factory settings are loaded. All values will be reset to the default values and the seed library and the five saved speed calibration values will be deleted. Only the total hours/hectare counter remains intact.

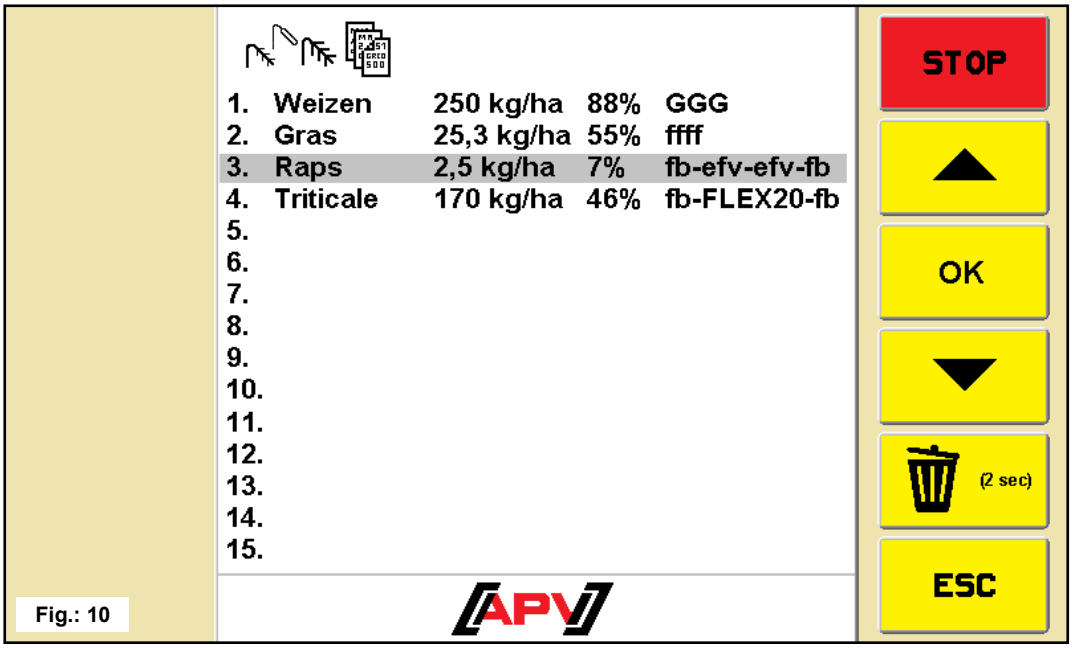


Fig.: 10

3.3.1 Seed library

In this menu, all of the saved seed types are listed. Seed types can be created and saved by means of a calibration test, see Point 3.3.3.

Description of the button functions



With the arrow buttons, you can select the desired seed type. By pressing the OK button, you go to the Seed type menu. Details under Point 3.3.1.1.

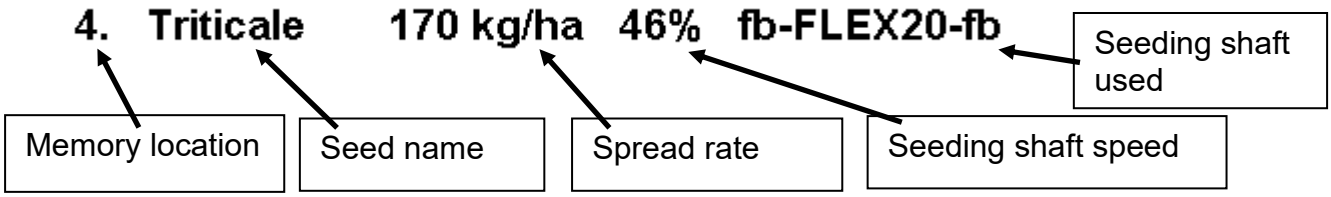


By pressing and holding the button for 2 seconds, seed types that are no longer required can be permanently deleted.



With the ESC button, you go back one menu level, in this case, to the SET menu.

Description of the display elements



3.3.1.1 Seed menu

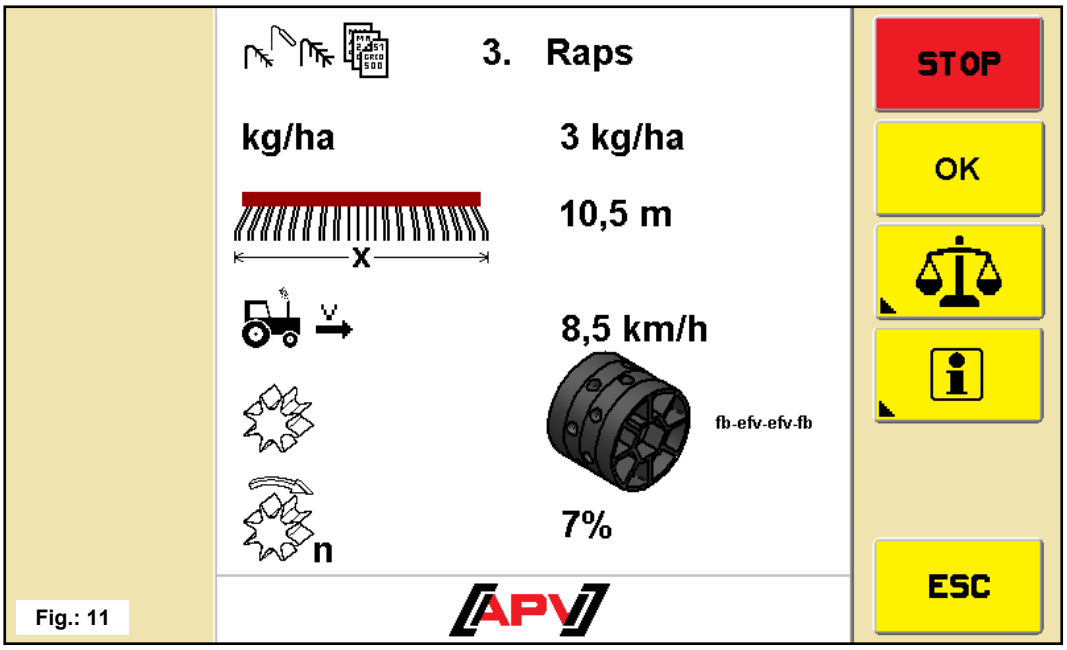


Fig.: 11

In this menu, all set parameters that were saved at last use of the seed type are displayed.

Description of the button functions



With the OK button, the seed type is applied and you go to the Work menu. See Point 3.2 for the Work menu.



With this button you go to the Calibration menu. There, the parameters can be changed and a new calibration test can be performed. Details under Point 3.3.3.

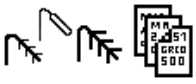


This button takes you to the Seed info menu. There, the seeded area, hours, spread quantity, and area output is displayed. Details under Point 3.3.1.2.



With the ESC button, you go back one menu level, in this case, to the Seed library menu.

Description of the display elements



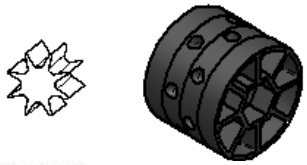
Shows the number and the name of the seed.

kg/ha 3 kg/ha

Shows the spread rate.
The display shows kg/ha or seeds/m².


10,5 m Shows the working width of the implement.


8,5 km/h Shows the working speed.



Shows the used seeding shaft.



7% Shows the seeding shaft speed in %.

3.3.1.2 Seed info menu

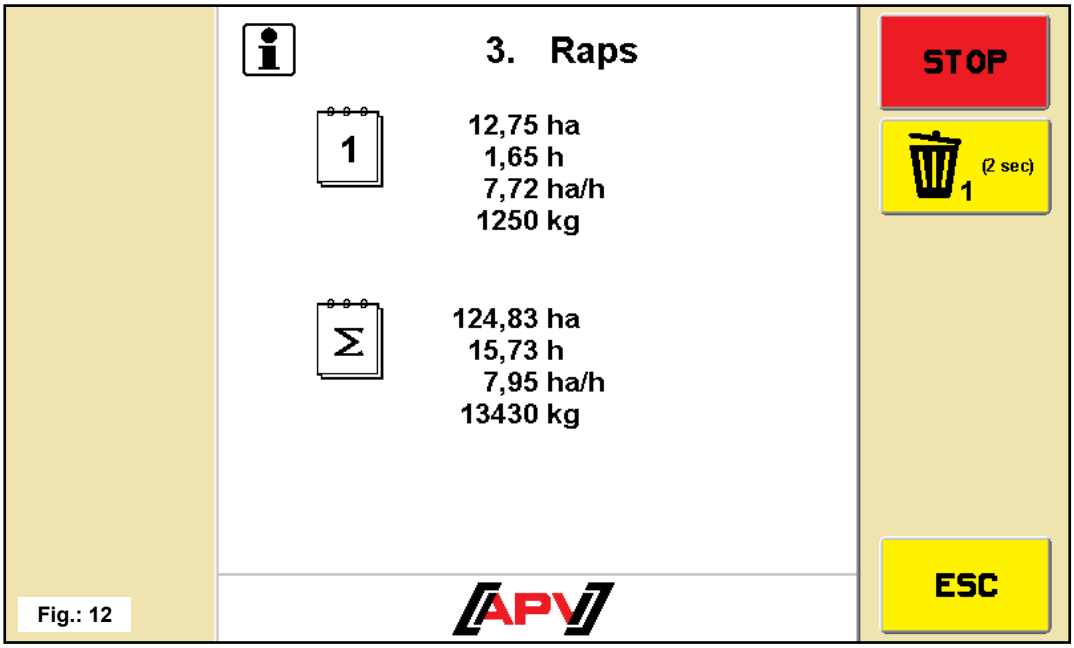
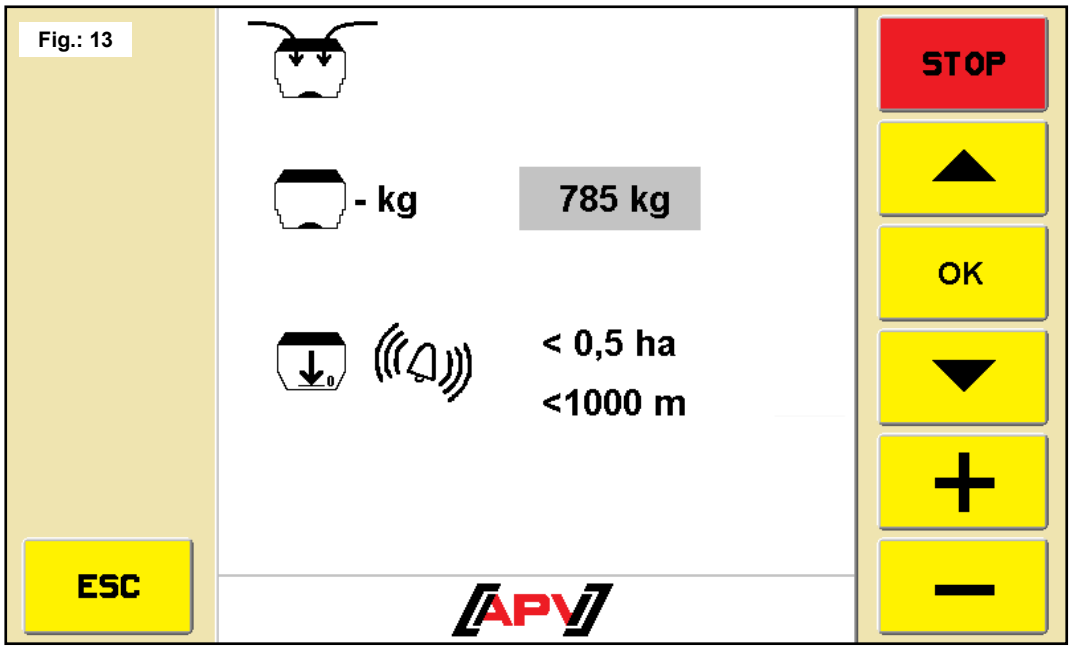


Fig.: 12

This menu shows a seed type-specific day counter and total counter. The day counter can be reset by pressing and holding the delete button for 2 seconds. The total counter can only be set to zero by deleting the seed type.

3.3.2 Fill menu



Here, the current hopper fill level can be entered. This forms the basis for the mathematically possible remaining distance/quantity that is displayed in the Work menu.

Description of the button functions

With the arrow buttons, you can select the desired parameter.
The selected value is changed using the +/- buttons.
With the ESC button, you go back one menu level, in this case, to the SET menu.

Description of the display elements



Here the current fill quantity of the hopper can be entered or displayed.

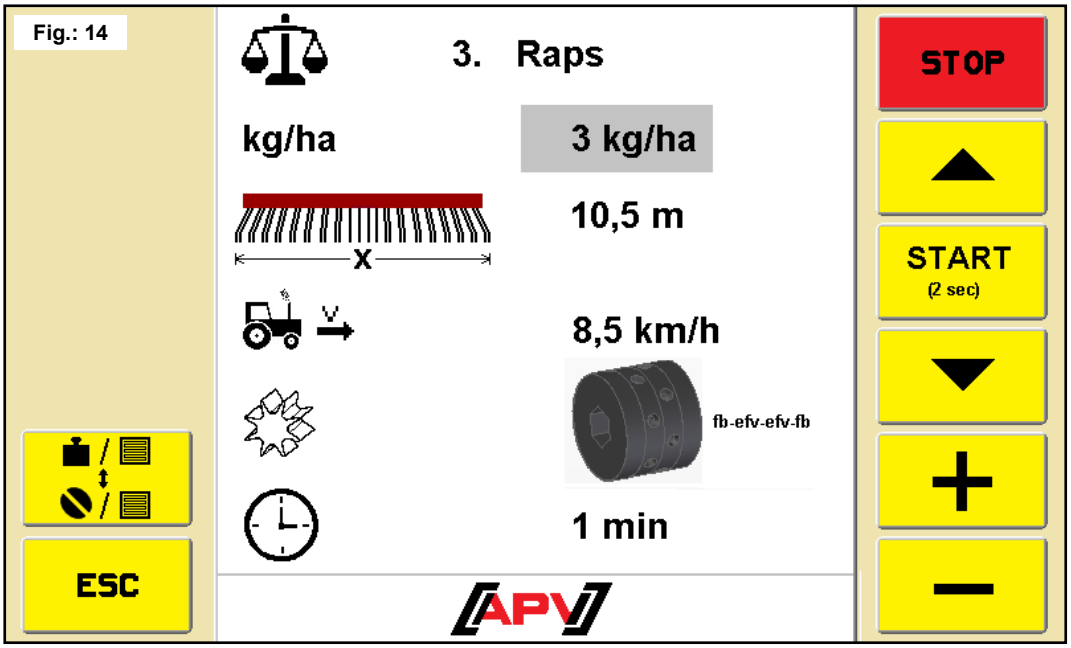


Here, you can set the mathematically still possible remaining area/distance at which the fill level message should appear.

TIP: you can deactivate the residual quantity display by entering zero for hopper fill quantity.

3.3.3 Calibration menu

Fig.: 14



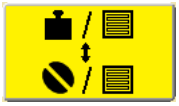
In this menu, the parameters required for the calibration test are entered.

Description of the button functions

With the arrow buttons, you can select the desired parameter.
The selected value is changed using the +/- buttons.
With the ESC button, you go back one menu level, in this case, to the SET menu.



By pressing and holding the Start button for 2 seconds, the calibration test is started.



With this button, you can select whether the calibration test should be performed in kg/ha or in seeds/m².

Description of the display elements



3. Raps

Shows the number and the name of the seed. (Only if you have reached the Calibration test menu via the Seed library menu.)

kg/ha 3 kg/ha

Set the desired spread rate in kg/ha here. If you want to perform the calibration test in grains/m², you must set the desired number of grains per square meter, the thousand grain weight and the germination capacity.



Set the working width of your implement here.
Note: deduct any overlaps from the working width!



Set the forward speed here. If you are working with a speed sensor, enter the average working speed.



Here, you can set the used seeding shaft. This is then saved and displayed in the Seed library. This allows you to work with the right seeding shaft next time you call up a seed type.



Here, you can set the desired calibration time (0.5, 1, 2 min). When using a calibration switch (available as an accessory) this parameter is greyed out.

PLEASE NOTE: if values are changed here without performing a new calibration test, the set spread rate can no longer be ensured. For this reason, the spread rate will no longer be shown in the Work menu.

TIP: for small seed types, e.g. rapeseed, phacelia, poppy etc., it is best to calibrate for 2 minutes. For larger seed types, e.g. wheat, barley, peas etc., 0.5 minutes of calibration is enough.

3.3.3.1 Perform a calibration test

During calibration, the correct seeding shaft speed is determined for your settings (spread rate, forward speed, ...).
A proper calibration is important, as it is the only way to ensure that your desired spread rate is achieved!

Proceed as follows:

1. Press the calibration button .
   The button is found directly in the SET menu or in the Seed type menu.

2. Make the settings described under Point 3.3.3.

3. Fill the hopper with sufficient seed.

CAUTION: insufficient seed in the hopper falsifies the results of the calibration test!

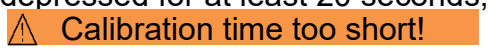
4. Remove the calibration lid from your spreader (see operating manual for the spreader).

5. Place the calibration bag (see operating manual for the spreader) or a different suitable container on your spreader.

6. Press and hold the Start button 

for 2 seconds.

7. **Without calibration button:** a green bar starts running on the screen and the seeding shaft starts rotating.
   With calibration button: the controller now waits for you to press the calibration button. The calibration button symbol  appears on the screen.

   Keep the calibration button depressed for at least 20 seconds, otherwise the following message appears 

.
   When the calibration button is pressed, a green bar starts running on the screen and the seeding shaft starts rotating.

8. When the set calibration time has expired or as soon as you let go of the calibration button, this screen appears.
   The calculated weight is displayed here.

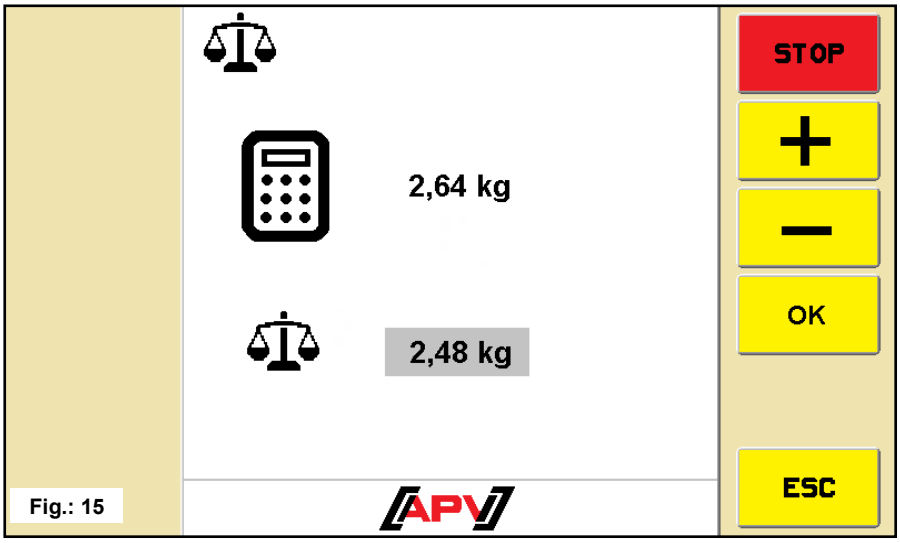


Fig.: 15

9. Now weigh the calibrated seed.

10. Use the +/- buttons + – to enter the weight of the calibrated seed.

ATTENTION: deduct the weight of the hopper or the calibration bag!

11. Confirm your entry with the OK button OK.
    The control box now calculates the seeding shaft speed resulting from your settings and the entered weight.
    If the calculated seeding shaft speed is within the possible motor speeds, the calibration test was successful. A green checkmark ✓ appears on the screen.
    If the calculated seeding shaft speed is outside of the possible engine speeds, the message ⚠ Seeding shaft speed too low! or ⚠ Seeding shaft speed is too high! is displayed. In this case, either the forward speed or the spread rate must be reduced or a different seeding shaft must be used. See Point 5 for other error causes.
    If the difference between calculated weight and weighed weight is too great the message ⚠ Test not precise! Repeat? appears and the calibration test must be repeated. **Otherwise, it will not be possible to ensure the correct spread rate!**

12. The screen with the calibration test results is displayed.

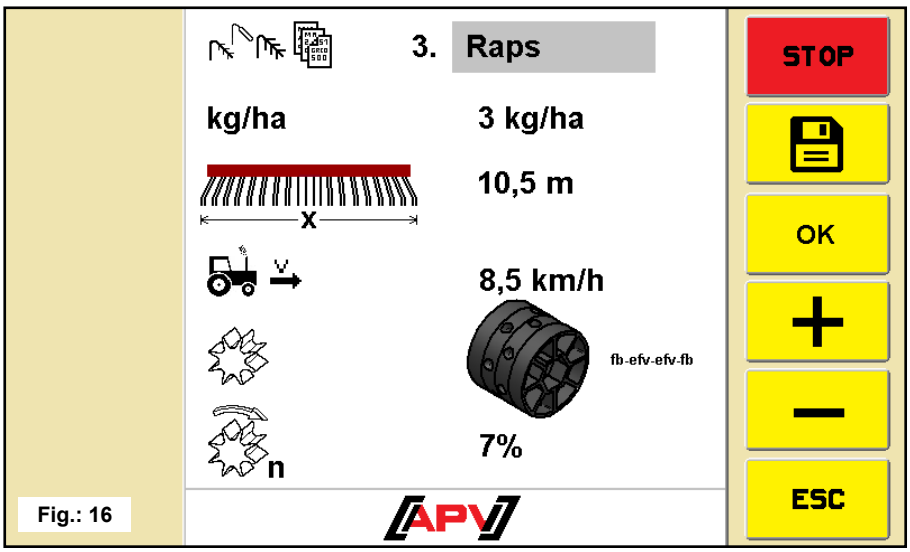


Fig.: 16

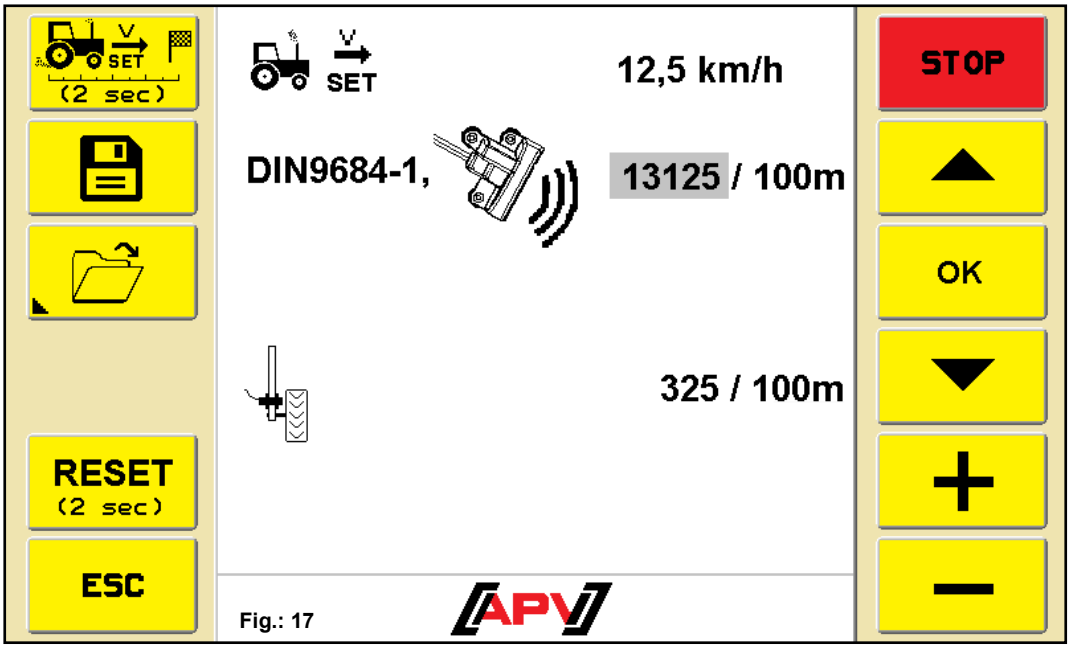
Explanation of the display elements, see Point 3.3.1.1.

13. With the +/- buttons [+] [−] enter the name of the seed.

Option: confirm your entries right away with the OK button [OK] and apply the settings in the WORK menu.

14. Press the Save button [💾] to save the settings in the Seed library.

15. Using the arrow buttons [▲] [▼], select the desired memory location and confirm with the OK button [OK]. The settings are saved and the screen switches to the WORK menu.

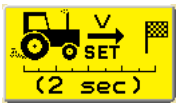


3.3.4 Speed calibration menu

In this menu, the forward speed can be calibrated. When using a speed sensor, it is necessary to calibrate the forward speed (except with the GPSa sensor), since the seeding shaft speed is regulated based on the forward speed.

Description of the button functions

With the arrow buttons, you can select the desired parameter.
The selected value is changed using the +/- buttons.
The set value is applied with the OK button.
With the ESC button, you go back one menu level, in this case, to the SET menu.



By pressing and holding the 100 m button for 2 seconds, the 100-meter calibration test is started. Here, the calibration values are determined over a travelled distance of 100 metres and are automatically applied.



By pressing the Save button, up to five different calibration values can be saved. This can be useful when using several tractors or implements with different calibration values.

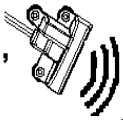


By pressing the Load button, the previously saved calibration values can be called up and applied.



By pressing and holding the Reset button, the calibration values are reset to the default setting.

Description of the display elements

 12,5 km/h	Displays the currently measured forward speed.
DIN9684-1,  13125 / 100m	Displays the current calibration value for the 7-pin signal cable, the radar sensor, and the GPSa sensor.
 325 / 100m	Displays the current calibration value of the wheel sensor .

3.3.4.1 Performing the calibration test

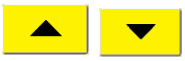
There are two methods for calibrating the speed signal of the sensors.

- Manual calibration via the tractor tachometer.
- Automatic calibration over a travelled distance of 100 metres.

Manual calibration

When calibrating manually, the calibration value is changed until the speed displayed on the control box matches with that of the tractor.

Proceed as follows:

1. Go to the speed calibration menu .
2. Using the arrow buttons , select the calibration value for the speed sensor that is installed on your implement.
3. Drive with your tractor at a constant speed.
4. Using the +/- buttons , change the calibration value until the speed displayed on the control box matches with that of the tractor.
5. Press the OK button  to apply the new calibration value.
6. **Option:** by pressing the Save button , up to five different calibration values can be saved.
   This can be useful when using several tractors or implements with different calibration values. See Point 3.3.4.2.

Automatic calibration

With automatic calibration, the calibration value is determined automatically while driving a distance of 100 metres.

Proceed as follows:

1. Measure a straight distance of 100 metres and mark the beginning and the end of this distance.

2. Drive with your tractor to the beginning mark. Position your tractor precisely on the mark, e.g. front axle directly over the mark.

3. Go to the speed calibration menu .

4. Press the 100 m button  for 2 seconds.

5. As soon as the control box prompts you (a green bar starts running), start driving. The control box now automatically detects the connected speed sensor and counts the pulses coming from the sensor.

6. Drive with your tractor to the end mark, e.g. again with the front axle precisely over the mark.

7. Press the OK button , as soon as your tractor has come to a stop.
   If the calibration test was successful the message ✓Speed has been calibrated! is displayed. The calibration value will now be automatically entered and saved for the detected speed sensor.
   However if the message ⚠ Calibration value too high!
   or ⚠ Calibration value too low! appears the calibration test was not successful.
   See Point 5 for possible error causes.

8. Test the calibration test by driving your tractor over a distance and comparing the speed displayed on the control box with that of the tractor.
   If the speeds do not match, the calibration test must be repeated.

9. **Option:** by pressing the Save button , up to five different calibration values can be saved.
   This can be useful when using several tractors or implements with different calibration values. See Point 3.3.4.2.

3.3.4.2 Save different calibration values

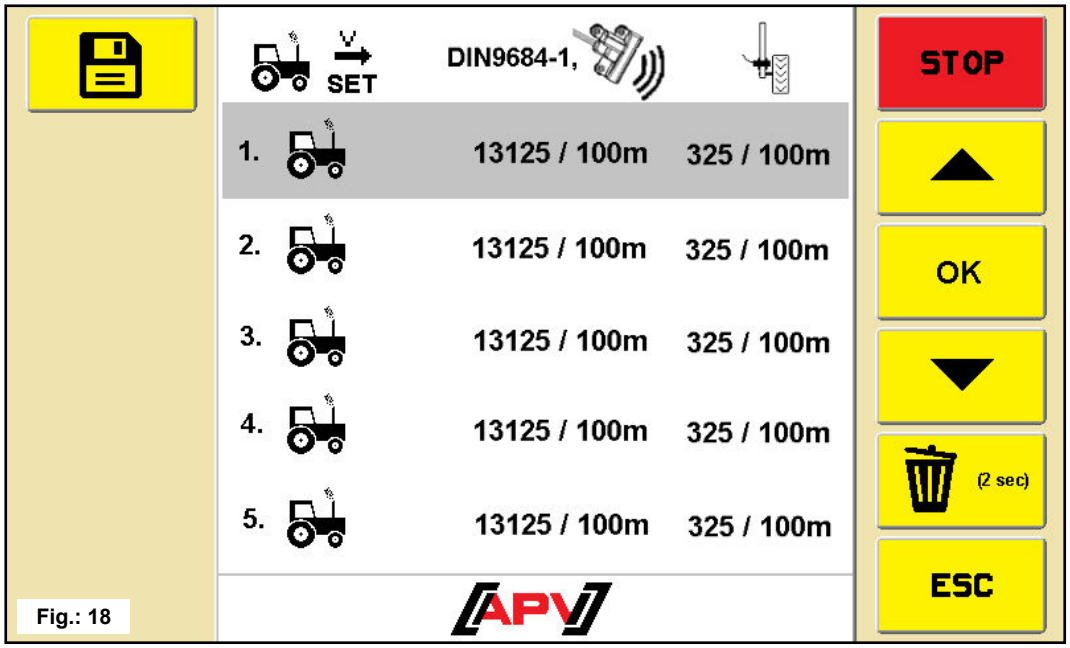


Fig.: 18

In this menu you can save up to five different calibration values. This can be useful when using several tractors or implements with different calibration values.

Description of the button functions

You can select a memory location with the arrow buttons.
With OK button you go to the Work menu.
With the ESC button, you go back one menu level, in this case, to the Speed calibration button.

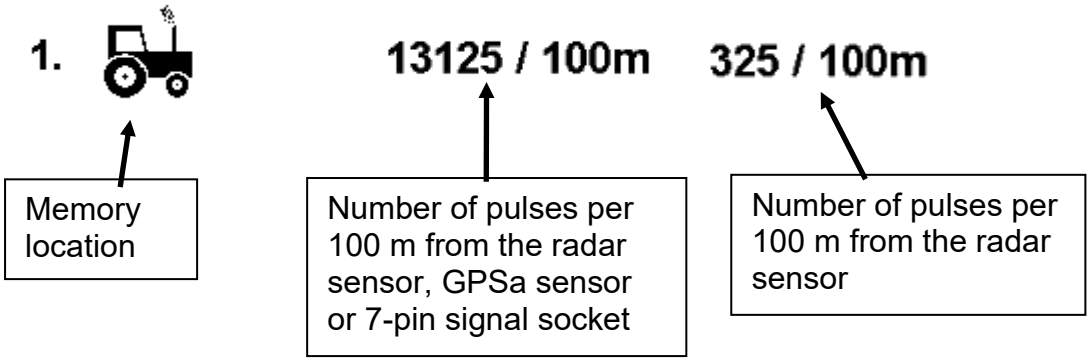


Press the save button to save the calibration values to the selected memory location.

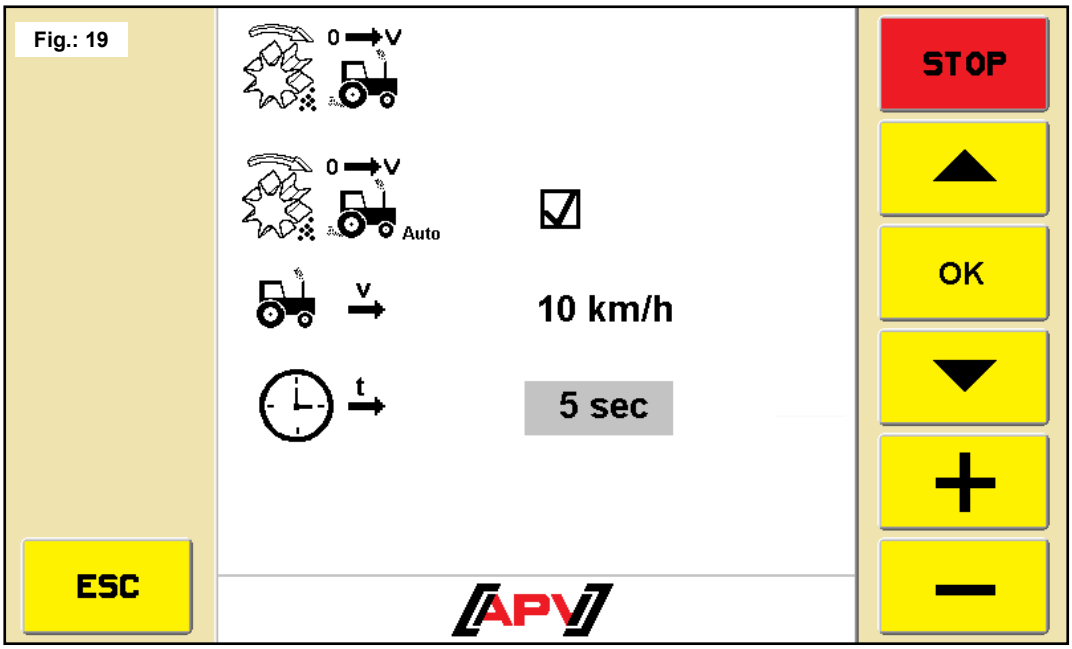


Press and hold the Delete button to delete the calibration value of the selected memory location.

Description of the display elements



3.3.5 Pre-metering menu



In this menu, you can enter the settings for pre-metering.

Description of the button functions

With the arrow buttons, you can select the desired parameter.
The selected value is changed using the +/- buttons.
The set value is applied with the OK button.
With the ESC button, you go back one menu level, in this case, to the SET menu.

Description of the display elements



Here, the automatic pre-metering can be activated. When it is activated, every time the implement is lowered at the beginning of the field (during the transition of the implement into working position), pre-metering is started with the speed set below for the time set below.

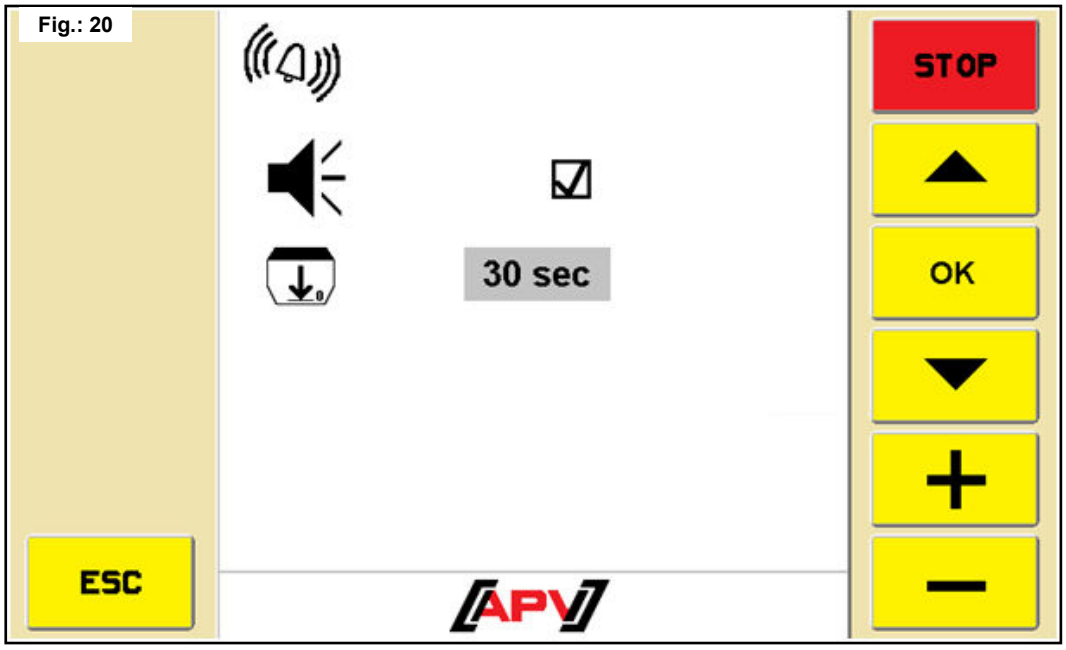


Here, the speed with which the pre-metering should run is set.



Here, the time during which the pre-metering should run is set.

3.3.6 Alarm menu



In this menu, various settings can be entered for the alarms.

Description of the button functions

With the arrow buttons, you can select the desired parameter.
The selected value is changed using the +/- buttons.
The set value is applied with the OK button.
With the ESC button, you go back one menu level, in this case, to the SET menu.

Description of the display elements





Here, you can set whether an acoustic signal should sound for error messages and warnings.





Here the delay time for the fill level message can be set.
At setting 0 s the fill level message will be suppressed.

3.3.7 Empty hopper

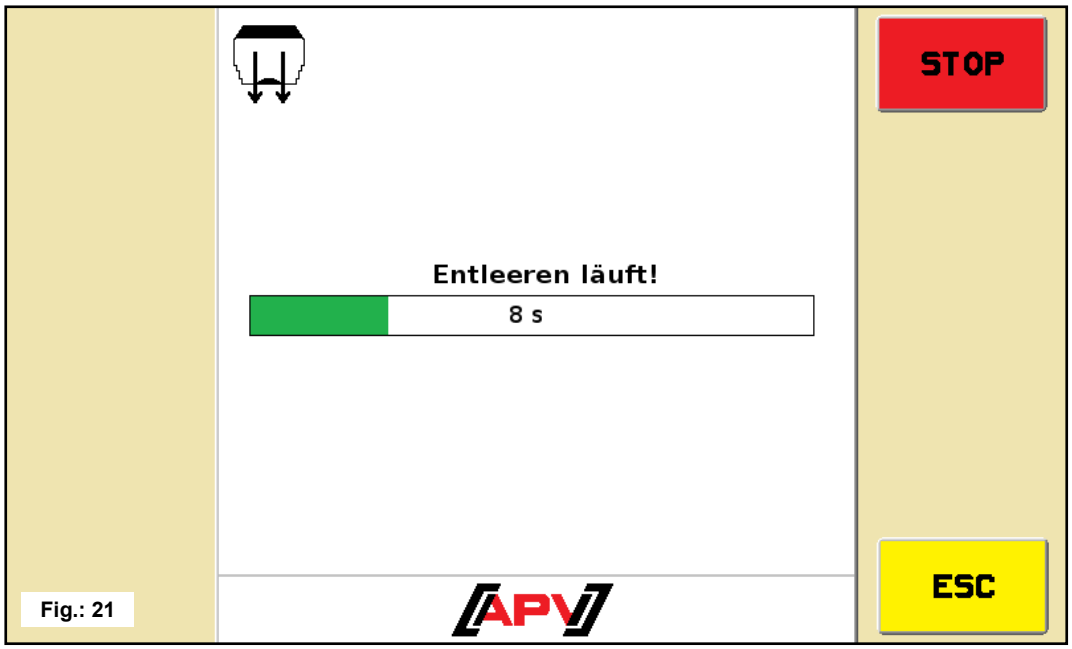


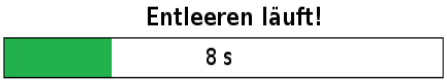
Fig.: 21

In this menu the remaining seed is emptied out of the hopper. The seed shaft runs at 100% and the time is displayed.

Description of the button functions

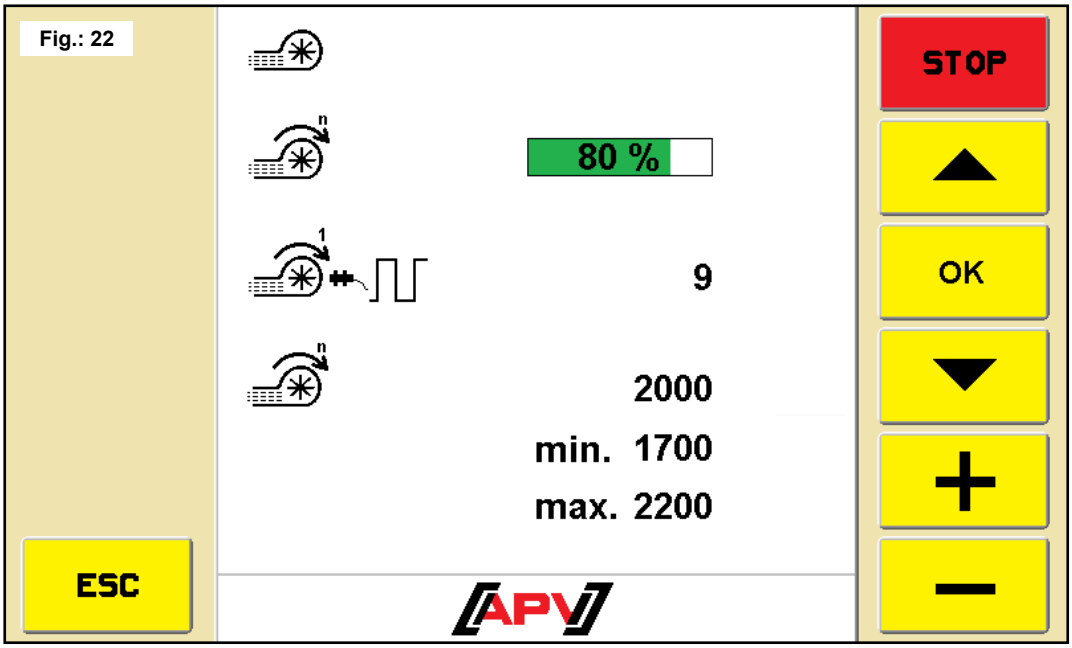
With the ESC button, you end the emptying and go back one menu level, in this case, to the SET menu.

Description of the display elements



Shows the time since the seeding shaft was switched on.

3.3.8 Blower fan menu



In this menu, various settings can be entered for the blower fan speed. The speed of the electrical blower fan, the number of pulses from the speed sensor, and the speed limits for the hydraulic blower fan can be set.

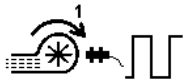
Description of the button functions

With the arrow buttons, you can select the desired parameter.
The selected value is changed using the +/- buttons.
The set value is applied with the OK button.
With the ESC button, you go back one menu level, in this case, to the SET menu.

Description of the display elements



Here, the desired speed for the electrical blower fan can be set.



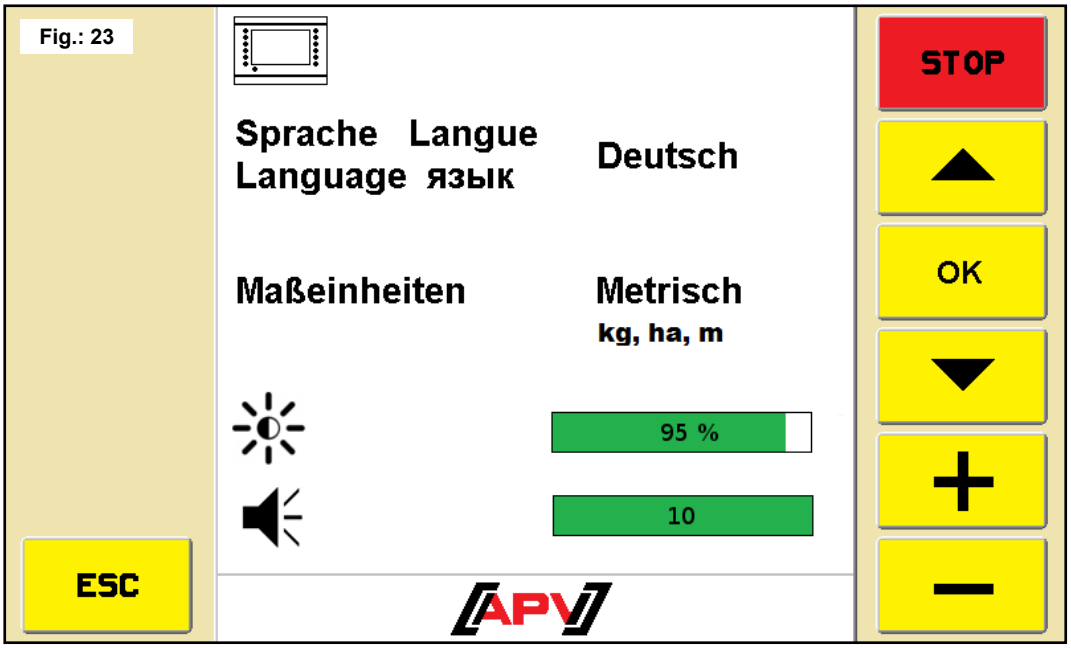
Here, the number of pulses sent by the blower fan speed sensor per rotation can be set.



Here, the speed and the alarm limits for the hydraulic fan can be set.

NOTE: the speed itself can only be adjusted through the oil quantity, directly on the tractor or on the hydraulic block of the spreader!

3.3.9 Terminal menu



In this menu language, units of measure, brightness and sound volume can be set.

Description of the button functions

With the arrow buttons, you can select the desired parameter.
The selected value is changed using the +/- buttons.
The set value is applied with the OK button.
With the ESC button, you go back one menu level, in this case, to the SET menu.

Description of the display elements

Sprache Langue Language язык	**Deutsch**	Here, the desired language can be set.
Maßeinheiten	**Metrisch** **kg, ha, m**	Here, you can set the measuring units you want to use. You can choose between metric units (kilograms, hectares, metres) and imperial units (pounds, acres, feet).
	95 %	The brightness of the display can be set here.
	10	The volume of the acoustic signals can be set here.

3.4 Info menu

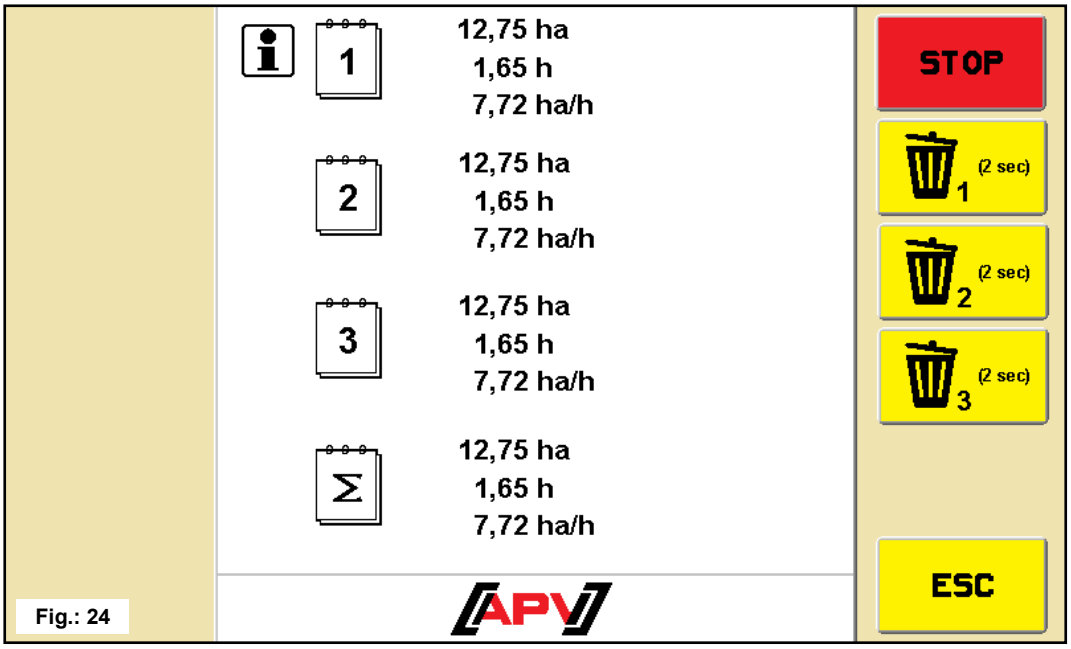


Fig.: 24

In this menu, 3 different trip counters, which can be individually reset, and a total counter are displayed.

Description of the button functions

With the ESC button, you go back one menu level, in this case, to the Start menu.



By pressing and holding the Delete button for 2 seconds, the respective day counter can be reset to zero.

Description of the display elements



12,75 ha
1,65 h
7,72 ha/h

The trip counters show the worked area, the operating hours, and the area output since the last reset.



12,75 ha
1,65 h
7,72 ha/h

The total counter shows the total worked area, the total operating hours, and the average area output of the control box.

3.5 Diagnostic menu

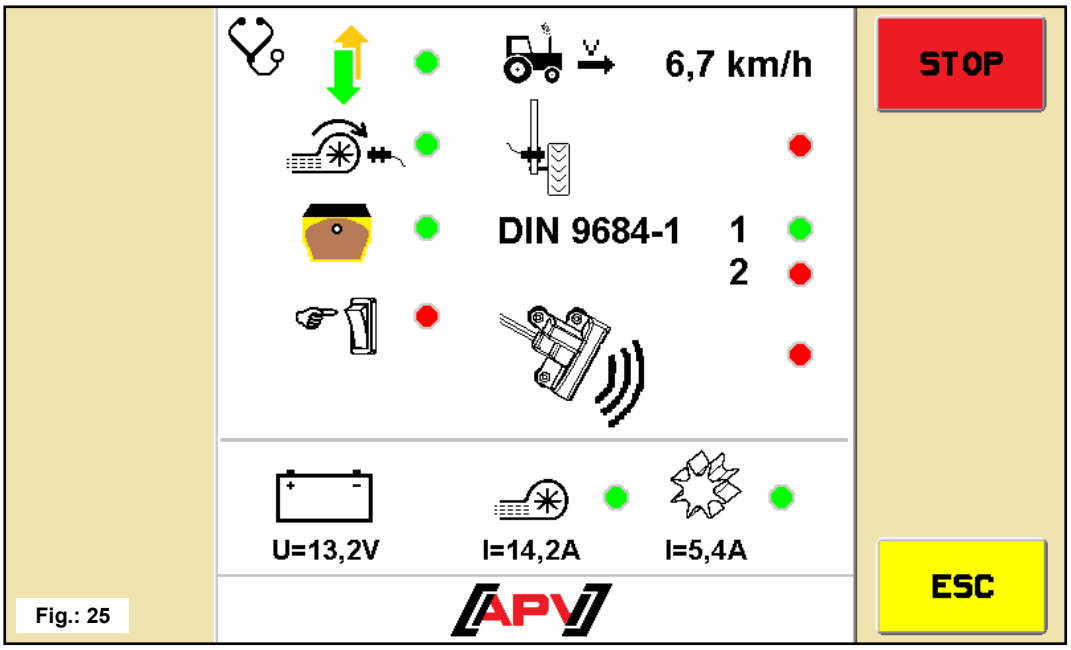


Fig.: 25

In this menu, all of the important information for customer service is displayed. This includes the switching states of the sensors, the supply voltage, and the power consumption of the motors.

Description of the button functions

With the ESC button, you go back one menu level, in this case, to the Start menu.

Description of the display elements

In this area, the switching states of the individual sensors are shown:



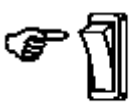
Lifting unit sensor input



Blower fan speed sensor input



Fill level sensor input

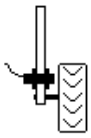


Calibration button/pressure switch input

In this area, information on the speed sensors is displayed:



Current forward speed

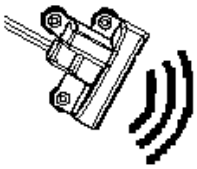


If the wheel sensor input is used to determine the forward speed, this point is coloured green.

DIN 9684-1 1

2

If Pin 1 (actual forward speed) or Pin 2 (theoretical forward speed) of the 7-pin DIN signal cable is used to determine the forward speed, the respective point is coloured green.



If the radar or GPSa sensor input is used to determine the forward speed, this point is coloured green.

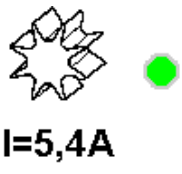
In this area, the measured voltage and the currents are displayed:



Here, the supply voltage measured on the control box is displayed.



Here, the current of the electrical blower fan measured by the control box is displayed.



Here, the current of the seeding shaft motor measured by the control box is displayed.

4 Basic settings menu

Go to the Basic settings menu by keeping the SET button depressed 

for 2 seconds.

4.1 Page 1

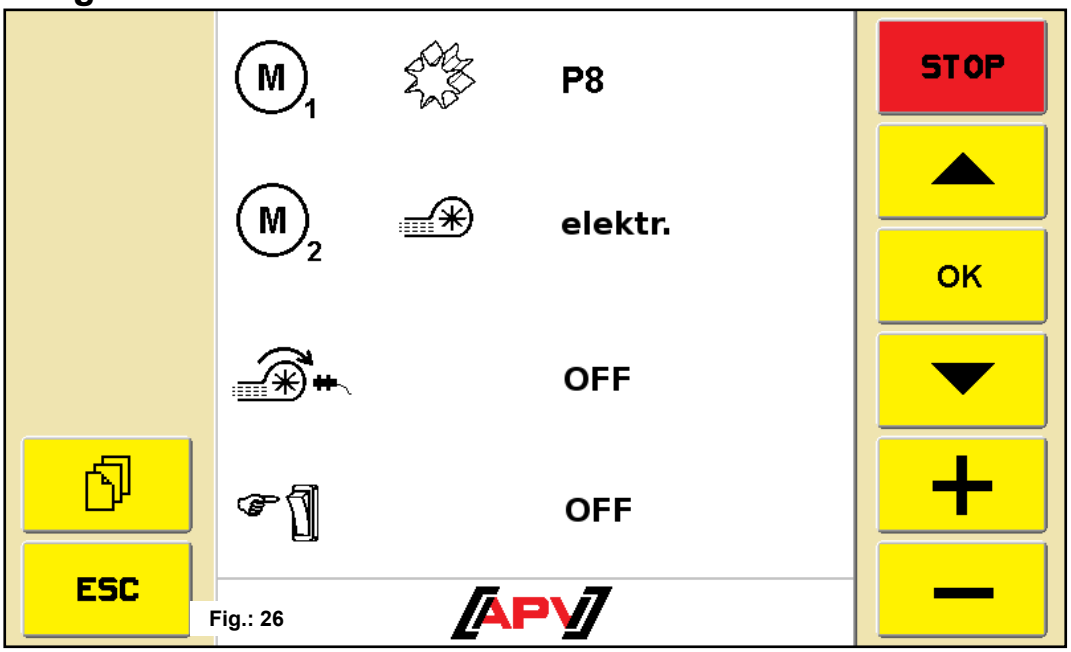


Fig.: 26

In this menu, settings can be entered for the installed motors and the sensors installed on the implement.

Description of the button functions

With the arrow buttons, you can select the desired parameter.
The selected parameter is changed using the +/- buttons.
The set value is applied with the OK button.
With the ESC button, you go back one menu level, in this case, to the Start menu.



With this button you can switch back and forth between the two pages of the Basic settings menu.

Description of the display elements



Here, you can set which motor type is installed as the seeding shaft motor.

P8 PS 120-500

P16 PS 800 up to serial number 04011-01299

P17 PS 800 from serial number 04011-01300, PS 1200 and PS 1600



Here you can specify whether an electric or hydraulic / external fan is installed.

Here you can specify whether a sensor for fan monitoring is installed.



OFF No sensor is installed.

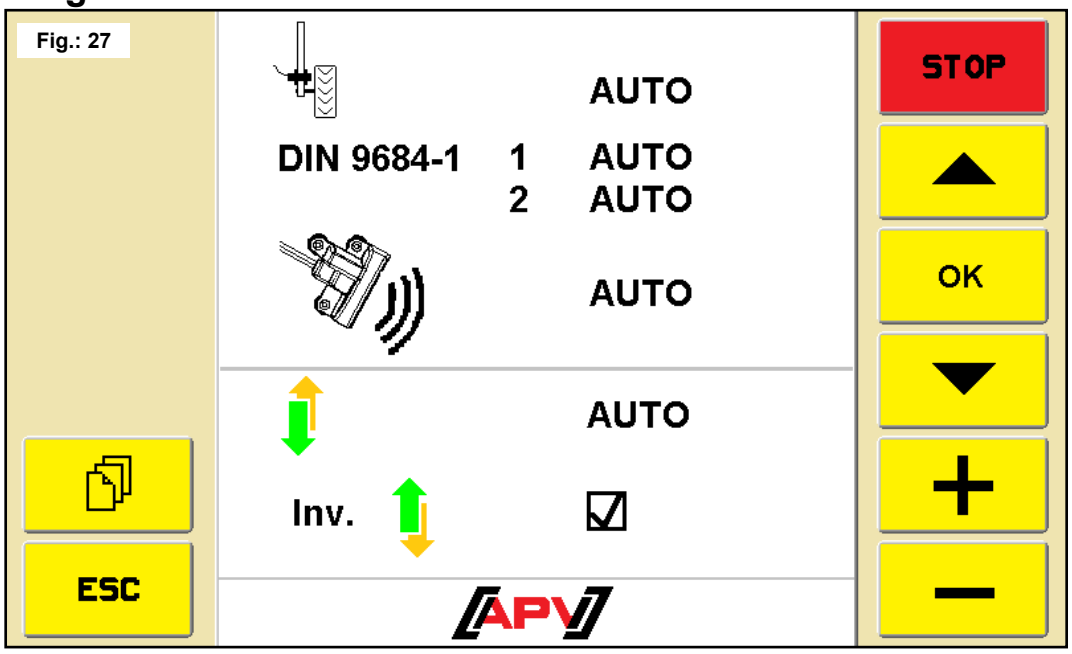
A pressure sensor is installed.

A speed sensor is installed.



Here you can set whether a calibration switch is installed.

4.2 Page 2



In this menu, settings on the used speed and lifting unit sensors can be entered.

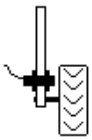
Description of the button functions

With the arrow buttons, you can select the desired parameter.
The selected parameter is changed using the +/- buttons.
The set value is applied with the OK button.
With the ESC button, you go back one menu level, in this case, to the Start menu.



With this button you can switch back and forth between the two pages of the Basic settings menu.

Description of the display elements

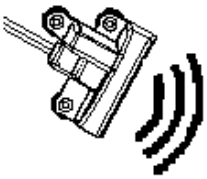


AUTO

Here, you can set whether a connected wheel sensor should be used to determine the speed.

DIN 9684-1 1 AUTO
2 AUTO

Here, you can set whether and which signal from the 7-pin DIN signal socket should be used.
1… Actual forward speed (Pin 1)
2… Theoretical forward speed (Pin 2)



AUTO

Here, you can set whether you are working with a radar sensor or a GPSa sensor.



AUTO

Here, you can set whether a lifting unit sensor should be used.

Inv.  ☑

Here, the lifting unit signal can be inverted.
This setting must be entered when the seeding shaft rotates when the implement is lifted and stops when the implement is standing still.



CAUTION: it is strongly recommended to leave the speed and lifting unit sensors set on AUTO! The controller detects the sensors automatically as soon as there is a processible signal on one of the inputs. When a sensor is detected, it is used to regulate the seeding shaft speed or for switch-off on the headland.

5 Controller messages

5.1 Suppressing / acknowledging messages

An acknowledgement button appears simultaneously with a message; with this button messages can be suppressed for a specific period of time.

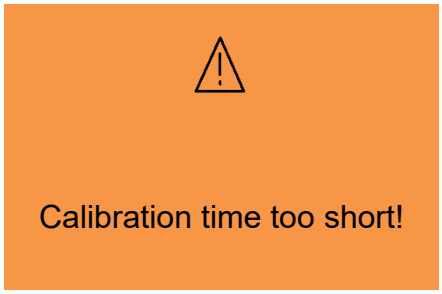
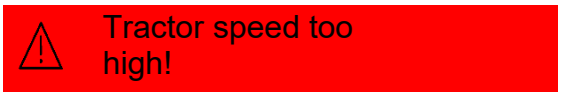
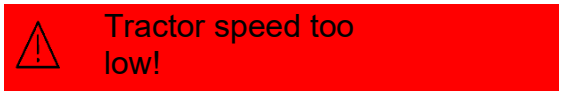
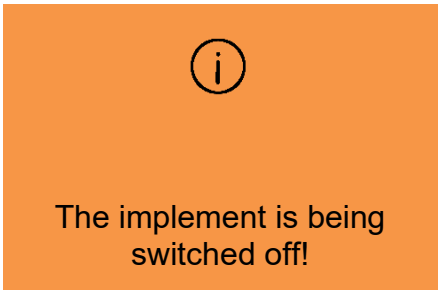


Press the Quit button to suppress messages for a specific period of time, or if the error has been rectified, acknowledged or deleted. Errors must always be acknowledged, Notes, on the other hand are self-acknowledging and can be suppressed for a specific period of time with the Quit button.

5.2 Notes

Display	Cause	Solution
⚠ Internal VCC (5V) not OK!	Is displayed when the internal controller voltage drops below a minimum value.	Send the control box back to the factory.
⚠ Battery voltage too low!	Is displayed when the supply voltage is below 10 V.	• Minimise the consumers (e.g. work floodlights) • Check the battery • Check the cabling • Check the plugs • Check the alternator
⚠ Battery voltage too high!	Indicates that the supply voltage is too high.	• Check the alternator
	The hopper is shown in red as soon as the fill level sensor (longer than the time set under Point 3.3.6) is not covered with seed.	• Refill seed • Adjust the sensor (position further down) • Increase the delay time for the message
⚠ Hopper almost empty!	Is displayed as soon as the fill level sensor (longer than the time set under Point 3.3.6) is not covered with seed.	• Refill seed • Adjust the sensor (position further down) • Increase the delay time for the message

⚠ Calibration value too high!	Appears when the number of pulses during calibration test is too high. (Wheel sensor > 1500, Radar/GPSa sensor > 51200)	Wheel sensor: • Reduce the number of magnets • Install the sensor on the shaft rotating more slowly
⚠ Calibration value too low!	Appears when no sensor is detected during calibration test, or when the number of pulses is too low (Wheel sensor < 10, radar/GPSa sensor < 100).	• Check the sensor • Check the cabling • Check the settings for the speed sensor, see Point 4.2 Wheel sensor: • Increase the number of magnets
⚠ Seeding shaft speed too low!	Calibration test: Appears when the seeding shaft speed is too low.	• Use a finer seed metering wheel • Use fewer seed metering wheels on each outlet • Increase the forward speed • Increase the spread rate
⚠ Seeding shaft speed too low!	Field operation: Appears when the PS is operated with several implement extension cables and the required seeding shaft speed cannot be reached.	• Use fewer extension cables • Check the battery • Check the plug connections • Use larger/coarser seed metering wheels to reduce the speed
⚠ Seeding shaft speed is too high!	Appears when the calculated seeding shaft speed is too high during the calibration test.	• Use larger/coarser seed metering wheels • Use more seed metering wheels on each outlet • Reduce the forward speed • Reduce the spread rate

	Is displayed when the calibration time was too short. To achieve sufficient accuracy, the calibration button must be pressed for at least 20 seconds.	• Press and hold the calibration button for min. 20 seconds
	Is displayed when the forward speed is too high and the seeding shaft can no longer readjust.	• Reduce the forward speed • Use larger/coarser seed metering wheels • Use more seed metering wheels on each outlet • Reduce the spread rate
	Is displayed when the forward speed is too low and the seeding shaft can no longer readjust.	• Increase forward speed • Use a finer seed metering wheel • Use fewer seed metering wheels on each outlet • Increase the spread rate
	Is displayed during the shutdown process. The message disappears after a few seconds.	
	Is displayed when the speed of the hydraulic fan is higher than the high limit (set in Point 3.3.8).	• Reduce the rotational speed of the hydraulic fan • The parameter, pulse/revolution is set incorrectly see Point 3.3.8

5.3 Errors

Display	Cause	Solution
⊗ Operating voltage not OK!	Is displayed when the supply voltage is below 8 V or there are large voltage fluctuations.	• Minimise the consumers (e.g. switch off the work floodlights) • Check the battery • Check the cabling • Check the plugs • Check the alternator
⊗ Motor is overloaded (seeding shaft)!	Is displayed when the seeding shaft cannot rotate or when the motor is strained for too long at its limits!	**Switch off the control box!** • Remove any foreign objects or similar from the seeding shaft or the agitator • Switch off the agitator (with well-flowing seed) • Remove 1-3 spacing discs from the seeding shaft • Check the set motor type • Check the motor for proper function while it is idling (switch off the control box, remove the motor, switch on the control box, switch on the seeding shaft motor)
⊗ Motor is overloaded (blower fan)!	Is displayed when the motor is strained for too long at its limits!	• Check or install the calibration lid • Check if all of the seed hoses are installed • Remove any foreign objects or similar from the blower fan • Check the blower fan for smooth running
⊗ Error (fan)!	Is displayed when the hydraulic blower fan does not produce an air current.	• Switch on the hydraulic blower fan • There is no pressure switch installed on the fan, see Point 4.1

⊗ Motor not connected (seeding shaft)!	Is displayed when the implement cable is not connected or the cabling is faulty.	• Check whether the implement cable is connected • Check the cabling • Check the plugs
⊗ Motor not connected (fan)!	Is displayed when the implement cable is not connected or the cabling is faulty.	• If a hydraulic fan is installed, see Point 4.1 • Check if the implement cable is connected • Check the cabling • Check the plugs
⊗ No motor speed (seeding shaft)!	When the motor is connected and not overloaded, but still does not rotate.	• Check the clamp connections on the spreader • Please contact customer service.
⊗ No motor speed (fan)!	When the motor is connected and not overloaded, but still does not rotate.	• Check the clamp connections on the spreader • Please contact customer service.
⊗ Ground wheel not OK!	This error is displayed if a ground wheel is connected and the control box does not receive any signals from this speed sensor.	• Check the ground wheel • Check the sensor • Check the cabling • Check the plugs If no defects can be found on the ground wheel, please contact customer service.
⊗ Short-circuit on sensor line!	Is displayed when the sensor supply lines are overloaded, or when there is a short-circuit.	• Check the cables for damage and check for short-circuits
⊗ Fan speed too low!	Is displayed if the speed of the hydraulic fan is under the low limit (set in Point 3.3.8).	• Switch on the hydraulic fan • Increase the speed of the hydraulic fan • The parameter impulses/revolution is set incorrectly, see Point 3.3.8) • If a speed sensor is not installed on the fan, see Point 4.1

6 Problem solving

Problem	Cause	Solution
Seeding shaft rotates when the implement is lifted!	• Wrong lifting unit signal	• Invert tractor linkage signal, see Point 4.2 • Reposition the lifting unit sensor
Seeding shaft does not rotate when the implement is in working position!	• Seeding shaft is not switched on • Forward speed is zero • No lifting unit signal	• Switch on the seeding shaft, the seeding shaft must be switched on manually one time at the beginning • Check the settings for the speed sensor – see Point 4.2 • Check the speed sensor • Check the lifting unit sensor
A fill level sensor is installed, but does not transmit!	• No signal from the fill level sensor	• Adjust the sensitivity of the fill level sensor (screw on the rear side) • Reposition the fill level sensor • Check the plug and cable
Fill level sensor is constantly transmitting!	• Poor sensor setting • Poor sensor position	• Adjust the sensitivity of the fill level sensor (screw on the rear side) • Reposition the fill level sensor
No speed signal!	• Speed sensor was not detected • Wrong speed sensor selected • Y cable (splitter cable) incorrectly connected • Y cable (splitter cable) defective	• Check the settings for the speed sensor – see Point 4.2 • Connect the Y cable properly, pay attention to the markings/ labels • Test without the Y cable (only connect the speed sensor)

No lifting unit signal!	• Lifting unit sensor was not detected • There is no lifting unit signal output on the 7-pin signal plug of the tractor • Y cable (splitter cable) incorrectly connected • Y cable (splitter cable) defective • Magnet sensor: Sensor/magnet incorrectly installed	• Check the lifting unit sensor • Connect the Y cable properly, pay attention to the markings/ labels • Test without the Y cable (only connect the lifting unit sensor) • Solenoid sensor: sensor and magnet must be in working position or must be in lifted out position must be precisely opposite of working position
The control module cannot be switched on!	• Power cable is not properly connected • No supply voltage • Fuse is defective	• Check the plugs • Check the polarity of the power cable (pin 15/30 12 V +, pin 31 ground, pin 82 ignition on +) • Switch on the ignition • Check the battery • Replace the fuse
The control box is switched off when the motors are switched on!	• Battery is weak, supply voltage collapses • Voltage drop due to poor contact	• Check the battery voltage • Check the contacts of the plugs • Check the power supply cable
A forward speed of 0.0 km/h is displayed or it keeps jumping back to 0.0 km/h!	• Wrong speed signal detected or selected	• Check the speed sensor settings (Point 4.2), if all of the settings are on AUTO, then set the first DIN 9684-1 signal to NO
Spread rate in kg/ha or seeds/m² is not being displayed!	• A valid calibration test was not performed • Value was retroactively changed in the Calibration test menu	• Perform a calibration test • Load the seed type again from the library
Spread rate is too high or too low! **NOTE:** check the hectare counter! Check the speed!	• Wrong speed • Lifting unit sensor switches during operation • Seed properties have changed	• Calibrate the speed sensor (not required for GPSa sensor) • Check the lifting unit sensor • Perform a calibration test • Reduce the blower fan speed for the hydraulic blower fan

7 USB software update

1. Unpack and open Zip folder.

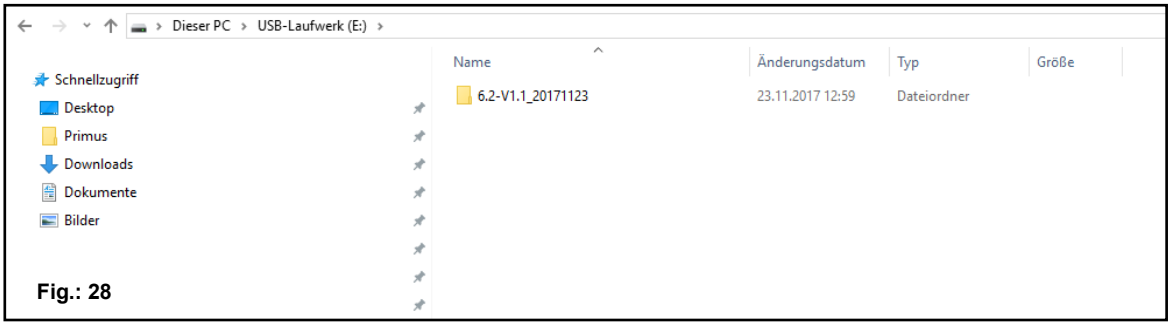


Fig.: 28

2. Select the suitable software update for the control box.



Fig.: 29

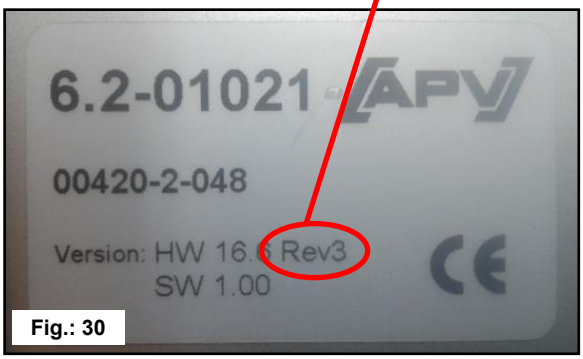


Fig.: 30

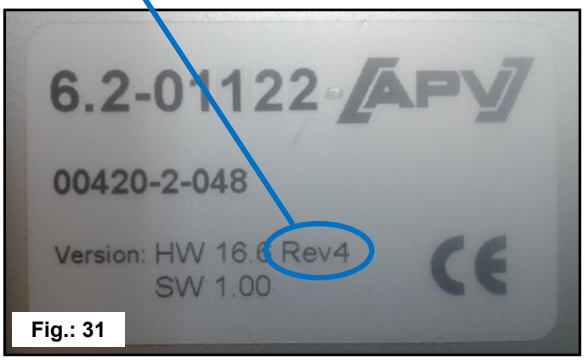


Fig.: 31

TIP: the rating plate is on the rear of the control box.

3. Open the appropriate folder and highlight all files.

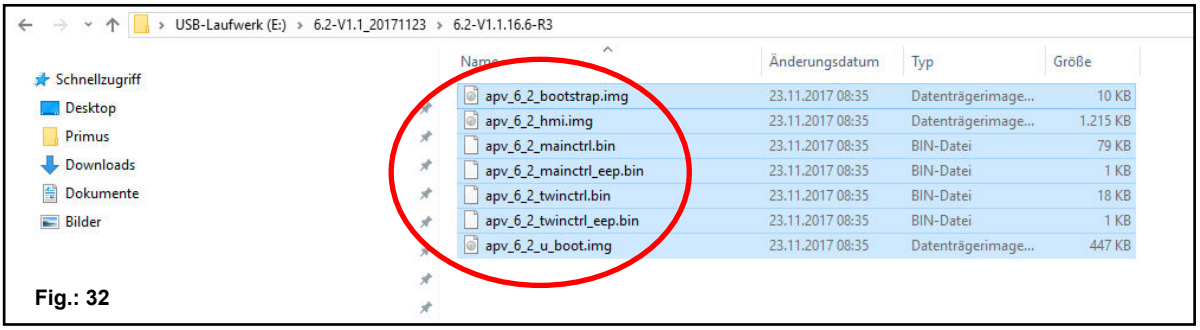


Fig.: 32

4. Copy files to a USB stick.

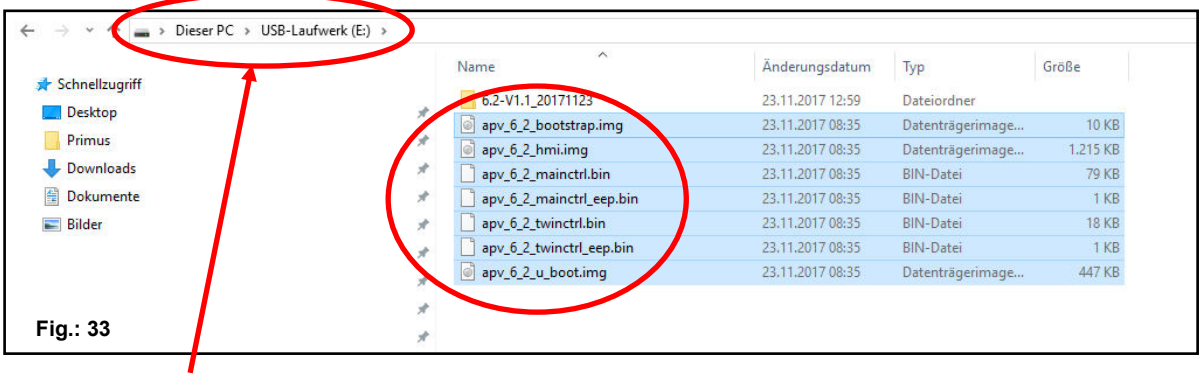


Fig.: 33

CAUTION: the files must be copied directly to the USB stick.
The files must not be in a folder on the USB stick, because the control box only searches for a software update on the USB stick!

5. Plug in the USB stick.


Fig.: 34

6. Switch on the controller with the STOP but depressed.

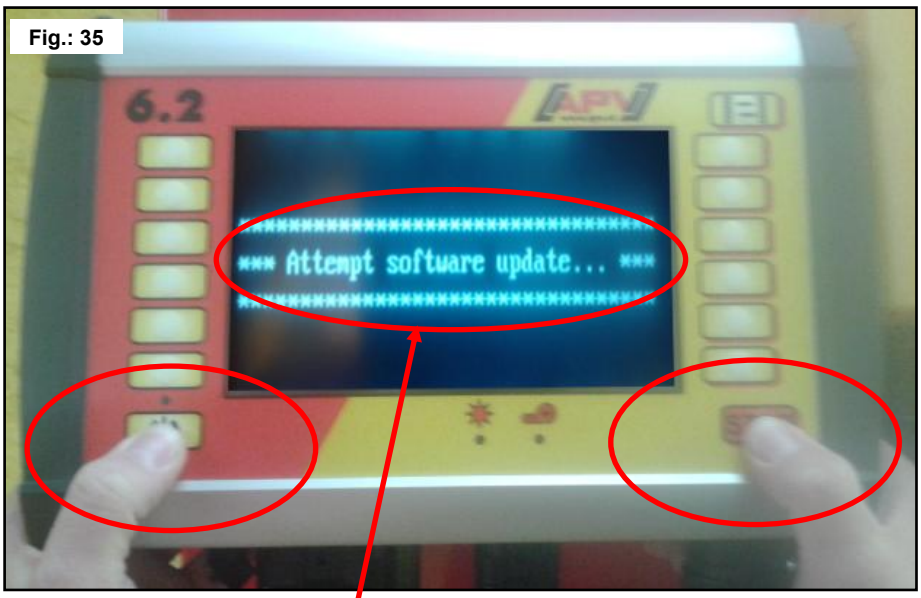


Fig.: 35

Keep the STOP button depressed until this text appears on the display.

7. Select controller for software update.

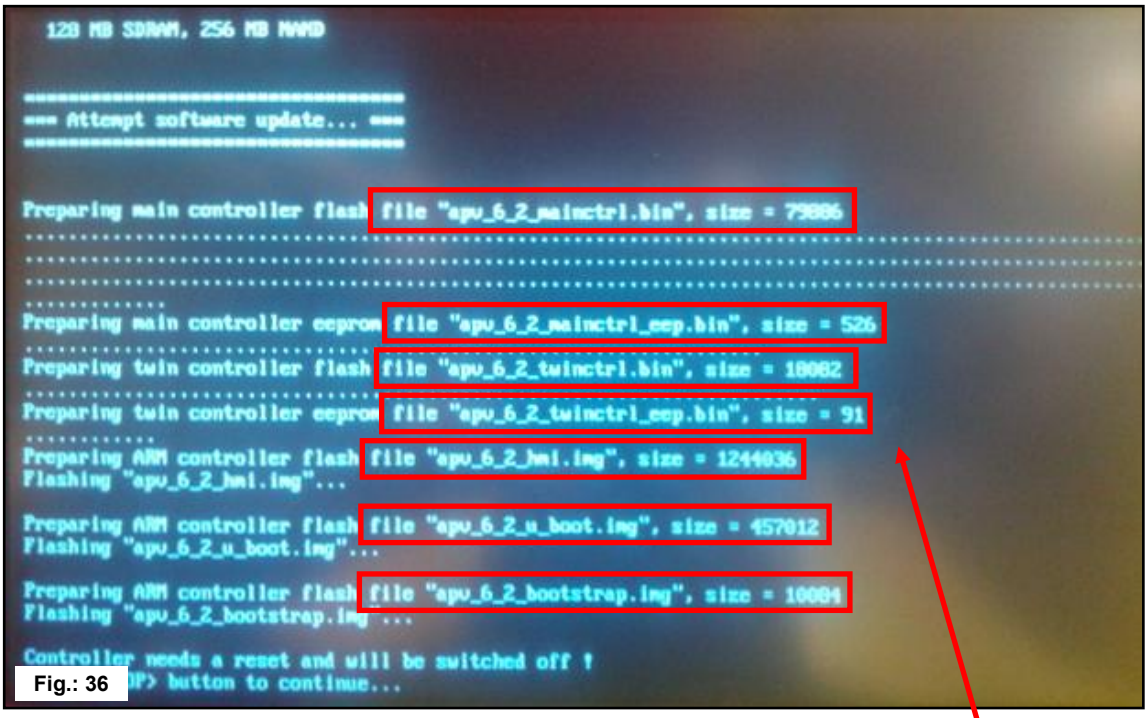


Fig.: 36

For the software update 7 files are transferred to the control box.

8. Press the STOP button.

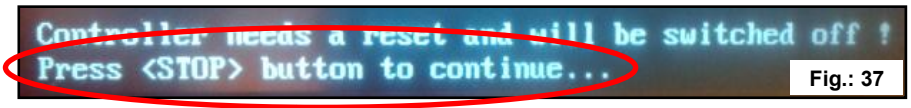


Fig.: 37

After software update you be requested to press the STOP button!

9. Check the software version.



Fig.: 38

After the software update the new software version will be displayed on the start screen.

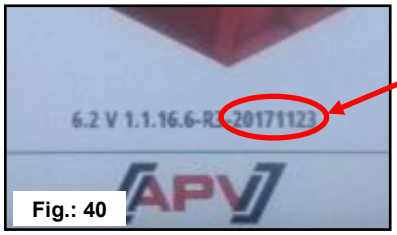


Fig.: 40

The displayed software version must agree with the version of the installed software version.

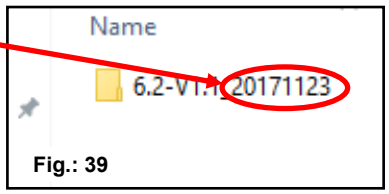


Fig.: 39

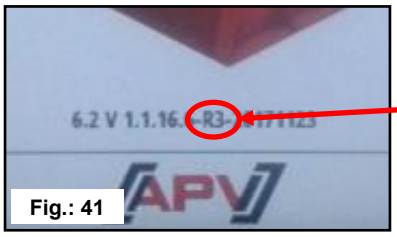


Fig.: 41

The displayed hardware version must agree with the hardware version of the control module.

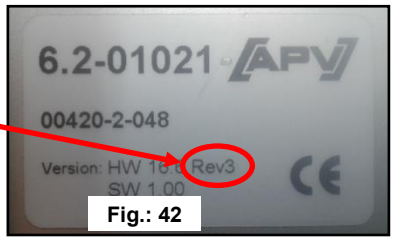


Fig.: 42

TIP: the last 6 characters in the software version indicate the creation date of the software! For example, 20171123 means the software was created on 2017-10-23.

Problem solving after a software update

Problem	Cause	Solution
Control box does not execute software update.	• USB stick is not plugged in • USB stick is not detected by the control box • The files for the software update are not directly on the USB stick • The option "Software update via USB stick" is not yet implemented in this control box, the current version on the control box is older than 6.2-V1.0.16.6_20160725, or was created before 2016-07-25	• Plug in the USB stick • The USB stick has outdated data format; Use a different USB stick • Copy the files directly onto the USB stick; **directly on the USB stick means:** the files are in the root directory or master directory this is the highest-level directory on the USB stick • Contact customer service , the control box must be returned to the plant for the update
Software version has not changed after the software update.	• The control box has already installed the current software • The wrong / previous files are on the USB stick	• Check whether the software on the control box is current YES: update has been executed twice NO: repeat all steps of the software update, ensure that you are working with the right software update
After the software update the expected software version is not shown.	• The wrong data is on the USB stick	• Repeat all steps of the software update, ensure that you are working with the right software update.
The seed library is unreadable after the software update, only cryptic characters are displayed.	• The memory structure has changed since the last software update	• Reset the control module back the the factory settings (factory reset)
The control box acts funny after the software update.	• The memory structure has changed since the last software update • The software update was not correctly executed	• Reset the control module back the the factory settings (factory reset) • Repeat all steps of the software update and pay particular attention to point 7, all 7 files must be transferred, also the size of the files should approximately agree with the depiction under Point 7

8 Languages

From software version V1.1, the following languages are available for selection:

- German (Deutsch)
- English
- French (Français)
- Dutch (Nederlands)
- Danish (Dansk)
- Polish (Polski)
- Italian (Italiano)
- Spanish (Español)
- Czech (Česky)
- Hungarian (Magyar)
- Finnish (Suomi)
- Portuguese (Português)
- Rumanian (Romana)
- Swedish (Svenska)
- Estonian (Eesti)
- Latvian (Latvijas)
- Lithuanian (Lietuvos)
- Norwegian (Norske)
- Slovenian (Slovenski)
- Russian (Русский)
- Serbian (Srpski)
- Turkish (Türkçe)

The language can be changed as described under Point 3.3.9.

9 Accessories

9.1 7-pin signal cable (Item no.: 00410-2-006)



Fig.: 43

Connection: 12-pin plug on the control box

Settings: See under Point 4.2

Cable length: 1.5 m

Scope of delivery: 1 sensor cable (Amphenol)

PLEASE NOTE: the signal socket is not completely assigned by all tractor manufacturers, even if it is installed in the cab.

A connection can be established from the tractor to the control box using the 7-pin signal cable. In this case, the control module receives 3 signals from the tractor (DIN 9684 standard). The forward speed [km/h] and the lifting unit signal (working position) are then transmitted from the tractor to the control box. This is displayed on the control module and the seed quantity is now automatically regulated by regulating the speed of the seeding shaft.

As a result, the desired seed quantity per hectare is always maintained, even if the driven speed deviates slightly from the defined speed.

The control box takes care of all procedures for the operator, such as the controlling during the working process. Thanks to the lifting unit signal, no manual operation on the control box is required when turning. On some tractors, the lifting unit signal is inverted. If the seeding shaft rotates as soon as the lifting unit is lifted out, then proceed as described under Point 6.

9.2 Sensor GPSa (item no.: 00410-2-107)

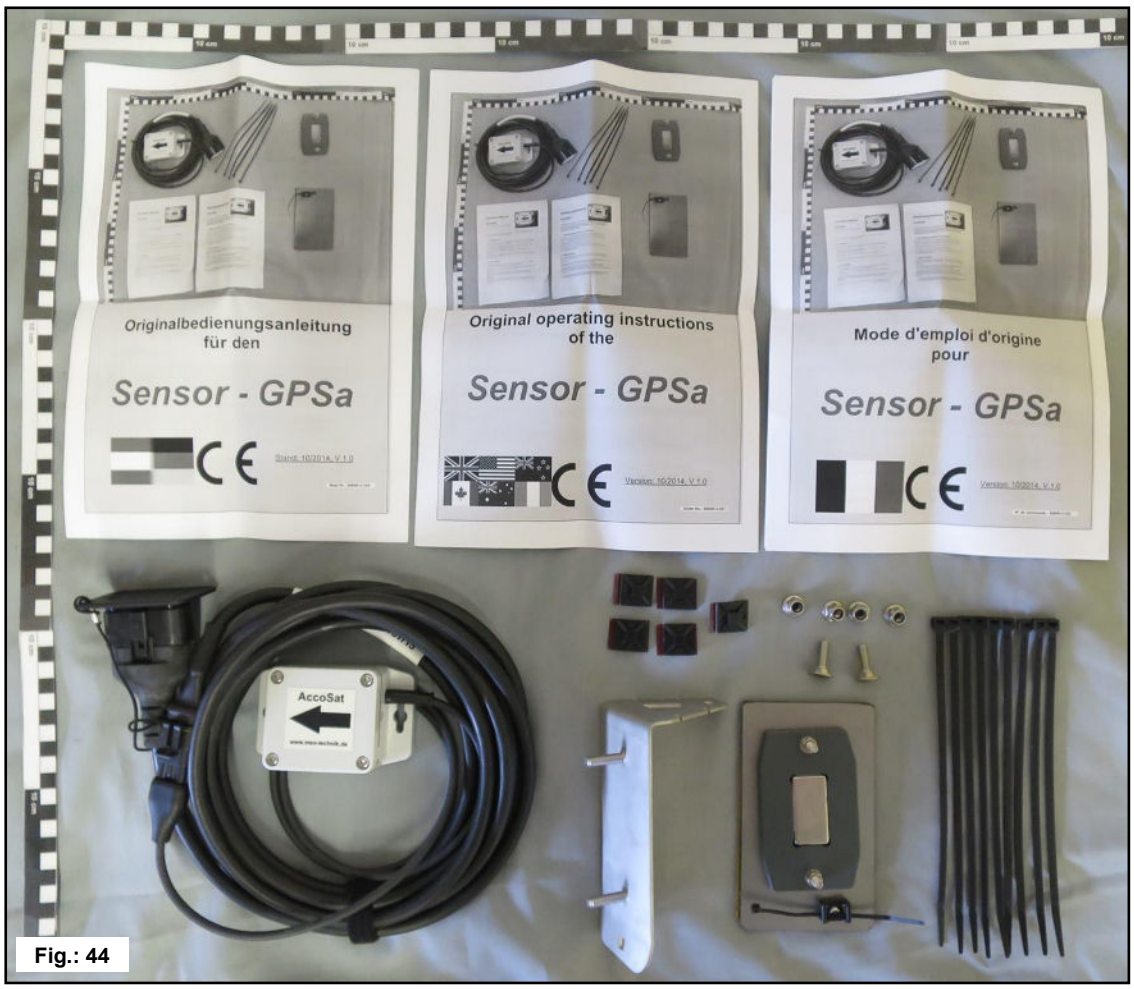


Fig.: 44

Connection: 12-pin plug on the control box

Cable length: 5 m

Scope of delivery: 1 GPSa sensor, data sheet, mounting plate incl. mounting material

The GPSa sensor transmits the current vehicle speed to the control box. The current speed is measured through the combination of a GPS and a 3D acceleration sensor. As a result, the sensor reacts extremely rapidly to changes in speed. Moreover, the sensor must only be mounted horizontally on the implement.

TIP: calibration test is NOT necessary!

PLEASE NOTE: the sensor does not function if there is complete GPS shadowing.

9.3 MX35 radar sensor (item no.: 00410-2-084)


Fig.: 45

The radar sensor measures the forward speed [km/h]. This is displayed on the control box and the seed quantity is automatically regulated by regulating the speed of the seeding shaft. As a result, the desired seed quantity per hectare is always maintained, even if the driven speed deviates slightly from the speed defined by the calibration test.

Connection: 12-pin plug on the control box

Scope of delivery: 1 radar sensor, 1 mounting plate, incl. fastening material;

Settings: see Point 4.2

Cable length: 5 m

Installation position: should be between the wheels. Refer to the images below for the orientation and mounting dimensions (35° in the direction of travel or opposite).

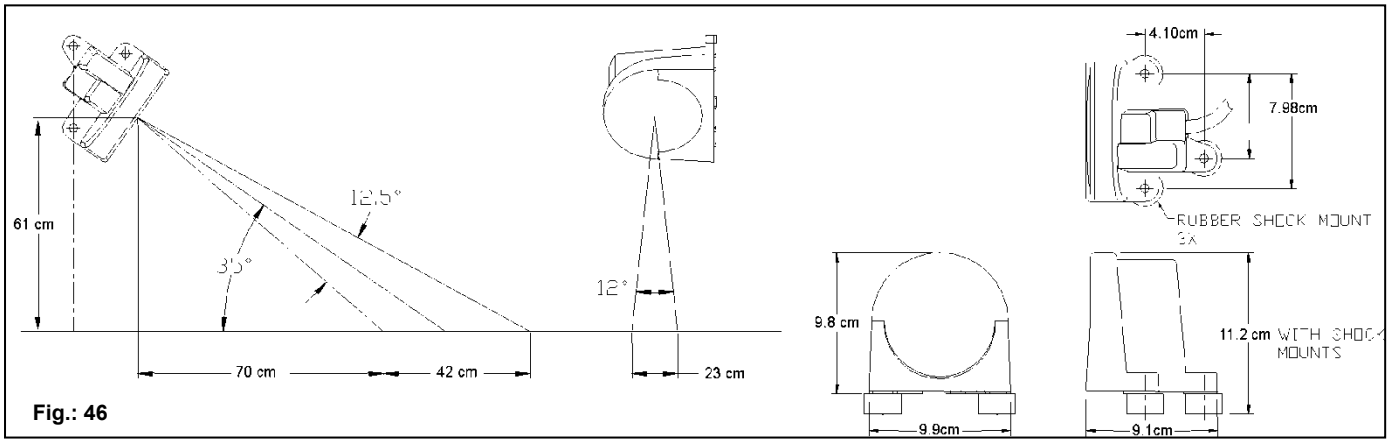
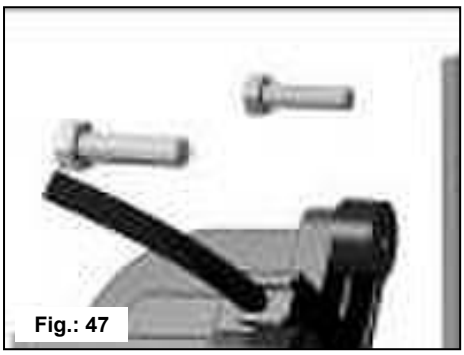


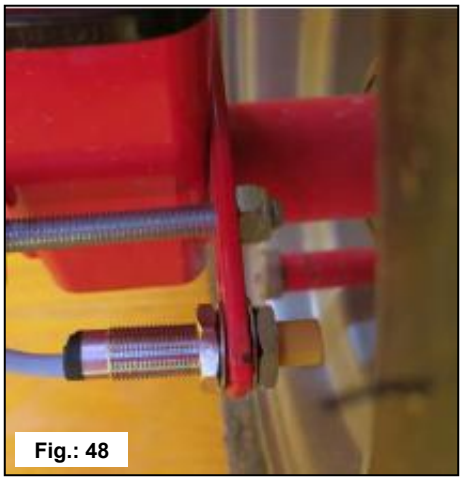
Fig.: 46

Installation: to attach the radar sensor, please use the bolts, nuts, and holding plate provided for this purpose in the scope of delivery.


Fig.: 47

The radar sensor works on almost any substrate (e.g. soil, sand, pavement, etc.). There may be imprecision if there is of snow or thick layers of ice, or when the on-board voltage drops below 9 V.

9.4 Wheel sensor (item no.: 00410-2-007)


Fig.: 48

The wheel sensor measures the forward speed [km/h]. This is displayed on the control box and the seed quantity is automatically regulated by regulating the speed of the seeding shaft. As a result, the desired seed quantity per hectare is always maintained, even if the driven speed deviates slightly from the speed defined by the calibration test.

The sensor can detect both the supplied magnets and any type of metal (bolt heads, wheel studs, etc.).

Connection: 12-pin plug on the control box

Settings: See under Point 4.2

Cable length: 5 m

Installation position: the magnet is installed on the inside of the rim. The sensor must be fastened at a distance of **max. 5 mm** from the magnets (or wheel studs, nuts, etc.). When the sensor is actuated, the LED on the rear lights up.

Scope of delivery: 1 sensor and 2 fastening nuts, 8 Neodym magnets (very strong), cable ties, 1 fastening plate

Number of magnets:

Wheel diameter in mm				
250	**500**	**1000**	**1500**	**2000**
1 magnet	2 magnets	4 magnets	6 magnets	8 magnets

TIP: for the optimal alignment of 6 magnets, it is best to use a compass (e.g. a string) to form an even hexagon.

CAUTION: do not hold the Neodym magnets close to your heart. If you have a pacemaker, it can cause disturbances!

PLEASE NOTE: the magnet does not need to be bolted on. It is attached to steel rims through its high magnetic force. Route the cable through a well-protected area to avoid any damage (e.g. from the wheel).

TIP: do not install the wheel sensor on the Cardan shaft because its rotational speed is too high and this may cause errors!
There may not be more than 15 pulses/m.

9.5 Lifting unit running gear sensor (item no.: 00410-2-008)



Fig.: 49

Through this sensor, the seeding shaft of the PS can start and stop rotating automatically when lifting and lowering the implement.

Connection:	12-pin plug on the control box
Calibration test:	see under Point 4.2
Cable length:	5 m
Installation position:	since most soil tillage implements are lifted and lowered during their operation, installing the sensor on the tractor's lifting arm is the best method (see image above). However, the sensor can also be attached at other positions that have a mechanical movement of more than 50 mm. The distance between the sensor and the magnet should be approx. 5 mm. For semi-mounted soil tillage implements, the sensor can be installed on the running gear, because the lifting unit is not used in this case. The programming (position in which work is performed) can be adapted for this purpose. This is explained in Point 4.2.
Scope of delivery:	1 sensor, 2 magnets incl. bolts, cable ties, 1 fastening plate, 2 PVC nuts for the sensor;

NOTE: the sensor must not be bolted on too strongly (tension)!

9.6 Lifting unit top link sensor (item no.: 00410-2-074)



Fig.: 50

Through this sensor, the seeding shaft of the PS can start and stop rotating automatically when lifting and lowering the implement.

Connection: 12-pin plug on the control box

Calibration test: see under Point 4.2

Cable length: 3 m



Fig.: 51

Installation position: since most soil tillage implements are lifted and lowered during their operation, installing the sensor on the implement's three-point linkage is the best method. However, the sensor can also be attached at other positions that have mechanical movement. For semi-mounted soil tillage implements, the sensor can be installed on the running gear, because the lifting unit is not used in this case. The programming (position in which work is performed) can be adapted for this purpose.
This is explained in Point 4.2.

Scope of delivery: 1 sensor, 1 fastening plate incl. fastening bolts

9.7 Lifting unit pull switch sensor (item no.: 00410-2-115)



Fig.: 52

Through this sensor, the seeding shaft of the PS can start and stop rotating automatically when lifting and lowering the implement.

Connection: 12-pin plug on the control box

Calibration test: see under Point 4.2

Cable length: 5 m

Installation position: via a spring (for length compensation) and a chain, two points – that move relative to each other at lift-out of the implement – can be connected. Through the length change the switch is activated and thus the seeding shaft is switched off. In a manner similar to the sensor for the top link lifting unit, the pull switch can be mounted on the three-point and can be tensioned on the tractor with the chain, e.g. on the towing hitch. Now if the implement is lifted out, the distance between the two points increases and the pull switch switches off the seeding shaft. However, the switch can also mounted parallel to the cylinders, parallelograms, where with the lift-out procedure a relative movement between the two points takes place. In the programming you can specify whether seeding should occur with the switch activated or not activated.
This is explained in Point 4.2.

Scope of delivery: 1 sensor, 1 fastening plate incl. fastening bolts

9.8 Splitter cable (Item no.: 00410-2-010)



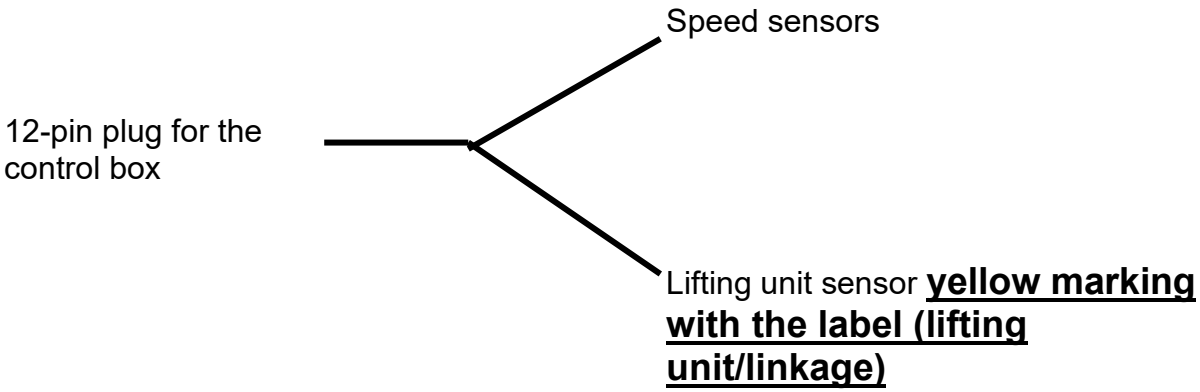
Fig.: 53

Connection: 12-pin plug on the control box

Cable length: 1 m

Function: is required if work should be performed with 2 sensors (e.g. the wheel sensor and the lifting unit sensor).

Connection diagram:



9.9 Calibration button (Item no.: 00410-2-094)

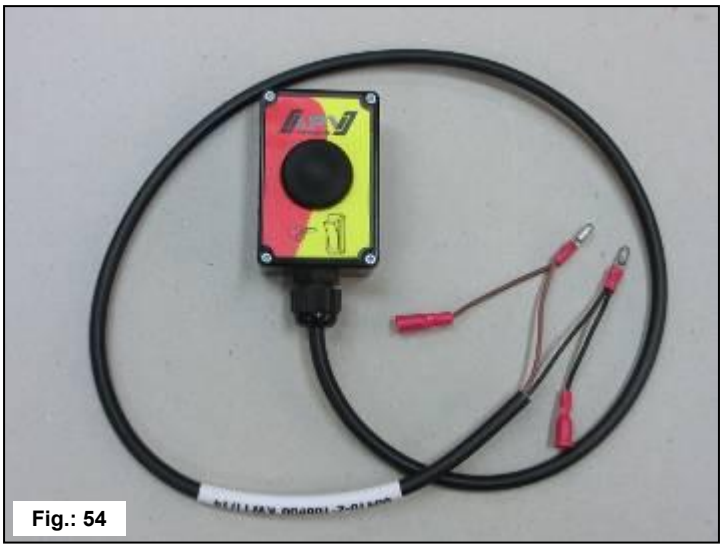

Fig.: 54



Fig.: 55

The calibration button is integrated directly in the cable harness of the pneumatic seeder and is simply mounted on the implement with the integrated magnets. This allows you to start the calibration test when you are standing beside the implement, to calibrate for any length of time, and also to empty the hopper. As soon as the calibration test was started on the control box and you actuate the calibration button, the seeding shaft starts rotating. The calibration procedure keeps running until you let go of the calibration button again. The controller then calculates the required spread rate, which then only has to be weighed and entered in the menu.

PLEASE NOTE: to achieve sufficient accuracy, the calibration button must be pressed and held for at least 20 seconds, otherwise the notification message "Calibration time too short!" and the kg/ha or seeds/m² are not shown on the main display.

Settings: see under Point 4.1

Cable length: 1 m

Connection diagram: see Fig.: 58 (in the gear motor cover)

9.10 Complete cable set for the power socket (Item no.: 00410-2-022)

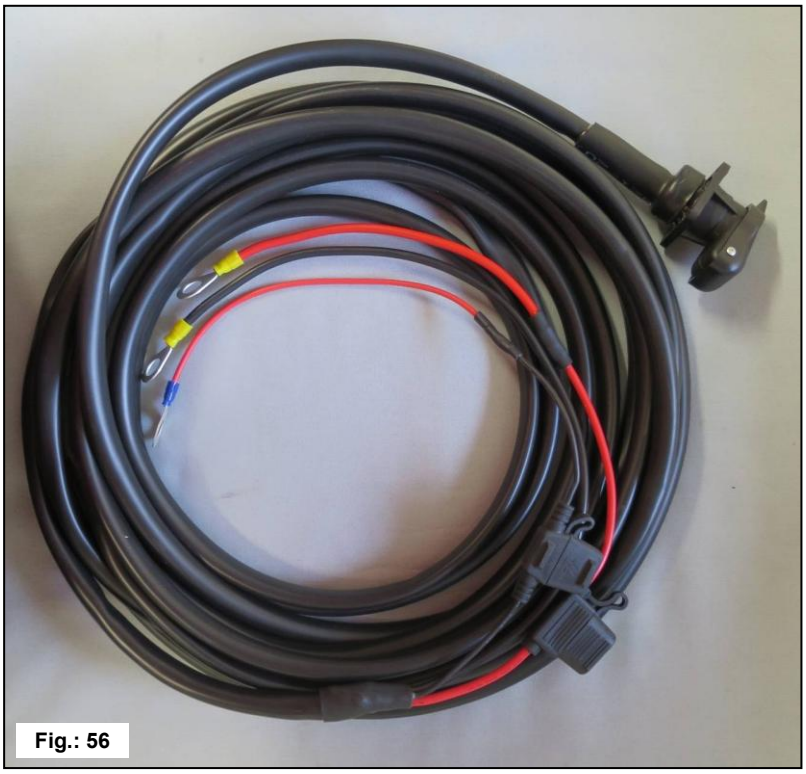


Fig.: 56

Cable length:	8 m		
Connection diagram:	Red (6 mm² cable)	=	+ 12 volt
	Red (1.5 mm² cable)	=	Ignition plus
	Black (6 mm² cable)	=	- Ground

For the power supply to the control box, without a standard 3-pin standard socket on the tractor, a retrofit kit is available as an accessory.
The cable is 8 m long.
It is screwed directly on the terminals of the battery on the battery side, and at the other end, a 3-pin standard socket is installed.

10 Connection diagram for PS 120-500 MX

Circuit diagram up to model year 2014 (no terminal strip on the spreader)

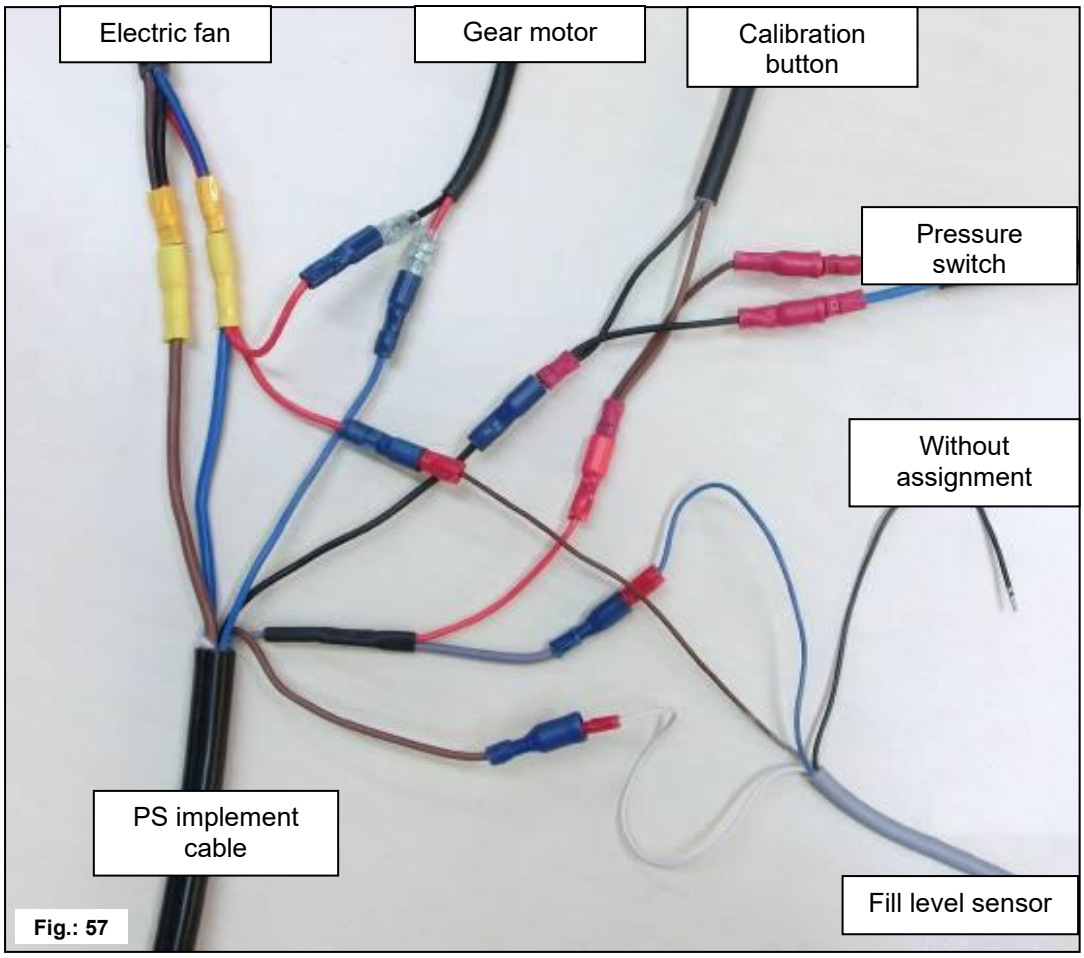
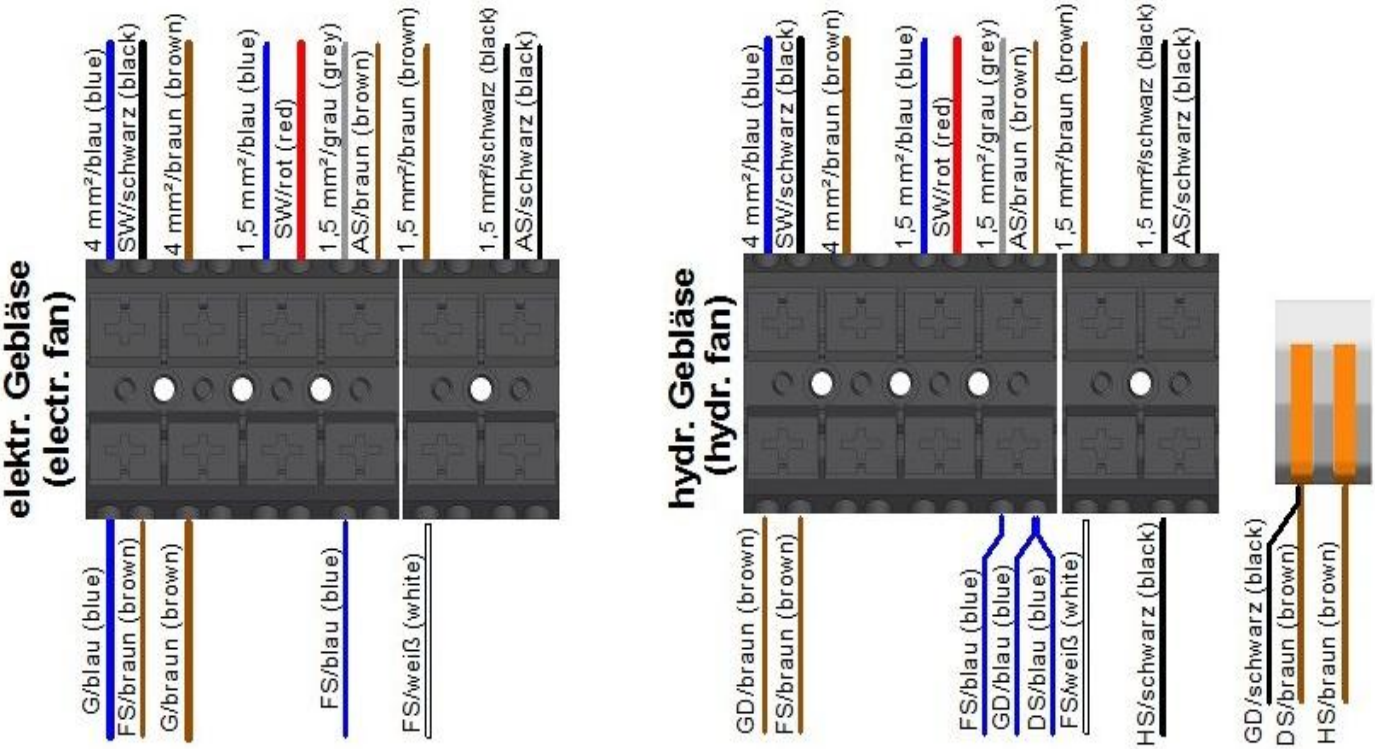


Fig.: 57

Implement cable PS MX	Gear motor	Blower fan motor	Fill level sensor	Pressure switch	Calibration button
4 mm² / Blue	1.5 mm² / Black	2.5 mm² / Red / Blue	0.75 mm² / Brown		
4 mm² / Brown		2.5 mm² / Black / Brown			
1.5 mm² / Blue	1.5 mm²/ Red				
1.5 mm² / Brown			0.75 mm² / White		
1.5 mm² / Black				1.5 mm² / Brown	0.75 mm² / Black
1.5 mm² / Grey			0.75 mm² / Blue	1.5 mm² / Blue	0.75 mm² / Brown

Circuit diagram as of 2015 (with terminal strip on the spreader)



Stecker-PIN (plug-pin)	Gerätekabel (machine cable)	Gebläse (G) (fan)	Säwellenmotor (SW) (sowing shaft motor)	Füllstandsensor (F S) (fill level sensor)	Abdrehschalter (AS) (calibration button)	Druckschalter (DS) (pressure switch)	Gebläsedrehzahl-sensor (GD) (fan speed sensor)	Hydraulikschalter (HS) (hydraulic switch)
1	4 mm² / blau (blue)	4 mm² / blau (blue)	1,5 mm² / schwarz (black)	0,75 mm²/ braun (brown)			0,75 mm²/ braun (brown)	
2	4 mm² / braun (brown)	4 mm² / braun (brown)						
3	1,5 mm² / blau (blue)		1,5 mm² / rot (red)					
4	1,5 mm² / grau (grey)			0,75 mm² / blau (blue)	0,75 mm² / braun (brown)	1,5 mm² / blau (blue)	0,75 mm² / blau (blue)	
5	1,5 mm² / braun (brown)			0,75 mm² / weiß (white)				
6	1,5 mm² / schwarz (black)				0,75 mm² / schwarz (black)			1,5 mm² / schwarz (black)
						1,5 mm² / braun (brown)	0,75 mm² / schwarz (black)	1,5 mm² / braun (brown)

Stripping length 10 mm

Fig.: 58

Notes

Notes

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