

Programming the brakes;

Before you can program the trailer brakes you need the following data.

1. Weight of the trailer axle unloaded.
2. Value of the load sensor unloaded.
 - a. With potentiometers the total resistance in ohms.
 - b. With angle sensors the average value in mA.
 - c. With Pressure sensor the value in mA.
3. Weight of the trailer axle loaded.
4. Value of the load sensor loaded.
 - a. With potentiometers the total resistance in ohms.
 - b. With angle sensors the average value in mA.
 - c. With Pressure sensor the value in mA.
5. DWR - Dynamic Wheel Radius in mm, see the specifications of the tire.
These tire specifications are available from your tire supplier and if not available:
Calculated by the following formula to be used;
 $DWR = \text{track length of the tire} \times 0.159$

These data are essential for the optimal functioning of the brakes.

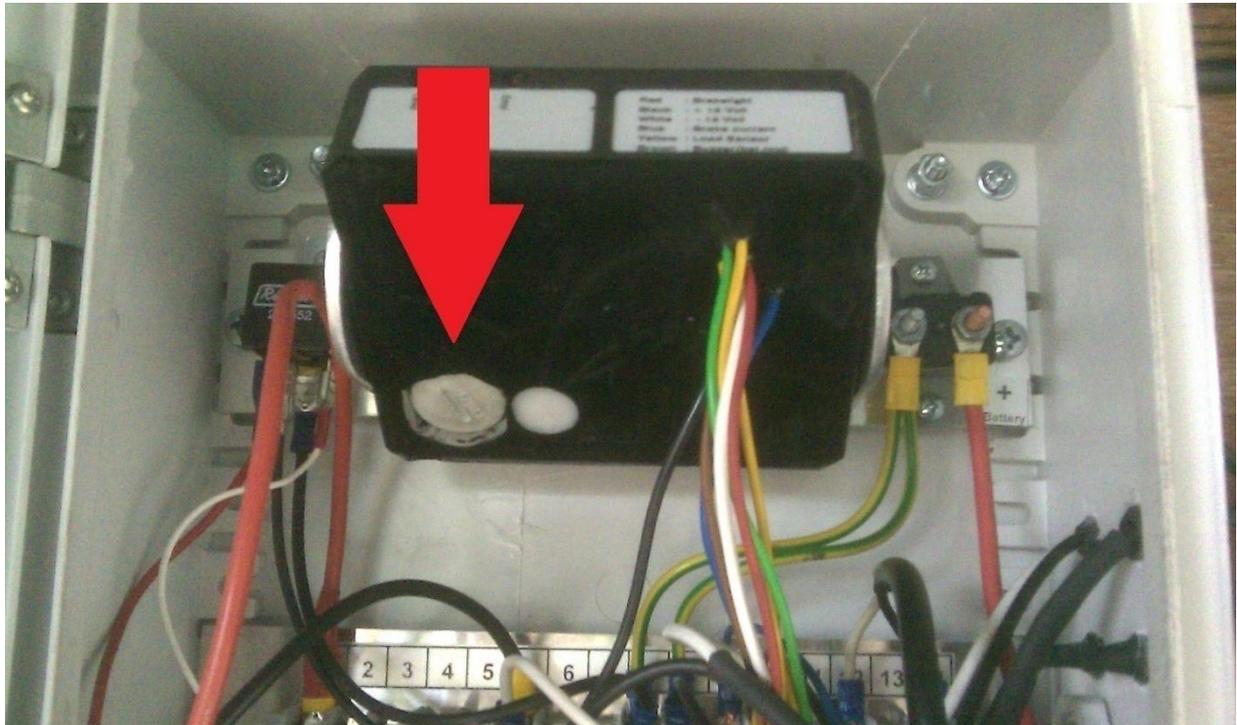
If you have all information you can go ahead and connect the BCU to the computer and follow the next steps, always ensure that you do this accurately because this is essential for the proper functioning of the brake.

Step 1.

Install the supplied software on a laptop with a Windows™.

Step 2.

Connecting the brake controller.



Unscrew the plug from the brake controller and connect the brake controller to the computer with the USB cable.



Set the brake controller level.

Step 3.

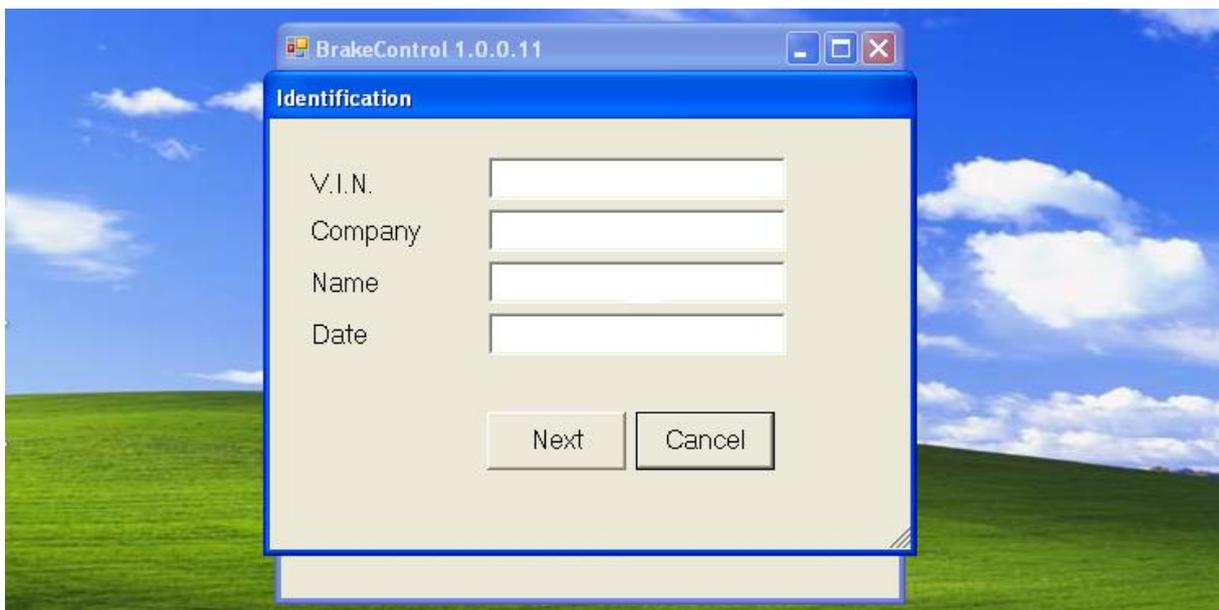
After installing the software and connecting the USB cable, go ahead.



> Click - CONNECT BRAKE CONTROLLER



> Click - SETUP WIZARD



Enter the requested information;

VIN: chassis number of the vehicle where the brake system is fitted.

Company: Name of the company that are installing

Name: Name of the person performing the installation

Date: date of installation

> Click - NEXT



Select the correct brake type in the menu.



Enter the Dynamic Wheel Radius, in millimetres, please note this is different for each tire and each brand / type.

Your tire dealer can provide this information.

> Click - NEXT

Now all the basic information is entered into the program and the type of brakes are selected, we continue with the selection of the load sensors of the braking system.

There are 4 choices in terms of load sensors, make sure that you choose the correct one for the safety of your braking system.

Option 1. - NO LOAD SENSORS (only trailers with a fixed weight)

Option 2. - Potentiometers

Option 3. - Pressure sensor (air)

Option 4. – Angle sensor

Option 1.

You have no cargo sensors because the trailer does not vary in weight, you can choose this option only if the trailer has a fixed weight.

You have only have to enter the Total axle weight of the trailer to program the brake system.

The screenshot shows a software window titled "Axle load sensor". It contains a form with three main sections. The first section, "mass [kg]", has labels for "Minimum", "Maximum", and "Actual". The "Maximum" label is followed by an empty text input field. The second section, "No sensor", has a label "No sensor". The third section, "Load sensor", has four radio button options: "None" (which is selected), "Potmeter", "Pressure", and "Angle". At the bottom of the window, there are three buttons: "Previous", "Cancel", and "Update brake controller".

Select in the menu **LOAD SENSOR**> “none” and enter the total weight of the trailer in kilograms> **MASS (kg)** on the left of the screen.

> Click - **UPDATE BRAKE CONTROLLER**

Your braking system is configured without load sensors.

Option 2.

You load sensors are potentiometer sensors.

You need the following information before the system can be programmed;

- Minimum empty weight of the trailer axles (unloaded axle weight)
- Maximum loaded weight of the trailer axles (loaded axle weight)
- Ohm-value of the two potentiometers together when empty (unloaded axle weight)
- Ohm-value of the two potentiometers together loaded (loaded axle weight)
- Ohm-value of the two potentiometers together in its current condition at the time of programming of the brake controller.

	mass [kg]	Resistance [kOhm]	Load sensor
Minimum	<input type="text"/>	<input type="text"/>	<input type="radio"/> None
Maximum	<input type="text"/>	<input type="text"/>	<input checked="" type="radio"/> Potmeter
Actual	<input type="text"/>	<input type="text"/>	<input type="radio"/> Pressure
			<input type="radio"/> Angle

Select in the menu **LOAD SENSOR**> potentiometer and then enter the minimum weight (unloaded axle mass) in kilograms of the trailer and the maximum weight (axle mass loading)> **MASS (kg)** on the left of the screen.

Then enter in **RESISTANCE (Ohms)** in the previously measured values.

Minimum resistance - ohm value of the two pots together unloaded.

Maximum Resistance - ohm value of the two pots together loaded.

Actual resistance - ohm value of the two pots together at the time of reprogram the brake controller

> Click - **UPDATE CONTROLLER BRAKE**

Your braking system is now configured with potentiometers and load sensors.

Option 3.

You have a pressure sensor as a load sensor.

You need the following information to the system can be programmed;

- Minimum empty weight on the trailer axles
- Maximum loaded weight on the trailer axles
- mA-value (Milliampere) of the pressure sensor when empty
- mA-value (Milliampere) of the pressure sensor loaded
- mA-value (Milliampere) of the pressure sensor in present condition at the time of reprogram the controller.

Axle load sensor

	mass [kg]	Current [mA]	Load sensor
Minimum	<input type="text"/>	<input type="text"/>	<input type="radio"/> None
Maximum	<input type="text"/>	<input type="text"/>	<input type="radio"/> Potmeter
Actual	<input type="text"/>	<input type="text"/>	<input checked="" type="radio"/> Pressure
			<input type="radio"/> Angle

Previous Cancel Update brake controller

Select in the menu **LOAD SENSOR> PRESSURE** and then enter the minimum weight (unloaded axle mass) in kilograms of the trailer and the maximum weight (axle mass loading)> **MASS (kg)** on the left of the screen.

Then enter in **CURRENT (mA)** in the previously measured values.

Minimum current – mA (Milliampere) value of the pressure sensor unloaded

Maximum Current – mA (Milliampere) value of the pressure sensor loaded

Actual Current - mA (Milliampere) value of the pressure sensor at the time of reprogram the brake controller

> Click - **UPDATE BRAKE CONTROLLER**

Your braking system is configured with a pressure sensor as a load sensor.

Option 4a.

You have **two** Angle sensors as a load sensor.

You need the following information to the system can be programmed;

- Minimum empty weight on the trailer axles
- Maximum loaded weight on the trailer axles
- average value mA (Milliampere) of the two angle sensors when empty
- average value mA (Milliampere) of the two angle sensors when full loaded
- Average value mA (Milliampere) of the two angle sensors when empty in present condition at the time of reprogram the controller.

	mass [kg]	Current [mA]	Load sensor
Minimum	<input type="text"/>	<input type="text"/>	<input type="radio"/> None
Maximum	<input type="text"/>	<input type="text"/>	<input type="radio"/> Potmeter
Actual	<input type="text"/>	<input type="text"/>	<input type="radio"/> Pressure
			<input checked="" type="radio"/> Angle

Buttons: Previous, Cancel, Update brake controller

Select in the menu **LOAD SENSOR> ANGLE** and then enter the minimum weight (unloaded axle mass) in kilograms of the trailer and the maximum weight (axle mass loading)> **MASS (kg)** on the left of the screen.

Then enter in **CURRENT (mA)** in the previously measured values.

Minimum current – average mA (Milliampere) value of the angle sensor unloaded

Maximum Current – average mA (Milliampere) value of the angle sensor loaded

Actual Current – average mA (Milliampere) value of the angle sensor at the time of reprogram the brake controller

> Click - **UPDATE BRAKE CONTROLLER**

Your braking system is configured with a pressure sensor as a load sensor.

The green light (level) on the brake controller will either light continuously or blink in both cases is good, because this has to do with the sensitivity of the level sensor in it.

Option 4b.

You have **one** Angle sensor as a load sensor.

You need the following information to the system can be programmed;

- Minimum empty weight on the trailer axles
- Maximum loaded weight on the trailer axles
- mA-value (Milliampere) of the Angle sensor when empty
- mA-value (Milliampere) of the Angle sensor loaded
- mA-value (Milliampere) of the Angle sensor in present condition at the time of reprogram the controller.

The screenshot shows a software window titled "Axle load sensor". It is divided into three main sections. The first section, "mass [kg]", has three rows: "Minimum", "Maximum", and "Actual", each with an empty text input field. The second section, "Current [mA]", also has three empty text input fields. The third section, "Load sensor", contains four radio button options: "None", "Potmeter", "Pressure", and "Angle". The "Pressure" option is currently selected. At the bottom of the window, there are three buttons: "Previous", "Cancel", and "Update brake controller".

Select in the menu **LOAD SENSOR**> **PRESSURE** (not **ANGLE**) and then enter the minimum weight (unloaded axle mass) in kilograms of the trailer and the maximum weight (axle mass loading)> **MASS** (kg) on the left of the screen.

Then enter in **CURRENT** (mA) in the previously measured values.

Minimum current – mA (Milliampere) value of the angle sensor unloaded

Maximum Current – mA (Milliampere) value of the angle sensor loaded

Actual Current - mA (Milliampere) value of the angle sensor at the time of reprogram the brake controller

> Click - **UPDATE BRAKE CONTROLLER**

Your braking system is configured with a angle sensor as a load sensor.

WARNING

CAUTION:

NEVER GO ON THE PUBLIC ROADS WITH A TRAILER WHICH HAS NOT BEEN PROGRAMMENEND BECAUSE THE BREAKS WILL POSSIBLY NOT FUNCTION PROPERLY.

IF YOU DO, LIFE-THREATENING SITMATIONS COULD ARISE.

When the trailer has been parked for a long period of time always check that the brakes are functioning properly before going on public roads.

If any items are not functioning properly and / or have to be replaced, please use original parts only.

Ignoring this warning can lead to serious accidents or even death.