TECH NOTE :: WTX110-D Corner load balancing with digital load cells

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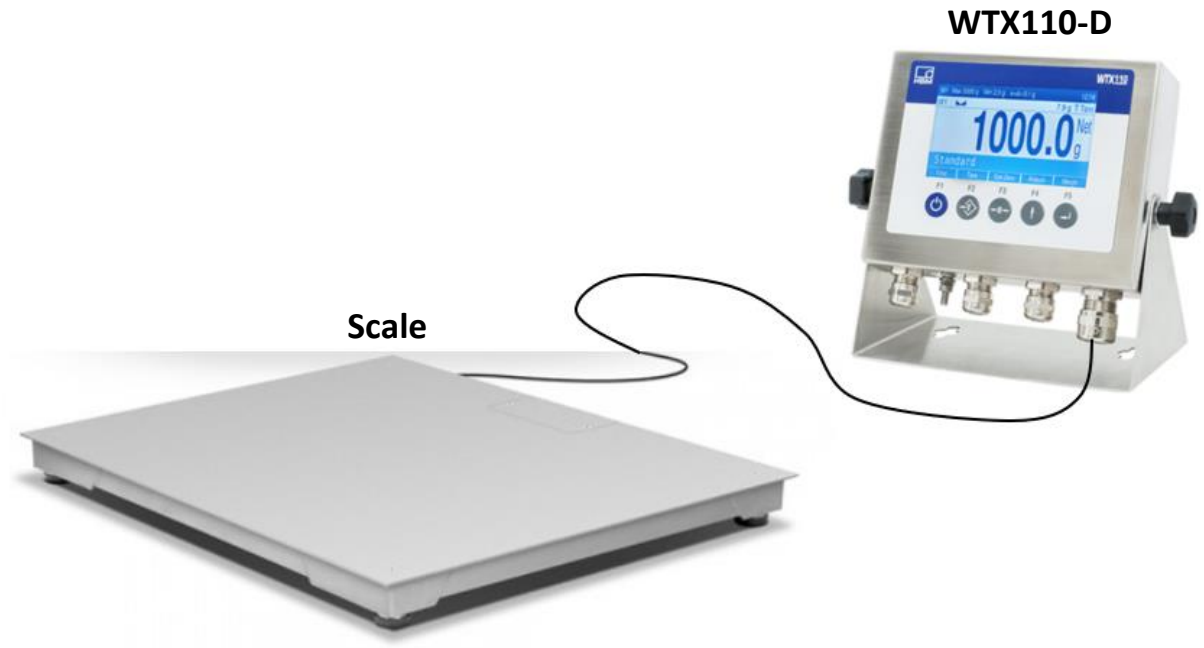
Brief description

This application example demonstrates how to perform a corner load balancing on a WTX110-D. To be able to follow these instructions, it is important to use a **WTX110-D**, because only this has the following input windows. In this example, 4 digital load cells are connected to a scale and connected to the WTX. The corner load adjustment is made to get the same result on each area of the scale.

Hardware configuration



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Corner load balancing

Addressing the digital load cells

In order to be able to make a corner alignment, the load cells must first be assigned addresses. This is done in the calibration menu of the WTX, which you can find as follows to make settings there:

Home screen:

Switch to the **Service Mode:**

Menü	Taste	Funktion
Standard	F4	Umschalten in die Versionsmeldung
WTX110 V#.#		Anzeige der aktuellen Firmware Versionsnummer
	F1	Aufruf der Passwort-Eingabe innerhalb von 3 Sekunden
Password 324	F5	Eingabe des Passworts
1 Service Mode	F5	Aufruf des Service Mode

Press F1 repeatedly, till **“Calibration“** will screen.

Press 2x F5 .

Press F1 repeatedly, till **“8 Addressing“** will screen.

Confirm F5.

The following chapter gives an example of the possible configurations of the segments and DLCs.

Menü	Taste	Funktion
No Of Segments 1	F2 F5	Eingabe der Anzahl der Segmente. Max. 8 Segmente können verwendet werden.
Segment 1	F5	
No. Of DLCs 4	F2 F5	Eingabe der Anzahl der Wägezellen. Max. 32 Wägezellen können pro Segment verwendet werden.
DLC 1:	F2 F5	Eingabe der Seriennummer, die außen auf der Wägezelle aufgedruckt ist.
DLC 2:		Eingabe der Seriennummer, der nächsten Wäge-zelle
...		
Segment 2		Nächstes Segment, falls vorhanden
...		

Important: If the error message “DLC1, 99 999 999 Error” appears, it means that no load cell with the entered serial number was found.

This could be due to several reasons, the simplest being a typing error, but it could also be due to a faulty transmission caused by damage to a cable or connector.

This can be determined by adjusting the baud rate. If this is possible without problems, the cable is intact. If there is an "error", there is no connection to the DLCs.

DLC = load cells

If **“Configure“** displayed, press F5 repeatedly, till **“Store DLC Addresses...“**will displayed.

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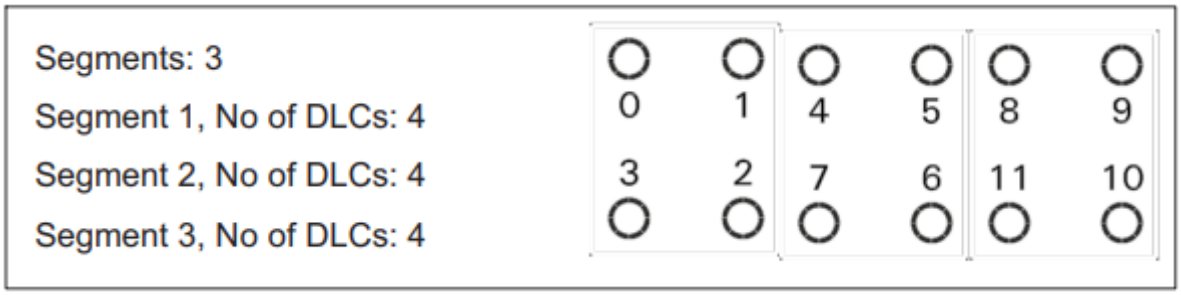
Press till the following window will shown:

Press for **Yes** and then to save the parameters.

Example of segments and DLCs



Performing the corner alignment

Once all load cells have been assigned an address, we can start with the corner load balancing. It is important that when measuring the corners, we stick to the order of the previously assigned addresses.

<u>Home screen:</u>

<u>Service Mode:</u>

Menü	Taste	Funktion
Standard	F4	Umschalten in die Versionsmeldung
WTX110 V#.#		Anzeige der aktuellen Firmware Versionsnummer
	F1	Aufruf der Passwort-Eingabe innerhalb von 3 Sekunden
Password 324	F5	Eingabe des Passworts
1 Service Mode	F5	Aufruf des Service Mode

Press repeatedly, till **“Calibration“** will displayed.

Press 2x .

Press repeatedly, till **“9 Corner Correction“** will displayed.

Press .

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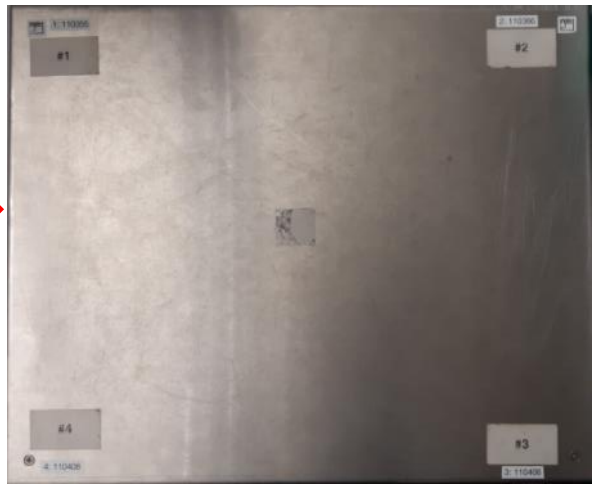
Press repeatedly, till **“Corner Adj. LFT“** will displayed.

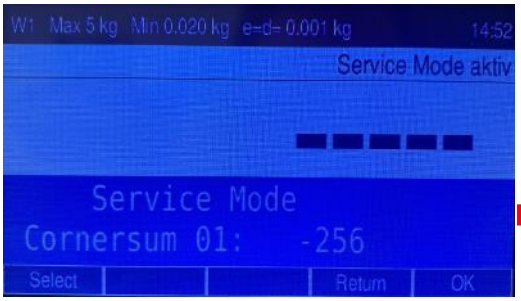
Confirm with .

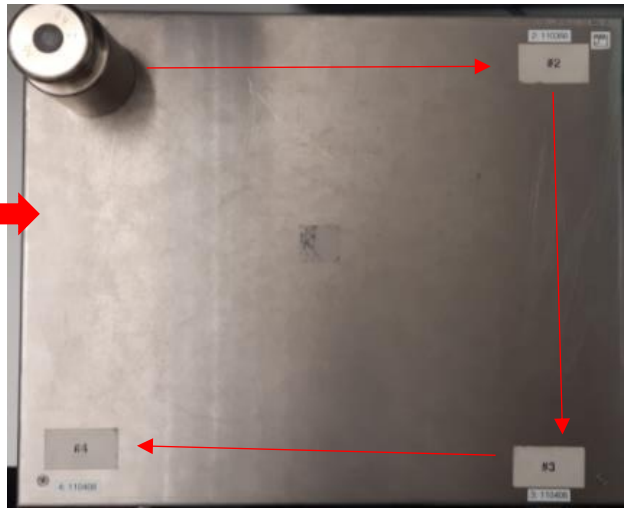


Confirm with .

"Unload Scale" only must be carried out once.

(Cornersum 01 = load 1 corner with calibration weight,
Cornersum 02 = load 2 corner with calibration weight, ...)





Confirm with .

Important: The order of measurement of the corners depends on the order in which the addresses were assigned to the load cells. See **“Example of Segments and DLCs”**

This is now being repeated for all corners.

If all corners have been measured, the determined correction values are displayed again.

All correction values appear as a check:

Corn.Corr.01-04 Confirm with .

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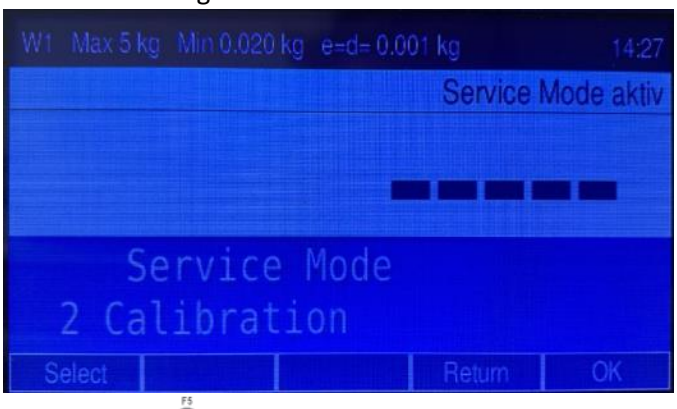
You automatically return to this window:

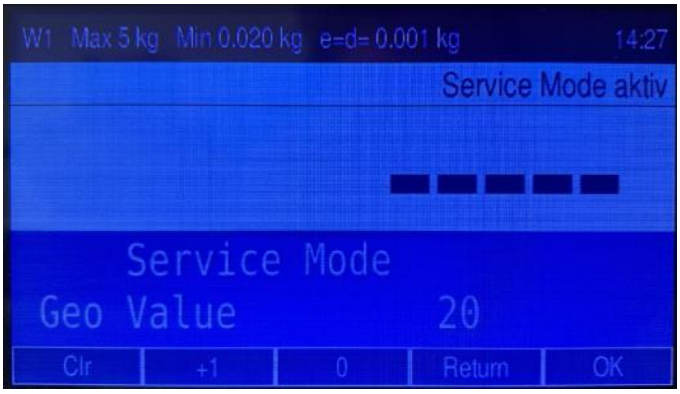
Now you should calibrate the scale again with a calibration weight using the mode **“2 Calibration”.**

Calibration

Remove the weight from the scale.



Confirm with .



"Geo Value" must receive the value 20 in most cases.

Confirm with .

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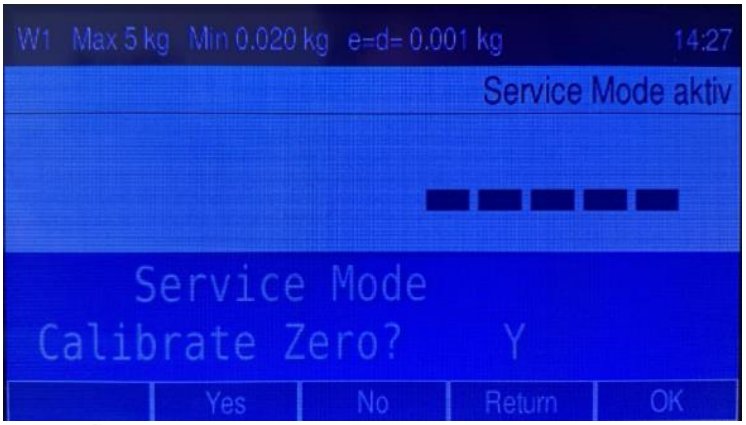
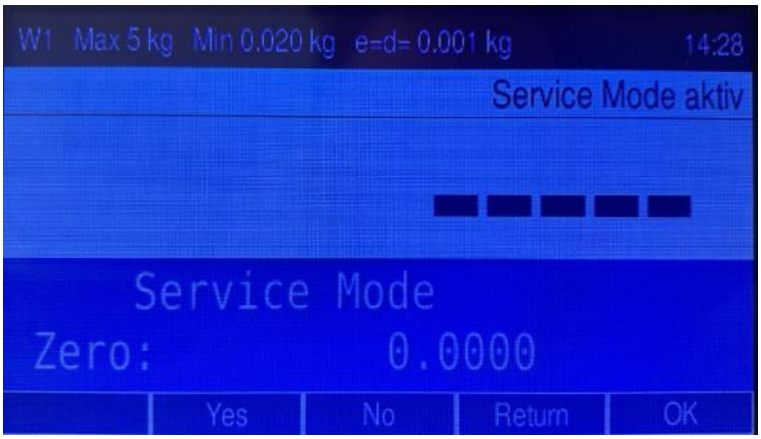
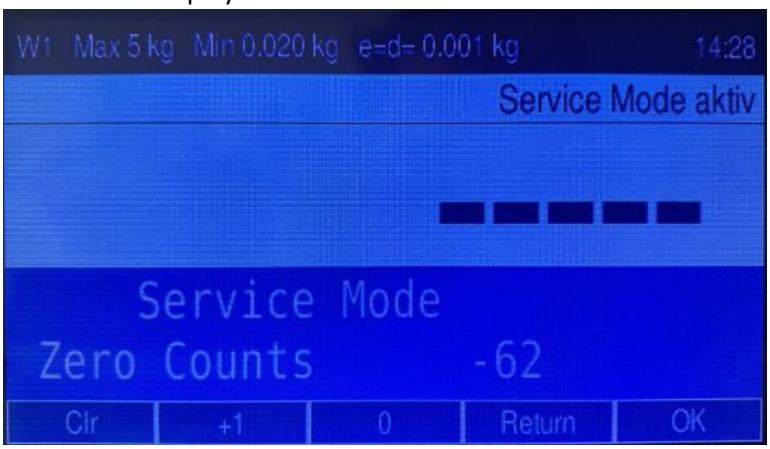


Press for **Yes** when the scale is unloaded and press to confirm.



Confirm the displayed value with .



Confirm the displayed value with .

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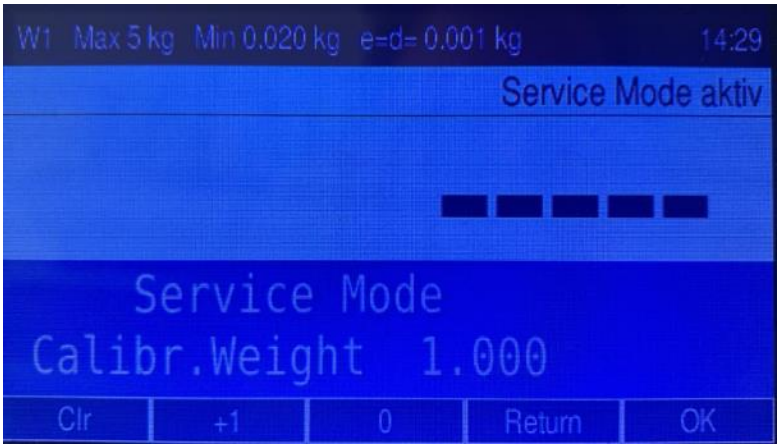
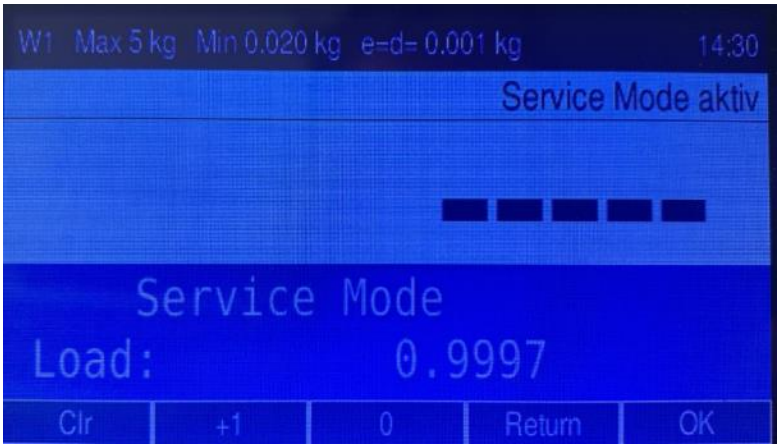
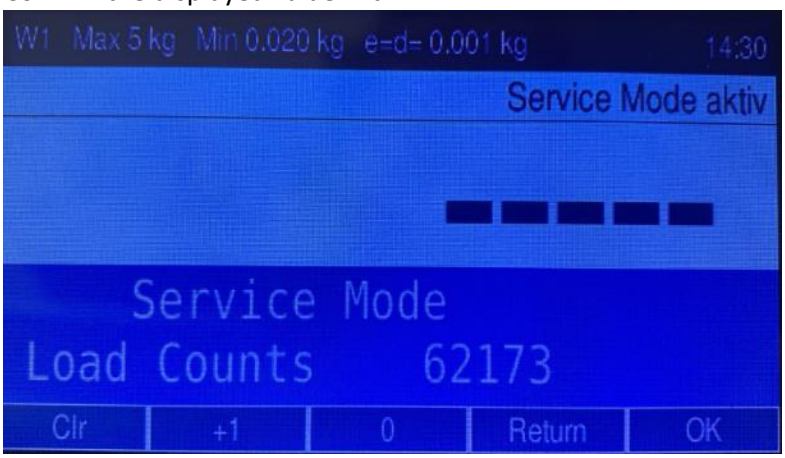
Now the calibration weight must be entered. In this example 1kg, place the weight as centrally as possible on the scale:



Confirm with .



Confirm the displayed value with .



Confirm the displayed value with .

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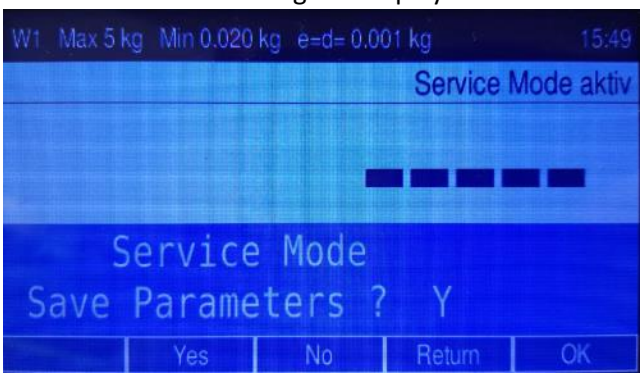
Then return to the following window:

Press till the following will displayed:



Press for **Yes** and then to save the parameters.
Now, no matter where the weight is on the scale, the same result should always appear.

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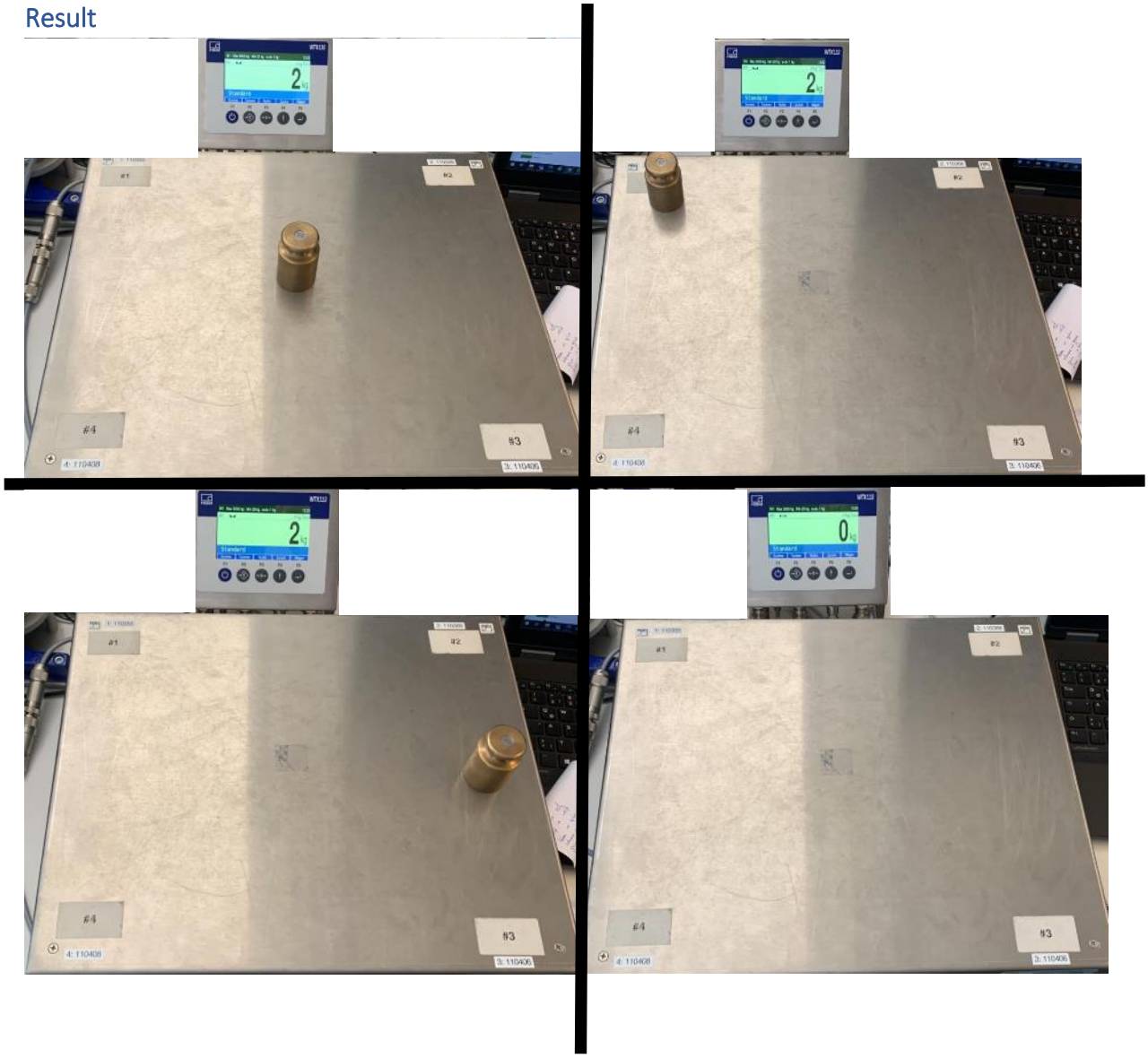
Result



Legal note

These examples are for illustrative purposes only. They are not subject to any warranty or Liability claims.