User Manual

BASIC

REFLEX Basic

Stand alone weighing system edition for truck or semi-trailer

Version 1 to XXX

CLERAL

Revision manual 02/17

Caution

Your Cleral onboard weighing system is a tool. Learning to work with it can only make it more efficient. Read this manual before using your Kiload.

Weigh bridge (certified)

Acquire the weights needed to calibrate using a certified weigh bridge (Platform scale). Whenever possible, record the weights while sitting on the weigh bridge.

Pneumatic connections

Make sure that all air connections are made according to the installation diagrams.

Lift Axles

Lift axles should always be in the UP position while acquiring and recording the weights in the Kiload. If the vehicle is equipped with an automatic lift axle activation device, then you must acquire and record the weights while the lift axle is engaged (touching the ground) for both empty and heavy calibration. And use the system with lift axle down.

Fuel

To enhance the performance of your Kiload, fuel tanks must be full to acquire and record the weights.

Air leaks

A leak in the pneumatic system will falsify the pressure readings for calibration. Thus , you will end up with erratic and false weight readings. You most likely have a leak if the readings are not stable while your vehicle is stationary. A frequent start of the compressor is a good indication of an air leak.

Recalibration

Recalibration is necessary if you have adjusted or replaced a leveling valve or if you've replaced a mechanical sensor, air transducer, or flexmeter.

Slopes

A slightly sloped terrain will not affect the accuracy of your scale, but the bigger the inclination the higher the error margin. Learning to work with your Cleral system will ultimately give you better precision in these conditions.

Technical Support

For technical help, consult your local authorized Cleral dealer.

Warranty

Cleral products are warranted against defects in workmanship for a period of one year from the original date of purchase. The defective covered product will be repaired or replaced by the manufacturer. The defective product needs to be sent by your local dealer to Cleral with proof of purchase. This warranty does not cover injury or damages caused by the use of this product. It also does not cover all costs connected with the replacement part (labor, shipping and handling or other). Cleral will not be liable for fines issued for overweight violations while using its products.

Contact your local Cleral dealer for repairs and replacement parts.

Thank you for choosing and trusting CLERAL CANADA

To contact Cleral Inc.

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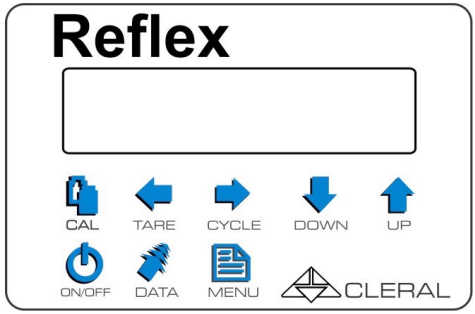
Contents

Keypad description



ON/OFF On/Off main power

CAL Access to the calibration menu

TARE To perform empty Tare or To back up while in menus

DOWN Lower values or Down while in the menu

UP Raise values or Up while in the menu

CYCLE Change channel, right in the menu or confirm

DATA Transmit data by RS232 or print, EXIT

MENU Access to menu

DOWN UP Quick click will Freeze while in Total mode (Main screen)

DOWN UP Click and hold will Pause while in Total mode (Main screen)

DOWN UP Quick click, while in calibration mode, resets to 0,00

A : Letter A followed by a colon (:) Represents channel A

B : Letter B followed by a colon (:) Represents channel B

C : Letter C followed by a colon (:) Represents channel B

T : Letter T followed by a colon (:) Represents the total of all activated channels

Reflex's Flow chart

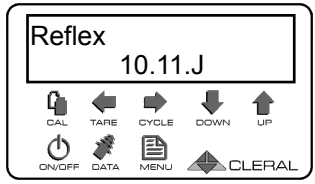
Menus and sub-menus.

10.11.J & +

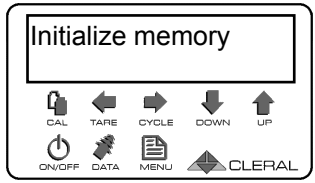
- On/Off
- Weight display
- CAL ibration
  - Empty
  - Full
  - Calibration Multi point
  - Indivudual tare
  - Adjuste
- TARE
- CYCLE
- DATA
- MENU
  - Wireless
    - Acquire *(If wireless connected)*
  - Options
    - Language
    - Net weight
    - Measure unit
    - Increments
    - Ton display
    - Cycle time
    - Time off
    - Hide MinAir
    - Hide N/A
    - Pause option
    - Tare? Default choice
    - Target
  - Configuration
    - Printer
      - RS232 printer *(If printer connected with wire)*
      - Wireless printer *(If connected wired and RS232 printer disabled)*
      - *Wireless ID (If wireless printer is enabled)*
      - Nb Ticket *(If an active printer)*
      - Unit name (If an active printer)
    - Suspension
      - Maximum channel
      - Virtual steer
      - Active channels
    - LimitSensor
    - M/D/Y 12/30/16
    - Time 00:00:00
      - Cal/Opt/Tek
      - Tare
      - On/Off
      - Acquire(If active wireless)
      - *Acquire change adress channel (If active wireless)*
      - System violation protection
      - New password
    - Safety menu
    - Multi zones
  - Technician
    - Gage
    - Zeros
    - Factors
    - Tare
    - Error calibration
    - Protection calibration
    - Plucker
      - System status
      - Channels status
    - Status
  - Manufacturer(Access with code)
  - Production (Access with code)

Turning the unit On

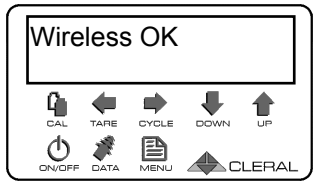
When turning the Reflex On, the software version is displayed.



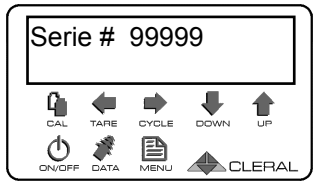
Thereafter, the system indicates that it initializes its memory.



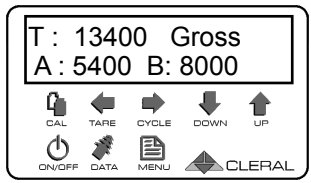
If a wireless device is powered, it indicates Wireless OK. If there are no wireless devices powered, the message is not indicated.



Thereafter, the serial number of the unit will appear.

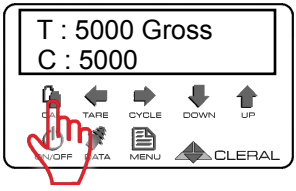


When initialization is complete, the device returns to the weight display mode.

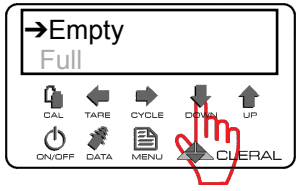


Calibration menu

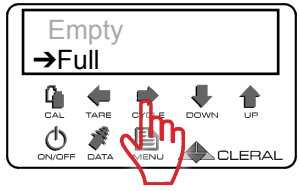
Enter the Calibration menu to calibrate your Reflex.



To enter the Calibration menu, press CAL

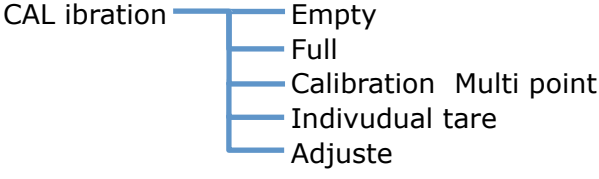


To reach a sub-menu, press on down arrow.

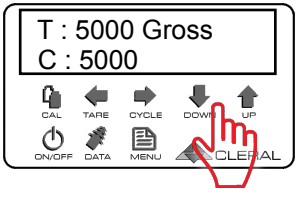


When the cursor points to the desired sub-menu, press right arrow to enter

Once in Calibration, here is what you will see by scrolling down:



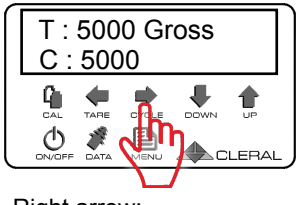
Navigating in the Calibration menu :



Arrow up or down:

Moving up or down.

Increase or decrease the values.

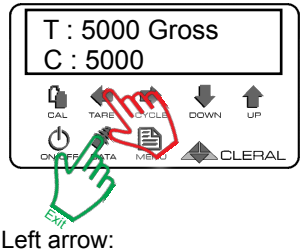


Right arrow:

Enter a menu.

Select an editable value, it will start flashing.

Confirms the edited value, stops flashing.



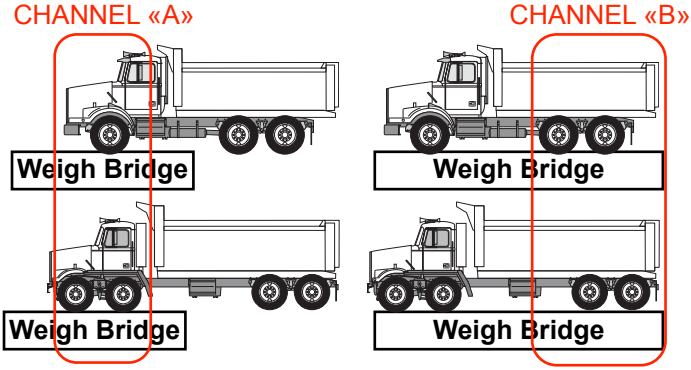
Left arrow:

To back up and confirm.

DATA : To confirm and exit at any time.

Acquiring straight body truck weights 4X2 6X4 and 8X4

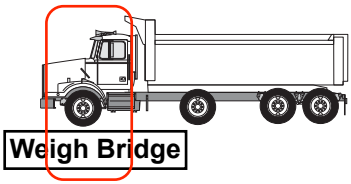
The first step in the calibration of a straight body truck is to weigh the steering axle (Channel A). The next step is to weigh the entire vehicle (Total weight) Then determine the weight of the drive axle(s) (ChannelB) by doing the math.



Total
- Channel **A**
= Channel **B**

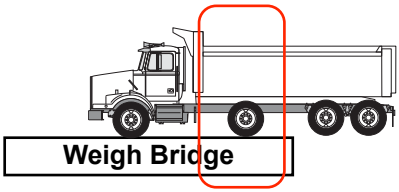
In the case of a vehicle with an auxiliary axle, liftable or fixed.

CHANNEL «A»



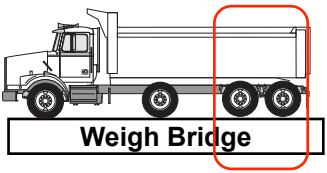
Advance the truck to weigh the steering axle only to get the weight of channel A.

CHANNEL «B»



Advance the vehicle to weigh the steering and auxiliary axles then subtract the weight of the steer axle. You get the weight of channel B.
(A + B) -A) = B

CHANNEL «C»

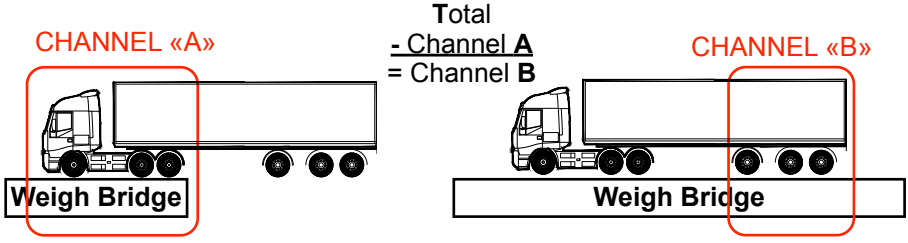


Advance the entire vehicle on the weighbridge then subtract the weight of channels A and B from the Total weight. You get the weight of channel C.

T - (A+B) = C

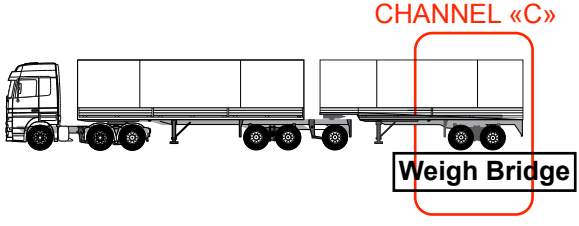
Acquiring tractor-trailer weights

The first step is to weigh the tractor (Channel A) then weigh the entire rig (Total). The difference between the total weight and the weight of channel A is the weight of the semi-trailer (Channel B).



Acquiring additional trailer weight

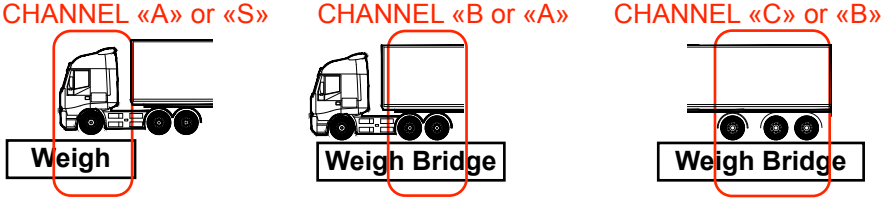
Simply weigh the additional trailer alone (Channel C)



Acquiring steering axle weight (Instrumented or Virtual)

The first step is to determine the weight of the steering axle (Channel A or S) and then weigh the tractor. The tractor weight minus the weight of the steering axle gives you the weight of the drive axle(s) (Channel B). The weight of the trailer is acquired by weighing only the semi-trailer or by taking the total weight of the rig and subtracting the total weight of the tractor.

If the steering axle is instrumented : CHANNEL A B C
If the steering axle is virtual : CHANNEL S A B



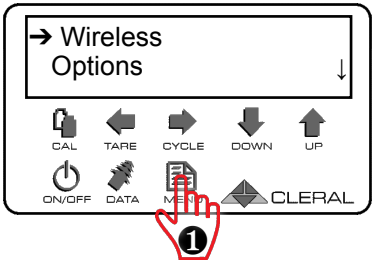
Wireless Sensor Acquisition

If you have a wireless sensor, this function allows you to acquire and pair it with the Reflex. It must be associated before calibration.

Before calibrating the instrument, a sensor must be associated for each channel. To do this, you must acquire the sensors and anchor them. Each sensor has a unique address.

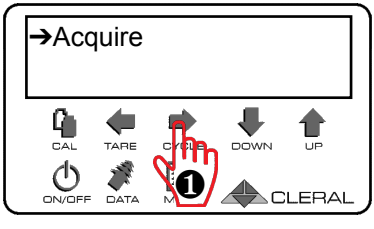
Automatic sensor acquiring

*** Operate the brake or backup lights. *** (depending on the white wire power source)



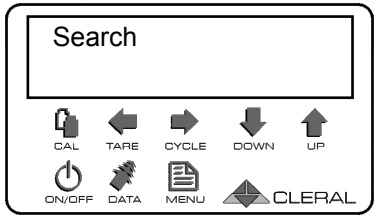
Press Menu to enter.

The Acquire message appears.

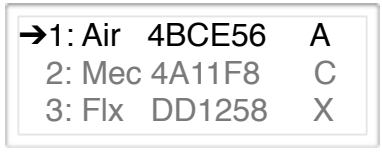


Press right arrow to confirm.

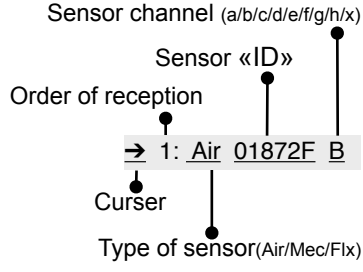
The monitor displays "Search".



Here is an example of what the Reflex will have found. The curser points to the first device found. Displayed is the type of device (Air-mechanical-or flexmeter), the «ID» and the channel associated with the given device.



Explanation:



Note!

If the PS2 displays **«None»** this means that it has not found any device. If this happens, try an automatic acquiring again. If this fails, try a manual acquiring. In case nothing has changed, refer to the Acquiring problems section.

Important!
If a sensor is **Fixed** on a channel, it does not appear in the search results when acquiring. To see if your channel is fixed, refer to the section Fixing a channel.

Acquiring procedures:

↳Validate and anchor the channel
↳Changing the channel
↳Exit

Selecting and Validating the channel

```
 1: Air    4BCE56    A
➔ 2: Mec  4A11F8    C
 3: Flx    DD1258   X
```

If the sensor is on the correct channel, anchor. Press right arrow to confirm. The sensor line becomes highlighted and the cursor moves down.

```
   Mec  4A11F8    C
➔Ancrer capteur
```

Do this for each sensor to be anchored. To move to the next address press the down arrow. To move upwards press the up arrow.

Changing channel

```
 1: Air    4BCE56    A
➔ 2: Mec  4A11F8    C
 3: Flx    DD1258   X
```

When the cursor points to the address, press Data. The Channel flashes indicating that it can be changed. Up or Down arrow to change the channel. To confirm, press the Right arrow.

If you try to confirm a channel that is already configured inside the Reflex the INT message will be indicated.

If you try to configure a sensor with a fixed address, the Reflex will not change the channel.

Note!
12 channel possibilities (A B C D E F G H I J K L).

Important!
There is only one channel available on a truck configuration. It is not possible to anchor the same channel twice in the monitor.

Calibration 4X2 6X4 8X4 - Empty vehicle

Acquiring empty vehicle weights

Move the empty truck onto the weigh bridge. The wheels of the drive axles must not touch the platform of the weigh bridge.
Note the empty Axle Weight "A".

A: 5400 kg

Move the Total truck on the platform.
Note the total weight of the truck.

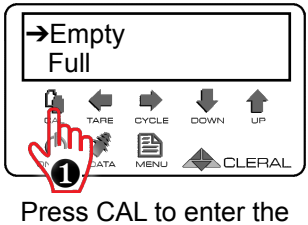
T : 13400

Subtract the Channel A weight from the Total. You get the weight of channel B.

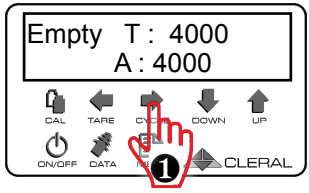
Total weight
- Channel A
= Channel **B**

B: 8000 kg

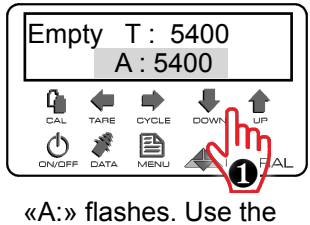
Go to the calibration menu



Press CAL to enter the calibration mode

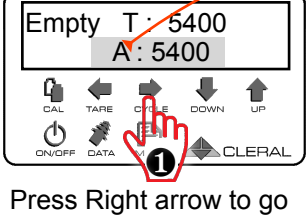


The cursor shows empty, press Right Arrow to enter the menu

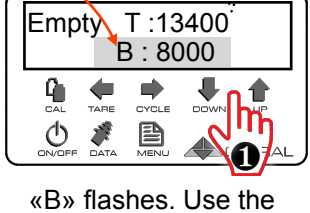


«A:» flashes. Use the arrows to record channel A empty weight.

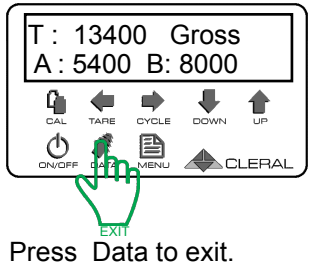
Note!
If the weight of Channel A is correct; You can adjust the weight of channel B with Total.



Press Right arrow to go to «B:».



«B» flashes. Use the arrows to record channel B empty weight.



Press Data to exit.

Calibration 4X2 6X4 8X4 - Full weights

Acquiring Full vehicle weights

Move the Full truck onto the platform. The wheels of the drive axles must not touch the platform of the weigh bridge.
Note the full Axle Weight "A".

A: 9000 kg

Move the entire vehicle onto the weigh bridge.
Note the total weight of the truck.

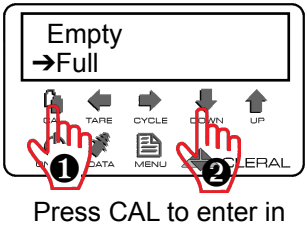
T: 27000

Subtract the Channel A weight from the Total. You get the weight of channel B.

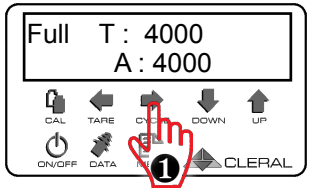
Total weight
- Channel A
= Channel **B**

B: 18000 kg

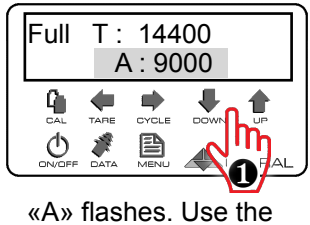
Recording Full weight values



Press CAL to enter in calibration mode and down arrow to go to Full menu.



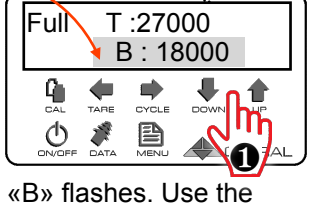
Press right arrow to go to channel A.



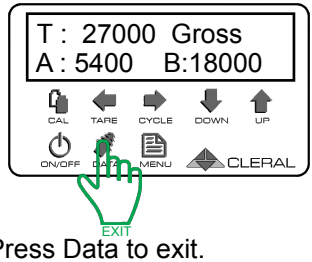
«A» flashes. Use the arrows to record Channel A Full weight.

Note!
If the weight of Channel A is correct; You can adjust the weight of channel B with Total weight.

Press Right arrow to go to «B:».



«B» flashes. Use the arrows to record channel B full weight.

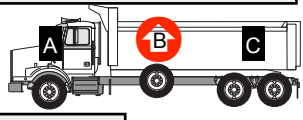


Press Data to exit.

Calibration 8(2)X4 or 8X(2)4 - Empty Weights

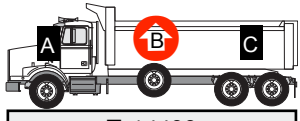
Acquiring empty vehicle weights

Move the empty truck onto the platform. The wheels of the drive axles must not touch the platform of the weigh bridge. The lift axle must be in the raised position.
Note the empty Axle Weight "A".



A: 5900 kg

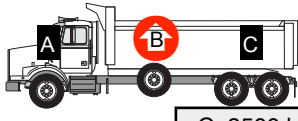
Move the entire vehicle over the weigh bridge.
Note the total weight of the truck.



T: 14400

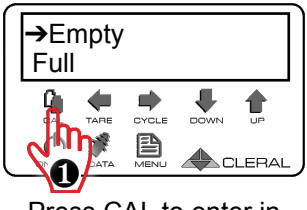
The Total weight minus the weight of Channel A. You get the weight of Channel C.

Total weight
- Channel A
= Cahnnel **C**

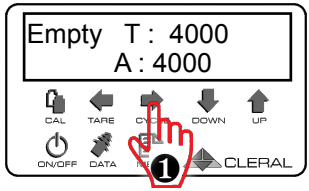


C: 8500 kg

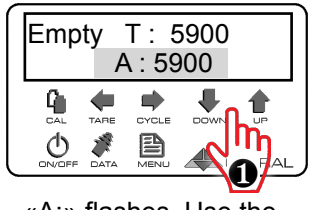
Recording empty weight values



Press CAL to enter in calibration mode.



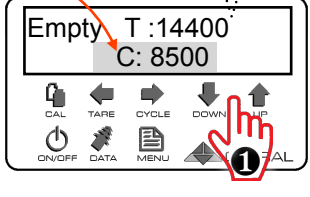
The cursor shows empty, press Right Arrow to enter the menu.



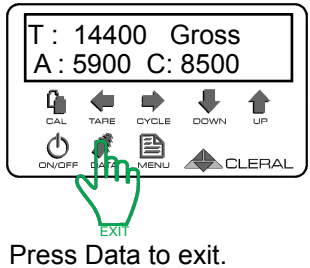
«A:» flashes. Use the arrows to record channel A empty weight.

Note!
If the weight of Channel A is correct; You can adjust the weight of channel C with Total weight.

Press Right arrow to go to «C:».



«C» flashes. Use the arrows to record channel B empty weight.

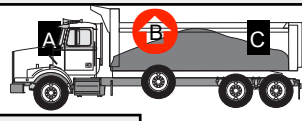


Press Data to exit.

Calibration 8(2)X4 or 8x(2)4 - Full Weights

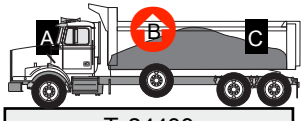
Acquiring full vehicle weights

Advance the full truck on the weigh bridge. The wheels of the drive axles must not touch the platform of the weigh bridge.
Note the Full Axle Weight "A".



A: 12400 kg

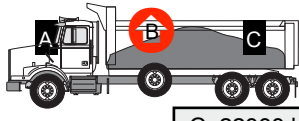
Move the entire vehicle over the weigh bridge.
Note the total weight of the truck.



T: 34400

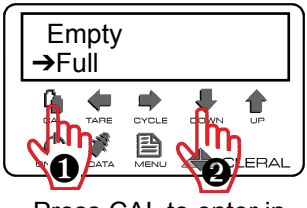
The Total weight minus the weight of Channel A. You get the weight of Channel C.

Total weight
- Channel A
= Channel **C**

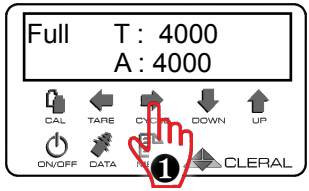


C: 22000 kg

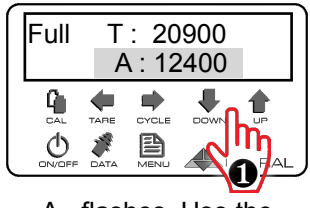
Recording Full weight values



Press CAL to enter in calibration mode and down arrow to go to Full menu.



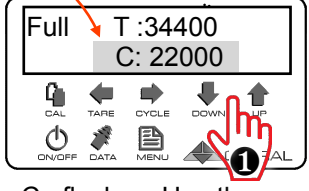
Press right arrow to go to channel A.



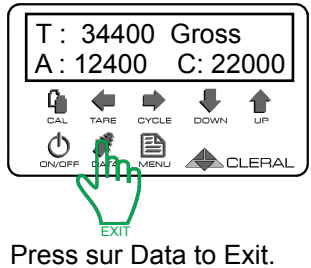
«A» flashes. Use the arrows to record Channel A Full

Note!
f the weight of Channel A is correct; You can adjust the weight of channel C with Total

Press Right arrow to go to «C:».



«C» flashes. Use the arrows to record channel C full weight.

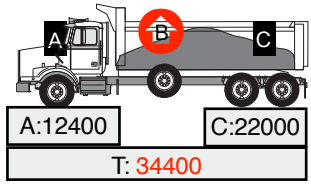


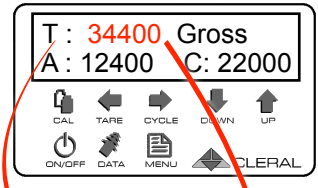
Press sur Data to Exit.

Calibration 8(2)X4 or 8x(2)4 - Lift Axle

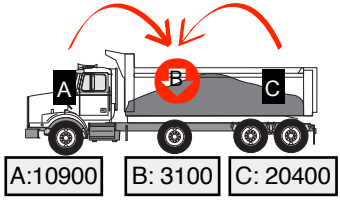
Acquiring full vehicle weights

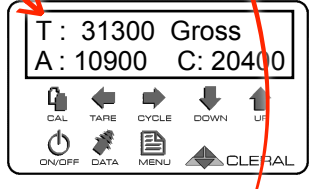
On the weigh bridge, note the Total weight on the Reflex.



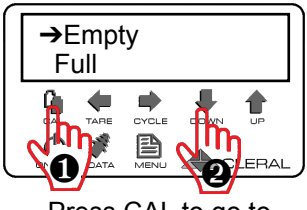


Deploy the auxiliary axle and adjust its pressure gauge to 30 psi. The weight transferred to axle B changes the total weight.

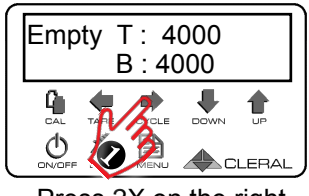




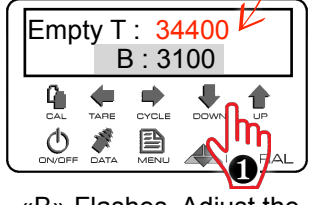
Step 1- Calibration at 30 PSI to determine empty weight



Press CAL to go to calibration and right arrow to go to empty calibration.



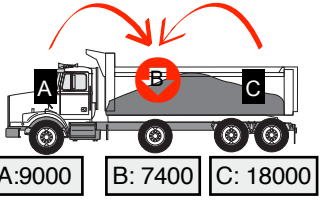
Press 2X on the right arrow to go to channel B.

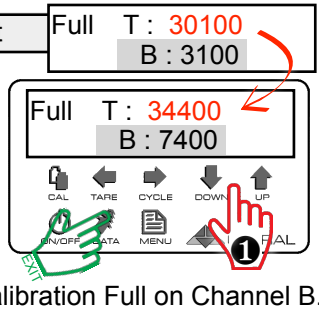


«B» Flashes, Adjust the weight of this Channel by bringing the total weight back to the one noted

Step 2- Calibration at 90 PSI to determine full weight

Adjust the pressure to 90 psi. Weight transferred to axle B modifies the total weight. Adjust the weight of Channel B in reference to the Total Full weight.



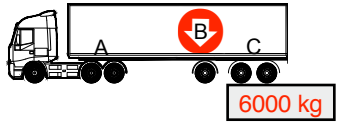


1-Go to Calibration Full on Channel B.
2- When it flashes, adjust the weight of this Channel in reference to the Total full weight.

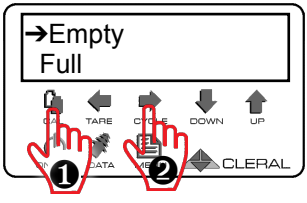
Calibration - Empty Semi- trailer (Auxiliary instrumented)

Acquiring primary axle weight

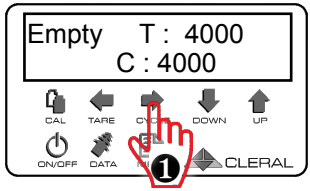
Advance the empty semitrailer on the weigh bridge. The wheels of the auxiliary axle must not touch the platform of the weigh bridge.



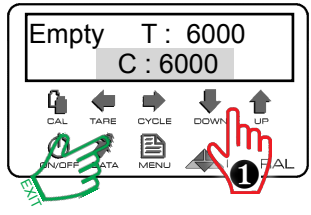
Calibration of primary axle weight



Press CAL to go to calibration and right arrow to go to Empty calibration.



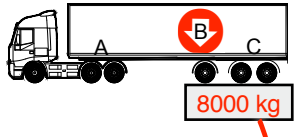
Press 2X on Right Arrow to go to Channel C



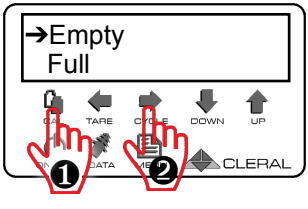
"C" flashes, Adjust the weight of this channel. DATA to exit

Acquiring auxiliary axle weight

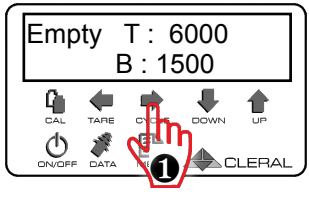
Move the empty semitrailer on the weigh bridge. The wheels of the auxiliary axle must be on the weigh bridge.



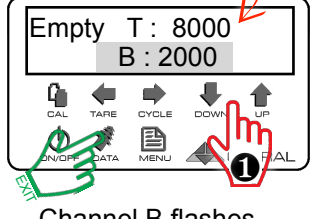
Calibration of auxiliary axle



Press CAL to go to calibration and right arrow to go to Empty calibration.



Press Right Arrow to go to Channel B



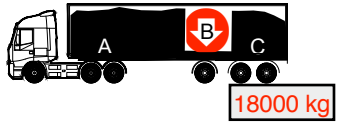
Channel B flashes, Adjust the weight of this channel <u>relative to the Total weight.</u>

Calibration - FULL Semi-trailer (Auxiliary instrumented)

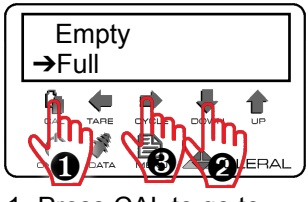
Acquiring primary axle weight

Move the Full trailer to on the weigh bridge.

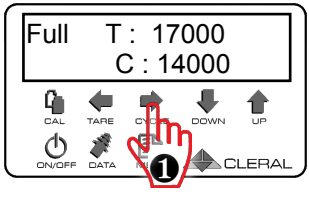
The wheels of the auxiliary axle must not touch the platform of the weigh bridge.



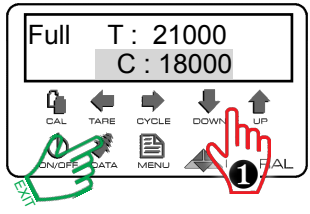
Calibration of primary axles



1- Press CAL to go to calibration.
2- Down Arrow to go to Full.
3- Right Arrow to enter Full Calibration.



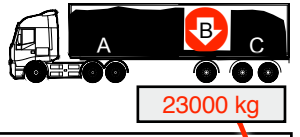
Press 2X on Right Arrow to go to Channel C.



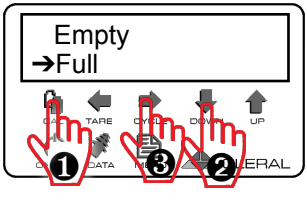
"C" flashes, Adjust the weight of this channel. DATA to exit.

Acquiring the weight of the auxiliary axle

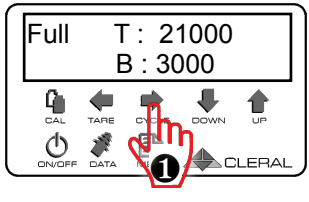
Move the FULL trailer on the weigh bridge. The wheels of the auxiliary axle must be on the weigh bridge.



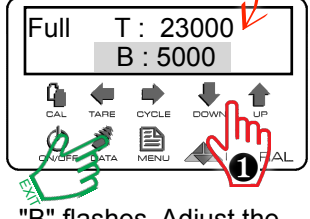
Calibration of auxiliary axle



1- Press CAL to go to calibration.
2- Down Arrow to go to Full.
3- Right Arrow to enter Full Calibration.



Press Right Arrow to go to Channel B.

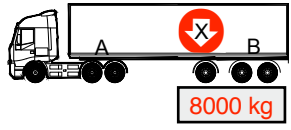


"B" flashes, Adjust the weight of this Channel relative to the Total weight.

Calibration - Semi-Trailer (Non-instrumented Auxiliary Axle INCLUDED)

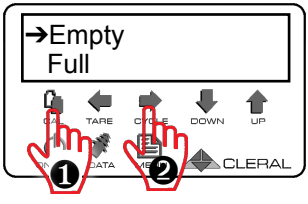
Acquiring Empty weight

Method Included Auxiliary: The weight of the auxiliary axle is INCLUDED in the weight of the semi-trailer; The calibration is carried out with the auxiliary axle DEPLOYED.

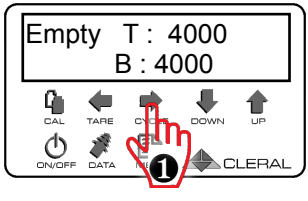


Move the empty semitrailer on the weigh bridge. The tractor wheels must not touch the weigh bridge platform.

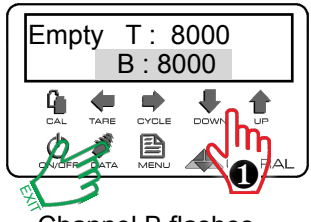
Calibration of the empty semi-trailer



Press CAL to go to calibration and right arrow to enter Empty Calibration.



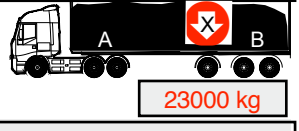
Press Right Arrow to go to Channel B



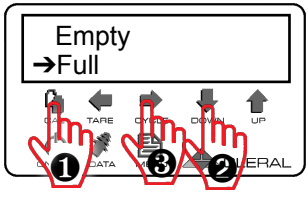
Channel B flashes, Adjust the weight of this Channel.DATA to Exit.

Acquiring Full weight

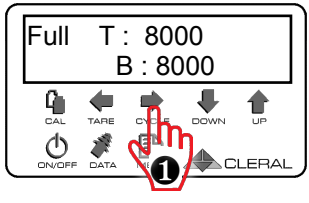
Advance the empty semitrailer on the weigh bridge. The wheels of the auxiliary axle must be on the weigh bridge.



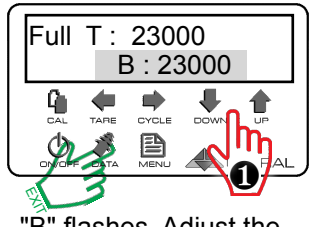
Calibration of the loaded semi-trailer



1- Press CAL to go to calibration.
2- Arrow down to go to Full.
3- Right Arrow to enter Full Calibration.



Press Right Arrow to go to Channel B

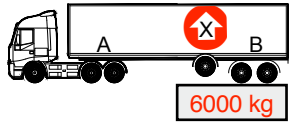


"B" flashes, Adjust the weight of this Channel relative to the Total weight.

Calibration - Semi-trailer (Auxiliary axle not instrumented EXCLUDED)

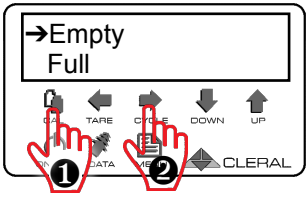
Acquiring Empty weight

Auxiliary Method Excluded: The weight of the auxiliary axle is EXCLUDED in the weight of the semi-trailer; The calibration is carried out with the <u>auxiliary axle lifted</u>.

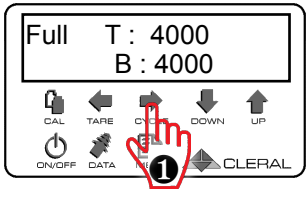


Move the empty semitrailer on the weigh bridge. The tractor wheels must not touch the platform of the weigh bridge.

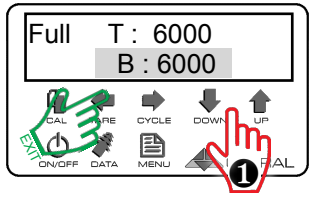
Calibration of the empty semi-trailer



Press CAL to go to calibration and right arrow to enter Empty Calibration.



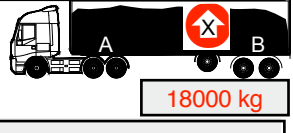
Press Right Arrow to go to Channel B



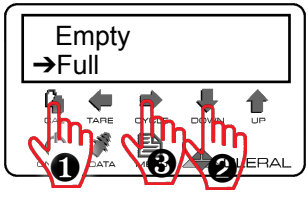
"B" flashes, Adjust the weight of this channel. DATA to exit.

Acquiring Full weight

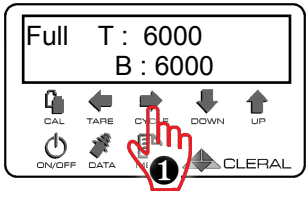
Move the Full semitrailer on the weigh bridge. The auxiliary axle is lifted, the wheels of the tractor must not touch the weigh bridge.



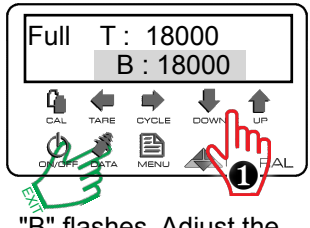
Calibration of the Full semi-trailer



1- Press CAL to go to calibration.
2- Down Arrow to go to Full.
3- Right Arrow to enter Full Calibration.



Press Right Arrow to go to Channel B



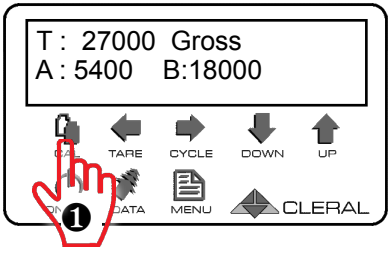
"B" flashes, Adjust the weight of this Channel relative to the total weight.

Multi point calibration

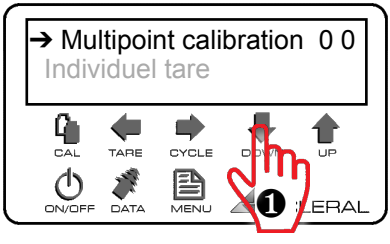
Activating Multi-point Channel

When the suspension has a nonlinear effect, the Multi-calibration is used. The algorithm of this function increases the accuracy.

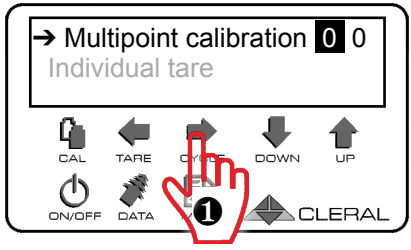
After activating the channel in Multipoint, you must do the Calibration of this Channel.



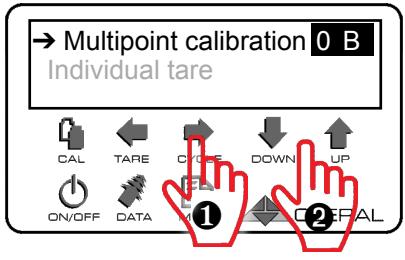
To activate this function, press CAL to enter the calibration menu.



In the drop-down menu, press down arrow repeatedly to go to Multipoint Calibration.



On Multipoint Calibration, press right arrow. The channel will flash. Only the activated channels will be displayed. 0 not enabled.



1- Press on right arrow to go to channel B, for example.

2- Press on the up arrow to go from 0 to B.
So, in this case the Multipoint is only on channel B.

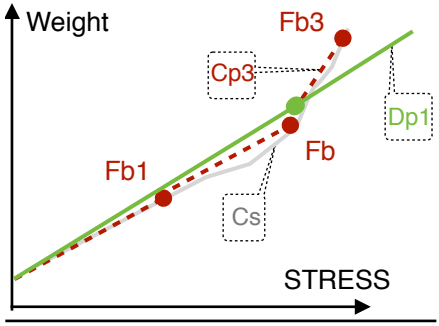
Subsequently, a three-point calibration of this channel must be performed.

Determining calibration points

This function requires three FULL calibration points instead of one. Here is how to determine the optimal multi-calibration curve.

First, determine the average weight you are carrying on the channel to be calibrated (F2 = 14000kg). Next, determine the weight above the average weight that will never be exceeded (F3 = 17 000 kg). Then determine the minimum load you would carry (Fa1 = 11000kg). Thereafter, it is necessary to calibrate these three points depending on weight targets.

Note!
You must respect the legal load limits at all time. In the case of our example, the curve of Cs suspension illustrates the deformation of the suspension by weight. Dp1 segment represents the calibration curve to a single point. As noted, there are differences in weight between this line and the curve Cs Dp1. The curve is the curve of Cp3 multi-calibration. Note that the differences are considerably reduced.



Calibrating the 3 points of Multi-Cal

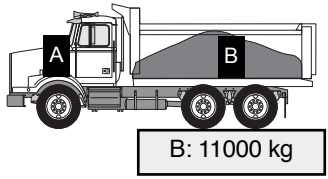
After determining the 3-point loading target, move the loading and calibration of point 1, 2 and 3. **It important to perform the loading progress from lightest to heaviest.**

IMPORTANT
Before doing the MultiCal calibration, it is mandatory to have previously calibrated the empty weights.

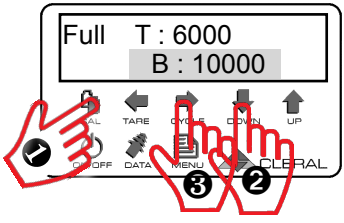
Steps to follow
1 - Load the truck according to point 1
2 - Go on a weigh bridge to determine the weights.
4 - Go to the full calibration menu.
5 - Adjust the weight according to points
Repeat these steps for point 2 and 3.

Example based on channel

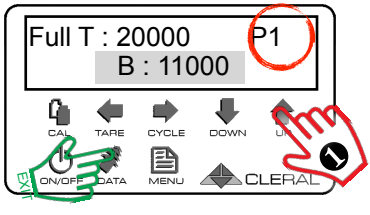
Point 1 Load: 11000 kg



On the weigh bridge, Go to full calibration, pressing CAL and Down arrow to enter the Full menu and Right Arrow for Channel B.



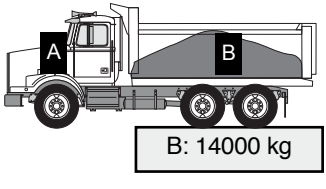
When the cursor is on the channel, use the arrows to record the weight of point 1.



At each calibration point, the display tells you in the right corner, which calibration point you are on.

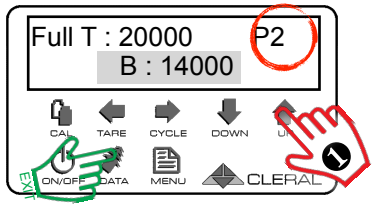
Get a load for the second calibration point.

Point 2 Load : 14000 kg



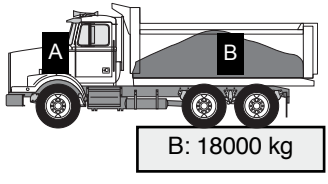
On the weigh bridge go into full calibration.

When the cursor is on the channel, with the arrows, record the weight of point 2.

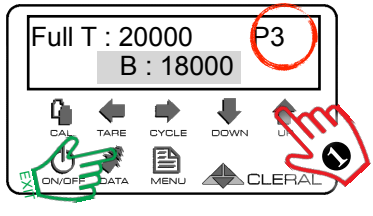


Get a load for the second calibration point Get a load for the third calibration point.

Point 3 Load : 18000 kg



On the weigh bridge, press Cal, then Down arrow to select Full.

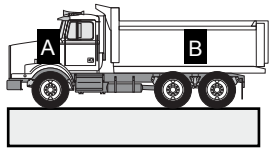


When the cursor is on the channel, with the arrows, record the weight of point 3.

Important!
must repeat the full calibration of the three points (1,2 and 3) in ascending order) calibration.

Important!
If you disabled the multi-Cal, the factor that will be accounted for will be point 2, because it is determined by the maximum legal weight.

Tare

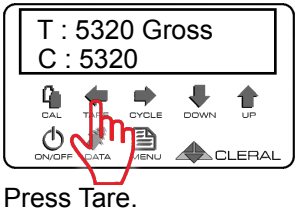


Tare resets the original weight of the empty truck. To do this, you must be sure that the vehicle is EMPTY and is on as flat a surface as possible or on a weigh bridge. It is recommended that the tare be done when the fuel tank is full.

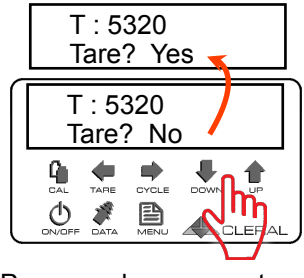
NOTE: When the vehicle is empty, the auxiliary axle must be lifted.

Tare in Gross mode

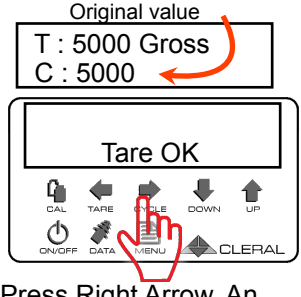
Tare the unit while in Gross mode will bring the values back to the original empty weight.



Press Tare.



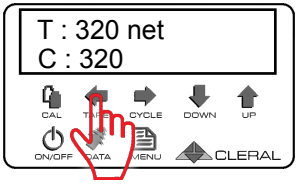
Press on down arrow to switch from No to Yes.

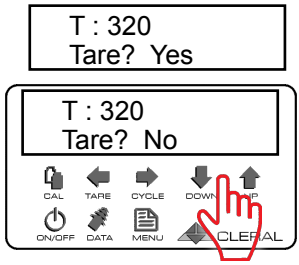


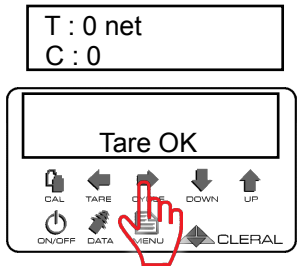
Press Right Arrow. An Ok confirms that the tare is done.

Tare in Net mode

Performing a Tare while in net mode will bring your values to 0,00. No matter how much the vehicle weighs at that moment.







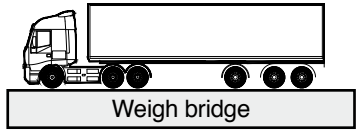
Important !

If you have calibrated your vehicle when the fuel tank was full and you perform a zero when it is empty, you need to consider that your tank contains 300 liters, you'll find a difference of 240 kg less compared to a weigh bridge (mass diesel 800 kg / m3).

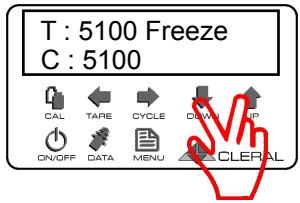
Freeze

The FREEZE function freezes the sensors readings when it is activated. This allows the operator to calibrate on uneven ground. This function is useful especially when the operator needs to move quickly off the weigh bridge. Here is how to use this function.

STEP : 1
Move the complete vehicle on the weigh bridge. Note the weight.

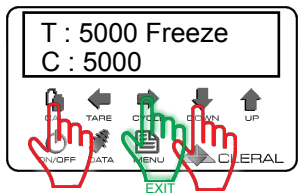


STEP : 2
Press simultaneously on both arrows once. Freeze will appear. The sensor readings are saved.

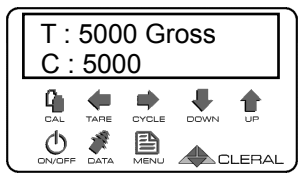


STEP : 3
You can now leave the weigh bridge to calibrate your scale anywhere. No matter if you are on flat ground or not.

STEP : 4
Example: Empty Reflex calibration.



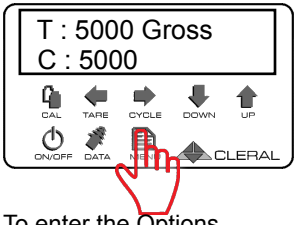
STEP : 5
Once calibrated, press simultaneously once on both arrows to exit the Freeze mode. This will take you back to the main scree.



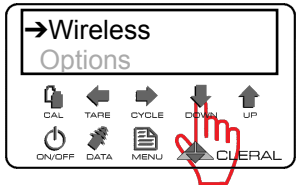
Note :
It is important to exit the Freeze mode after calibrating, Empty or Full.

Options menu

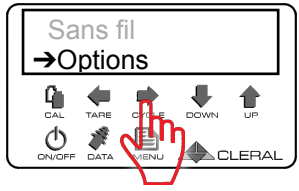
Enter the Options menu to change any Reflex option.



To enter the Options menu, press Menu.



Press down arrow to move the cursor to Options.

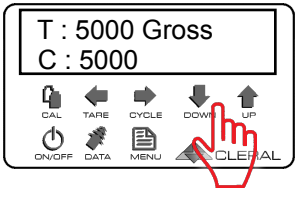


When the cursor points to Option, press right arrow to enter this menu.

Once in Options, here is what you will see by scrolling down:

Options
- Language
- Net weight
- Measure unit
- Increments
- Ton display
- Cycle time
- Time off
- Hide MinAir
- Hide N/A
- Pause option
- Tare? Default choice
- Target

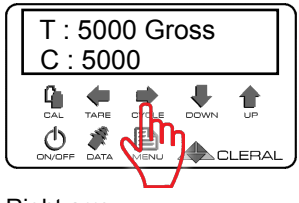
Navigating in the Options menu:



Arrow up or down:

Moving up or down.

Increase or decrease the values.

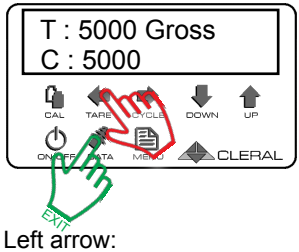


Right arrow:

Enter a menu.

Select an editable value, it starts flashing.

Confirms the value change, stops flashing.



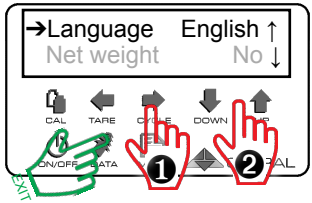
Left arrow:

To go back and confirm.

DATA : To exit at any time and confirm.

Language

Reflex can display in either English or French.

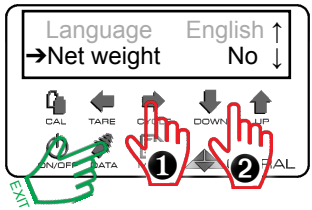


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Net weight

Gross weight displays the weight of the vehicle AND its payload. The net weight will only display the payload.



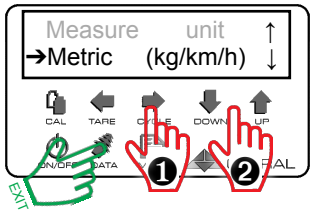
Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Note!
If the REFLEX is in net weight mode, the empty values will be close to zero.

Measure units

The weight can be displayed in Metric Kg and Km/h or Imperial Lbs and mph. If you switch from one unit to another, the weight will be converted automatically.

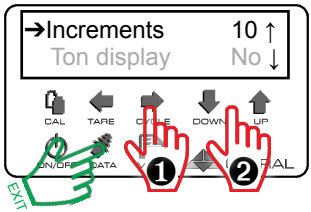


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Increments

You can display weight increments of 10's or 100's.

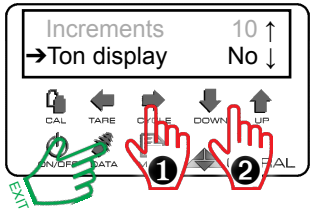


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Ton display

You can also choose to display Tons. It will be metric or imperial according to the unit of measurement.

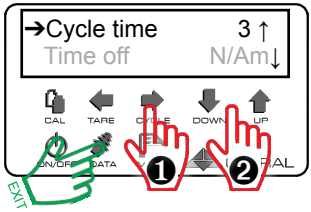


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Cycle time

You can choose how long you want each channel to be displayed when in Cycle mode. In seconds. This time is used when there are more than 2 channels and it is 1 to 10 seconds.

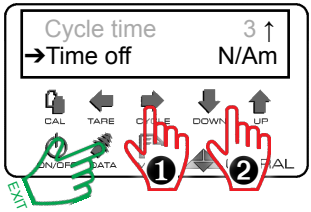


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Time off

The shutdown time is used to close the Reflex after 1 to 10 minutes of use. Not active on a ReflexPro. m for minute.

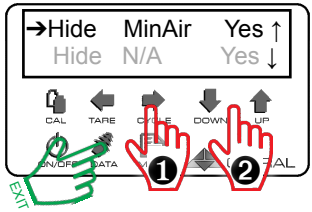


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Hide MinAir

This function hides the channel when the sensor falls in MinAir. The MinAir is determined using the minimum limit (see Adjust Limit).
This feature mainly used on lift axles.

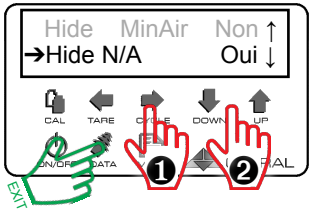


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Hide N/A

This function does not display the channel that is not activated.

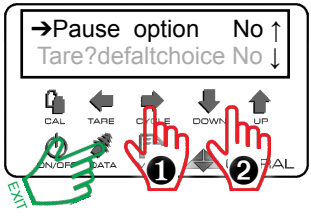


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Pause Option

This function activates the Pause function. For operating mode see Pause.

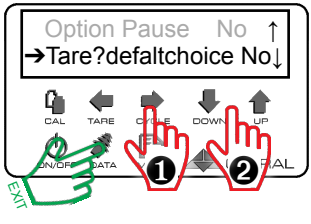


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Tare?default choice

This function displays the message that will be displayed when you press the TARE button.



Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

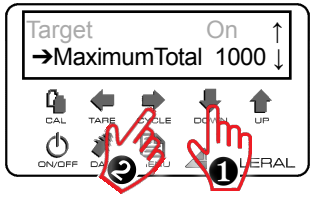
Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Target

This function allows you to activate or deactivate equipment according to a target weight.

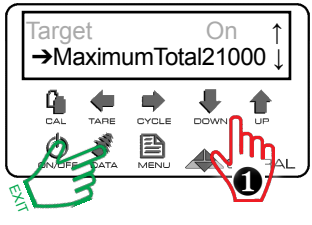
<u>To activate the function</u>
1- Press Right arrow to select the item.
2- Press Up arrow to modify the item: YES.
3- Press again on right arrow to confirm.

To access target weight



1- Press down arrow to access the target total weight menu.
2- Press right arrow to adjust the weight

Adjust target weight



Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

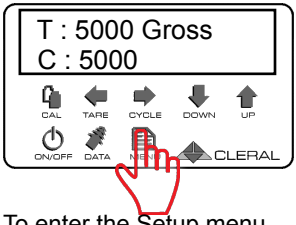
Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Note:
When the target weight is reached or exceeded, the ground signal (<u>on the purple wire</u>) is given.

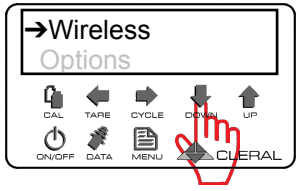
Do not exceed 1 Amp (purple wire)

Configuration Menu

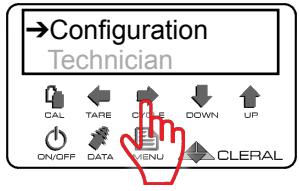
The Configuration menu lets you adjust the instrument's configurations.



To enter the Setup menu, press Menu.

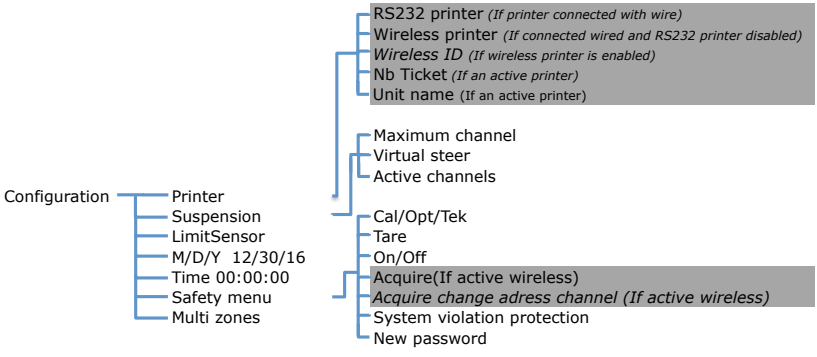


Press down arrow to move the cursor to Configuration.

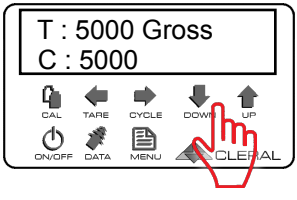


When the cursor points to Configuration, press right arrow to enter this menu.

Once in Configurations, here is what you will see by scrolling down:



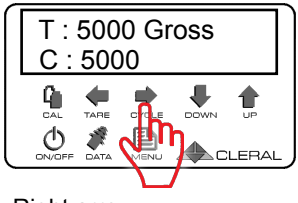
Navigating in the Options menu:



Arrow up or down:

Moving up or down.

Increase or decrease the values.

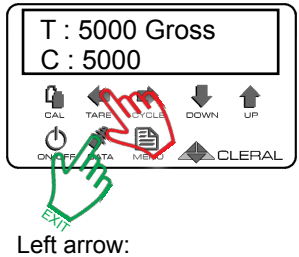


Right arrow:

Enter a menu.

Select an editable value, it starts flashing.

Confirms the value change, stops flashing.



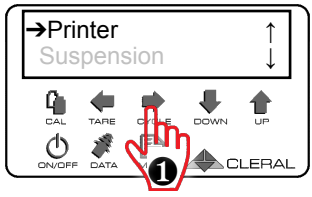
Left arrow:

To back and confirm.

DATA : To exit at any time and confirm.

Printer

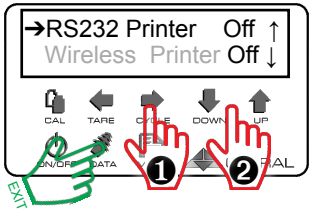
This menu accesses the RS232 printer and wireless printer.



Press the right arrow to access the submenus.

232 Printer

This menu activates the RS232 printer.

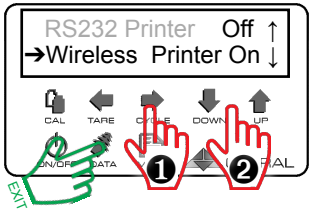


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Wireless Printer

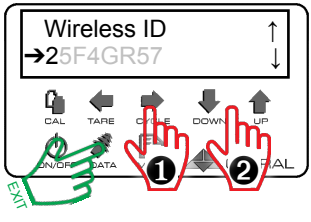
This function activates the Wireless Address



Press Right Arrow to activate this wireless printer.

Wireless ID

This function stores the wireless address of the printer (8 characters).

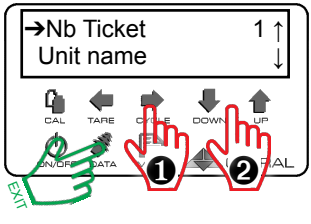


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want. Do the same for each of the 8 characters.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Nb Ticket

This function determines the number of tickets to print, from 1 to 5 tickets).

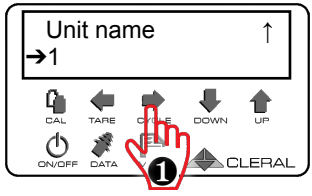


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Unit name

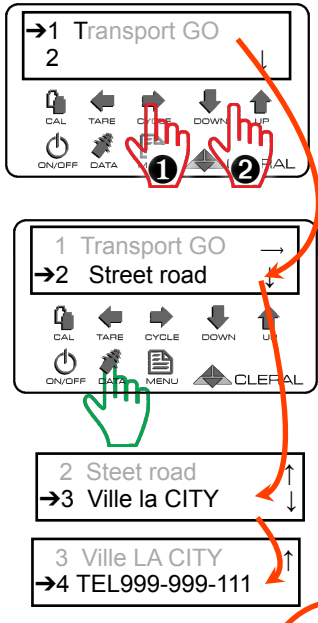
This function creates a header on the print ticket.



Press Right Arrow to enter this menu and create or edit your print header.

Print Header

You can create a 4-line print header. Each line allows 16 characters.



Press the right arrow to enter the line (1). With Right Arrow, move the cursor to the character you want to edit.

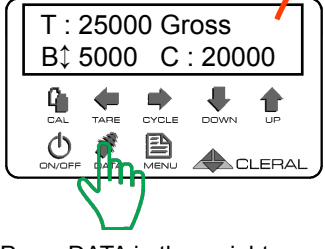
Press Up or Down arrow to modify to character you want.
The available characters are numbers and letters.

To confirm, press DATA. Subsequently, with Up or Down Arrow select the line to be created or modified.

Do the same operations for line 1 to 4

Print ticket

This function allows you to print your weighing ticket.



Press DATA in the weight display mode.

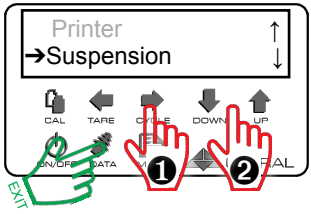
The next weighing ticket will be printed.

```
WEIGHT TICKET

TRANSPORT GO
Street road
VILLE LA CITY
TEL 999-999-1111

Date M/J/A :01/01/12
Time : 03:15:09
Number of channel : 2
unite : Kg
Maximun Gross channel
--------------------
B                5000
C               20000
--------------------
Total       25000

WEIGHT TICKET
```

Suspension

This function indicates which channels are available and which are active with the following submenus:

- Maximum Channel
- Virtual Steer
- Channel

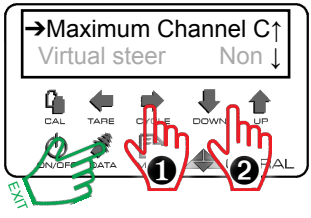


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to

Maximum channel

This function limits the maximum number of channels. There are 12 channels, ABCDEF-GHIJKL and X for total deactivation.



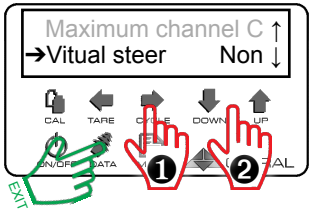
Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

NOTE: If channels are not displayed, they are disabled by the manufacturer. Request the MFG to unlock these channels.

Virtual steer

This function enables the virtual computing function on the steering axle. It applies to the tractor. Refer to the use of Virtual Steer.

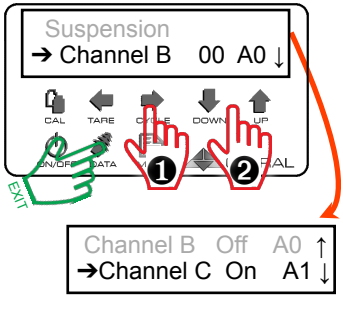


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Active channels

This function enables or disables a channel already configured in the Reflex.

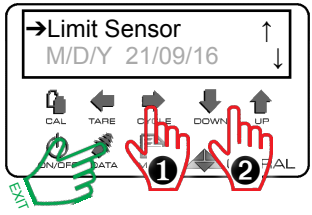


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want. Repeat for each channel.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Limit sensor

This function indicates the lower and upper limit of each type of sensor activated on the Reflex.



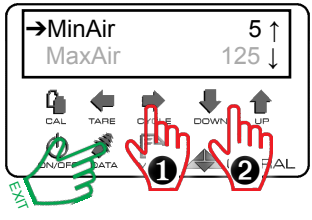
Press Right Arrow to enter the following two submenus:

- Min Air/Mec/Flx/Ltl/Hyd
- Max Air/Mec/Flx/Ltl/Hyd

Note: Air for Air / Mec for mecheaical sensor / Flx for flexmeter / Ltl for litlemini sensor / hyd for dydraulic sensor.

Min Air or Mec

This function displays an error message if the measured sensor is below the preset limit.



Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

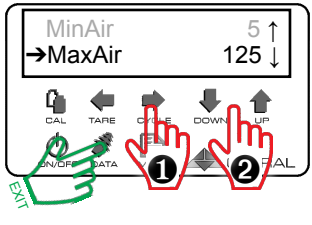
Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Note: *If Hide MinAir is enabled, it clears the error message and the channel so that there is no error to display and in the calculation of the total.*

Note: *If the pressure is zero, no message will be displayed*

MaxAir

This function displays an error message if the measurement of the sensor is above the preset limit.

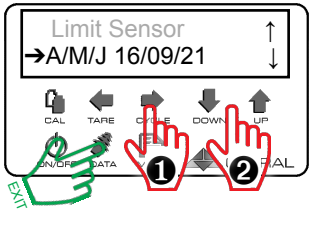


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

M/D/Y

This function sets the Month / Day / Year date.

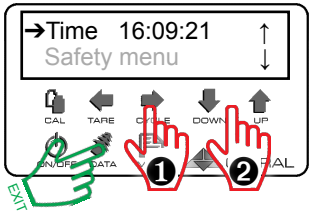


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Time

This function sets the time.



Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

Safety Menu

The Safety menu allows you to block the access to different operations of the Reflex.

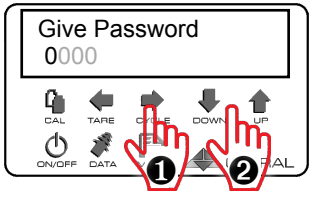
Press Right Arrow to enter the following submenus:

- Cal/Opt/Cfg/Tek
- Tare
- On/Off
- Acquire
- New pass word

Note: If no menu has been secured you can enter the security menu without a password. If it is locked, you must decline your password.

Password

If the menu is locked you must give a password to enter this menu.



With Up or Down arrow, change the four digits of your password, Right and Left arrow to move horizontally and to the right arrow end to confim and enter the menu

When you enter the password and it is successful, the following message appears:

Password OK

And after :

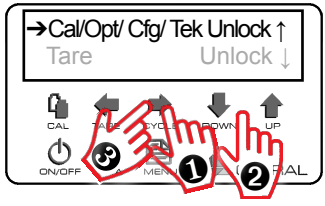
Temporarily open system

Forgotten Password!

The code that appears in the ERROR PASSWORD message allows you retrieve your password by giving this code to the retailer or manufacturer.

Cal/Opt/Cfg/Tek

You can lock four menus simultaneously. (Calibration, Options, Setup, Technician).



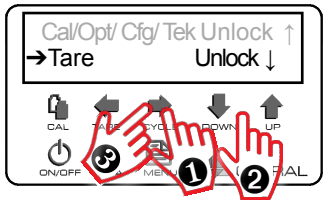
Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

IMPORTANT!
The Tare should not be locked. This useful function allows to perform Tare of any empty vehicle. This is used on mechanical sensors when important thermal drifts occur.

Tare

This function locks the Tare.

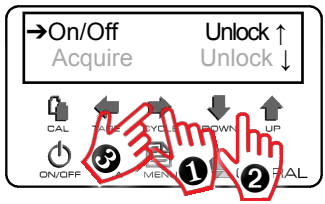


Press Right arrow to select the item. Press Up or Down arrow to modify the item you want.

Press DATA to exit and confirm, or right arrow to confirm and stay in the menu.

On/Off

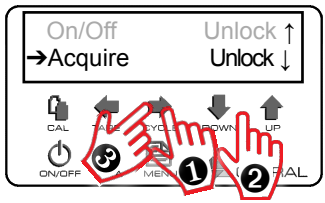
This function only locks the On / Off of the unit. It is therefore impossible to close the device.



Press Right Arrow to select the item. With Up or Down arrow, edit the item you want. Right arrow key to confirm and go to the next menu.

Acquire

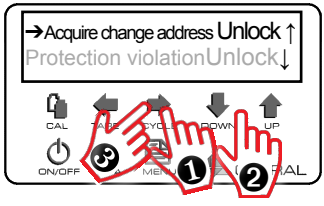
This function locks the acquire function. If wireless sensors are paired with the Reflex, they remain dedicated to the device without being able to modify them.



Press Right Arrow to select the item. With Up or Down arrow, edit the item you want. Right arrow key to confirm and go to the next menu.

Acquire change address channel

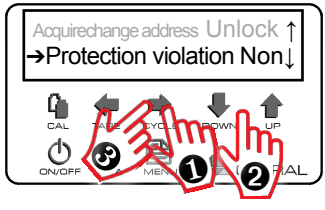
This function does not allow the channel modification of a sensor to be anchored.



Press Right Arrow to select the item. With Up or Down arrow, edit the item you want. Right arrow key to confirm and go to the next menu.

System violation protection

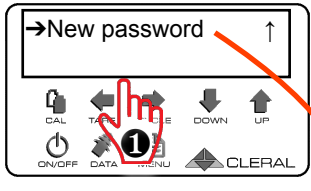
When activated, this function allows the operator to try a password 3 times. After which you will need 2 password that can only be given by the manufacturer.



Press Right Arrow to select the item. With Up or Down arrow, edit the item you want. Right arrow key to confirm and go to the next menu.

New password

Upon exiting Password, you will see the menu "Change Password". At this point, you can change your combination for a new password or maintain the same combination.

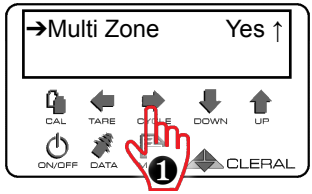


Press Right arrow to enter the menu:
New Password

With Up or Down arrow, change the four digits of your password, Right and Left arrow to move horizontally and to the right arrow end to confim and enter the menu

Multi zones

The auxiliary lifting axle is managed according to parameters in the SIM mode. These parameters are defined according to the zone where the vehicle is located in order to comply with the laws on liftable axles. There is a possibility of 6 zones. The zone is activated in an automatic or manual mode.

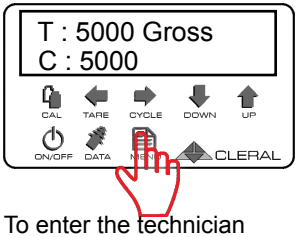


Press Right Arrow to select the item. With Up or Down arrow, edit the item you want. Right arrow key to confirm and go to the next menu.

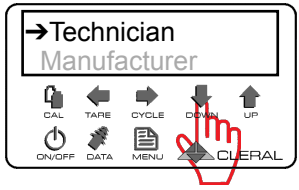
Note: *This function is not available on the REFLEX BASIC. For more information, consult the Manufacturer.*

Technicien mode

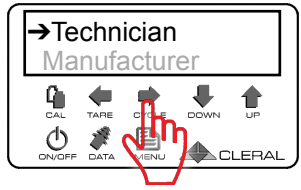
Technician menu provides access to technical data of the device and for adjusting the factors and zeros of the unit.



To enter the technician menu, press menu.

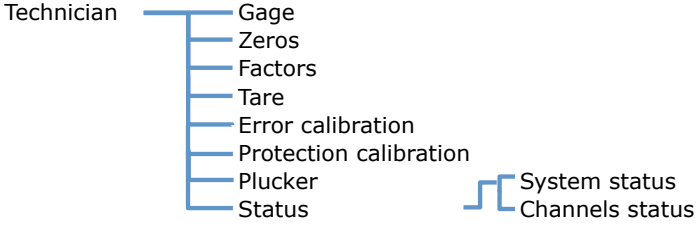


Press down arrow to move the cursor to Technician.

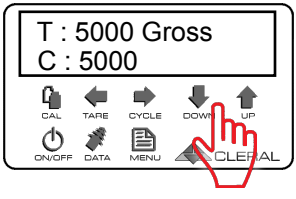


When the cursor points to Technician, press right arrow to enter this menu.

Here is the order of what is in the Technician Mode.



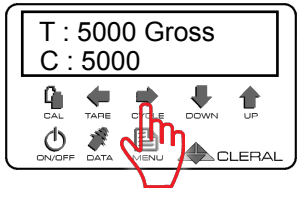
Navigating in the menu :



Arrow up or down;

Moving up or down.

Increase or decrease the values.

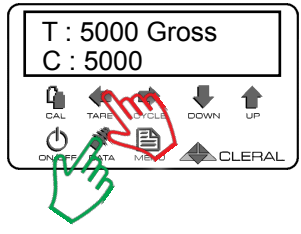


Right arrow:

Enter a menu.

Select an editable value, it starts flashing.

Confirms the value change, stops flashing.

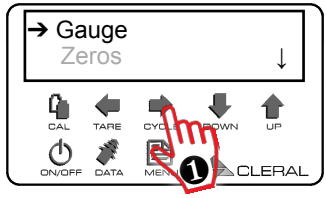


Left arrow:

To go back and confirm.

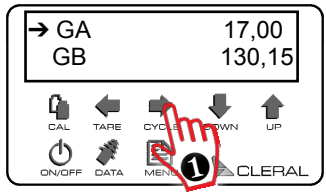
DATA : To exit at any time and confirm.

Gauge A / B / C / D / E

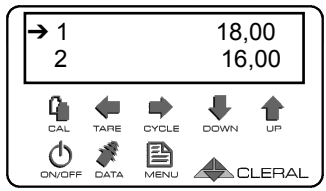


The Gauge menu is used to display the sensors readings of a channel.

The first letter indicates the gauge mode and the second letter indicates the channel.



If there are several sensors on a channel, the displayed reading is the average of the sensor readings. To have an individual reading of the sensors, enter the gauge menu by pressing Right Arrow.



In the Gauge menu, individual sensors are displayed. The first digit indicates input 1. If there is just one sensor on the channel, the measurement will be the same as the average displayed in Gage, which is normal because the mean is 1. The asterisk (✱) indicates That it does not have an activated sensor on this channel.

The error code “?” “!” is displayed on the Gauge menu if the sensor is in error. The sensor that is not in error on the channel displays its stress reading. If the sensor is only out of range, the stress reading will be displayed. Ex .: Pressure will be displayed even in the presence of No Air.

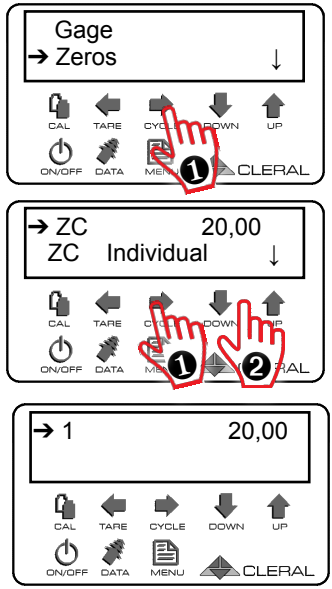
Zero A / B / C / D (or Tare)

The «Zero» is the initial gage reading when calibrating the empty vehicle. After a calibration, each channel has its own «Zero»

Note! Once the calibration is completed, the gage value of each channel, with an empty vehicle, must be the same or very close to the initial Zero.

You can adjust the Zero manually on each channel. You can lower, raise, even bring it back to zero. However remember that each time you adjust it, you modify your calibration.

The reading of the ZC indicates a zero of the average on channel C. If there are several sensors on the same channel, it is possible to visualize the zero of each sensor on a channel.



Average gage values

The following are average gage readings that you should see as your starting point reference. The sensors or transducers should be adjusted between these starting point values when the **vehicle is empty.**

Air transducer:	between 10.00 and 20.00 PSI
Mechanical sensor:	between 130.00 and 170.00
Flexmeter:	between 20.00 and 40.00

NOTE! If the vehicle is equipped with a crane, the values may differ.

<u>The following are average heavy vehicle gage values.</u>

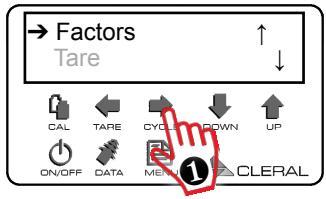
Air transducer:	between 50.00 and 150.00 PSI
Mechanical sensor:	between 200.00 and 325.00
Flexmeter:	between 60.00 and 90.00

IMPORTANT

Cannot enter full calibration weights?

If you enter heavy weight values in the EMPTY CAL with a loaded vehicle, an automatic Zero will be performed by the unit. When this happens, operators usually realize that it is not possible to enter the heavy weight values.

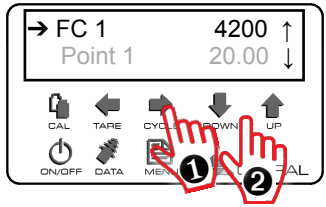
Factors



The factor is the coefficient multiplied with the Gage less its zero that produces the weight of a channel.

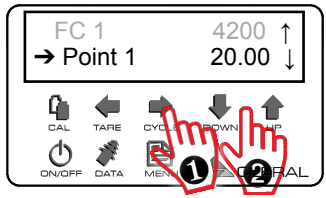
Channel A weight = ((GA-ZA)*FA)

Note !



You can manually adjust the factor on the channel. You can increase it, decrease it or reduce it to zero. However, remember that this changes your calibration.

When the factor is flashing, press the arrows to change the factor in Point 1. A means the factor of channel A. The S is for the virtual channel of the steering axle. You can change the factor, but not the calibration point. If you do not activate the multi point calibration only this one is editable.



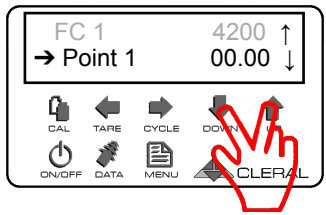
To change the factor of Point 2 and 3, press the Right arrow. Thereafter, use the Up arrow to go to the next calibration point and repeat the same procedure described above to change the factor.

Tip !

If the numbers and factors in the calibration point are zero, the full weight of the channel is not calculated. The weight displayed will be the empty weight.

Channel A weight = ((ZA-GA) * (FA = 0))

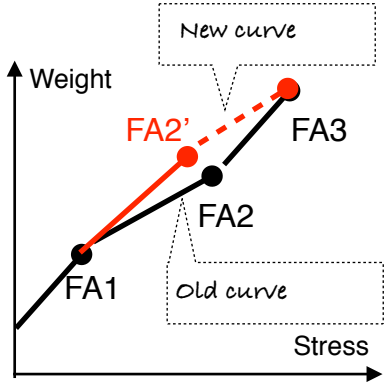
To make the factor 0.00 and the reference point, press simultaneously on the two arrows.



Factor Multi-point

In the multi-point calibration if you want to delete a factor and its calibration point, just go to that specific calibration point and reset. The factor will disappear automatically. Refer to previous instructions.

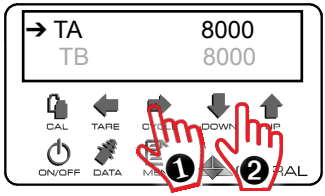
In the multi-point calibration, you erase a factor or factors specifically to redo calibration points that have similar weights to the point that just reset. It is recommended in cases where the calibration is questionable to erase all three calibration points and recalibrate.



In our example, the operator noticed an inaccuracy in the middle load. In this case, he resets the FA2 and FA3 and redoes the calibration close to these limits. There will be two new calibration points and FA2' and FA3. The new curve will pass through: FA1 - FA2 '- FA3. If the error point would have been FA1, it would be necessary to delete all three factors and redo a complete calibration again.

Tare

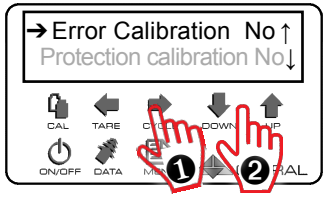
Indicates the empty weight that was recorded during the last calibration. It is possible to modify this weight. Note the empty weight of an auxiliary axle can not be entered as it is stored in the axle weight submenu.



Right Arrow to select the item. Up or Down Arrow, to change the item. Right Arrow key to confirm. Down Arrow to go to the next menu.

Error Calibration

When the monitor displays an error code, it is not possible to calibrate when the function is in System. If the function is on Channel, it is then possible to calibrate the channels that are not in error code.



Right Arrow to select the item. Up or Down Arrow, to change the item. Right Arrow key to confirm. Down Arrow to go to the next menu.

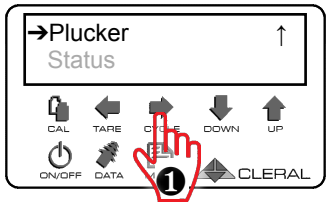
Protection Calibration

This function does not allow for full calibration when the truck is empty and to perform an empty calibration when the truck is full.

Right Arrow to select the item. Up or Down Arrow, to change the item. Right Arrow key to confirm. Down Arrow to go to the next menu.

Plucker

This function compares the voltage value of the mechanical sensor to the Plucker. This function makes it possible to tension the mechanical sensors.



Right Arrow to select the item. Up or Down Arrow, to change the item. Right Arrow key to confirm. Down Arrow to go to the next menu.

When you enter the menu, you select on which Gage Channel you are working. GA stands for Gage on channel A.

➔GA
GB ↓

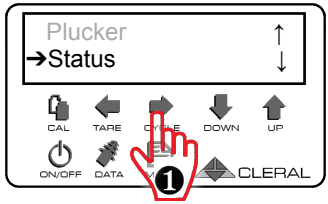
➔Input 1 78,05

The inputs of the transmitter are listed.

Sensor	Min	MAX
MPG-003	78	80
MPG-004	62	63

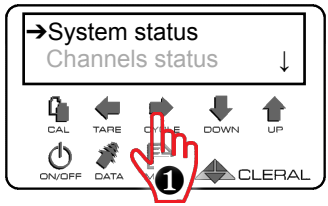
Status

His function allows you to enter the system status or channel status menu.



System status

This function displays the following information:

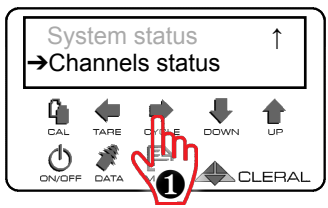


# Serial	XXXXX	Serial number of device
Software	XXXXX	Internal software version
Hardware	XXXXX	Hardware version
Tension	12volt	Supply voltage
Temperature	XX C	Internal temperature
Cal/Opt/Cfg/Rech	Unlock	Indicates whether this menu is secure or not
Tare	Unlock	Indicates whether this menu is secure or not
Acquire	Unlock	Indicates whether this menu is secure or not

Channels status

This function displays the registry of the last 20 errors. Each error is associated with a channel and a date.

When you have finished viewing the registry, you can delete the entire registry with the function intended for that purpose.



ERROR CODES

No AIR

This error code indicates that the sensor does not detect pressure in the air transducer. No Air code is triggered if the pressure is below the selected limit. See Limit No Air. Physically verify that there air pressure reaches the transducer. If there is no pressure, find the source of the problem. If there is pressure and it is not detected by the transducer, make sure that everything is connected and powered. If the problem persists, consult you local dealer.

Unstable air pressure readings

When in Gage reading, if the air transducer relays unstable readings that gradually go down to raise after a while, you may have an air leak. Find and repair the leak(s). The leaks makes the reading go down and when the compressor reacts, the readings will raise again.

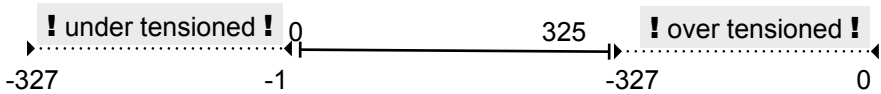
Non repeatable air pressure readings

In most cases the problem comes from a faulty height leveling valve. To check if your valve is ok, in gage reading mode, dump and fill the suspension at least ten (10) times. If the air pressure does not repeat within 0,5 psi, check and replace or repair the faulty valve.

Mechanical sensors : !A !B !C !D !E

Exclamation mark !A !B !C !D !E will appear in the following conditions:

- The cable end (nipple) is not well attached to the mechanical sensor.
- The mechanical sensor is under or over tensioned. The exclamation point will appear if the gauge reading is outside the range 0 to 325
- .



Mechanical sensors : ?A ?B ?C ?D ?E

Question mark ?A ?B ?C ?D ?E will appear in the following conditions:

-The sensor cable is not connected to the unit.

-The sensor cable is cut.

Code N/A

N/A Indicates that the channel is not activated. At system start-up, this code will appear for the non activated channels.

Code OVER

OVER will appear if the the weight readings exceed 99999 for a given channel or Total weight. It is theoretically impossible to reach the maximum limit. If it does happen, check the zero, the factor, or the empty weight of the channel indicating the error code.

Reflex connector types

Mechanical Sensor : (stress measurement)

Air Transducer : (Air pressure in PSI)

Flexmeter: (Distance measurement)

Mini Flexmeter: (Distance measurement)

LoadPad and printer: (communication RS-232)

Hydraulic Sensor(stress measurement) or

Hydraulic Sensor(stress measurement) or

Velocity sensor

SIM control: (SIM control) or Pilot valve

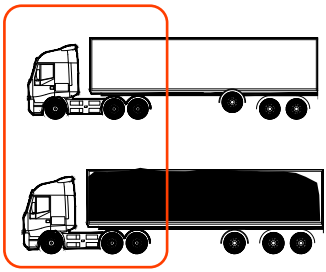
Wireless output

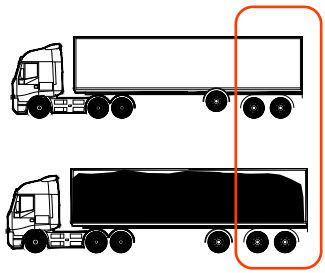
Precision problems

It is easy to detect a precision problem on the total gross weight. However we need to pin point the source of the problem in order to fix it. In other words, we need to know from which channel the error is coming from.

Channel A Empty
Reflex weight _____
Weigh-bridge _____

Channel C Empty
Reflex weight _____
Weigh-bridge _____





Channel A Full
Reflex weight _____
Weigh-bridge _____

Channel C Full
Reflex weight _____
Weigh-bridge _____

The first step is to compare the Reflex and Weigh Bridge empty weights per channel

Note and compare the empty weight for each channel. If there is a significant difference, proceed to adjust the empty weights as previously explained. Make sure that the vehicle is empty when adjusting empty weights.

Then we compare the heavy weights for each channel. If there is a significant difference, proceed to adjust the heavy weights as previously explained. Make sure that the vehicle is full when adjusting full weights.

If the error is still there, repeat the previous steps to confirm that you have found the source.

Note!
Follow the same steps for each additional channel.

REFLEX data

Before calling your local Cleral dealer, make sure to write down all of the data that is stored in your Reflex. The technician will surely need the information.

Channel	S	A	B	C
Suspension configuration				
Empty weights				
Heavy weights				
Tare or zero				
Factor				

Version	
Revision	