



# Liftlog 1000

Fork Lift Truck  
Weighing System

Operation

# User Guide

## Electromagnetic Compatibility (EMC)



This product complies with European Council Directive 2004/108/EC when installed and used in accordance with the relevant instructions.

## Service and Technical Support

PLEASE CONTACT YOUR NEAREST DISTRIBUTOR or if unknown, contact the factory for further information.

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Our policy is one of continuous improvement and the information in this document is subject to change without notice. Check that the software reference matches that displayed by the instrument.

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## Information on Disposal for Users of Waste Electrical & Electronic Equipment (WEEE Directive)



This symbol on the product(s) and / or accompanying documents means that the electronic component(s) of this product should not be mixed with general household waste at end of life.

- RDS mobile machinery electronics are exempt from European WEEE recycling regulations. Regardless, we recommend that wherever our products are used, the various elements (electrical or otherwise), are disposed of responsibly at their end of life. If you wish to discard our products, then we advise that if unsure, you contact your local area authority / recycling centre for advice on the correct method of disposal.

Disposing of our products correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste disposal. Penalties may be applicable for incorrect disposal of waste, in accordance with your national legislation.

## Important User Information – Safety, Care and Maintenance

- Do read these instructions thoroughly before using the product and keep them accessible for the operator.
- When other persons are within the operating space of the machine, keep them fully aware of your immediate intentions by suitable means.
- Do not use this product for other than the intended use.
- There are no user-serviceable parts inside the unit and opening the product will invalidate the warranty. Do not attempt to repair or modify any component yourself. Contact your dealer if the product requires servicing.

**ANY ATTEMPT BY UNQUALIFIED PERSONNEL TO INTERFERE WITH OR ALTER THE INSTALLATION OR SETUP OF THE SYSTEM, MAY RESULT IN DAMAGE TO THE MACHINE, PERSONAL INJURY OR POSSIBLE DEATH!**

### Caring for your product

- For cleaning the display unit, use only a damp cloth. Do not use liquid or aerosol cleaning agents, thinners, abrasive or corrosive materials. Do not scratch hard objects against the display as this may cause damage.

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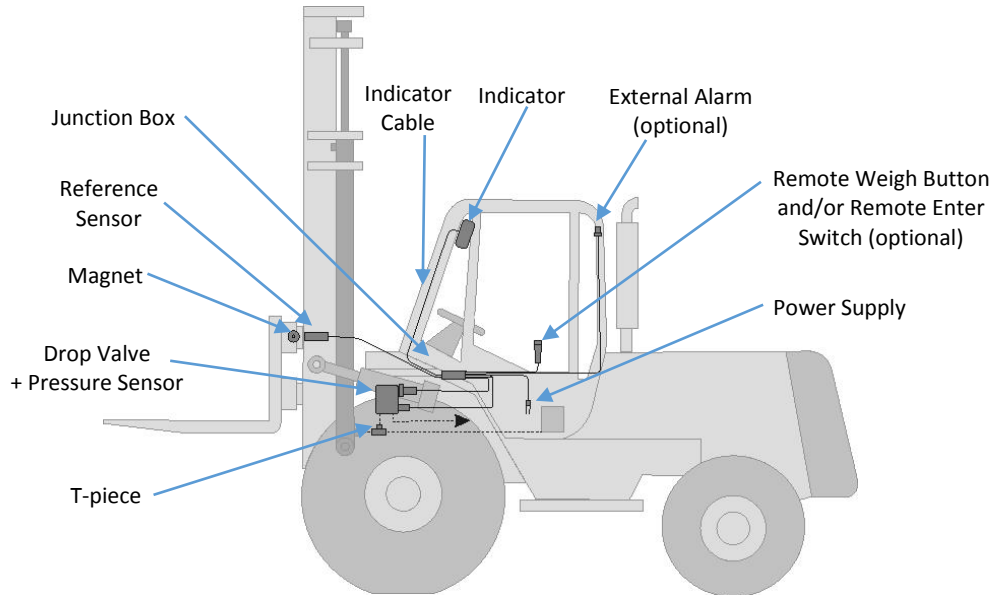
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# 1. Overview

## 1.1. The System

The Liftlog 1000 is a weighing system designed for use principally on counterbalance fork lift trucks. It measures, displays and records the net or gross weight lifted, normally based on sensing the lift system hydraulic pressure. Normally, a weighing start point is established by use of a magnetic Reference position sensor fitted on the lift mast. Without the reference sensor however, the weighing cycle can be started at any lift height (while still allowing the load sufficient height to drop while weighing).



Triggering the weighing cycle operates a solenoid on a custom, flow-regulated valve, causing the lift cylinder(s) to drop at a controlled rate while the hydraulic pressure is measured and averaged over the sampling period. The weight is then displayed either as a gross weight, or if a tare value has been set, then the net weight can be displayed.

## 1.2 System Accuracy

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With careful operation and observing the recommended weighing procedure (ref. section 3.1 – “Getting the Best Results”), you can expect accuracy of  $\pm 0.5\%$  of the maximum load capacity (e.g.  $\pm 5\text{kg}$  lifting  $1000\text{kg}$ ). It must be stressed however that this degree of accuracy although possible, cannot be guaranteed since it depends on factors beyond the scope of the system, such as the condition of the truck and reliance on the operator.

**NOTE:** *Liftlog 1000 weight readings are not suitable as a legal basis for the sale of goods.*

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## 1.3 Indicator Functions

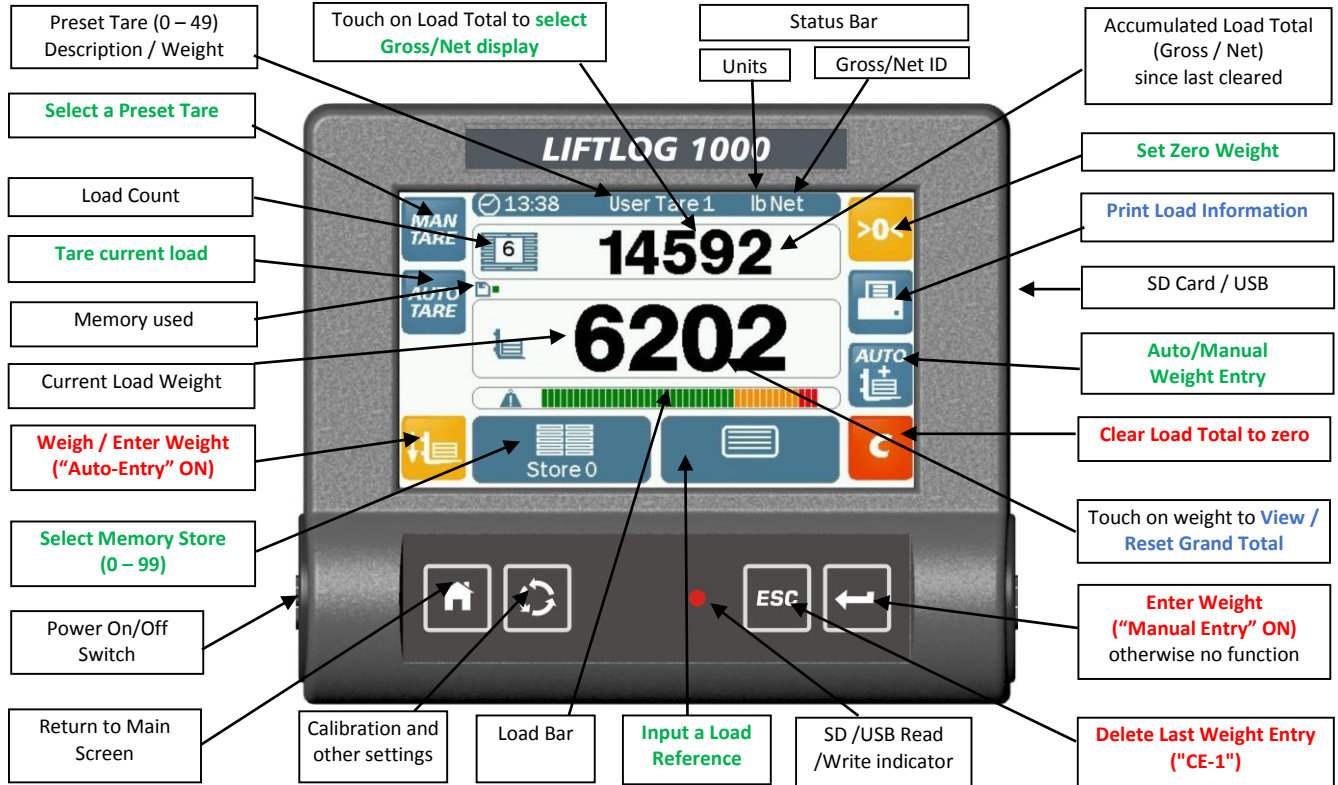
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The Indicator has a 4.3" colour, touch screen plus 4 basic menu keys, and includes the following functions,

- Gross and Net Weight Display and Memory Totals
- Accumulated Load Total and Load Count display
- Imperial or Metric Units – lbs / Tons, kg, Tons / Tonnes
- Manual Tare - Up to 50 preset tare values (user-programmable tare weights and descriptions)
- Automatic Tare - taring of current load
- Grand Total display (Weight, Lift Count)
- Automatic or Manual weight entry (also with an option of a Remote Weight Enter Switch)
- Delete Last Weight Entry ("CE-1")
- Up to 100 Memory Stores for Load Totals (user-programmable Store descriptions, and additional user Load reference entry)
- Automatically print a load summary ("Job Record") when resetting for next Load
- Printing load data
- Saving load data to USB Flash Drive / SD Memory Card
- Data Logging (RS232 serial ASCII output to suitable logging device)
- Load Bar Indicator and Overload Alarm
- Memory Used Indicator (typically up to 1400 Load Totals, excluding additional Reference text entries)
- Diagnostic mode and Error Log



## 1.4 Indicator Features and Main Operating Screen



## 1.5 Menu navigation

### 1.5.1 Physical Keys



HOME Return to the Main Operating Screen from any other screen.



SETUP Select the Setup Menu for weight calibration and other system settings.



ESCAPE Return to the previous screen / Delete the Last Weight Entry ("CE-1").



ENTER Manually enter a weight reading (same function as the optional Remote Load Enter Switch).

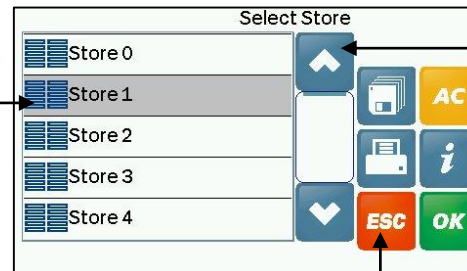
### 1.5.2 Touchscreen



*DO NOT use a sharp-pointed object - the screen may be damaged beyond repair !*

Touch once to select from a list.

Double-tap to select and confirm a setting.



Swipe the list or touch to scroll up and down

Confirm a setting

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Exit screen without changes



## 2. Setup for Weighing

Before weighing, you may wish to perform one or more of the following settings from the main operating screen,

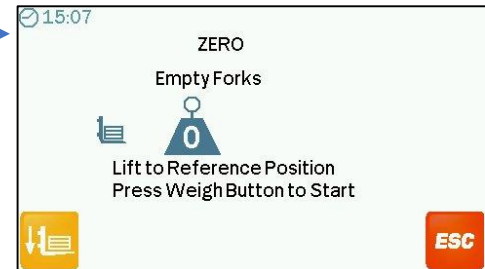
- Check Zero Weight
- Select Auto or Manual Weight Entry Mode
- Select Gross or Net display
- Set the Tare
- Select a Memory Store
- Input a Load reference

### 2.1 Check Zero

It is recommended to periodically check the weight reading with empty forks. The zero point may drift slightly due to variables such as temperature and friction.


Touch the  key, and follow the screen prompt. 

**NOTE:** *If setup to do so via the “Sensor Setup” screen in the Setup menu, a PIN may be required to access the “Set Zero” screen.*




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## 2.2 Auto or Manual Weight Entry Mode

Press  to select the mode.



In AUTO mode, the weight is automatically added to the Load Total after the “Auto-Add Delay” period. The  key does not function for weight entry.

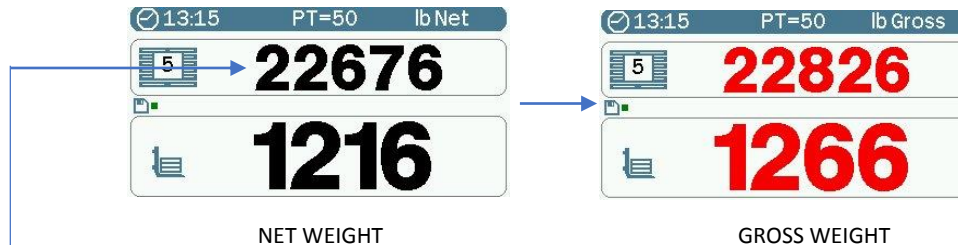


In MAN mode, the weight is entered with the  key, or alternatively by means of a Remote Enter Switch if fitted (optional).

**NOTE:** In Auto-entry mode, there will be a delay after the weight sampling time, before the weight is added to the accumulated Load Total. The delay period is set by the “Auto-Add Delay” parameter in the “Sensor Setup” menu (ref. Inst. And Calibration manual). The factory default delay time is 2 seconds.

## 2.3 Select Gross / Net Display

If you have set a tare (either a preset tare or by lifting), then you can display either gross weight or net weight. The status bar indicates the current tare setting, units and the gross/net setting as per the example below where “PT = 50” is a tare of 50lbs.



Simply tap the Load Total figure to switch the display.

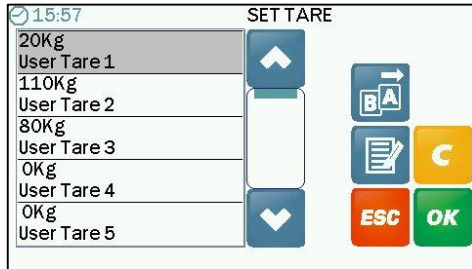
## 2.4 Set a Tare

To calculate net weight of the product, you must first enter the weight of the empty pallet / container. Either, There are two ways to set a tare weight, either by selecting a Preset Tare from a list, or by lifting the empty container.




### 2.4.1 Select / Edit a Preset Tare (“MAN” Tare)

Press  to select a Preset Tare from the list of 50 presets.

By default, the presets are named “User Tare 0” to “User Tare 49”.



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-  Edit the Preset Tare description (a maximum 9 characters are displayed on the status bar).
-  Edit the Preset Tare weight.
-  Cancel and de-activate the Preset Tare function.



The Preset Tare (“PT=”) weight / name (e.g. “GMA”, “48x48” etc), alternates on the status bar.

**NOTE:** *If a zero-value preset is selected, then the “PT” indicator does not appear in the main screen status bar. The Gross / Net lifted weight figure will be the same. However unless cleared, the accumulated Gross / Net Load Total figures will account for any tare set for previous lifts.*

## 2.4.2 Set a Tare by Lifting (“AUTO” Tare)

Press **AUTO TARE** and lift the empty pallet / container to the weighing start point.

Follow the screen prompt.

You may wish to make this tare as a new preset or to adjust an existing preset, in which case select **MAN TARE** and edit the chosen preset as required (2.4.1).



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## 2.5 Memory Stores and Load References

There are 100 memory stores available to select, to which you can save accumulated Load Totals and their Lift Counts. By default, the memory stores are named “Store 0” to “Store 99”. The description can be edited as required. In addition to selecting a memory store, you can also include an additional text reference to be associated with the load.

The memory has a maximum of 1000 storage spaces, so only the last 1000 weighs (lifts) will be saved. Beyond this, earlier lift records will be overwritten.


It is therefore important that regular data export / printing of load information is carried out, so that older data is not lost through automatic deletion.

## 2.5.1 Select / View / Edit / Clear a Store


Tap  and select the required store.

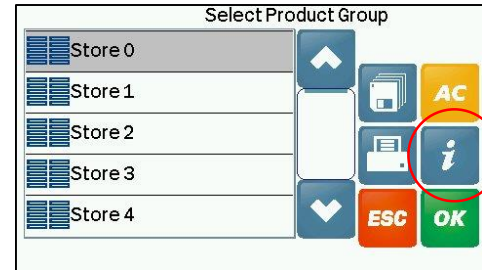
Press  to view the Store information.

- Total Gross Weight of all Loads
- Total Net Weight of all Loads
- Total No. of Loads
- Total No. of Lifts (Weighs)

Press  to edit the Store name only (you cannot edit the Store totals).

*Note: Although you can programme a 20-character name, only the first 9 characters of a store name can be displayed on the main operating screen*

Press  to clear the Store Totals.




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## 2.5.2 Print / Save a Store Total


In order to print and/or save load data, the “Logging Options” must be configured accordingly in the Setup menu (by default, all logging options are disabled).

Tap  and select the required store.

Press  to print the Store Totals including,

- Time and Date
- Net weights for individual lifts
- Tare for individual lifts
- User reference for individual lift.
- Total Gross weight
- Total Tare weight
- Total Net weights for all loads

(Example ticket from an RDS ICP300 roll printer).

Press  to save the Store Totals to USB stick / SD card.



UK794-170.JPG

RDS Technology Ltd				
10/05/15				
15:50				
Store 3				
Time	Date	Net Wt	Tare	Reference
14:42	15/05/08	2782	8	
15:48	15/05/18	2554	188	
15:48	15/05/18	2438	188	
15:48	15/05/18	2556	188	
15:48	15/05/18	2568	188	
15:58	15/05/18	2336	188	
Total Wt				
Gross	16086	lb		
Tare	940	lb		
Net	15146	lb		
Ticket number 34				

**NOTE:** For Printing and Data Transfer options, please refer to the Installation and Calibration manual.



## 3. Weighing

### 3.1 Getting the best results





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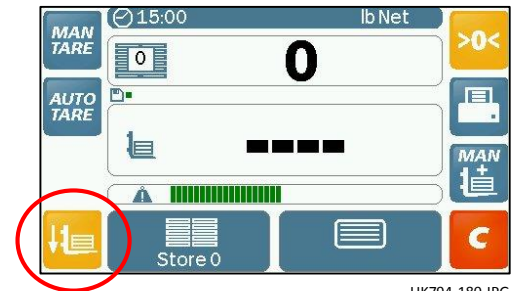
To ensure the best possible accuracy and repeatability, it is recommended that the operator observes the following recommendations:

- **Operating Temperature** Always allow the machine and the hydraulics to warm up to the normal operating temperature before commencing weighing.
- **Weighing on level ground** : Avoid weighing when on a slope or a side slope. Wherever possible weigh on a level area. This also includes weighing with the forks level.
- **Vehicle movement** : Best results are obtained when weighing while the vehicle is stationary. It is important that the load does not bounce or jerk as it is lifted.
- **Maintenance and calibration:** Keep your machine maintained in good condition. Things like excessively worn bushings, pivot pins and slideways, as well as lack of lubrication to these areas can have an adverse effect on weighing accuracy. After any major servicing particularly if you have replaced worn components or carried out welding repairs, you should re-calibrate the weighing system. If the hydraulic system has been drained and re-filled you should also check for any air that may have become trapped at the pressure sensor.
- **Load placement:** Maintain a consistent loading method, and in accordance with normal, industry-recommended safe practice.

## 3.2 The Weighing Cycle

4 bars “- - - -” are displayed when not weighing.

1. Lift the load up to the weighing start point and then press  .  
If a height reference sensor is installed, the  key only appears when the weighing start point is reached. The indicator will beep and display  .
2. Press  to weigh.



3. The forks will then drop slowly for a short time as the display counts down to zero and the weight is measured, after which the forks stop lowering.

**NOTE:** *The rate at which the forks drop is determined by the setting of the drop valve during installation. Any subsequent adjustment must only be made by a trained installer.*




The hydraulic pressure reading is sampled continuously as the forks drop, and the average weight is then calculated and displayed.



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If 'AUTO' weight entry mode is set, the weight is then added to the accumulated Load Total and the Load Count will increase by 1.

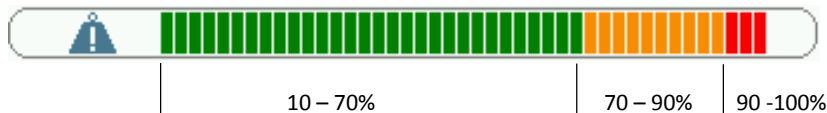
**NOTE:** There may be a short delay depending on the "Auto-Add Delay" setting via the "Sensor Setup" screen in the Setup menu.

If 'MAN' weight entry mode is set, then press the  key, or if fitted, the Remote Enter pushbutton switch (optional).



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### 3.3 The Load Indicator / Overload Alarm



All blocks flash if overloaded (more than 102% of maximum load), and continuous alarm tone is emitted from the indicator, and also an external audible alarm sounder in tandem if fitted (optional).


**NOTE:** The load bar feature is enabled or disabled via the "Overload" screen in the Setup menu.

### 3.4 Clear Last Weight Entry (“CE-1”)

If a weight is entered in error, press  then  to subtract the entry from the memory totals (“CE -1”).

A negative weight entry is saved to the selected memory store to effectively cancel out the last weight entry. The negative weight will also appear on the list of individual lifts on a printout, or data saved to an SD card / USB stick if enabled.

### 3.5 Reset Load Total to Zero

Press  to reset the Load Total to zero.

The load information is saved to the selected memory store along with any text reference entered. The Load Total may also print or save to SD card / USB stick, depending on the “Logging Options” settings. The Store setting resets to “Store 0” and text reference to none.

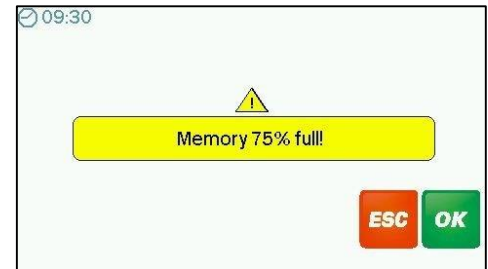
### 3.6 Memory Used Indicator

The memory usage indicator is a reminder to the operator to download or print data before the memory is full, after which the earliest load record will be automatically deleted each time a new load is entered.



Once the memory becomes 75% full, a reminder is displayed each time the indicator is switched on.

The memory can store a maximum of approximately 1600 weighs excluding text references. If text reference are included, you can expect a memory capacity of between 1000 -1200 weighs.




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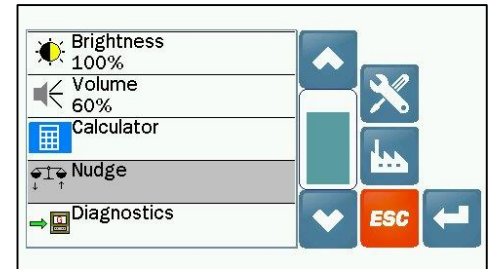
## 3.7 Adjustment for incorrect Weight Readings (“Nudge”)

The “Nudge” function is enabled / disabled via the “Sensor Setup” screen in the Setup menu.

### 3.7.1 Adjustment by Weight


If the load reading from the instrument is consistently different from the known weight of the pallet, then you can “nudge” the weight calibration to correct it, without having to do a full recalibration.

1. Press  and select the “Nudge” screen from the Setup menu.



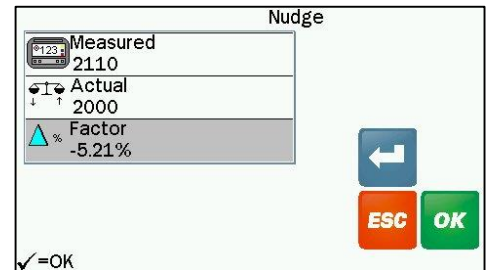
UK794-230.JPG

From the Nudge screen, the “Measured” weight displayed is the previous recorded lift. Edit if required.

3. Enter the known (“Actual”) weight. The percentage difference (“Factor”) is then displayed.
4. Press  to confirm the change and return to the previous screen.

The Nudge Factor is automatically recalculated and saved in memory.



**NOTE:** *The Weight Calibration Factor always remains the same. The Nudge Factor is the offset from the original calibration.*



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### 3.7.2 Adjustment by %

Alternatively, you can simply nudge the calibration by a percentage.

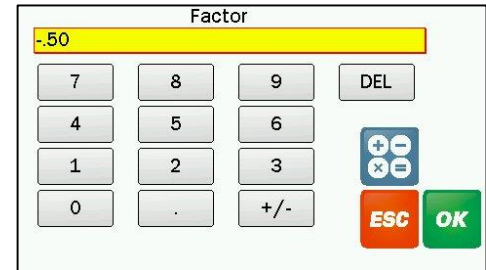
Select “Factor” and press . Enter the % change and press  to confirm.

**NOTE:** *If the Liftlog reading is more than the true weight, the factor is decreased.*

*If the Liftlog reading is less than the true weight, the factor is increased.*

Press  again to confirm the change and return to the previous screen.

The Nudge Factor is automatically recalculated and saved in memory.




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## 3.8 Other User-level Settings


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Press  to access the following user-level settings,

- **Units** – (ref. 3.8.1)
- **Time and Date** - This also sets the Time/Date information and Date format on printouts
- **Brightness** - The display brightness can be manually set. If set to “Auto”, the brightness is automatically adjusted to suit the ambient light conditions, i.e. the display will be dimmed for night-time operation
- **Volume** – Sets the volume of the internal loudspeaker.
- **Calculator** – A useful 4-function calculator.
- **Diagnostics** – This screen enable you to check the operation of the Pressure sensor, Reference Sensor, Weight Enter Button and Remote Enter Switch (if fitted). (Ref. 3.7.2).

*NOTE: For all other Technician and Factory-level settings (including weight calibration), please refer to the Installation and Calibration manual*

### 3.8.1 Selecting Units / Weight Resolution (“e”)

Press  and select the “Units” screen from the Setup menu.

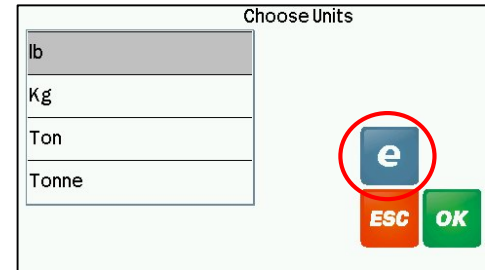
- Imperial units are lbs or Tons
- Metric units are kg or Tonnes

The resolution ('e') is the minimum weight increment that is displayed.

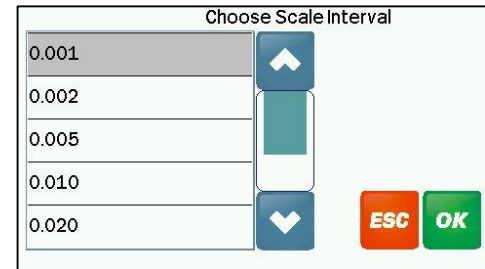
For kgs or lbs: 1, 2, 5, 10, 20, 50, 100 or 200

For tonnes/tons: 0.001, 0.002, 0.005, 0.01, 0.02, 0.05, 0.1, 0.2

If weight readings are found to be unstable, the resolution may be too small.




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UK794-270.JPG




### 3.8.2 Diagnostics

Press  and select the “Diagnostics” screen from the Setup menu

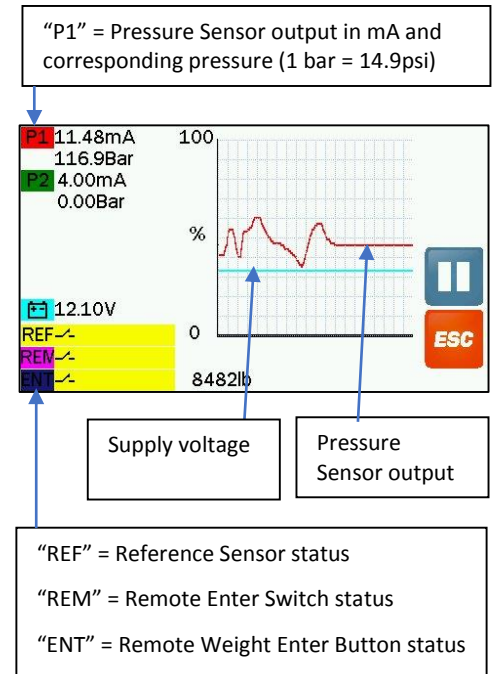
The diagnostics screens provide a visual indication of the system inputs and status.

If you experience a problem with the weighing system, with this screen displayed, you can verify the correct operation of the various components.

Press  to freeze the real-time graphical display for the pressure sensor and supply voltage.

**NOTE:** *If you wish, you may take a snapshot of the screen (or any other screen for that matter).*

*Insert a USB stick and briefly press the On-Off switch (the left hand rubber end piece of the indicator). A file <ALPHAxx.BMP> will then be saved.*



Issue Ref.	Date	Description
1.0	27.7.15	1st Issue