DIGI★STAR

PRECISELY

WeighLog™

On-Board Weighing System
Operators Manual

DIGI★STAR

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ELECTRO-MAGNETIC COMPATIBILITY (EMC)

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

SERVICE AND TECHNICAL SUPPORT

Please contact your nearest distributor.
If unknown then fax: 44 (0) 1453 733322

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.

This manual refers to Software Issue: GC100:Iss03Rev00Lib07

CONTENTS

CONTENTS CONTINUED

1. DEVICE OVERVIEW

The Weighlog is intended for use on industrial and agricultural loading shovels, fore-end loaders, back-hoe loaders, (loader side only), tipping trailers and tipping trucks.

It measures, displays and records the net weight lifted, normally based on sensing the lift system hydraulic pressure, at a set point using a Reference and Direction ("R/D") Sensor.

Pressure sensing is problematic on certain types of equipment due to the design of the hydraulic system. Up to four pressure sensors may be installed, or strain-sensing technology may be used instead.

The system enables:

- Automatic Dynamic Weighing Mode with "R/D" Sensor
- Compensation for variable lift speed (dynamic weighing only)
- Static Weighing Mode with "R/D" Sensor
- Static Weighing Mode without "R/D" Sensor (applications include weighing with forklift trucks and tipping trailers)
- Automatic or Manual Load Entry
- Weight Calibration adjustment ("Nudge" function)

Weighlog readings are not suitable as a legal basis for the sale of goods.

1. DEVICE OVERVIEW

With careful operation, system accuracy can be as good as ±1% of lift capacity although ± 2% is more common in practice.

The head unit has a 4.3" Color Touch Screen plus 4 basic menu keys, and includes the following functions:

- 10 programmable "attachments" Independent configuration (of weighing mode) and weight calibration for each "attachment"
- Set Zero (Tare) Weight
- Target Weight and "Accumulated Weight" displays
- Clear Last Weight Entry ("CE-1")
- 30 Product Memory Stores
- 30 Customer Memory Stores
- Grand Total
- Blend (Mix) Mode (with 5 "Mix" stores).
- Customizable Store Names and Screen Icons
- Automatically print a load summary ("Job Record") when resetting for next Load
- Printing load data including Product, Customer and Batch Mix Tickets
- Saving load data to USB Flash Drive / SD Memory Card
- Data Logging (RS232 serial ASCII output to suitable logging device)
- Overload Alarm
- Diagnostic mode and Error Log

Weighlog readings are not suitable as a legal basis for the sale of goods.

1.1 MAIN OPERATING SCREEN AND CONTROLS

Individual Lift Weight

Target Weight　　　Units

Display / Set
Target Load
Weight Left
to Load

Set Zero (Tare)

Print Load

Select Attachment /
Lift Height Indicator

SD Card / USB

No. of Lifts
"Bucket Count"

Auto / Manual
Weight Entry

Access
Memory
Stores

Power On/
Off Switch

Set Up
Menu

Accept Load
(or use Remote Enter Button)

Return to Main
Screen

Exit from Previous
Menu / Clear Last Entry

SD/USB Read/Write Indicator

1.2 MENU NAVIGATION
1.2.1 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").
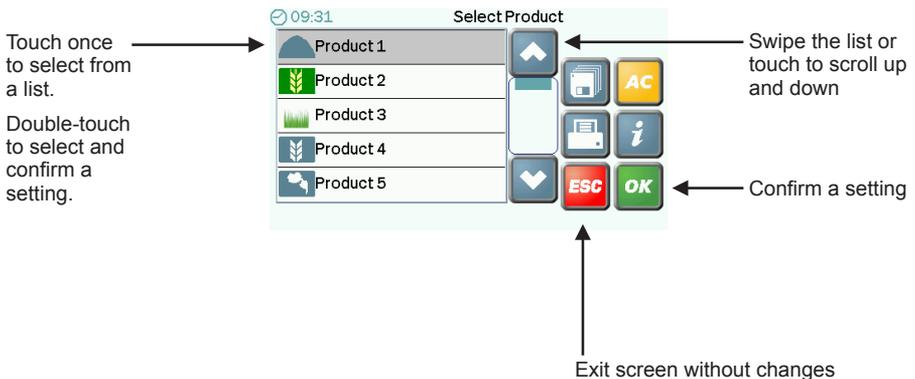
Enter: Confirm a setting / Enter a weight reading (same function as the Remote Load Enter Switch).

1.2.2 TOUCHSCREEN

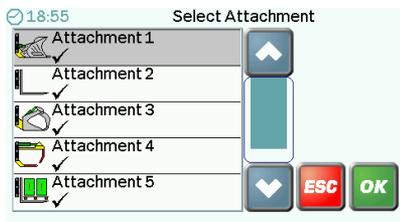**DO NOT use a sharp-pointed object, the screen may be damaged beyond repair!**

Touch once to select from a list.

Double-touch to select and confirm a setting.

Swipe the list or touch to scroll up and down

Confirm a setting

Exit screen without changes

2. OPERATOR SETTINGS
2.1 ATTACHMENTS

The instrument may be configured for up to 10 different attachments.

✓ **Indicates the attachment has been calibrated.**

Attachments are set up for one of the following weighing modes:

"Off"	(Not set up)
"Live On" (No- R&D)	Constant "live" weight display (e.g. Trailer weighing)
"Live Auto" (No- R&D)	Constant weight display (automatically compensating for pressure loss at the weighing position)
"Dynamic"	Dynamic weighing
"Live Static Off"	"Freeze" weight display at reference position
"Live Static On"	"Live" weight display at reference position
"Live Static Auto"	"Live" weight display (automatically compensating or pressure loss at the weighing position)

Set up two configurations for the same attachment - one for Dynamic Weighing and one for Static Weighing. You can then switch easily to Static weighing mode, for adjusting the last bucket load to match a target weight.

2.2 PRODUCT AND CUSTOMER STORES
2.2.1 SELECT A PRODUCT STORE
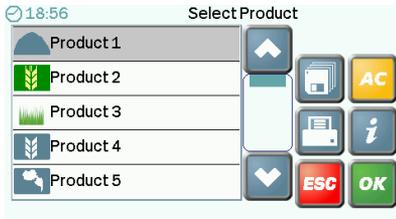
Touch the Product icon on the Main Operating screen. There are 30 Product Memory Stores. The default store names are "Product 1"..."Product 30"

OK **Confirm Product Selection.** All load data will be saved to this product.

i **View / Edit / Print Store information**

Print All Store Information (except stores with zero totals)

The product list will not display if a "Mix" is selected.

2.2.2 SELECT A CUSTOMER STORE
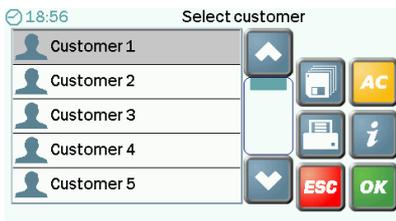
Touch the Customer icon on the Main Operating screen. There are 30 Customer Memory Stores. The default store names are "Customer 1"..."Customer 30"

OK **Confirm Customer / Truck ID Selection.** All load data will be saved to this customer.

i **View / Edit / Print Store information**

Print All Store Information (except stores with zero totals)

2.2.3 VIEW / EDIT / DELETE PRODUCT STORE INFORMATION / SET PRODUCT DENSITY
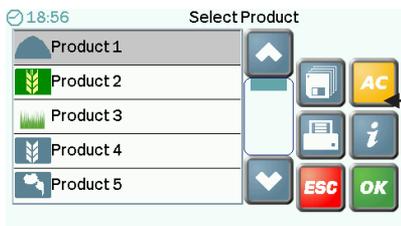
The Store Information Includes:

- Total loaded

- No. of lifts "Bucket Count"

- No. of trucks loaded

- Product Density (if Units set to m³ or yd³)
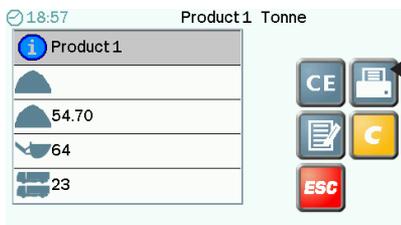
Delete all Product Store Totals:

- Delete Totals (🔺 + 🔻 + 🚚) for selected product

- Delete individual, selected total

- Edit name (ℹ️ Product1) / (🔺)

- Print an individual Product Store Total
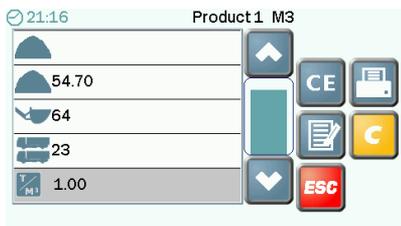
Product Density
If a volumetric unit (m³ or yd³) is selected, then the DENSITY of the product must be entered.

Failure to program the product density will result in incorrect weight measurement and totals!

2.2.4 VIEW / EDIT / DELETE CUSTOMER STORE INFORMATION / SET TRUCK TARE WEIGHT
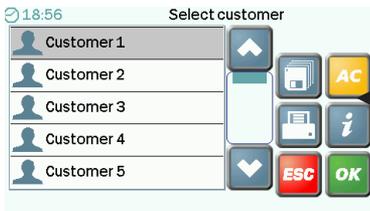
The Store Information Includes:

- Total loaded

- No. of lifts "Bucket Count"

- No. of trucks loaded

- Truck Tare Weight

- Time / Date since total last cleared
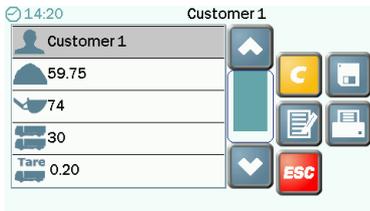
Delete all Customer Store Totals:

- Delete Totals (🔺+🥄+🚚) for selected product

- Delete individual, selected total

- Edit name (👤 Customer 1) / Truck Tare Weight (Tare 🚚)

- Print an individual Customer Store Total

Truck Tare Weight

Truck Tare Weight must be entered in the same units set for weighing. The Truck Tare Weight is added to the load weight to calculate the Gross Vehicle Weight (GVW) printed on the load ticket.

2.2.5 VIEW / CLEAR GRAND TOTAL

21:20   Grand Total Tonne

Grand Total
59.75
Lift Count
74
Date
2000/00/00 00:00
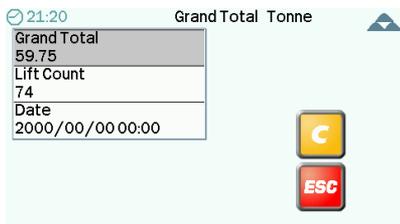
Touch the Accumulated Weight display.

- Clears the totals

2.3 BLEND (MIX) STORES

The instrument can have stored in memory, up to 5 blends ("Mix 1 to "Mix 5") - each being a menu of up to 30 different products and their preset target weights that make up a "recipe".

2.3.1 ENABLE / DISABLE BLEND (MIX) MODE

08:48   Blend

Mix 1
Mix 2
Mix 3
Mix 4
Mix 5
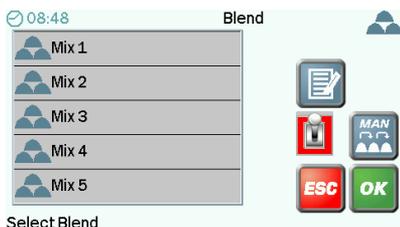
Select Blend

- Enables / Disables Blend (Mix) Mode

On the Main Operating screen, Mix 1 indicates that Blend (Mix) Mode is switched off. Only Product and Customer Stores can be selected.

When Blend (Mix) mode is switched on, the normal Product Stores list **(2.2.1)** is not available.Touching the Product icon on the Main Operating screen lists the individual ingredients of the Mix and their calculated weights, based on the target weight entered.

NOTE: If a Target weight of zero is set for a mix, then the target weight for the individual ingredients cannot be calculated or displayed.

It is possible to exit the Blend ("Mix") mode (e.g. to perform an interim loading task) at any stage of blending, and then return to the blending task later.

2.3.2 SELECT / RENAME A BLEND (MIX) STORE / VIEW MIX INGREDIENTS
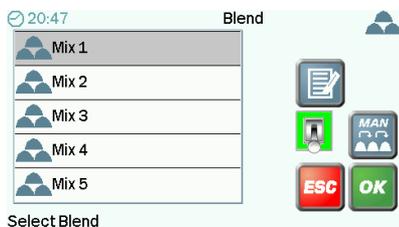
Touch the "Mix" icon on the Main Operating Screen. There are 5 Blend (Mix) Stores. The default store names are "Mix 1"..."Mix 5".

Confirm the Mix Selection. All load data will be saved to the Customer store previously set.

View the mix ingredients / Rename the Store

2.3.3 MIX MODE - AUTOMATIC / MANUAL PRODUCT SELECTION
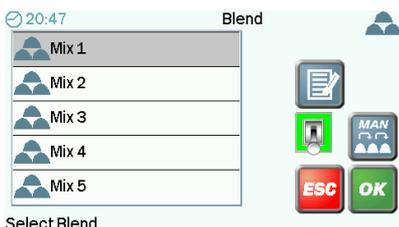
The ingredients of the mix must be loaded in the order that they are programmed (2.3.4) On entering the final bucketful to complete loading of each product, press the ← button (or Remote Enter Switch) once again to automatically select the next product in the list.

Products can be mixed in any order, either completing each product amount in turn, or varying the mix in stand-alone.

2.3.4 DELETE / PROGRAM THE MIX INGREDIENT

- Delete a previously programmed mix

- Enter the quantity for each component of the mix. A mix can be programmed from up to 30 different products.

It is the PART RATIO that is important - not the total batch weight. E.g. for a concrete dry mix 1(Cement) :2 (Sand) :4 (Aggregate) The instrument automatically calculates the weight of each component, according to the target weight you enter on the Main Operating screen.

NOTE: If a Target weight of zero is set for a mix, then the target weight for the individual ingredients cannot be calculated or displayed.

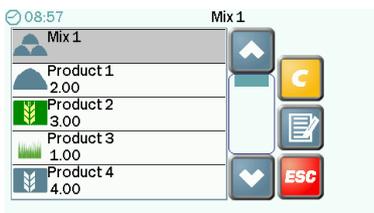## 2.4 AUTOMATIC / MANUAL WEIGHT ENTRY
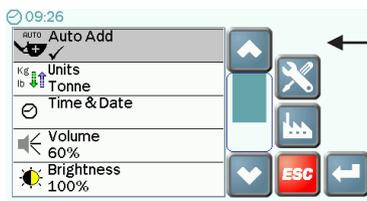
Automatic Weight Entry mode ("Auto Add") operates if the attachment is configured for dynamic weighing. "Auto Add" also operates in the Static Weighing mode with "Live Static" mode off

("Static - Live Off") Reference section 2.1. Automatic Weight Entry is not possible if the attachment is configured for "Live Static" mode ("Static - Live On" or "Static - Live Auto"). Reference section 2.1

2.5 SELECT UNIT / WEIGHT RESOLUTION ('E')
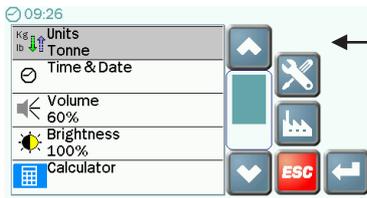
Metric Units are: tonne, kg, m³
Imperial Units are: ton, lb, yd³

If a volumetric unit (m3 or yd3) is selected, then the DENSITY of the product must be entered on the Product Store Information screen (2.2.3). Failure to program the product density will result in incorrect weight measurement and memory totals!
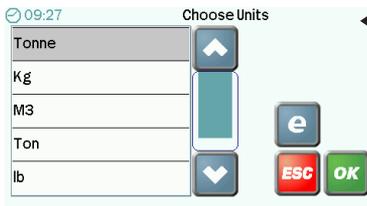
The resolution ('e') is the minimum weight increment that is displayed.
For kgs or lbs:10, 20, 50, 100 or 200kgs/lbs
For tonnes/tons or volumetric: 0.01, 0.02, 0.05, 0.1, 0.2 tonnes/tons/m3/yd3

Weighing precision is dependent on the type and condition of the machine and the manner in which it is used.
For machines up to 5 tonnes: e= 0.01 / 0.02
For machines 5 - 10 tonnes: e= 0.05
For machines > 10 tonnes: e= 0.1

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

2.6 OTHER OPERATOR SETTINGS

Time and Date

This also sets the Time / Date information and Date format on printouts.

Volume

Sets the volume of the internal loudspeaker.

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.

Calculator

A useful four-function calculator.

3. WEIGHLOG
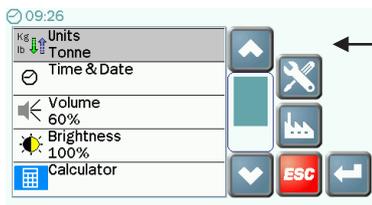
3.1 WEIGHLOG MODES

Dynamic Weighing: The weight is measured without interrupting the lift. The load is lifted straight through the reference position. Dynamic weighing can give consistent results without significantly slowing down the loading job, but it does rely on a certain degree of care on the part of the operator.

Static Weighing: The load is lifted or lowered to the reference position and held there. The display may show a "live reading" that will fluctuate as the machine settles. You can tip off excess material as required, therefore static weighing is ideal for the last bucket load if you are aiming to reach a target load.

Weighing without "R/D" Sensor: For applications where no "R/D" sensor is fitted (e.g. trailers, forklift trucks), a "live" reading is constantly displayed, that will fluctuate as the trailer is loaded / the machine settles down. Press either ⬅ or the Remote Load Enter Button to store the weight reading in memory.

3.2 MACHINE REQUIREMENTS

The accuracy of the system depends to some extent on the following:

1. Operating Temperature: Always allow the machine and the hydraulics to warm up to the normal operating temperature before commencing weighing.

2. Weighing on level ground: Avoid weighing when on a slope or a side slope. Wherever possible weigh on a level area.

3. 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.

4. Maintenance: 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(s).

3.3 LIFTING PROCEDURE

The correct lifting procedure is especially important for dynamic weighing. The load should be lifted smoothly and consistently through the weighing position.

The best procedure is as follows :

1. Having picked up the load, crowd (roll) the bucket right back as far as it will go.

2. Pull the lift lever right back with the engine at idle.

3. Increase engine revs to the "weighing speed" and lift smoothly without bouncing or jerking. In Dynamic Weighing mode, the system has lift speed compensation and will alert the operator in the event the lift speed is too fast or too slow.

3.4 SET ZERO

 - The weight should be zeroed if the weight reading for an empty bucket is more than ±0.02 (20 kgs) or in Imperial units ±40 (40 lbs). Press [>0<] or [OK] to confirm.

Dynamic weighing mode: Lift the bucket through the reference position. The display will show a value (GREY) then zero.

Static weighing mode: Lift the bucket up to the reference position and stop. The display will show a value (GREY). Allow to settle, then press [OK] to zero.

The instrument then returns to the Main Operating screen.

3.5 DYNAMIC WEIGHING

1. Fill the bucket as normal and crowd it right back. Hold the lift lever back. Lift the bucket smoothly at a constant speed through the reference position, keeping the loader as steady as possible while the weight is taken.

- Lifted too fast: lower and lift again.

- Lifted too slow: lower and lift again.

An Overload audible alarm may also be enabled:

At 90% of maximum load = continuous tone
At 100% of maximum load = dual-tone

2. If Automatic Weight Entry ('Auto Add') is enabled (2.3), the weight is automatically stored in memory. If Manual Weight Entry is set, then press either ⬅ or the Remote Load Enter Button to store the weight reading in memory.

3. The target weight will decrease by the bucket weight to show how much is left to load. The display then indicates the total of all bucket weights entered so far, and the number of lifts ("Bucket Count"). If a weight is entered in error, press **ESC** to subtract the entry from the memory totals ("CE -1").

4. Continue loading until you have loaded the required amount. Then press **C** to reset for the next loading job.

3.6 STATIC WEIGHING

1. Lift the load up to the weighing position. The alarm will sound one beep and the "live" weight will be displayed. Keep the loader as steady as possible while the weight is taken.

An Overload audible alarm may also be enabled:
At 90% to 97.5% of maximum load= continuous tone alarm
At 100% of maximum load = dual-tone

2. If Automatic Weight Entry ('Auto Add') is enabled (2.3), the weight is automatically stored in memory. Automatic Weight Entry is not possible if the attachment is configured for "Live Static" mode ("Static - Live On" or "Static - Live Auto"). If Manual Weight Entry is set, then press either ⬅ or the Remote Load Enter Button to store the weight reading in memory.

3. As with dynamic weighing, when the bucket weight is entered, the target weight figure will decrease by that amount. The display then indicates the total of all bucket weights entered so far, and the no. of lifts ("Bucket Count"). If a weight is entered in error, press **ESC** to subtract the entry from the memory totals ("CE -1").

4. Press **C** to reset for the next loading job.

3.7 WEIGHING WITHOUT AN "R/D" SENSOR

For applications where no Reference/Direction Sensor ("R/D") sensor is fitted (e.g. trailers, forklift trucks), a "live" reading is constantly displayed. The display will fluctuate as the trailer is loaded/ the loader settles down.

This weighing method is enabled if the attachment is configured for the weighing modes "Live On (No R & D)" or "Live Auto (No R & D)". Reference section 2.1.

1. Lift the trailer body / attachment slightly so that the hydraulic system is pressurized. Always sample the weight with the trailer body / attachment raised to the same position at which weight calibration was performed. Sampling at a different position may adversely affect weighing accuracy.

2. The Automatic Weight Entry ("Auto Add") function is not applicable. Press either ⬅ or the Remote Load Enter Button to store the weight reading in memory. **If a weight is entered in error, press** ⎋ **to subtract the entry from the memory totals ("CE -1").**

3. If the Overload Alarm is enabled, once a weight is entered, you cannot enter another weight reading until the trailer has been emptied / the load is removed from the attachment. The ⬎ icon indicates that you must empty / remove the load.

4. Press 🇨 to reset for the next loading job.

If the Overload audible alarm is enabled:
From 90% to 97.5% of maximum load = continuous tone alarm
From 100% of maximum load = dual-tone alarm

3.8 WEIGHING IN BLEND ("MIX") MODE

Batch Mixing
Select a "Mix", and enter a target weight for batch mixing. The instrument automatically calculates the target weight for each ingredient of the "recipe". Then simply weigh following the target weight ("Left to Load") display for each product in turn.
The accumulated weight total for the batch is indicated above the Mix icon.

NOTE: Automatic / Manual Product selection

The ingredients of the mix must be loaded in the order that they are programmed (2.3.3). On entering the final bucketful to complete loading of each product, press the ← button (or Remote Enter Switch) once again to automatically select the next product in the list.

Products can be mixed in any order, either completing each product amount in turn, or varying the mix in smaller quantities.

Blending
Blending is similar to batch mixing except you do not follow a preset recipe. Select a "Mix" **but do not enter a target weight.** As you load each product in turn, the total for that product is displayed where the target weight display would normally be.
The accumulated weight total for the blend is indicated above the Mix icon. Products can be mixed in any order, either completing each product amount in turn, or varying the mix in smaller quantities.

3.8.1 BATCH MIXING
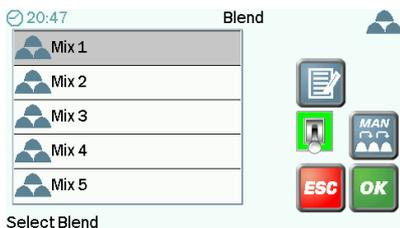
1. Enable Blend ("Mix") Mode (2.3.1)

2. Confirm the Mix selection. All load data will be saved to the Customer store previously set.

Example: "Mix 1" has the following ratio of ingredients:

> **Product 1 = 2.00 parts**
> **Product 2 = 3.00 parts**
> **Product 3 = 1.00 parts**
> **Product 4 = 4.00 parts**

3. Enter the Target Weight (if batch mixing to a "recipe"). The target weights for the individual products are automatically recalculated.

Example: For 5 tonnes, the individual Target weights will become:

> **Product 1 = 1.00t**
> **Product 2 = 1.50t**
> **Product 3 = 0.50t**
> **Product 4 = 2.00t**

4. Load the first product to match the target weight.

5. Select the next product (the target weight is automatically set).

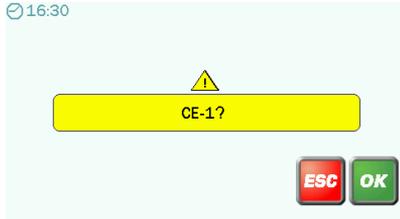**6.** Repeat loading for the remaining products.

7. Press to print a Job summary and reset for the next loading job.

8. Disable "Blend ("Mix") Mode (2.3.1) to return to single product weighing.

3.9 CLEAR LAST WEIGHT ENTRY ("CE-1")

⊘16:30

⚠️

CE-1?

ESC **OK**

All weighing modes
If a weight is entered in error, press
ESC to subtract the entry from the
memory totals ("CE -1").

3.10 RESET LOAD TOTAL

⊘16:30   Attachment 1   Tonne

10.00

0.00

x0   0.00

Product 1   Customer 1   Mix 1

c

All weighing modes
Press **c** to reset for the next
loading cycle. The target weight
resets to the previous amount.

At the end of each loading cycle,
the load data is saved to the Product / Customer / "Mix" Memory
Totals. Depending on the settings, the load data is also printed in
either the chosen format ('Short' or 'Long'), or saved to a USB stick or
SD card.

3.11 ADJUSTMENT FOR INCORRECT WEIGHT READING ("NUDGE")
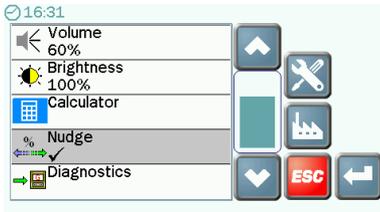
Adjustment for Weight

After performing the initial weight calibration and loading a few trucks, you may find that the load readings from the instrument are consistently different from weigh bridge (weigh-scale) readings. This situation can also occur after maintenance or repair to the loading shovel e.g. changing a bucket.

1. Load a truck and note the weigh bridge total against the instrument total for that load.
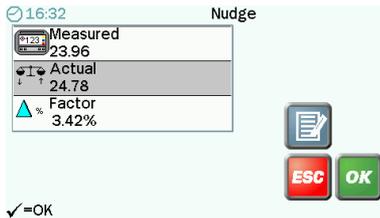
E.g. Instrument reading (Measured weight): 23.96 tonnes
Weigh-scale reading (Actual weight): 24.78 tonnes

2. Enter the values. The percentage difference between the instrument and weigh bridge totals is then displayed.

3. Confirm the change and return to the previous screen. The Nudge Factor is automatically recalculated and saved in memory.

The Weight Calibration Factor always remains the same. The Nudge Factor is the offset from the original calibration.
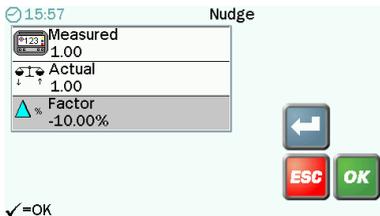
Adjustment by Percent

To nudge the calibration by a known percentage, enter 1.0 tonne for both Measured and Actual weights, then enter the known percentage figure and press enter to confirm. If the Weighlog reading is more than the true weight, the factor is decreased and vice versa, if the Weighlog reading is less than the true weight, the factor is increased.

4. PRINTING AND DATA TRANSFER

Weighlog data output options. Configuration is via "Logging" options in the "Setup" menu.

'Printer'	RDS ICP300 printer.
Data'	RS232 serial data transfer - via cable.
'USB'	Flash Memory Stick.
'SD'	SD Card

# 4.1 PRINTING
4.1.1 PRINT MODES
The instrument is configured for 1 of 3 print modes:

Short: Automatically prints a "Job Record" when resetting for next load (🔴). The "Job Number" increments by one. Also manually print with 🖨 from Main Operating screen, Product Memory Stores, Customer Memory Stores, "Mix" Memory Stores.

Long: As for Short mode except the print includes space for a name and address.

Lift: Prints the bucket weight each time it is entered using the ⬅ button or Remote Enter Button. When resetting for the next load (🔴), the total is printed. If you clear the last weight entry ("CE-1"), then a "Job Cancel" ticket is automatically printed.
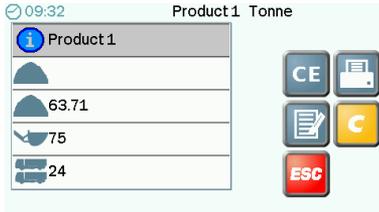
4.1.2 PRINT ALL PRODUCT MEMORY STORES
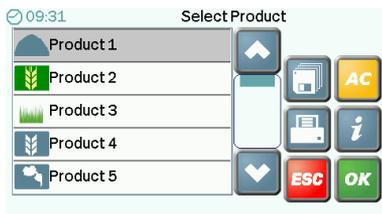
Print all Product Memory Stores

The following data is printed for each store:

- Weight Total
- No. of Lifts ("Bucket Count")
- No. of Truck Loads plus the Grand Totals for all products.

Any Product store that does not contain data will not be printed.
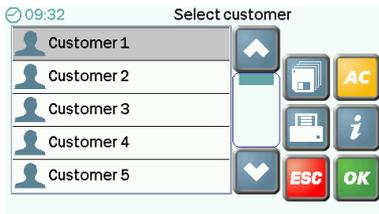
4.1.3 PRINT A SINGLE PRODUCT MEMORY STORE

Print a single Product Memory Store

The following data is printed:

- Product Name
- Weight Total
- No. of Lifts ("Bucket Count")
- No. of Truck Loads
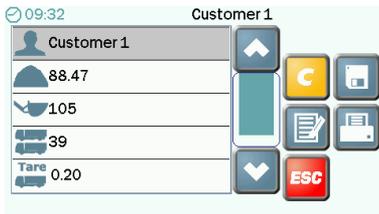
4.1.4 PRINT ALL CUSTOMER MEMORY STORES

Print all Customer Memory Stores

The following data is printed for each store:

- Customer Name/Truck ID
- Product Weight Totals
- Total No. of Lifts ("Bucket Count")
- Total No. of Truck Loads plus the Grand Totals for all customers.

Any Customer store that does not contain data will not be printed.

4.1.5 PRINT A SINGLE PRODUCT MEMORY STORE

Print a single Customer Memory Store

The following data is printed:

- Customer Name/Truck ID
- Product Weight Totals
- Total No. of Lifts ("Bucket Count")
- Total No. of Truck Loads
- Truck Tare

4.1.6 TYPES OF PRINTOUTS

Single Product Store

```
─────────────────
Instrument ID
-----------------
Date
Time

Product Name

TOTAL
Weight <Total>
Lifts      <Total>
Loads  <Total>

─────────────────
Ticket Number
-----------------
```

Single Customer Store

```
─────────────────
Instrument ID
-----------------
Date
Time

Customer Name

Product 1 <Total>
Product 2 <Total>
Product 3 <Total>
Product 4 <Total>

etc.

TOTAL
Weight <Total>
Lifts      <Total>
Loads    <Total>
Truck Tare
From     <Date/Time>
To         <Date/Time>

─────────────────
Ticket Number
-----------------
```

All Product Store

```
─────────────────
Instrument ID
-----------------
Date
Time

Product 1 <Total>
Lifts            <Total>
Loads      <Total>

Product 2 <Total>
Lifts            <Total>
Loads      <Total>

Product 3 <Total>
Lifts            <Total>
Loads      <Total>

etc.

TOTAL
Weight <Total>
Lifts            <Total>
Loads    <Total>

─────────────────
Ticket Number
-----------------
```

All Customer Store

```
─────────────────
Instrument ID
-----------------
Date
Time

Customer 1
Product 1 <Total>
Product 2 <Total>
etc.

Customer 2
Product 1 <Total>
Product 2 <Total>
etc.

Customer 3
Product 1 <Total>
Product 2 <Total>
etc.

TOTAL
Weight  <Total>
Lifts        <Total>
Loads    <Total>
Truck Tare
From      <Date/Time>
To           <Date/Time>

─────────────────
Ticket Number
-----------------
```

Job Record
(Short - Mix Mode OFF)

```
_____
Instrument ID
-----------------
Job Number
Date
Time

Product Name

TOTAL
Weight <Total>

Customer Name

_____
Ticket Number
-----------------
```

Job Record
(Long - Mix Mode OFF)

```
_____
Instrument ID
-----------------
Job Number
Date
Time

Product Name

TOTAL
Weight<Total>

Customer Name

Name:

Address:

Sign:

_____
Ticket Number
-----------------
```

Job Record
(Short - Mix Mode ON)

```
_____
Instrument ID
-----------------
Job Number
Date
Time

Mix Name

Product 1 <Total>
Product 2 <Total>
Product 3 <Total>
Product 4 <Total>

etc.

TOTAL
Weight <Total>

Customer Name

_____
Ticket Number
-----------------
```

4.2 SAVING DATA

Product and Customer Store data can be saved to both USB and SD Flash memory devices.   If both are inserted, the files will be saved to both devices in turn.
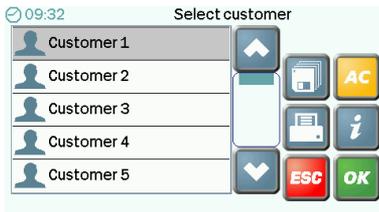
4.2.1 SAVE ALL PRODUCT MEMORY STORES
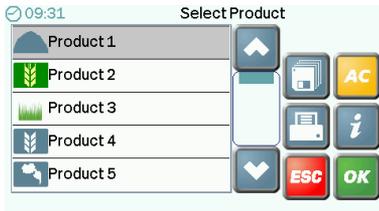
Save all Product Memory Stores

The following data is saved for each store:

- Weight Total
- No. of Lifts ("Bucket Count")
- No. of Truck Loads

"PRODUCTS.CSV" file format e.g. line 1: "Sharp Sand, 1, 1, 40.68, 53, 21" (No. of Truck Loads, Bucket Count, Total Weight, Density, Store No., Product Name)

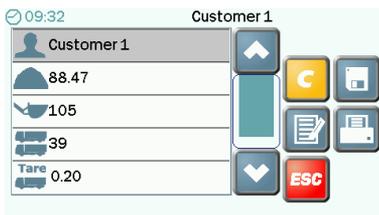## 4.2.2 SAVE ALL CUSTOMER MEMORY STORES

Save all Customer Memory Stores

The following data is saved to a "Customer#.CSV" file for each store:

- Customer Name/Truck ID
- Product Weight Totals
- Total No. of Lifts ("Bucket Count")
- Total No. of Truck Loads
- Truck Tare

4.2.3 SAVE A SINGLE CUSTOMER MEMORY STORE

Save a single Customer Memory Store

The following data is saved to a "Customer#.CSV" file:

- Customer Name/Truck ID
- Product Weight Totals
- Total No. of Lifts ("Bucket Count")
- Total No. of Truck Loads
- Truck Tare

"CUSTOMER#.CSV" file format, an example "CUST1.CSV" for ABC Construction: "<u>ABC Con</u>. <u>VX12TWD</u>, <u>12.22</u>, 46.45 **.............**, <u>0</u>, <u>0</u>, <u>245</u>, 52, <u>12.42</u>, <u>12/01/12</u> <u>13:12</u>, <u>18/04/12</u> <u>16:56</u>

Column	Field
1	Customer Name / Truck ID
2	Product Total for Product Store 1
3	Product Total for Product Store 2
etc.	etc.
30	Product Total for Product Store 29
31	Product Total for Product Store 30
32	Total Bucket Count for all Products
33	Total Truck Loads for all Products
34	Truck Tare Weight
35	Date / Time - since the store was last reset
36	Date / Time - when the file was created