



LibraCELL
Product Manual

Manual Version 1.6.5
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LibraCELL

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1 Introduction

This document explains the basic operation of the Libra load cell, and how a user can alter its settings. This document covers LibraCELL software version 3.23.



The LibraCELL is available in two types the 3.25T or the 4.75T. They feature a digital data connection as well as an onboard load readout (available in lbs or kg) on a highly visible LED display with an easy to use menu system. The innovative Libra shackle pin is designed to work exclusively with the world-wide recognised Crosby safety bow shackle. A direct replacement for the famous 'red pin', the Libra shackle maintains a safety factor of 5:1 up to the full rated load.

The 3.25T (5/8) and 4.75T (3/4) versions allow 10:1 safety factors to be applied while still allowing sufficient capacities to rig one and two tonne points respectively.

The LibraCELL technology has the ability to resolve down to 1kg (2.2lbs). Due to limitations in the manufacture of the Crosby shackle bow, Kinesys specify an accuracy of 2% of the current load or 20kg (44lbs), whichever is the greater value.

THE LIBRACELL IS DESIGNED FOR INDOOR USE IT IS NOT WATERPROOF AND IS NOT DESIGNED TO BE USED OUTSIDE IN WET ENVIRONMENTS.

2 Power On

When a LibraCELL is powered on, it initiates an internal self calibration process, whilst this is happening the cell will display its version number. Once the calibration has been checked the cell will then switch to the default display.

3 Factory Defaults

If a LibraCELL is powered up with the 'M' button pressed, it will revert back to factory defaults. Calibration and offset settings will be preserved.

4 The Default Display

The default display menu will show the current load in kg. The activity indicator in the top corner of the display will flash once a second to indicate that the cell is working.

The tare indicator is illuminated if the cell has a tare offset value set, this indicates that the load being displayed is the total load minus the tare value.

If the lb indicator is lit the cell is in imperial mode and is displaying the load in lbs. Whilst in imperial mode values entered for Tare, MIN and MAX will be in lbs.

If the displayed load is above the maximum trip value the display will flash alternately between the load and the message "MAX". If the displayed load is below the minimum trip value the display will flash alternatively between the current load and the message "MIN".

Whilst in the default display mode, and if no trips are displayed, pressing the up button will cause the cell to display the Tare offset. Pressing the down button will cause the cell to display its communications address.

5 Operation

To ensure the optimum performance and accuracy of the LibraCELL the following guidelines should be followed.

1. From 1 February 2011 all LibraCELLs are tagged with a unique 5 digit identifier, this features on the bow as a tag and is etched onto the inside of the load pin.



This 5 digit number is the same on the bow and load pin and allows both to be matched up. For optimum performance always ensure you are using a bow and pin with the same 5 digit identifier. Using different bows and load pins together can result in the LibraCELL producing less accurate readings.

2. The Crosby and Kinesys logos should be on the same side of the LibraCELL. LibraCELLs that feature a 5 digit unique identifier tag, will be on the inside of the bow.



A LibraCELL with the bow fitted correctly.



A LibraCELL with the bow fitted incorrectly.

3. The nut that holds the bow and load pin together should always be fully tightened to ensure the bow sits correctly on the load pin, as illustrated.



A LibraCELL with the nut correctly tightened.

4. Ensure that when the LibraCELL is in use the points the it is picked up from (the top of the bow and center of the bobbin) are aligned vertically. If the loads on the LibraCELL are at an angle then this can cause incorrect or inaccurate readings to be given.

6 Editing A Parameter Via The Keypad

Parameter list mode

Pressing and holding the M button for two seconds will cause the display to enter the parameter list mode. In this mode the cell parameters can be viewed. The display will alternate between showing the parameter name and its value. Pressing the up and down buttons allow different parameters to be viewed. Pressing the M button for two seconds will cause the display to revert to the normal display mode.

Parameter edit mode

When the desired parameter is selected pressing the M button will cause the display to enter the parameter edit mode. If the currently selected parameter cannot be changed the display will show " – " for as long as the M button is pressed. If the currently selected parameter can be edited the display will show its value and the up and down buttons are used to change its value.

Pressing the M button briefly will save the changed parameter value and revert the display to the parameter list mode, the display will again alternate between the parameter name and its new value.

Pressing the M button for more than two seconds will cause the display to revert to the parameter list mode, without saving the changed parameter value.

Whilst in either the parameter list mode or the parameter edit mode if no button is pressed for 20 seconds the display will revert to the default display mode without saving any values.

With firmware versions prior to V2.08 the user must ensure that parameter changes are permanently saved, and are available after a power cycle. To achieve this the parameter edit mode must be exited by pressing and holding the M button, whilst in the parameter list mode. Firmware versions greater than V2.07 will automatically permanently save parameter changes without having to explicitly exit the parameter edit mode by pressing the M button.

Parameter list

The following parameters can be edited from the load cell display

Parameter	Editable	Description	Default
Addr	Yes	Set Cell comms address	1
Tare	Yes	Set the display tare value, this value will be subtracted from the measured load before it is displayed.	0
Unit	Yes	Set the display units to metric(kg) or imperial(lbs)	kg
Max	Yes	Set the load over which the display will flash "tmax"	0 - No Trip
Min	Yes	Set the load under which the display will flash "tmin"	0 - No Trip
Disp	Yes	Set the display YES or NO	YES
Log	No	Display the maximum load read by the cell, since the log was last reset	0
Rate	No	Rating of the cell, maximum load	
Date	No	Calibration Date MMY	
Ver	No	Display the version of the firmware in the cell	

7 Connections

A Libra cell is primarily designed to be connected to a LibraPRO, LibraBASIC or Digihoist via a 4 pin XLR cable. This connection is a digital connection and provides the most accuracy.

Digital connections are made via the 4 Pin XLR connectors mounted on the side of the LibraCELL. LibraCELLs are designed to be daisy chained, and they provide a XLR4 input port and an XLR4 output port.

DO NOT CONNECT THE XLR4 PORT OF A LIBRA CELL DIRECTLY TO AN ELEVATION. NEITHER PIECE OF EQUIPMENT WILL BE DAMAGED BUT IT WILL NOT WORK

A secondary legacy analogue connection is provided on the LibraCELL to allow

connection to the analogue load cell port of an Elevation. Due to limitations within the Elevation this is not the recommended way of Linking a LibraCELL to an Elevation. It is recommended that a LibraPRO is used whenever possible. The analogue input of the Elevation is low resolution input and accepts an input voltage between 0 and 5V. The analogue port of a LibraCELL is shown below



If required a specific cable can be purchased from Kinesys for connecting the analogue port of a LibraCELL to an Elevation. The part number of this cable is CBL-80-000

When a LibraCELL is connected to the Analogue load cell port of an Elevation a specific scaling factor should be used in Vector or K2 as shown below.

For 3.25T cells use a scaling factor of 3611

For 4.75T cells use a scaling factor of 5278

8 Adjusting The Zero Offset

All LibraCELLs are calibrated when they leave the factory, during the lifetime of the cell the zero point of the LibraCELL can drift slightly resulting in reduced accuracy. This is often seen as the LibraCELL registering a weight when load applied.

If this occurs, the end-user has the option to correct a maximum drift of 50kg. If the value to correct is larger than 50kg, contact your supplier.

In order to recalibrate the zero value, the end-user should power up the cell whilst pressing the middle button. LibraCELL will display "CAL " instead of the version number to indicate the recalibration action. When the LibraCELL finishes the booting process, the display must show a load value of 0Kg to confirm the recalibration process.

Note that this is not the LibraCELL Tare functionality, to apply a Tare see 'Editing a Parameter via the Keypad' section.

9 Contact Information

If you would like to get in touch with Kinesys then please use any of the following methods.

Email: info@kinesys.co.uk
Website: www.kinesys.co.uk

Tel: +44 (0) 20 8481 9850
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Mail: Unit 2 Kempton Gate Business Centre
Oldfield Road
HAMPTON
Middlesex
TW12 2AF
United Kingdom

If our new postcode TW12 2AF is not recognised by your mapping and satellite navigation systems - enter TW12 2HT to find us

Google Map Link: <http://www.google.co.uk/maps?q=tw122af>

Feedback

We are always keen to hear feedback from the users of Kinesys products. If you have a feature request for the software, any comments about the documentation or just want to say hello, please get in touch.

In the unlikely event that LibraVIEW has not performed to the high standards that we work to and our users expect then please let us know as soon as possible.

To leave feedback please email feedback@kinesys.co.uk or call us on +44 (0)20 8481 9850.

If you require technical support relating to LibraCELL please contact us either at +44 (0) 20 8481 9850 or support@kinesys.co.uk