



Kinesys

# Libra

system

load monitoring system



00.99

Libra digital loadcell

Kinesys

1. 0V 2. ANALOG 3. 5V  
ANALOG 4. 24V 5. DATA+ 4. 24V  
1. 0V 2. DATA- 4. 24V  
DIGITAL

CE

07040-5124

WARNING  
5  
1/2"



Kinesys is a technology company specialising in the design, manufacture and sale of motion control systems for the entertainment industry. In-house facilities include hardware and software design, product design and system integration. These skills are married to a service-driven approach to our clients and a keen desire to listen to and act upon feedback from users 'in the field'.

## Summary

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# Libra System

Libra is a range of products designed to offer simple and accurate load measurements for use in any number of rigging and load bearing applications. There are three main elements to a system: the load cell, the hub/power supply and the viewing and programming software. Each item is designed to be easy and intuitive to use while still being robust and reliable. The Libra system also offers full connectivity with other Kinesys products allowing load measuring to be a part of any system.



1

**LibraCELL** is a load measuring shackle with a highly visible LED display. This allows users to view the live load being placed on the shackle while an on-board menu system allows users to input a tare value and switch between kg and lbs.

2

**LibraPRO** is a rack mountable safety hub, a linkable controller providing power and data to LibraCELLs. It features 4 outputs allowing up to 100 loadcells to be monitored simultaneously.

3

**LibraWATCH** is a multi-platform load monitoring software application that enables data to be viewed on both computer and mobile devices.

4

**LibraBASIC** is a power supply offering a simple and cost effective method of powering and monitoring LibraCELLs.

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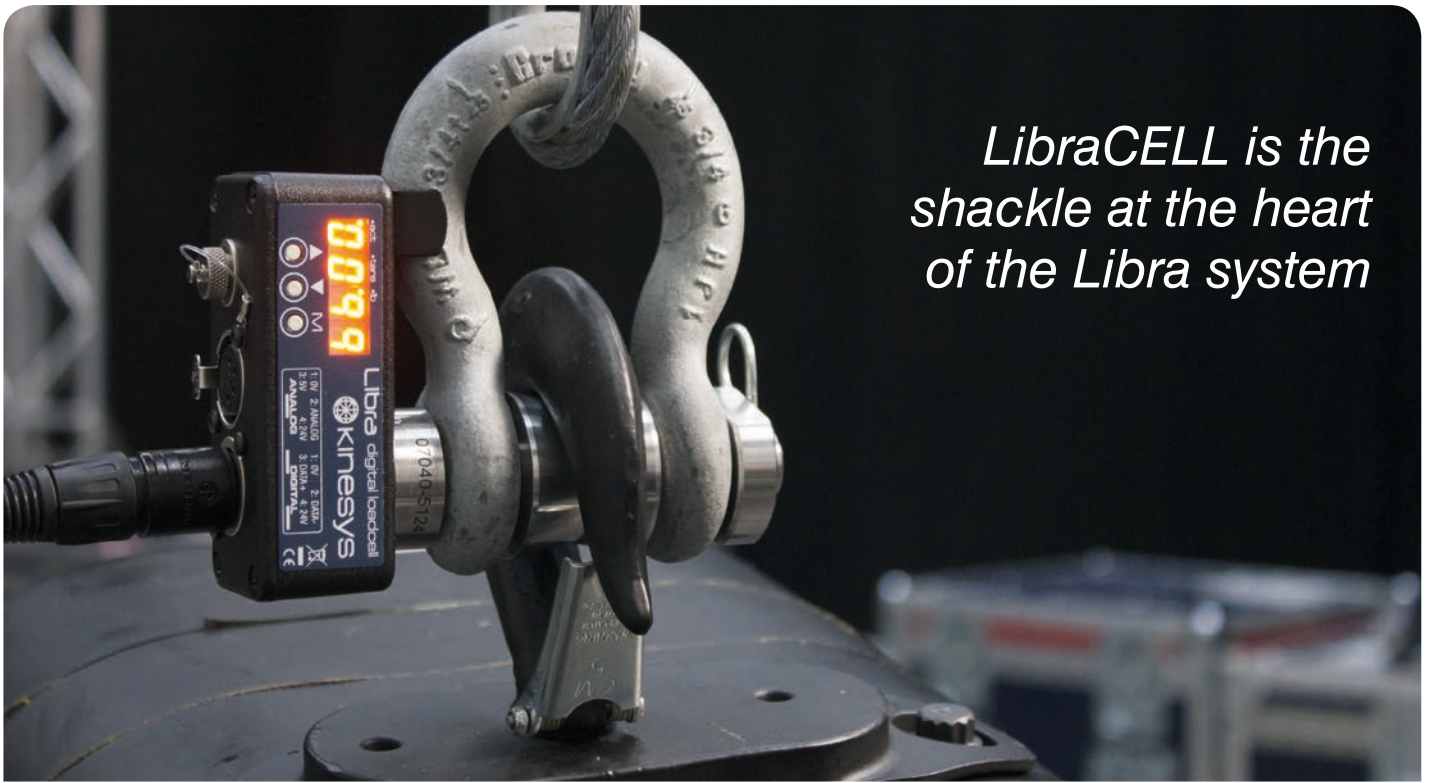
**LibraSPLIT** is a device which allows the connection of up to four chains of LibraCELL devices to a single data connector.

6

**LibraWIFI** permits LibraWATCH to connect wirelessly, whereby load data can be monitored on the go through multiple devices while at the same time allowing key parameters to be edited remotely.

**Libra is both a stand alone system which allows simultaneous monitoring of up to 200+ LibraCELLs and a safety system that can be integrated into all Kinesys control systems.**

*LibraCELL is the shackle at the heart of the Libra system*



**LibraCELL is a load measuring shackle which, when combined with the other elements of the Libra system, produces accurate, real time load information.**

The load cell itself features the Libra shackle pin, which is designed to work exclusively with the world-wide recognised Crosby safety bow shackle. This innovative design means there is no loss of headroom as the load cell is built right into the 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 stamped on the side of the bow.

Built into the load cell is a highly visible LED display allowing users to view the live load as well as input a tare value and switch between kg and lbs, all via an easy to use menu system.



# LibraCELL

## Features

- 3.25 and 4.75T capacity at 5:1 safety factor
- 1.62 and 2.37T capacity at 10:1 safety factor
- On board load readout in lbs or kg
- Shackle design means no loss of headroom
- Built in menu for setting tare and other options

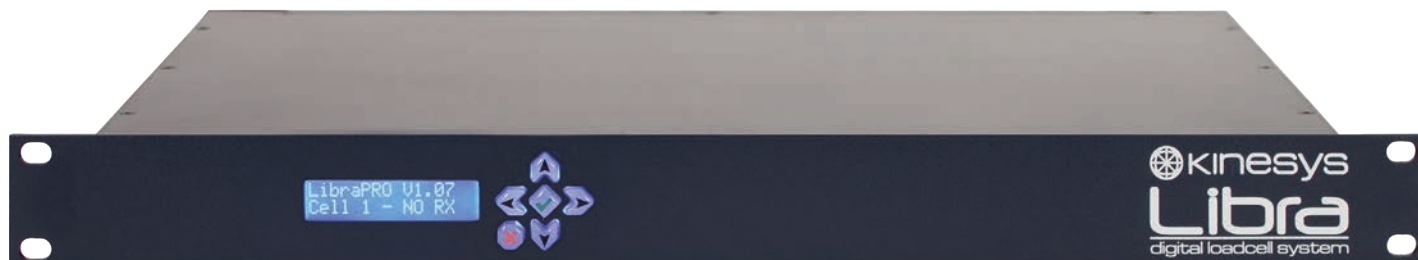
## Control Connections

- XLR4 Power and Data Input
- XLR4 Power and Data Output
- 4-pin Binder LibraCELL to Elevation1+ Connector

Order Code	Description
LIB-00-0010	LibraCELL Shackle 3.25T - Cable Version
LIB-00-0020	LibraCELL Shackle 4.75T - Cable Version

# LibraPRO

The LibraPRO features four XLR4 outputs allowing up to 100 loadcells to be monitored. It also features four programmable relay outputs and Ethernet connectivity.



Integration is at the heart of the LibraPRO, multiple LibraCELL outputs and USB and Ethernet connectivity make this the core of a Libra system.

LibraPRO relay outputs can be utilised to trigger alarms or beacons to warn of underload or overload situations. When LibraPRO is used with LibraWATCH it can unleash its full potential.

By downloading the free multiplatform software application 'LibraWATCH' onto a computer, smartphone or tablet device you have the option of viewing load data in tabular, graphical or plan form through a user friendly interface.

LibraWIFI allows LibraWATCH to connect wirelessly whereby load data can be monitored on the go through multiple devices, thereby allowing key parameters to be edited remotely. This gives all personnel a complete overview of the safety of any rigging installation.

LibraVIEW can also connect to LibraPRO via its Ethernet or USB interface.

*LibraPro is the rack mountable power and data hub for LibraCELLs*

## Features

- USB and Ethernet connection for LibraVIEW
- Connect up to 100 loadcells
- Ethernet connection for LibraWATCH
- Programmable relay outputs
- 4 x XLR4 data connections
- 1U 19" rack mounting case

## Control Connections

- 4 x XLR4 LibraCELL Outputs
- 1 x Ethernet (Ethercon)
- 1 x USB (Type B)
- 2 x Mains Switched Relay Outputs
- 2 x Volt Free Relay Outputs



## Order Code

LIB-00-0040

## Description

LibraPRO  
Loadcell Power Supply



**LibraWATCH is a portable, user-friendly and powerful load monitoring software application that is an integral part of the Libra range; LibraCELL, LibraPRO and LibraWIFI.**

It is a multi-platform software program which can be used on any computer, tablet or smartphone device. It gives the option of viewing load data in tabular, graphical or plan form through a user-friendly interface, which can be deployed on many different products, while still maintaining a consistent, universal look.

# LibraWATCH

Overload and underload alarms and warnings can be communicated through multiple devices simultaneously. Many users can therefore maintain a complete overview of the load status and via a PIN number have access to edit key parameters remotely.

In order to transmit the load data wirelessly the system uses LibraWIFI. This wireless node comes with a built in Firewall to allow only Kinesys data into the Libra system which ensures a fast, secure and safe network. Accessible to all, the connection is compatible with Windows, Mac, Android and iOS.

The use of LibraWATCH at a live event can transform the way load data is communicated as it enables freedom and mobility for all the technical staff. This element of the complete Libra range is a must have for the entertainment market today.

To access this free software application download LibraWATCH from the Apple Store for iPhone and iPad, from Google Play for Android devices or by a simple installation of the 'LibraWATCH Chrome Application' for Google Chrome browsers on PC and Mac computers. In addition LibraWATCH can be downloaded for free from Kinesys website.

*A multi-platform load monitoring software application that enables load data to be viewed on the go*



Available on the **App Store**

 **Google play**

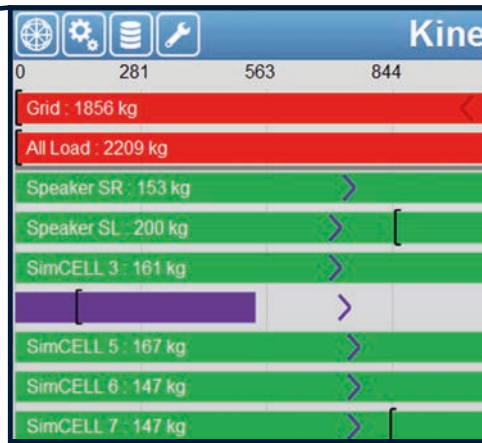
## Features

- Free download
- iOS, Android, Windows, Linux and Mac support
- View LibraCELL data anywhere via Wifi or Ethernet
- Multiple devices can be connected simultaneously
- Set overload and underload alarms
- View data as a table, a graph or on a plan



### Graph View

Visualise live loads in bargraph form as well as overload, underload and maximum and minimum values.



### Graph View

This is the real time dynamic visualisation of each LibraCELL connected to LibraPRO. Different bar colours shows the LibraCELLs status and give immediate visual feedback of underloads, overloads, load fluctuation range and load warnings. Group functionality allows users to allocate individual cells into a group and to see the total weight of a grid, a truss or a P.A.



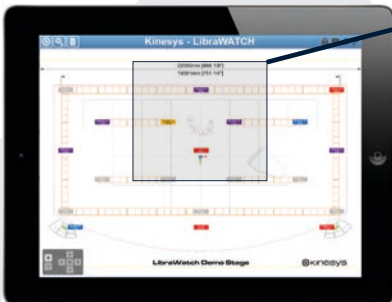
### Load Table View

Visualise individual loads and groups in a grid table format.

Name	Load
Grid	1905 kg
All Load	2298 kg
Speaker SR	162 kg
Speaker SL	230 kg
SimCELL 3	228 kg
SimCELL 4	71 kg

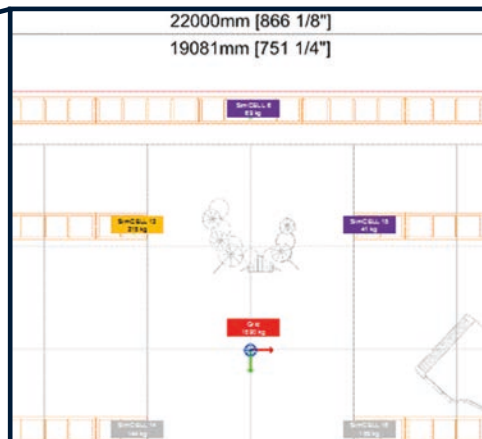
### Load Table View

This is the working load table, essential for load calculation and load verification. It allows you to create groups simply by selecting individual cells and saving them with a specific name. LibraCELL groups can be visualised both in Table and Graph view. LibraWATCH generated load table reports can be saved locally or sent by email using your portable device. Users can also save their shows for future recall.



### Plan View

View live loads positioned over a plan view of the installation.



### Plan View

Install LibraWATCH on a PC or a Mac, drag and drop an image of a rigging plot or a show plan on to the device and save it. When you connect LibraPRO to your computer it will upload the show file which can then be broadcast via LibraWIFI onto your portable device and be visualised with LibraWATCH. Plan View also works without background images and it shows LibraCELL positions based on parameters set for each individual cell.



### Setting Parameters

Allows the adjustment of various cell parameters - address, name, overload and underload. Optionally protected by a PIN number.

Group Channel Setup

Ver: Load: Status: [OK]

Pos X [mm]: Pos Y [mm]: Tare:

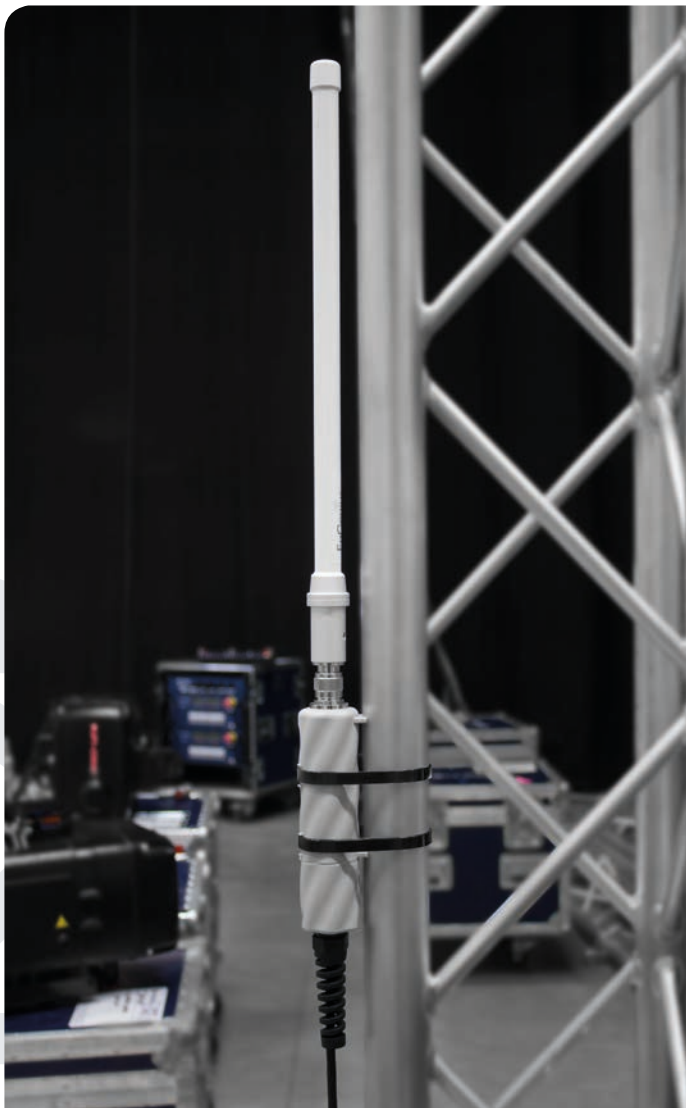
SR -8600 4659

Overload: OverWarn: UnderWarn:

229 209 93

### Setting Parameters

LibraWATCH system settings permit you to reset load fluctuation range, discover LibraCELLs, set trigger limits and set up individual relay actions. It is possible to allocate X and Y positioning coordinates for each individual LibraCELL to be viewed in Plan View. The Options screen permits you to select a language, to choose units of measurement and to define alerts.



# LibraWIFI

**A key advantage of LibraWIFI is its unique design, perfect for using at any live entertainment event. The aerial can be easily mounted onto any truss, maximising the chances of generating the best signal without any limitations.**

A built in Firewall permits only Kinesys data into the Libra network which allows load data to be communicated in a fast, secure and safe way.

LibraWIFI is compatible with all Kinesys systems and can be plugged into a Digihoist to broadcast LibraCELL data without the need of a LibraPRO.

LibraPRO and DigiHoist can be connected to an Ethernet network thereby allowing LibraWIFI to have access to all the load data in the system.

Wireless networks can be unpredictable under live show conditions – Kinesys recommends the use of a wired network connection whenever possible if load monitoring is required during a performance.



*LibraWIFI allows LibraPRO or DigiHoist to broadcast load cell information using Wi-Fi to LibraWATCH*

## Features

- Allows LibraCELL data to be broadcast wirelessly
- Use with LibraWATCH
- Built in Firewall ensures a faster, safer, more secure load data network

## Ethernet Connections

- An Ethernet connection (PoE) from LibraPRO provides power and data to LibraWIFI
- Supports IEEE 802.11 b/g/n (2.4 GHz)
- IEEE 802.11 a/n (5 GHz) option available

## Order Code

## Description

LIB-00-0060

LibraWIFI  
Wireless Access Point



# LibraSPLIT

LibraSPLIT allows multiple chains of LibraCELL to be connected to a single data connector.

LibraSPLIT permits flexible connection of LibraCELL devices to a single data connector on LibraPRO, LibraBASIC and DigiHoist.



## Features

- Dimensions: 129 x 81 x 47mm (5.1 x 3.2 x 1.9in) (excluding connectors)
- Weight: 0.27kg (0.6lb)
- Indicators: Power and Activity

## Data Input

- Neutrik XLR4 male

## Data Output

- 4 x Neutrik XLR4 female

The total number of cells connected to LibraSPLIT is restricted by the limitations of the master port or master device.

LibraSPLIT is housed in a robust extruded aluminium case and receives low-voltage DC power from the incoming data cable.

## Order Code

## Description

LIB-00-0080

LibraSPLIT  
Libra Data Hub

# LibraBASIC

LibraBASIC offers a simple and cost effective method of powering and monitoring LibraCELLS.

When used in conjunction with the LibraVIEW software, data from the load cells can be viewed, grouped and logged easily. A USB socket makes connection very simple.



## Features

- Powers up to 25 loadcells
- USB connection to the LibraVIEW software
- USB 2.0 compliant
- Single XLR4 data connection
- External universal power supply
- Data activity indicators

## Control Connections

- USB connection to LibraVIEW
- XLR4 Output (powers up to 25 LibraCELLS)

The Libra Basic is powered by an external universal power supply that allows the system to be used anywhere in the world.

The Libra Basic can power up to 25 Libra load cells from the single XLR4 connection on the front of the unit.

## Order Code

## Description

LIB-00-0030

LibraBASIC  
Loadcell Power Supply

# Libra & Integration

## Elevation 1 +



## DigiHoist



- LibraCELL is designed to be integrated with Elevation1+, Kinesys' variable speed chain hoist control system, to provide underload and overload monitoring.
- LibraPRO relay outputs can be connected with Array PD-ES and Mini Array PD-ES to activate the emergency stop system.

- DigiHoist, Kinesys' fixed speed digital hoist controller, has all the LibraPRO functionality built in. A Daisy chain of LibraCELLs can be plugged in to DigiHoist to provide individual and group halt functionality.
- LibraWIFI can be plugged into DigiHoist and will broadcast LibraCELL data to LibraWATCH without the use of LibraPRO.
- The use of LibraCELL with DigiHoist, provides a control system in full conformity with BS7905, BS7906 and D8+.



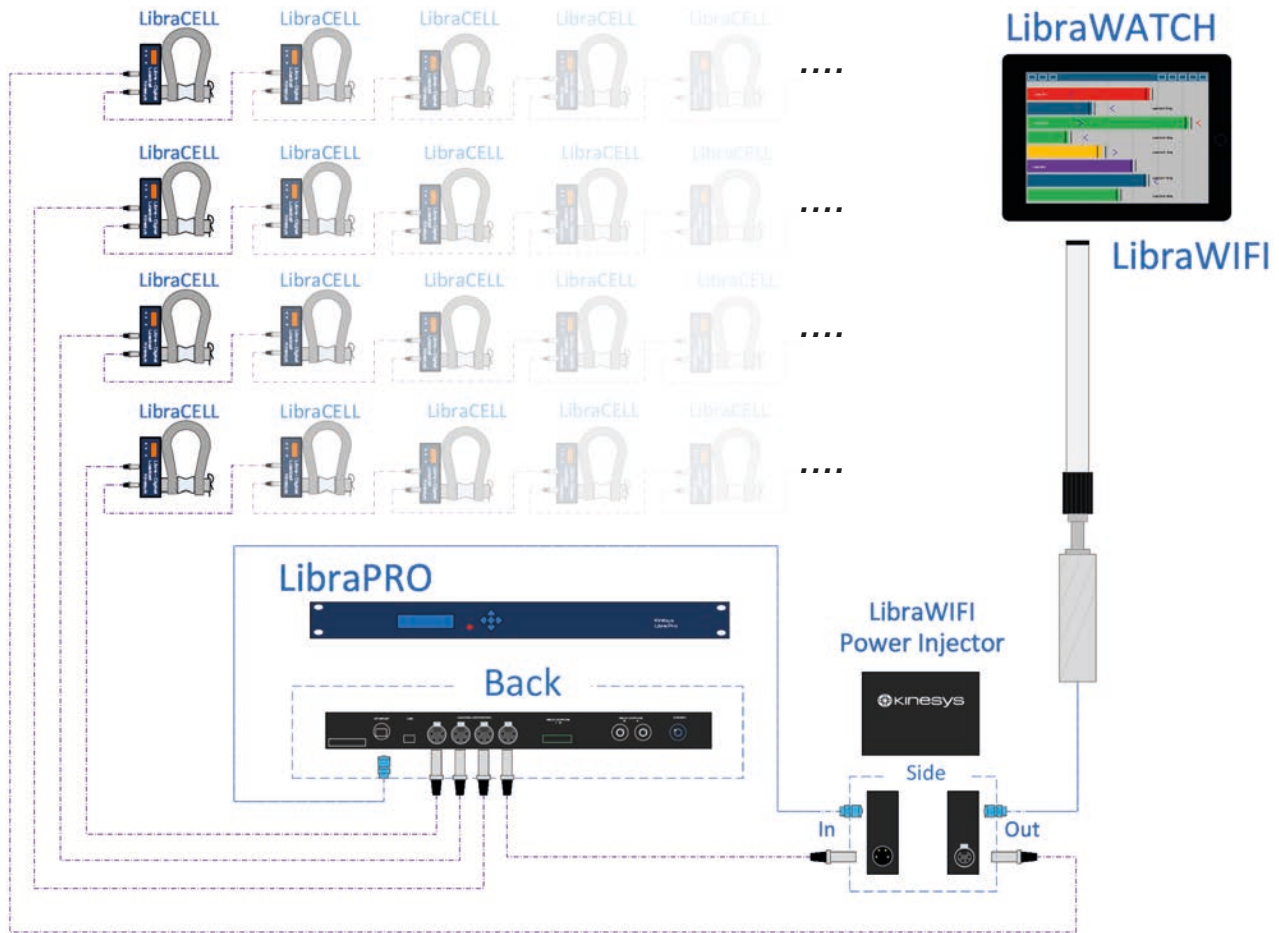
## K2 & Vector

- When Elevation and DigiHoist systems are integrated with Vector or K2, the full potential of the Libra system is realised.
- Loads, still visualised with LibraWATCH, can be assigned to individual channels or entire moving objects, creating a fully integrated safety system for scenic movement.
- The consistency and integrity of the communication protocols, together with the plug and play design approach, are second to none.



Libra works as a stand alone load monitoring system but it can also be integrated in to Kinesys' variable and fixed speed control systems to provide overload and underload safety monitoring. The integration of the Libra system with DigiHoist, Elevation, Vector and K2 does not require additional devices or changes in systems configurations. Libra is a truly flexible system, wholly integrated into Kinesys' automation products.

# Libra Configuration



The diagram above shows the simple configuration of a Libra system. **LibraPRO** allows 25 **LibraCELL**s to be linked together on each of its four XLR4 outputs. **LibraWIFI** can be connected to **LibraPRO**'s Ethernet port to permit the broadcasting of the data to portable devices. **Libra** is a simple, intuitive and extremely reliable load monitoring system.

One daisy chain line can power twenty five **LibraCELL**s

**25**



One **LibraPRO** can power four daisy chain lines of **LibraCELL**

**100**



For particular installations, **LibraPRO** can be provided with link functionality

**200+**



**There are no limits to how many LibraCELLs you can read with a Kinesys Libra SYSTEM**



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Designed in the UK

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