

# Load Monitoring products



making the lifting industry a safer place



**Crosby**® | **SP**®  
*know the load*

# Company Profile



**Since 1976 Straightpoint's world-class, solution-based systems have been at the forefront of industrial weighing and load monitoring technology.**

With UK headquarters, a US subsidiary, and global dealer network, the simple to use, cost-effective product range has enhanced safety for engineers and rigging professionals worldwide for 40 years. The engineering team design and manufacture a broad spectrum of first-class products to capacities in excess of 1,500 tonnes to include:

- Tension 'Link' load cells
- Telemetry load cells
- Shackle load cells
- Dynamometers
- Crane scales
- Compression load cells
- Load pins
- Software solutions

The Straightpoint team pride themselves on the development and distribution of world-class load monitoring, weighing and force measurement systems.

Straightpoint's wireless Windows-based software, and full line

of accessories allow for the simple and easy, acquisition and analysis of force and load monitoring data.

All Straightpoint products are fully tested and available for next day dispatch in an aluminium flight case (or wooden crate for large capacities) with full documentation including multi lingual manuals, certificates of calibration/proof test and CE conformity.

World-class calibration and repair services are offered for all models as well as other manufacturers' load cells.

Straightpoint products are utilised within many industries worldwide:

- Shipping and marine
- Mining
- Transport
- Health and safety
- Entertainment
- Crane and rigging
- Salvage and decommissioning
- Oil and gas
- Construction
- Power generation
- Utilities
- Topsides
- Break bulk
- Military

Straightpoint's highly qualified team of product specialists are available to assist with any application, and its global network of first-class distributors ensure that wherever your location, an approved Straightpoint dealer is close by.

Straightpoint's continued investment in research and development enables them to remain at the forefront of technological development with world-leading products and performance to meet their customers' demands.

**With hundreds of units always in stock, Straightpoint aim to deliver any standard product up to capacities in excess of 1,500 tonnes anywhere in the world—FAST!**

Pg.	Part No.	Description
02-03	<b>RLP</b>	Radiolink plus
04-05	WLS	Wireless Loadshackle
06-07	<b>BLD</b>	BlueLink Dynamometer
08-09	WIB	Impact Block
10-11	<b>WNITC</b>	Wireless Compression Load Cell
12-13	COLT	Clamp On Line Tensionmeter®
14-15	<b>CS</b>	CableSafe
16-17	TIMH	Running Line Dynamometer
18-19	<b>Towcell®</b>	Towcell®
20-21	WCOGS	Wireless Centre of Gravity
22-23	<b>PTP</b>	Proof Test plus®
24-25	SW-MWLC	SW-MWLC
26-27	<b>HHP App</b>	Wireless Accessories / HHP App
28-29	HHP/SW-HHP	Wireless and Cabled HHP / Wired Accessories
30-31	<b>LLP</b>	Loadlink plus
32-33	WLP	Wirelink plus
34-35	<b>SLB</b>	Loadshackle
36-37	NITC	Compression Load Cell
38-39	<b>STC</b>	Straightpoint Tension and Compression
40-41	LP	Loadpin
42-43	<b>LBP</b>	Loadblock plus
44-45	MWP	Miniweigher plus
46-47	<b>JW</b>	Jumboweigher
48-49	-	Accreditations and Affiliations / Industries

## Accreditations

**Straightpoint is an ISO9001:2008 approved company (registration number FM 584438) audited by the British Standards Institute (BSI) who are a notified UKAS body.**

Straightpoint's hazardous area products are verified by SIRA, notification No: SIRA 15 ATEX M725

Members of key associations such as LEEA (Lifting Equipment Engineers Association), AWRF (American Wire Rope Fabricators) and SC&RA (Specialized Carriers & Rigging Association).

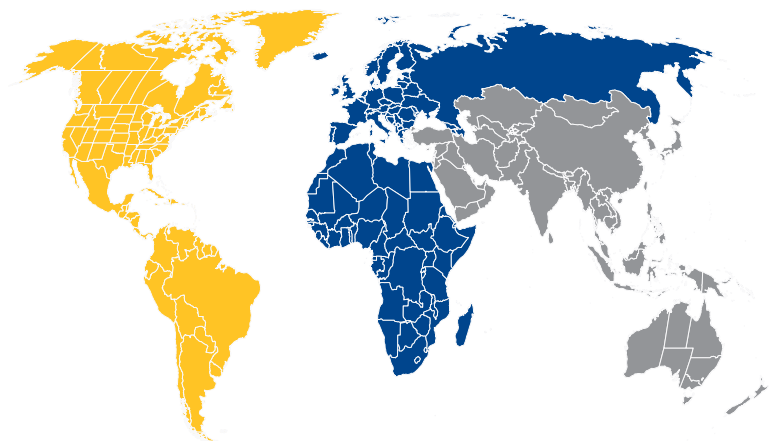
Several key personnel are members of ASME (American Society of Mechanical Engineers).



## Warranty

**All Straightpoint products ship with a two-year warranty.**

## Straightpoint Global Distribution



## Contact details

### Crosby | Straightpoint

Unit 9, Dakota Park  
Downley Road  
Havant, Hampshire  
PO9 2NJ · UK

**Tel: +44 (0)2392 484491**

2801 Dawson Road  
Tulsa, OK 74110 · USA

**Tel: +1 (918) 834-4611**



# Radiolink plus



Hardened bushes to accept industry standard shackles

Std. AA Batteries 1200hrs Easy no tools access

Internal Antennae

Environmental protection IP67/NEMA6

High-quality hard anodised aerospace aluminium

Angular ends to reduce weight and snagging when rigged



Wall or Cab Mount Bracket available for handheld Part No. SU3282

700m/2300ft Wireless Range

100Hz Peak Hold

90db Audible Overload Alarm

Preset Tare

Multiple Display Units t/lbs/kg/kN

**Radiolink plus is designed to be rigged with Crosby standard shackles. Straightpoint's DNV-GL type approved wireless tension load cell is capable of weighing and dynamic load monitoring capacities from 1t to 500t (all in stock). An ATEX and IECEx version is also available for hazardous areas, zones 0, 1 & 2.**

### Two versions of the RLP are available:

- Long range 2.4GHz version providing industry leading wireless range of 700m or 2300ft to SP's SW-HHP handheld or software options.
- Bluetooth output and can be connected to any smart phone running our free HHP app on iOS or Android, at ranges up to 100m or 328ft.

Constructed from high-quality aerospace grade aluminium, the RLP features an advanced internal design structure. This design provides the product with an unrivalled strength to weight ratio. The use of a separate internal sealed enclosure administers the load cell's electronic components with IP67 or NEMA6 environmental protection, even with the battery cover plate missing. All these features makes it an industry-leading dynamometer, suitable for use in the harshest of environments.

The versatile RLP is able to provide an update rate of 3Hz and can be easily configured to run at industry-leading speeds of up to 200Hz, making it ideal for dynamic force measurement.

Decades of development into this product include many stand out features, such as SP's unique strain gauging method that helps compensate for wire rope torque when it is loaded. The Radiolink plus tension load cell can also be used in combination with Straightpoint SW-MWLC high speed wireless data logging software, allowing for simultaneous control, display and real-time data logging of up to 100 Straightpoint wireless load cells.

A full array of wireless accessories are also available. They include signal boosters, LED wireless scoreboards and base stations with analogue (4-20mA, 0-10v, 0-5v) or digital (RS232/485, Modbus RTU, and ASCII) outputs.

### Other features and benefits:

- Proprietary 2.4 GHz Wireless
- Remote On-Off from handheld display or software
- ATEX Zones 0, 1 & 2 available
- Design validated by F.E.A.
- 2 year warranty
- DNV-GL Type Approval
- Complies with ASME B30.26
- Bluetooth option is available and is supplied with a free HHP App for iOS and Android See page 27



Also available with hazardous area approval. Zones 0, 1 & 2



**ATEX / IECEx**  
Ex ia II C T4 Ga

Certification numbers:

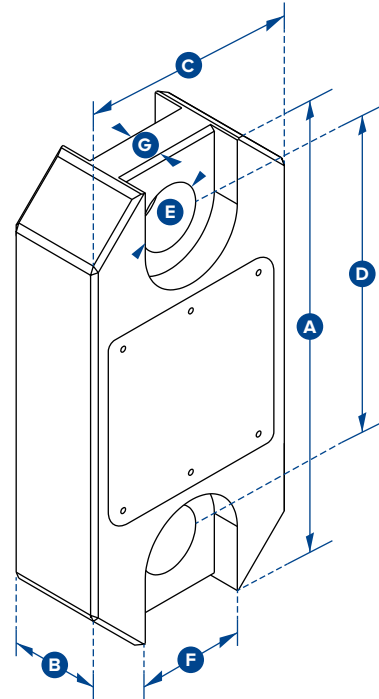
**RLP ATEX**

IECEX SIR 15.0071X / Sira 15ATEX2195X

**SW-HHP ATEX**

IECEX SIR 15.0072X / Sira 15ATEX2196X

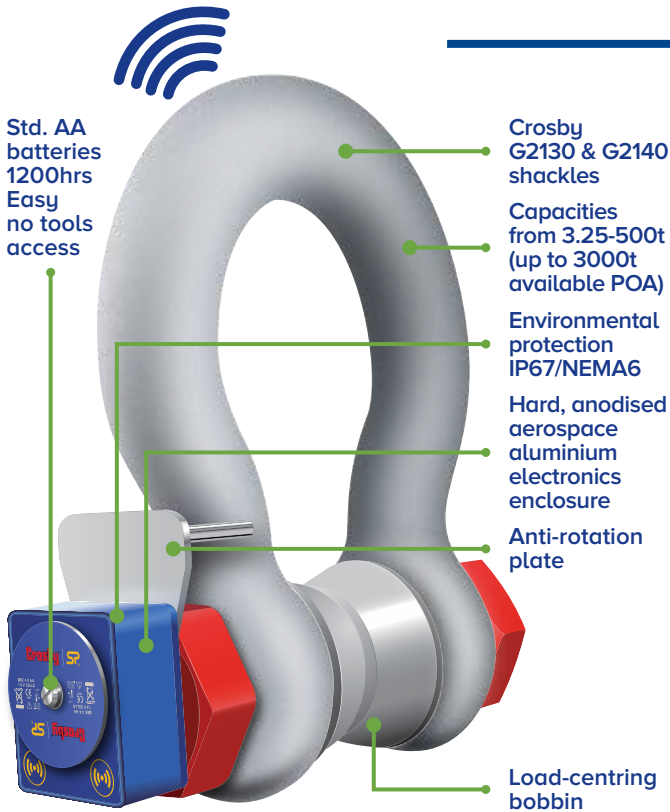
**Add 'ATEX' to the part number when ordering ATEX/IECEX products. For example: RLP6T5-ATEX**



Part Number	RLP1T	RLP2T5	RLP6T5	RLP12T	RLP25T	RLP35T	RLP55T	RLP75T	RLP100T	RLP150T	RLP200T	RLP250T	RLP300T	RLP500T
Capacity	1,000kg 2200lb	2.5te 5500lb	6.5te 14300lb	12te 26000lb	25te 55000lb	35te 77000lb	55te 120000lb	75te 165000lb	100te 220000lb	150te 330000lb	200te 440000lb	250te 550000lb	300te 660000lb	500te 1100000lb
Resolution	0.5kg 1lb	0.001te 2lb	0.001te 2lb	0.002te 5lb	0.005te 10lb	0.005te 10lb	0.01te 20lb	0.01te 20lb	0.05te 100lb	0.05te 100lb	0.1te 200lb	0.1te 200lb	0.1te 200lb	0.1te 200lb
Units	kg lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb
Weight	1.5kg 3.3lb	1.5kg 3.3lb	2.4kg 5.3lb	3.7kg 8.2lb	5kg 11lb	8.6kg 19lb	13kg 28.7lb	16kg 35.3lb	34kg 75lb	46kg 101.4lb	82kg 180.8lb	82kg 180.8lb	118kg 260lb	193kg 425.5lb
Safety Factor	12:1	7:1	7:1	7:1	5:1	5:1	5:1	5:1	5:1	4:1	5:1	4:1	5:1	5:1
Battery Type	Handheld 2 x AA/Load cell 4 x AA													
Battery Life	Handheld 60 hours/Load cell 1200 hours continuous (Load cell 500 hours if Bluetooth)													
Display Type	6 digit 25mm / 1" LCD													
Operating Temp	-10°C to +50°C / 14°F to 122°F													
Accuracy	±0.1% of full scale													
Frequency	2.4 GHz													
System Range	700 metres / 2300 feet (100 metres / 328 feet if Bluetooth)													
Data Rate	3 Hz - up to 200 Hz can be ordered for dynamic load monitoring applications													
Protection	IP67/NEMA6													
Dimension A	204 8.03"	204 8.03"	249 9.80"	305 12.01"	340 13.39"	393 15.47"	424 16.69"	470 18.50"	608 23.94"	670 26.38"	700 27.56"	700 27.56"	806 31.73"	930 36.61"
Dimension B	43 1.69"	43 1.69"	43 1.69"	47 1.85"	60 2.36"	75 2.95"	75 2.95"	75 2.95"	99 3.90"	99 3.90"	144 5.67"	144 5.67"	150 5.91"	150 5.91"
Dimension C	104 4.09"	104 4.09"	113 4.45"	113 4.45"	115 4.53"	126 4.96"	180 7.09"	202 7.95"	255 10.04"	303 11.93"	350 13.78"	350 13.78"	426 16.77"	570 22.44"
Dimension D	146 5.75"	146 5.75"	165 6.50"	193 7.60"	215 8.46"	225 8.86"	230 9.06"	260 10.24"	320 12.60"	360 14.17"	350 13.78"	350 13.78"	350 13.78"	450 17.72"
Dimension ØE	24.5 0.96"	24.5 0.96"	38 1.50"	47.5 1.87"	55 2.17"	60 2.36"	76 2.99"	76 2.99"	109 4.29"	109 4.29"	145 5.71"	145 5.71"	160 6.30"	200 7.87"
Dimension F	48 1.89"	48 1.89"	66 2.60"	Not relevant in this capacity										
Dimension G	19 0.75"	19 0.75"	32 1.26"											
Crosby Shackle	G2130						G2140						G2160	
Loading Pin Ø	19 3/4"	19 3/4"	25 1"	35 1 3/8"	51 2"	57 2 1/4"	57 2 1/4"	70 2 3/4"	83 3 1/4"	95 3 3/4"	121 4 3/4"	127 5"	152 6"	180 7 1/8"

Internal Antennae  
Wireless Range of  
700m or 2300ft

# Wireless Loadshackle



## Features and benefits:

- Wireless Range of 700m or 2300ft
  - Electronics housed in hard anodised enclosure
  - Environmentally sealed to IP67 or NEMA6
  - Battery Life of 1200hrs from 4 x AA batteries
  - Internal Antennae
  - Remote On-Off from handheld display or software
  - Supplied with a load-centring bobbin
  - 2-year warranty
  - Complies with ASME B30.26
  - Design validated by F.E.A.
  - ATEX Zones 0, 1 & 2 available
- 
- Bluetooth option is available and is supplied with a free HHP App for iOS and Android  
See page 27

**Straightpoint's Wireless Loadshackle (WLS) provides the perfect solution to limited headroom or super heavy lift projects. Available from stock in capacities from 3.25t to 500t (up to 3000t available POA), the WLS is constructed using industry-leading shackles from Crosby.**

### Two versions of the WLS are available:

- Long range 2.4Ghz version, providing industry-leading wireless range of 700m or 2300ft to SP's SW-HHP handheld or software options.
- Bluetooth output and can be connected to any smart phone running our free HHP app on iOS or Android, at ranges up to 100m/328ft.

Each WLS is proof tested, then equipped with a hard-anodised aluminium electronics enclosure. Contained within this enclosure is an internal chassis providing IP67 or NEMA6 environmental protection, even with the battery cover plate missing.

Featuring industry leading wireless technology, the WLS can maintain an update rate of 3Hz. It can be easily configured to run at industry-leading speeds of up to 200Hz, if required for dynamic load measurement projects.

Utilising easily sourced AA alkaline batteries, the WLS features advanced circuitry, designed to protect the unit from damage associated with incorrectly installed batteries. This circuitry extends battery life, and the use of easily-sourced alkaline batteries, eliminating issues associated with rechargeable battery pack charging, failure and replacement.

The WLS may also be used with Straightpoint's SW-PTP software package, allowing the operator to perform load tests at a safe distance and generate real-time test certificates on site.

A full array of wireless accessories are also available. These include signal boosters, LED wireless scoreboards and base stations with analogue (4-20mA, 0-10v, 0-5v) or digital (RS232/485, Modbus RTU, and ASCII) outputs.

Also available with hazardous area approval. Zones 0, 1 & 2



**ATEX / IECEX**  
Ex ia II C T4 Ga

Certification numbers:

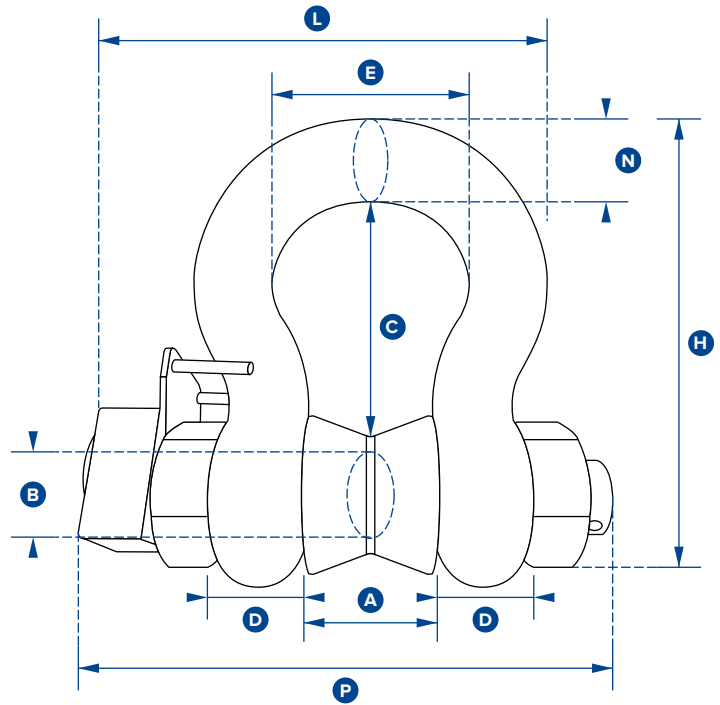
**WLS ATEX**

IECEX SIR 16.0041X / Sira 16ATEX2108X

**SW-HHP ATEX**

IECEX SIR 15.0072X / Sira 15ATEX2196X

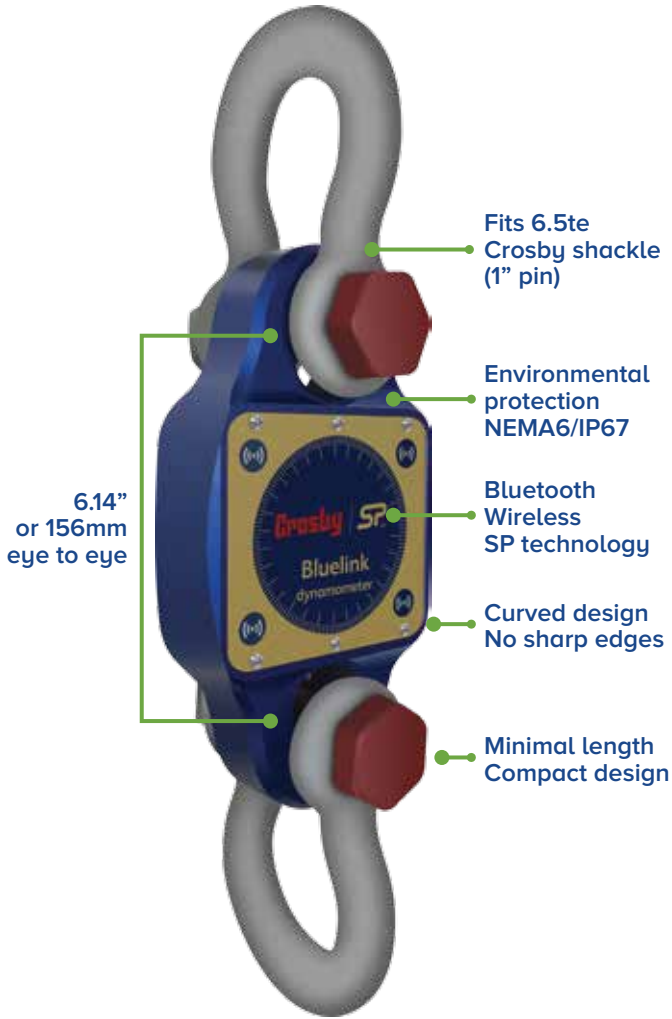
**Add 'ATEX' to the part number when ordering ATEX/IECEX products. For example: WLS3.25T-ATEX**



Part Number	WLS3.25T	WLS6.5T	WLS12T	WLS25T	WLS55T	WLS85T	WLS120T	WLS200T	WLS300T	WLS400T
Capacity	3.25te	6.5te	12te	25te	55te	85te	120te	200te	300te	400te
	7150lb	14300lb	26400lb	55000lb	120000lbs	185000lbs	260000lbs	440000lbs	660000lbs	880000lbs
Resolution	0.005te	0.005te	0.01te	0.02te	0.05te	0.05te	0.1te	0.2te	0.5te	0.5te
	10lb	10lb	20lb	50lb	100lb	100lb	200lb	200lb	1000lb	1000lb
Units	tonne									
	lb									
Weight	2.8kg	3.2kg	8kg	18kg	25kg	45kg	85kg	230kg	398kg	556kg
	6.16lb	7lb	17.6lb	40lb	55lb	99lb	187lb	507lb	877lb	1226lb
Safety Factor	5:1 when used with load bobbin									
Battery Type	Load cell 4 x AA Alkaline									
Battery Life	Load cell 1,200 hours continuous (500 hours if Bluetooth)									
Operating Temp	-10°C to +50°C / 14°F to 122°F									
Accuracy	±1% full scale									
Frequency	2.4 GHz									
System Range	700 metres / 2300 feet (100 metres / 328 feet if Bluetooth)									
Data Rate	3 updates per second									
Protection	IP67/NEMA6									
Dimension A	26.9	36.6	51.5	73	82.5	105	127	184	213	210
	1.06"	1.44"	2.03"	2.87"	3.25"	4.13"	5.00"	7.24"	8.39"	8.27"
Dimension ØB	19.1	25.4	35.1	51	57	70	82.5	121	152	178
	0.75"	1.00"	1.38"	2.01"	2.24"	2.76"	3.25"	4.76"	5.98"	7.01"
Dimension C	56.9	79.7	113	170	189.5	253	319.5	366	451	542
	2.24"	3.14"	4.45"	6.69"	7.46"	9.96"	12.58"	14.41"	17.76"	21.34"
Dimension D	16	22.4	31.8	44.5	51	66.5	76	116	124	165
	0.63"	0.88"	1.25"	1.75"	2.01"	2.62"	2.99"	4.57"	4.88"	6.50"
Dimension E	42.9	58	82.5	127	164	184	200	279	330	330
	1.69"	2.28"	3.25"	5.00"	6.46"	7.24"	7.87"	10.98"	12.99"	12.99"
Dimension H	106	148	210	313	348	453	546	706	871	1022
	4.17"	5.83"	8.27"	12.32"	13.70"	17.83"	21.50"	27.80"	34.29"	40.24"
Dimension L	127.1	156.5	196	281	306	368	408	580	652	680
	5.00"	6.16"	7.72"	11.06"	12.05"	14.49"	16.06"	22.83"	25.67"	26.77"
Dimension N	17.5	24.6	35.1	57	61	79	92	127	154	184
	0.69"	0.97"	1.38"	2.24"	2.40"	3.11"	3.62"	5.00"	6.06"	7.24"
Dimension P	143	173	218	293	317	394	441	667	722	784
	5.63"	6.81"	8.58"	11.54"	12.48"	15.51"	17.36"	26.26"	28.43"	30.87"



# BlueLink



Wireless Range 328ft or 100m

HHP App connects via Bluetooth on any iOS or Android device

## Designed to replace outdated mechanical products still in the field, this 14,300lb (6500kg) Dynamometer, the 'BlueLink', is the latest SP product to feature their proprietary Bluetooth wireless technology.

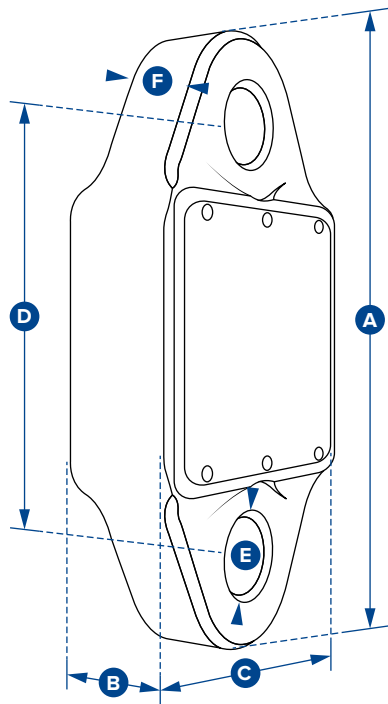
The Bluetooth signal effortlessly connects to any iOS or Android smartphone that has our free HHP app installed, providing the operator with a wireless range of up to 328ft or 100m. This allows them to stand in a safe position from the load, with no requirement to read a load on the load cell itself. The app will also allow the operator to log data versus time, or on events such as over or underload. An adjustable alarm will alert the operator on their smartphone if any overload is occurring.

Rigged using industry standard shackles such as Crosby G2130, the BlueLink has been designed to minimise headroom (6.14" or 156mm from eye to eye). With a safety factor of over 500%, its compact lightweight design does not sacrifice on strength.

Constructed from high-quality aerospace grade aluminium, which is then hard-anodised, it features an advanced internal design structure. This design provides the product with an unrivalled strength to weight ratio. The use of a separate internal sealed enclosure administers the load cell's electronic components with IP67 or NEMA6 environmental protection, even with the battery cover plate missing. All these features makes it an industry-leading compact dynamometer, even more suitable for use in the harshest industrial or leisure environments.

The BlueLink is powered by four standard AA alkaline batteries that provide in excess of 500 hours transmission time. Its internal antennae ensures safe transmissions of loads to an accuracy of  $\pm 0.2\%$  FS.





Part Number	BlueLink Dynamometer
Capacity	6.5te
	14,300 lbs
Resolution	0.00te
	2lbs
Weight	1.5kg
	3.3lbs
Safety Factor	5:1
Battery Type	4 x AA alkaline batteries
Battery Life	500hrs
Operating Temperature	-10°C to +50°C or 14°F to 122°F
Accuracy	± 0.2% of full scale
Range	100 metres or 328 feet
Data Rate	3Hz
Protection	IP67/NEMA6
Dimension A	224
	8.82"
Dimension B	44
	1.73"
Dimension C	113.64
	4.47"
Dimension D	156
	6.14"
Dimension ØE	27.5
	1.08"
Dimension F	26
	1.02"

# Impact Block



## Features and benefits:

- Rounded edges to cheek plates maintain low rope abrasion when rope is fed 'unfair'
- Upper sheave opens via a threaded locking axle for added security
- Thrust surfaces increase tolerance to external loading of spindle and anchor pin
- Lightweight attachment sling facilitates hauling of block, sling and rope to the climber and helps with handling, in tree stowage and workshop storage
- Direct connection to cordage, the anchor slings helps ensure correct neighbour component compatibility
- 700m or 2300ft wireless range enabling operator to stand at safe distance
- No easily broken external antennae
- High waterproof resistance to IP67/NEMA6 for all weather use
- Massive battery life of 1200 hrs operational time
- Handheld display or data logging software options for all applications
- Bluetooth option is available and is supplied with a free HHP App for iOS and Android  
See page 27

**The safest choice for the working Arborist.**

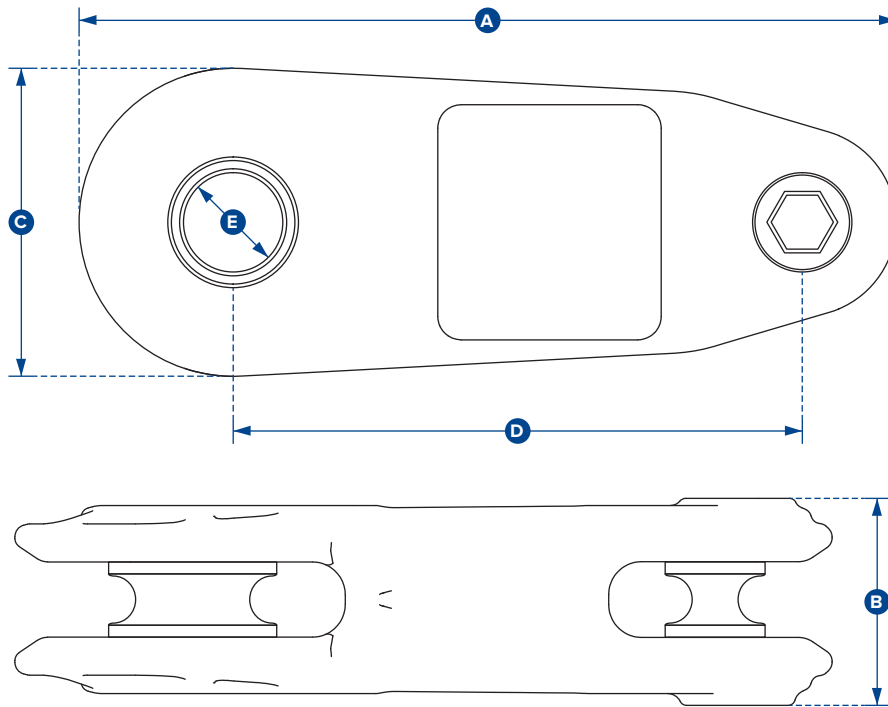
**Manufactured in partnership with DMM, the Impact Block has been designed to deliver the best performance in terms of alignment, resistance and appeal.**

The aesthetic curves of the Impact Block combine beauty, strength and durability to ensure a rope-friendly surface. Coupled with wireless dynamic load monitoring electronics, and strain gauge technology from Straightpoint, it provides real-time data to either the handheld controller, or logging via our SW-MWLC software to tablet or laptop. It is easy to see why this is one of the most sought-after products in the industry.

During development, the Straightpoint Impact Block has gone through a thorough dynamic and static validation testing regime. The end result is a highly functional product with an impressive strength to weight ratio.

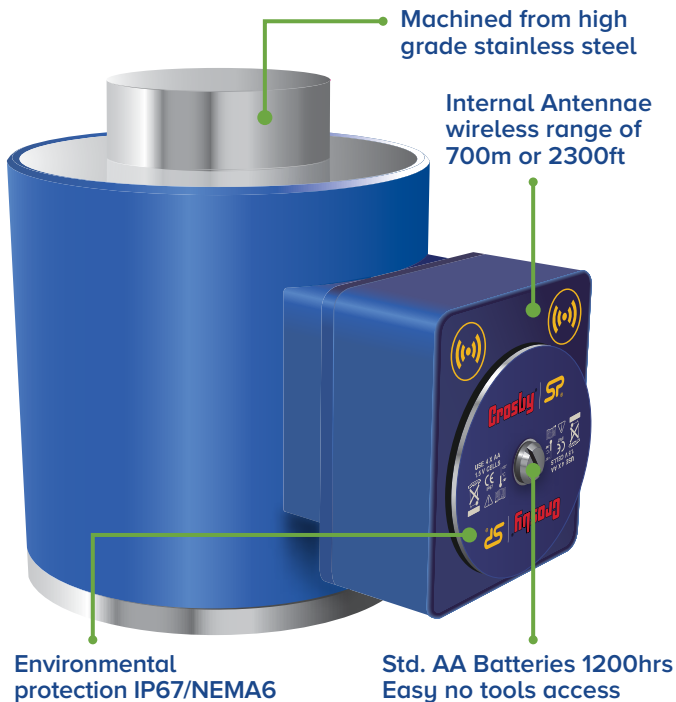
## Applications:

- Tree care – dismantling ops and speed lines
- Forestry
- Winching operations
- Rescue
- Rigging
- Entertainment industry



Part Number	WIB6T
Capacity	60kN
Resolution	0.1kN
Units	kN
Weight	6kg 13.2lb
Safety Factor	5:1
Battery Type	4 x AA Alkaline
Battery Life	1,200 hours continuous (500hrs if Bluetooth)
Operating Temp	-10°C to +50°C / 14°F to 122°F
Accuracy	±0.1% of full scale
Frequency	2.4 GHz
System Range	700 metres / 2300 feet (100 metres / 328 feet if Bluetooth)
Data Rate	50Hz - up to 200Hz can be ordered for dynamic load monitoring applications
Protection	IP67/NEMA6
Max Rope Ø	20mm 0.75"
Dimension A	348 13.7"
Dimension B	89 3.5"
Dimension C	131 5.16"
Dimension D	242 9.53"
Dimension ØE	27 1.06"

# Wireless Compression Load Cell



## Features and benefits:

- Proprietary 2.4 GHz wireless
  - Accuracy of 0.1% FS
  - Environmentally sealed to IP67/NEMA6
  - Stocked capacities up to 1000t
  - Industry leading wireless range up to 700m or 2300ft
  - Internal antennae
  - ATEX & IECEx version for hazardous area zones 0, 1 & 2 available
  - Battery life of 1200hrs
  - Compact size
  - Remote on-off
  - Design validated by F.E.A.
- 
- Bluetooth option is available and is supplied with a free HHP App for iOS and Android  
See page 27

## The Straightpoint Wireless Compression Load Cell (WNI).

No longer hindered by troublesome and hard to maintain cables, large-scale projects can now be completed in a fraction of the time previously required. Multiple compression load cells can all connect wirelessly to SP's range of PC software via a USB dongle, their iOS and Android app or their SW-HHP wireless handheld display.

Maintenance and repair costs are all but eliminated due to the absence of cables and connectors. The flexibility of the product opens the door to a large number of applications in the heavy lift, energy, defence, rigging, shipping, and general transportation sectors.

### Two versions of the WNI are available:

- Long range 2.4GHz version providing industry leading wireless range of 700m or 2300ft to SP's SW-HHP handheld or WCOGS software
- Bluetooth output and can be connected to any smart phone running our free HHP app on iOS or Android, at ranges up to 100m or 328ft.

Connected to Straightpoint's Wireless Centre of Gravity software (WCOGS), the WNI load cell can be used to weigh and

verify centre of gravity of large and heavy objects, which may not be evenly proportioned. The system will report weight on each individual load cell, total weight and C-of-G in an html report based on ISO19901.

Straightpoint's Wireless Compression Load Cells are machined from high grade 17-4PH stainless steel, providing excellent strength and corrosion resistance, which makes them suitable for the most arduous industrial conditions.

Also available with hazardous area approval. Zones 0, 1 & 2



**ATEX / IECEx**  
Ex ia II C T4 Ga

Certification numbers:

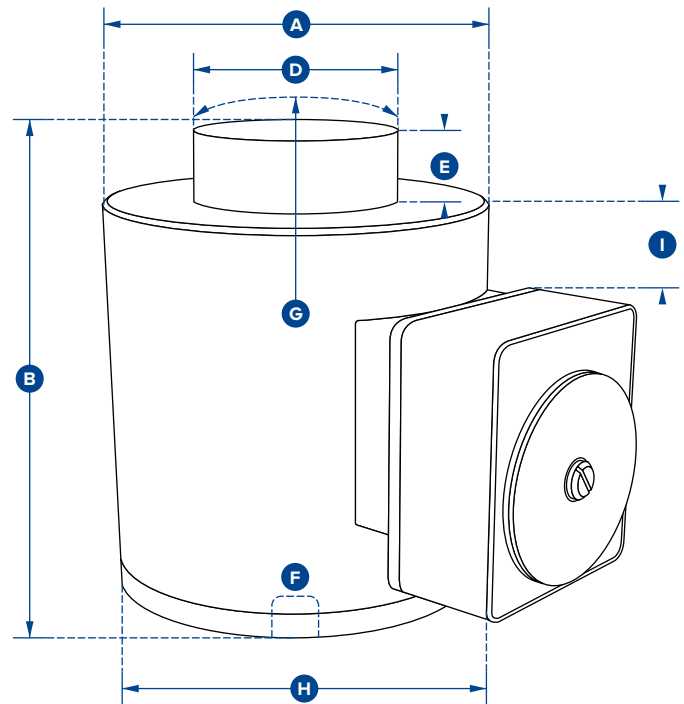
**WNI ATEX**

IECEX SIR 16.0041X / Sira 16ATEX2108X

**SW-HHP ATEX**

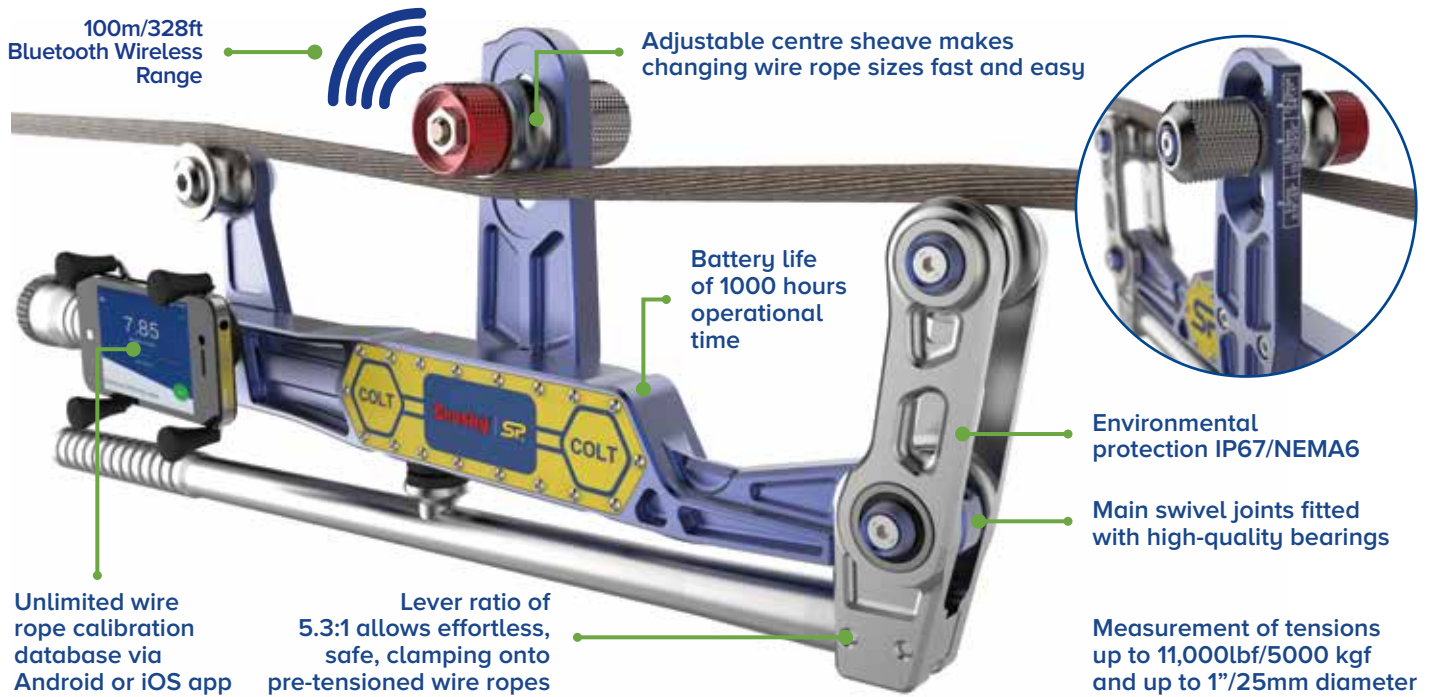
IECEX SIR 15.0072X / Sira 15ATEX2196X

**Add 'ATEX' to the part number when ordering ATEX/IECEX products. For example: WNI5TC-ATEX**



Part Number	WNI5TC	WNI10TC	WNI25TC	WNI50TC	WNI100TC	WNI150TC	WNI300TC	WNI500TC	WNI1000TC
Capacity	5te	10te	25te	50te	100te	150te	300te	500te	1000te
	11000lb	22000lb	55000lb	110000lb	220000lb	330000	660000lb	1100000lb	2200000lb
Resolution	0.001te	0.002te	0.005te	0.01te	0.05te	0.05te	0.1te	0.2te	0.5te
	2lb	5lb	10lb	20lb	100lb	100lb	200lb	500lb	1000lb
Units	tonne								
	lb								
Weight	6.2kg	6.2kg	6.2kg	6.2kg	15.5kg	15.5kg	65kg	65kg	172kg
	13.64lb	13.64lb	13.64lb	13.64lb	34lb	34lb	143lb	143lb	379lb
Safety Factor	3:1								
Battery Type	Load cell 4 x AA Alkaline								
Battery Life	Load cell 1,200 hours continuous (500hrs if Bluetooth)								
Operating Temp	-10°C to +50°C / 14°F to 122°F								
Accuracy	±0.1% of full scale								
Frequency	2.4 GHz								
System Range	700 metres / 2300 feet (100 metres /328 feet if Bluetooth)								
Data Rate	3Hz (configurable to 200Hz)								
Protection	IP67/NEMA6								
Dimension ØA	100	100	100	100	152	152	185	185	362
	3.94"	3.94"	3.94"	3.94"	5.98"	5.98"	7.28"	7.28"	14.25"
Dimension B	127	127	127	127	184	184	300	300	310
	5.00"	5.00"	5.00"	5.00"	7.24"	7.24"	11.81"	11.81"	12.20"
Dimension ØD	59	59	59	59	80	80	155	155	270
	2.32"	2.32"	2.32"	2.32"	3.15"	3.15"	6.10"	6.10"	10.63"
Dimension E	16	16	16	16	26	26	27.5	27.5	40
	0.63"	0.63"	0.63"	0.51"	1.02"	1.02"	1.08"	1.08"	1.57"
Dimension F	M18 x 2.5	M18 x 2.5	M18 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M30 x 3.5
	M18 x 2.5	M18 x 2.5	M18 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M30 x 3.5
Dimension G	152	152	152	152	432	432	432	432	950
	5.98"	5.98"	5.98"	5.98"	17.01"	17.01"	17.01"	17.01"	37.40"
Dimension H	158	158	158	158	208	208	241	241	422
	6.22"	6.22"	6.22"	6.22"	8.19"	8.19"	9.49"	9.49"	16.61"
Dimension I	22	22	22	22	33	33	49	49	102
	0.87"	0.87"	0.87"	0.87"	1.30"	1.30"	1.93"	1.93"	4.02"
Load cell top to SA700 top	0.87"	0.87"	0.87"	0.87"	1.30"	1.30"	1.93"	1.93"	4.02"

# Clamp On Line Tensionmeter



The Crosby COLT is a lightweight wire rope tension meter, for fast and accurate measurement of tensions up to 11,000lb or 5000 kg and up to 1" or 25mm diameter.

Manufactured using an integral, high accuracy, Bluetooth module, the COLT transmits load data wirelessly to any smart device running our free Android or iOS app.

Constructed from aerospace grade aluminium, the COLT digital tensiometer is lightweight and easy to handle. Its main operational application is to be attached to wires/cables that are already under tension. Once in place, it allows the operator to quickly check tension on cables or wire ropes set at any angle.

A built-in magnetic smart device holder allows the COLT to be used as a traditional tension meter with on board display, or the smartphone can be handheld or mounted elsewhere.

Supplied in a purpose made carry case, the COLT is portable and utilises standard alkaline batteries, making it perfect to carry out on-site cable tension testing anywhere in the world.

An optional calibration verification tool (CVT) allows the operator to self-check and verify calibration accuracy, in the field, if required.

## Features and benefits:

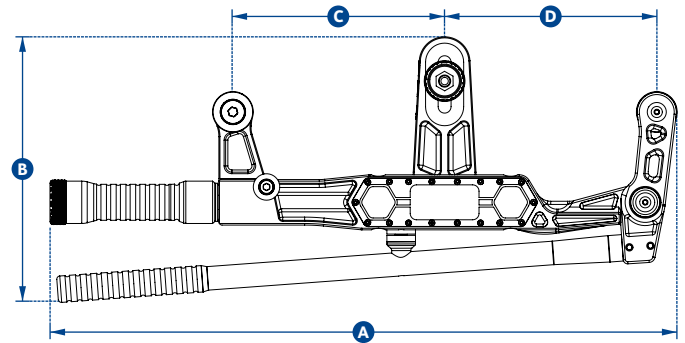
- Unlimited wire rope calibration database via Android or iOS app
- Main swivel joints fitted with high-quality bearings
- Lever ratio of 5.3:1 allows effortless, safe, clamping onto pre-tensioned wire ropes
- Wireless Bluetooth 4.2 enabling operator to stand a safe distance away, up to 328 feet or 100 metres
- Quick intuitive adjustable centre sheave makes changing wire rope sizes fast and easy
- No easily broken external antennae
- High waterproof resistant design IP67 or NEMA6 for all weather use
- Massive battery life of 1000 hrs operational time
- As the library of wire rope diameters and constructions is increased each app user will benefit when they update free of charge

### Tower Mode:

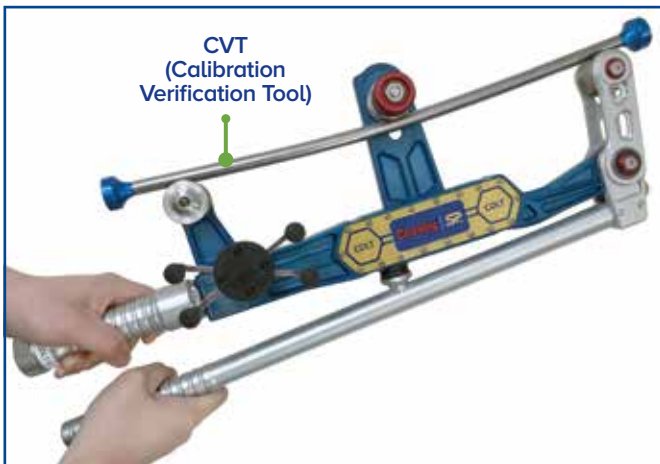
- Records GPS coordinates
- Logs the local temperature and windspeed from local NOAA
- Ability to also allow elevation of wire rope to be inputted into log

## Applications:

- Guy wire maintenance on cell towers, bridges, flare stacks, antennas and masts
- Guy wire Tower Plumb and Tension
- EHS guy wire, Turnbuckle tensioner
- Wire rope installations, comparing, equalising and measuring
- Architectural wire rope installations
- Median cable barrier tensioning
- Utility cable overhead line monitoring
- Elevator hoist, governor and compensating wire rope maintenance
- Zip lines and assault course testing
- Fall arrest systems
- Metro, tram and rail transit electric wires, and catenary testing
- Ski lifts
- Wire rope tie downs on vessels (using Tirfor)
- Testing tension of ship mast wire ropes.
- Tensioned trellis systems
- Measuring Line Sag



Part Number	COLT5T
Max Load	5000kg 11000lbs
Resolution	10kg 20lb
Units	kg, lbs, tonne and kN
Min Wire Rope Ø	Ø5mm Ø3/16"
Max Wire Rope Ø	Ø25mm Ø1"
Max Line Reduction	5mm with a Ø10mm wire rope 7/32" with a Ø3/8" wire rope
Wire Rope Database	Infinite via Android 4.4 or iOS 8.0 app
Weight	3.5kg 7.7lbs
Battery Type	2 x 'C' cell batteries
Battery Life	1000 hours Bluetooth transmission time
Operating Temp.	-25°C to +70°C -13°F to +158°F
Protection	IP67 NEMA6
Accuracy	± 3% of full scale if wire rope Ø and construction known
Communication	Bluetooth 4.2
Dimension A	589mm 23.2"
Dimension B	254mm 10"
Dimension C	200mm 7.9"
Dimension D	200mm 7.9"



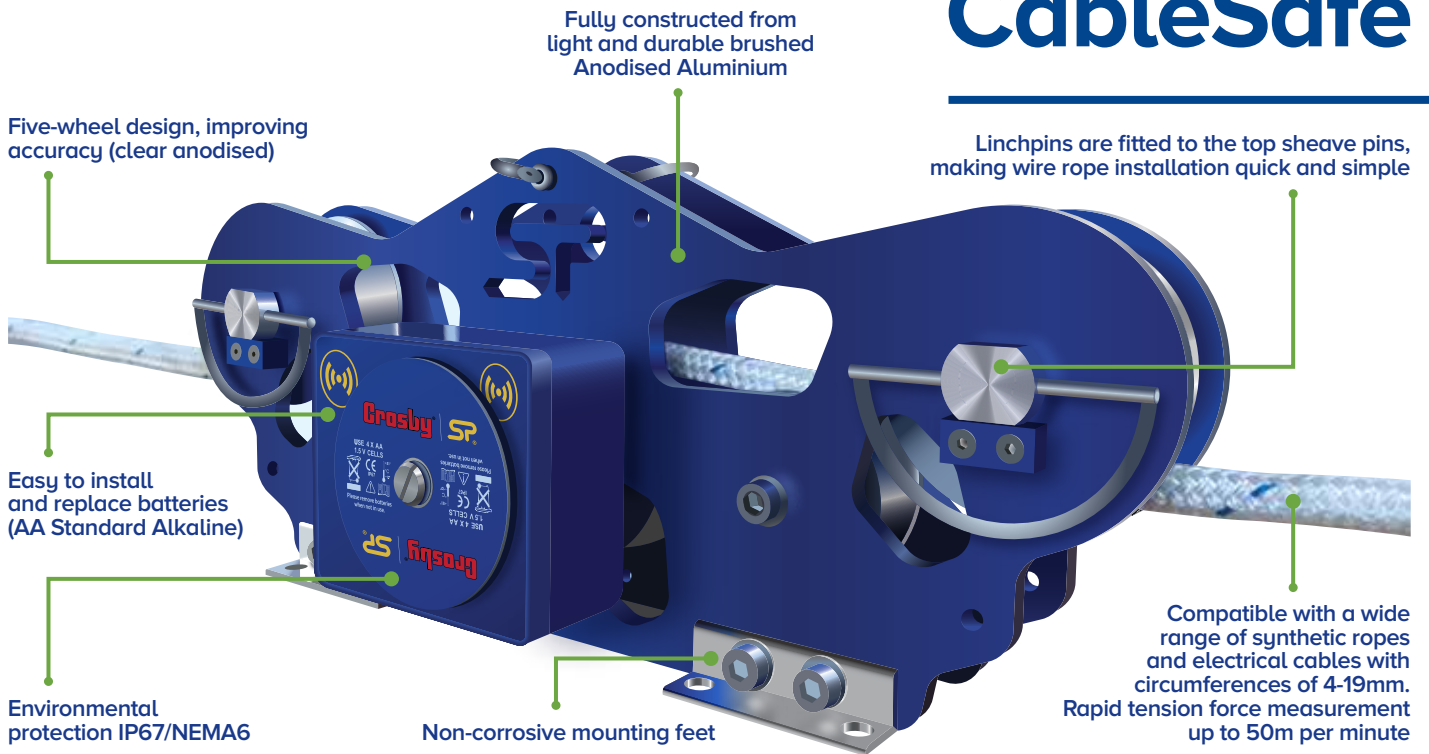
CVT  
(Calibration  
Verification Tool)

### Optional for purchase: CVT (Calibration Verification Tool)

In order to ensure that the measurements of the COLT are as accurate as possible, SP supply a calibration verification rod, specifically designed for this purpose.

Specifications assume COLT used on a wire rope with a fixed and flexible end

# CableSafe



**In addition to the TIMH range, the CableSafe is the continued evolution of Straightpoint's running line tensiometers. When used in the field, it will allow the user to monitor tension with exceedingly high levels of accuracy, which ensures rope/cables do not become overstretched or break.**

When using a capstan winch to unwind electrical cable from a reel/spool, you will be able to integrate the CableSafe within this set-up to ensure that it is being pulled at a safe tension level. This helps the line maintain its transmissions capability, prevent it becoming a fire hazard risk, and it also stops the need of furthering work in order to remove and replace it. The contractor is gifted with decreased liability, dramatically increasing peace of mind. Using CableSafe on cable pulls reduces liabilities on cable installations, making it ideal for the following applications:

- Measure tension when pulling electrical cables – protect against fractures or elongation
- Measuring tension on synthetic rope when erecting delicate structures using gin poles and capstan winch

Another example of best use is during the installation of cell phone towers or similar delicate structures. The product helps ensure structure-to-ground ropes which are connected to a gin pole and pulley system. Do not exceed maximum tension whilst lifting sections of the tower to the top because there can be the possibility of the rope becoming snagged, causing greater tension to be loaded upon the system. With heavy materials being lifted to great heights; this would create a major safety hazard leading to a catastrophic failure, endangering lives. Avoid the unknown through accurate monitoring, especially when risks are high.

What distinguishes it, apart from previous versions of this type, is the developed lightweight design, allowing easy transportation and usage. Providing up to 500 hours battery life, you can be assured there will not be any loss of power before your work day has ended. High level IP67/NEMA6 ingress protection allows it to be used in a variety of heavy weather conditions and dusty environments. These features, as a collective, means that it will be an invaluable and reliable tool in your work-related armoury.

The five-wheel design and gravity catches, with top sheave pins, allows for fast and simple rope attachment set-up. The accuracy is further improved over three-wheel alternatives.

When used with a cable/rope pulling device, you can remotely monitor the tension on the line using your smart handheld device via a Bluetooth connection\*. With the operator locating themselves up to 100m/328ft away from the Cable Safe, it will allow them to survey job progress at a safe distance.

*\*The 'HHP' app is available to download for free (Android/iOS) and is compatible with all SP wireless products.*

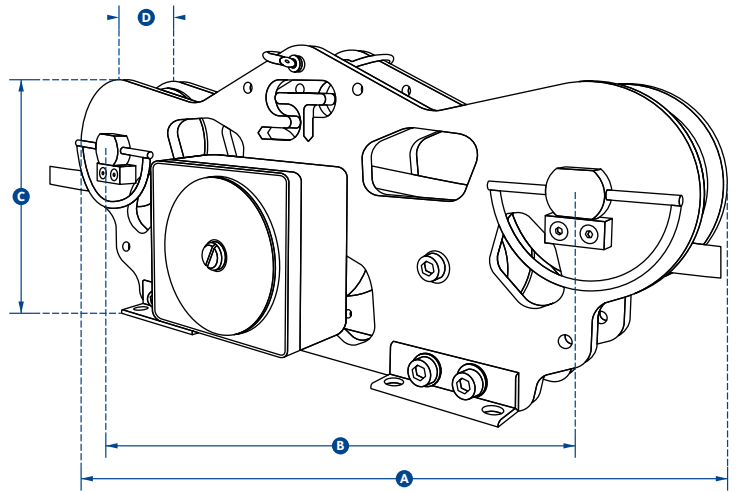
## Applications:

- Fibre-optic cable pulling using turret winches
- Water gates for dams
- Offshore rescue and retrieval
- Capstan rope/cable winding
- Broadcast and telecommunications
- Erecting towers (maintaining structural capacity)
- Service and maintenance of cell towers



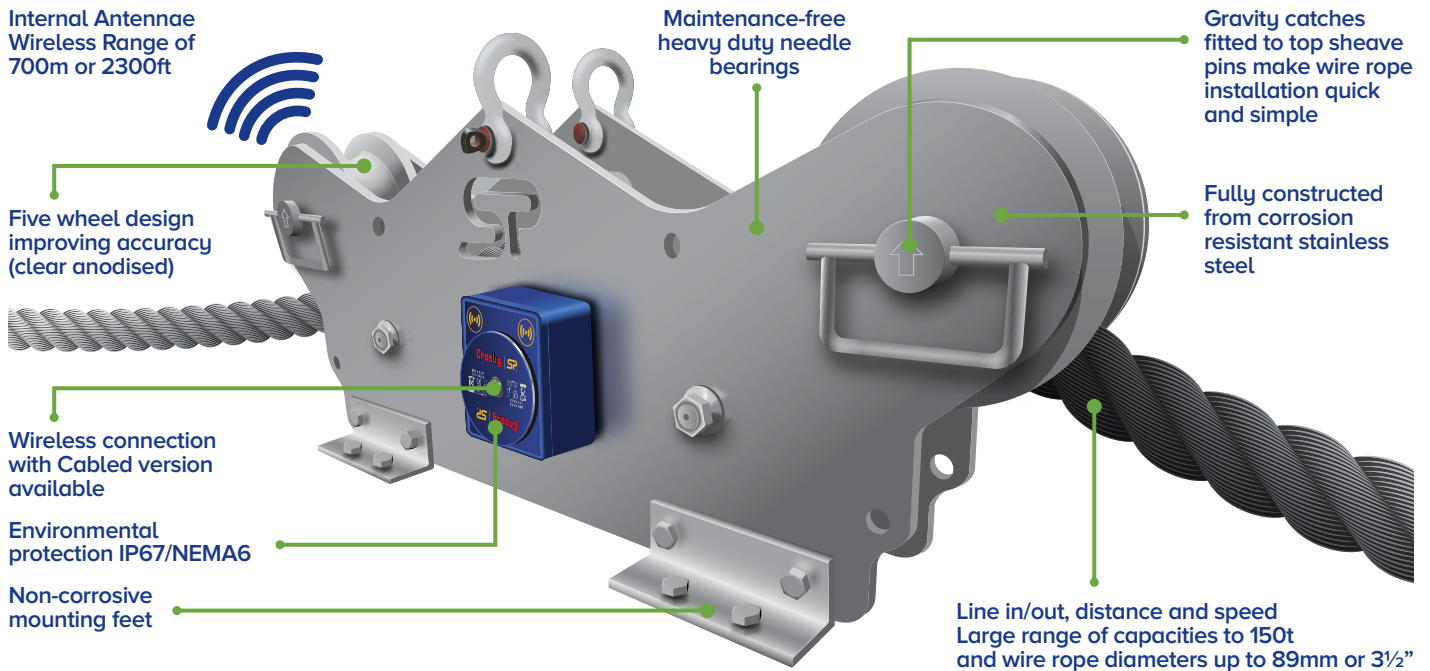
## Features and benefits:

- Simple to use and set up
- Remote monitoring using smart phone via Bluetooth
- Rapid tension force measurement - Up to 50m/164ft per minute
- Able to be used in all weather and air quality conditions
- Easy to install and replace batteries (4 x AA standard Alkaline)
- Fully constructed from light and durable hard Anodised Aluminium
- Five wheel design improving accuracy (clear anodised)
- Linchpins are fitted to the top sheave pins making wire rope installation quick and simple
- Maintenance free heavy duty needle bearings
- Compatible with a wide range of rope circumferences – 4-19mm/0.16"- 0.75"
- Design validated by F.E.A.
- IP67 ingress protection / NEMA6 – heavy protection against dust and rain



Part Number	CS10T
Capacity	10te
	22,000lb
Resolution	0.01te
	20lb
Rope Ø	4-19mm
	5/32" - 3/4"
Weight	4.5kg
	10lb
Battery Type	4 x AA Alkaline
Battery Life	500hrs
Operating Temp	-10°C to +50°C / 14°F to 122°F
Accuracy	±2% of full scale
Range	Bluetooth 100m / 328ft
Protection	IP67/NEMA6
Maximum Speed	50m per minute / 164ft per minute
Dimension A	422mm
	16.60"
Dimension B	330mm
	13"
Dimension C	152mm
	6"
Dimension D	36mm
	1.4"

# Running Line Dynamometer



**The TIMH range is a Running Line Tensiometer, or RLTM, built with dockside, marine, offshore, towage and salvage applications in mind.**

It is particularly useful where there is no anchor or dead end on the line to rig a Straightpoint Radiolink or Loadlink digital dynamometer. The TIMH can measure tension force at speeds up to 20m/min or 65ft/min.

It is constructed from marine-grade stainless steel and is suitable for many wire rope configurations up to 80t and will, as an option, calculate lineout in metres or feet.

The TIMH has several mounting points featured in its unique design, however, if other mounting options are required, Straightpoint can provide a custom engineered solution specific to your application.

Available as a wireless or cabled system utilising Straightpoint's HHP range of handheld displays or SW-MWLC software, this impressive Running Line Dynamometer or RLTM is available to ship from stock, to anywhere in the world within days.

## Features and benefits:

- Five-wheel design improving accuracy
- Cabled or wireless options
- Fully constructed from corrosion-resistant stainless steel
- IP67/NEMA6 Loadpin
- Gravity catches fitted to top sheave pins make wire rope installation quick and simple
- Industry leading battery life of 1200hrs (wireless)
- Maintenance free heavy duty bearings
- Large range of capacities to 150t and wire rope diameters up to 89mm/3½"
- Options for line out available
- Software available to data log and monitor or analogue outputs
- Design validated by F.E.A.
  
- Bluetooth option is available and is supplied with a free HHP App for iOS and Android See page 27

Also available with hazardous area approval. Zones 0, 1 & 2



**ATEX / IECEx**  
Ex ia II C T4 Ga

Certification numbers:

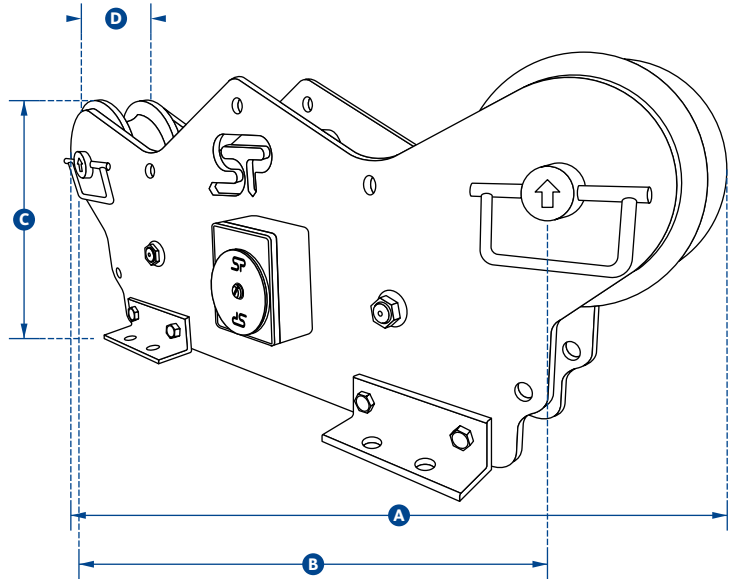
**TIMH ATEX**

IECEX SIR 16.0041X / Sira 16ATEX2108X

**SW-HHP ATEX**

IECEX SIR 15.0072X / Sira 15ATEX2196X

**Add 'ATEX' to the part number when ordering ATEX/IECEX products. For example: TIMH10T-ATEX**



Part Number	MTIMH10T	TIMH10T	TIMH25T	TIMH56T	TIMH80T	TIMH150T
Capacity	10te	10te	25te	56te	80te	150te
	22000lb	22000lb	55000lb	123200lb	176000lb	330000lb
Resolution	0.01te	0.01te	0.02te	0.05te	0.1te	0.2te
	20lb	20lb	50lb	100lb	200lb	500lb
Wire Rope Ø	4-19mm	13-19mm	16-26mm	28-38mm	40-52mm	52-89mm
	5/32" - 3/4"	1/2" - 3/4"	5/8" - 1"	1 1/8" - 1 1/2"	1 5/8" - 2"	2" - 3 1/2"
Weight	9kg	90kg	86kg	81kg	76kg	230kg
	20lb	198lb	190lb	179lb	168lb	506lb
Battery Type	4 x AA Alkaline					
Battery Life	1200hrs continuous (500hrs if Bluetooth)					
Operating Temp	-10°C to +50°C / 14°F to 122°F					
Accuracy	±2% of full scale					
Frequency	2.4 GHz					
System Range	700 metres / 2300 feet (100 metres / 328 feet if Bluetooth)					
Data Rate	3 updates per second					
Protection	IP67/NEMA6					
Maximum Speed	20m per minute / 65ft per minute					
Dimension A	422mm		880mm			1250mm
	16.62"		34.65"			49.21"
Dimension B	330mm		700mm			1050mm
	13"		27.55"			41.33"
Dimension C	152mm		330mm			416mm
	5.98"		12.99"			16.37"
Dimension D	36mm		110mm			153mm
	1.4"		4.33"			6.02"



**Straightpoint has developed a 25kN, wireless load cell specifically engineered for the emergency services, salvage and 4 x 4 industries. The Towcell® allows for increased safety and the avoidance of costly overloads by providing real-time monitoring of tensile towing forces during recovery, clearance and salvage efforts. The Towcell® is rugged, lightweight, compact and can be installed, with ease, onto any tow bar, whether it's a standard 52mm or 2" ball or pin assembly and is ready to use in seconds.**

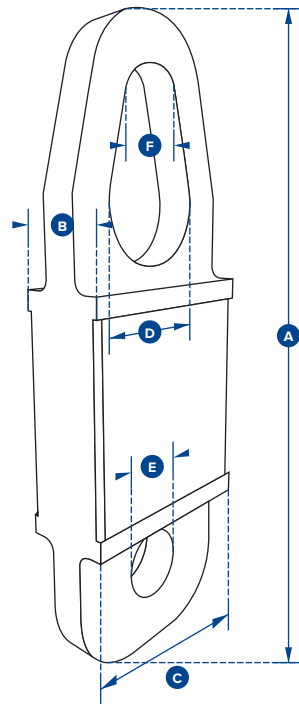
Modelled after Straightpoint's best-selling Radiolink plus, the Towcell® is constructed of high-quality aircraft grade aluminium. It features an advanced internal design structure, providing the product with an unrivalled strength to weight ratio. This optimal balance allows for the use of a separate internally sealed enclosure. This administers the internal electronic components with an IP67/NEMA6 waterproof

## Features and benefits:

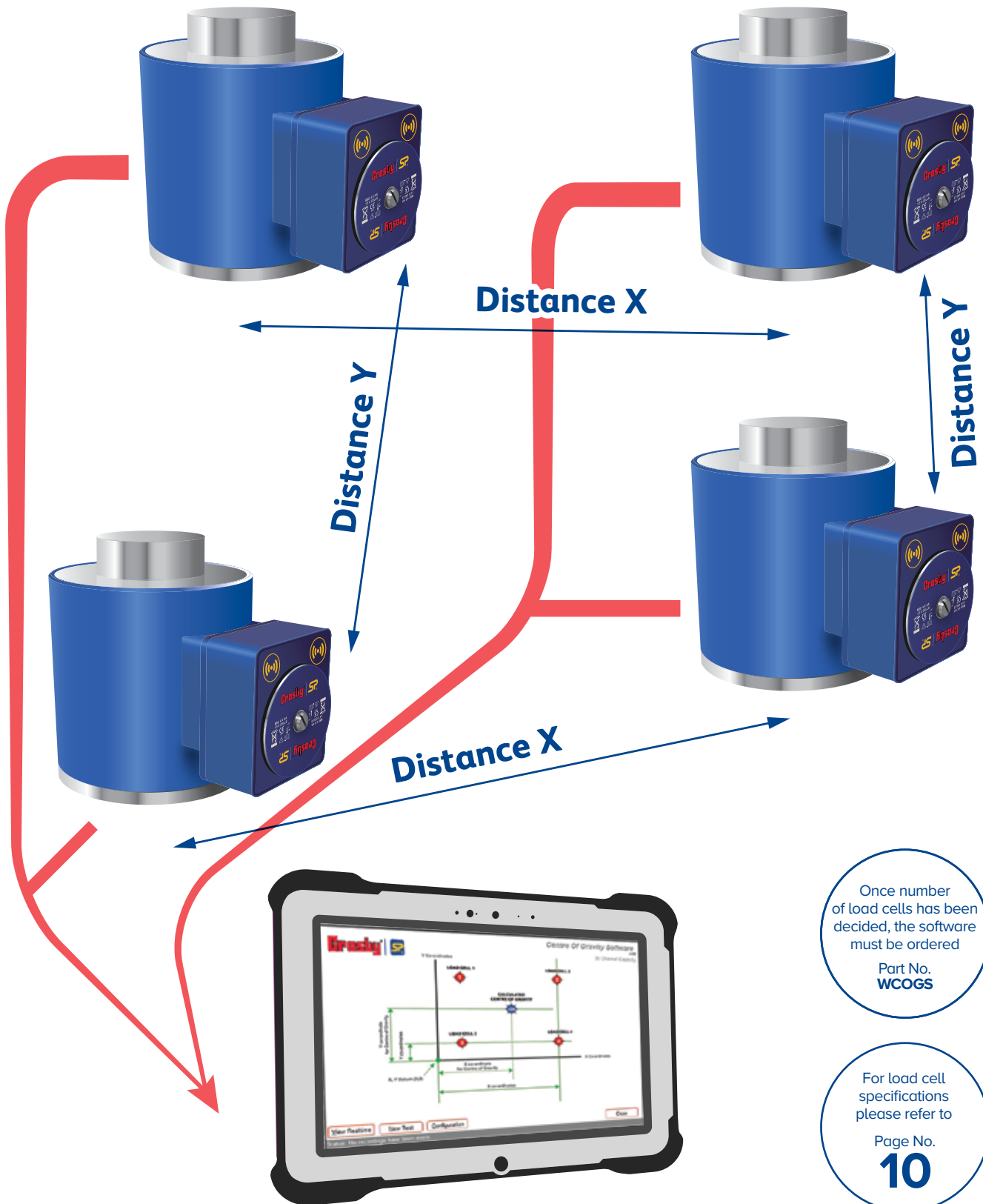
- Unique design to fit any standard 2" tow-hitch
  - 90dB Audible overload alarm
  - Unmatched battery life of 1200hrs
  - Waterproof IP67/NEMA6
  - Internal antennae
  - Compact size and lightweight
  - Proprietary 2.4 GHz wireless communication
  - Design validated by F.E.A.
- 
- Bluetooth option is available and is supplied with a free HHP App for iOS and Android
- See page 27

environmental protection, even with the battery cover plate missing. Easily sourced AA alkaline batteries offer massive battery life of 1200 hours, and the Towcell® utilises an unbreakable internal antennae.

Towcell® loads can be displayed on Straightpoint's rugged and versatile SW-HHP handheld display, or viewed and simultaneously data logged with a Windows tablet via Straightpoint's SW-MWLC software package.



Part Number	Towcell	Towcell - Bluetooth version
Capacity	25kN	25kN
Resolution	0.01kN	0.01kN
Weight	1.4kg	1.4kg
	3lb	3lb
Safety Factor	5:1	5:1
Battery Type	4 x AA Alkaline	4 x AA Alkaline
Battery Life	1,200 hours continuous	500 hours continuous
Operating Temp	-10°C to +50°C / 14°F to 122°F	-10°C to +50°C / 14°F to 122°F
Accuracy	±0.1% of full scale	±0.1% of full scale
Frequency	2.4 GHz	2.4 GHz
System Range	100 metres / 328 feet	100 metres / 328 feet
Data Rate	50Hz	50Hz
Protection	IP67/NEMA6	IP67/NEMA6
Dimension A	300mm	300mm
	11.81"	11.81"
Dimension B	43mm	43mm
	1.70"	1.70"
Dimension C	101mm	101mm
	4.00"	4.00"
Dimension ØD	51mm	51mm
	2.00"	2.00"
Dimension ØE	27mm	27mm
	1.06"	1.06"
Dimension ØF	31mm	31mm
	1.22"	1.22"



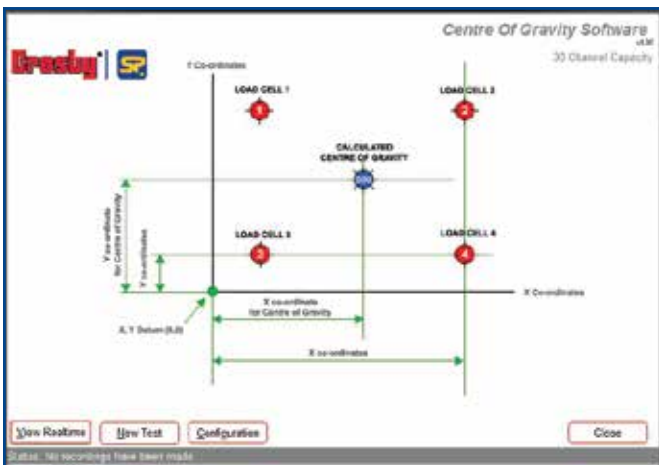
**Wireless Centre of Gravity System designed specifically for when large industrial items such as absorbers, generators, turbines, reactors, boilers, towers, locomotives, boats, military equipment or offshore industry parts, such as oil rigs and production platforms have to be moved. Heavy lift companies need large capacity load cells and easy-to-use software to quickly report weight and centre of gravity.**

This latest version of Straightpoint's Wireless Centre of Gravity System uses wireless compression load cells as well as a new-and-improved, simple to use, software package. Operators can now view on screen, and in real-time, up to 36 individual load cell loads, and the dynamic centre of gravity. The valuable centre of gravity analysis report can be easily saved and/or printed.

Written with ISO19901 in mind this package has several benefits:

- 100% Wireless
- Between 3-36 load cells of the same capacity can be used at any one time
- ISO19901 compliant
- 700m / 2300ft range
- On screen, real-time centre of gravity view
- Three weighings per report with averages and statistical analysis
- Plot load cell positioning using measurements or GPS co-ordinates
- Extra fields for operator, client, wind speed and temperature available for reporting

For many heavy lift projects there is an absence of standardisation which requires individual transport planning. With a range of tension or compression load cells and this software, Straightpoints' commitment to the heavy lift industry is second-to-none.



Home Screen



Report Example

Part Number	WCOGS
IP rating	IP67
(SW-USBBSE)	NEMA6
Operating Temp	-20°C to 55°C -4°F to 131°F
Licence	Licence free
Frequency	2.4 GHz
Range	700 metres 2300 feet
Load Cell Inputs	Up to 36
PC Requirements	Intel i3 processor with 2GB RAM
Operating System	Windows XP, Vista, Windows 7, 8 or 10 (must have English language regional settings selected)

# Proof Test plus

**Crosby** | **SP** Proof Test Plus core|rfid

### Add / Select Reference Load Cell

SN:  Model:  Calibration Date:  Measurement: WLL

Select a date:  T

SN: 82234 Model: RLP20T WLL: 20,000lb Cal Date: 10 March 2017 Measurement: B	SN: 82234 Model: RLP20T WLL: 20,000lb Cal Date: 10 March 2017 Measurement: B	SN: 82234 Model: RLP20T WLL: 20,000lb Cal Date: 10 March 2017 Measurement: B
--	--	--

**Crosby** | **SP** Proof Test Plus core|rfid

### Search Customer

Customer Name:  Address:

### Add / Select Customer

Customer Name:  Address:  Tel:  Contact:

Customer Name: Big Cranes Inc. Address: Unit 8-10, Expressway	Customer Name: Corporate Lifting Address: High Street, Selby, Wt
--	---

**Crosby** | **SP** Proof Test Plus core|rfid

### Load Test Details

Product Desc:  Serial #:  WLL:  Test Method:

Customer LHM:  A374QSH  40lb  Water bag

Notes:

4mph north easterly wind



**Crosby** | **SP** Proof Test Plus core|rfid

Is this acceptable?  Max: 9.6T

**ACME CORPORATION**

Acme Lifting  
New Street  
Block 1  
Hampshire  
UK  
PO20 8DA  
02392 470273  
www.acmelifting.com

### Certificate of Load Test

Date of Test:	14 July 2018	Product Description:	Lithium LHM 40
Certification Number:	10005	Serial or Tag No:	A374QSH
Company:	Big Cranes Inc.	WLL:	40lb
Address:	Unit 8-10, Expressway, Camarillo, CA, 93012	Test Method:	Water bag
Tel:	805 234 3485	Load Test To:	40T
Contact:	Bob Friend	Duration of Test:	23.95 seconds
Reference Loadcell:	RLP20T	Notes:	4mph north easterly wind
Serial Number:	81234	Calibrated On:	8 August 2018
		WLL:	10lb

Peak Load: 9.6T

This is to certify that this product described herein has been subjected to the load test. Caution: Never exceed the rated capacities.

Signed:  Rob Burgess

Appointed Person:  Rob Burgess ID: DA1234 LEEA Team card 0067



Numerous load testing applications worldwide require a load cell to verify the load applied. From crane testing, using water bags to pad eye testing, using hydraulic tools, the need to document test procedure and results has never been greater, especially as users of lifting equipment call for more traceability and audit trails.

A proof test is a form of stress test to demonstrate the fitness of a load-bearing structure, and is nominally a non-destructive test. Such a structure is often subjected to loads above that expected in normal use, demonstrating safety and design margin.

This demand has increased so much, Straightpoint offer a software package designed to connect to any of their wireless load cells - Proof Test plus. This impressive package allows the test engineer to wirelessly, at a safe distance, monitor a proof load test and automatically create a pass or fail certificate when testing is complete. This report is formatted as a PDF, which may then be printed, emailed or uploaded to the cloud, resulting in a traceable document for both test engineer and end customer.

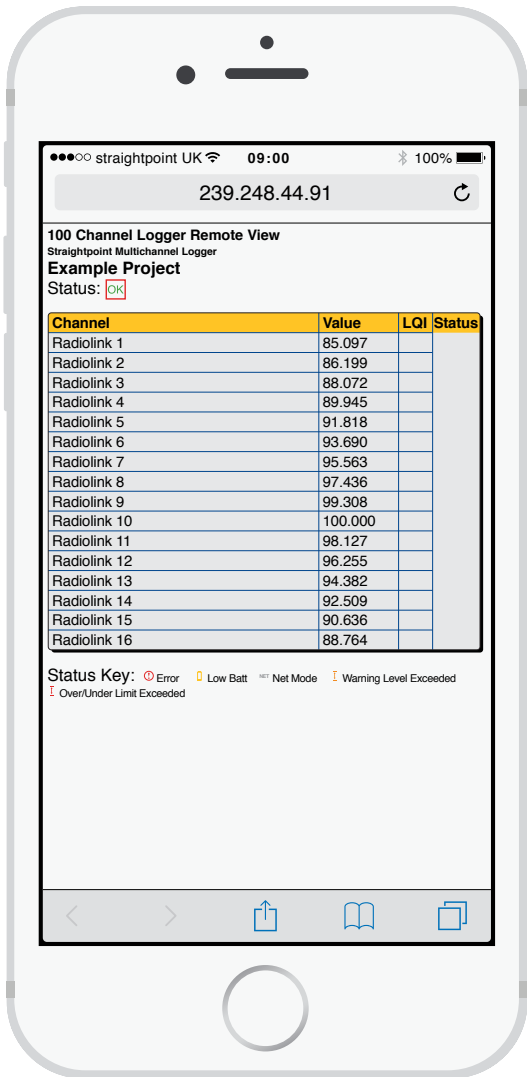
Typical load tests using Straightpoint load cells include:

- Bollard pull tests
- Tug tests
- Crane Test (Water bags, block weights)
- Pad eye or fly point testing
- Crash barrier testing
- Lifting equipment testing - Slings, chains, wire rope, hooks
- Construction equipment testing - Shoring columns, acrow props and lintels
- Lifting and spreader beam testing
- Hydraulic cylinder load test

## Features and benefits:

- 100% Wireless, no easily damaged cables
- 700m/2300ft range allows operator to stand at safe distance from test
- Log data at speeds up to 200Hz
- Connects to any Straightpoint wireless load cell
- Automatically creates digitally signed pass or fail certificate
- Real-time load v time graph display
- Free entry fields to note wind speed, sea states etc.

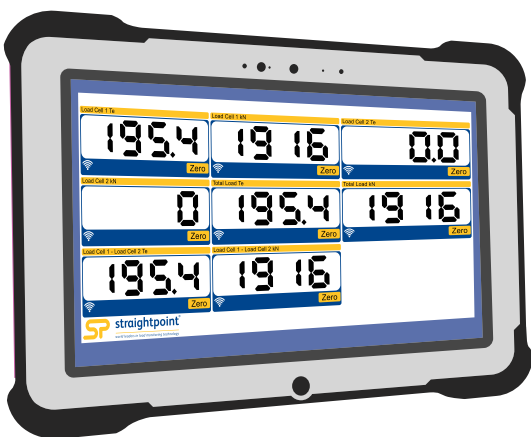
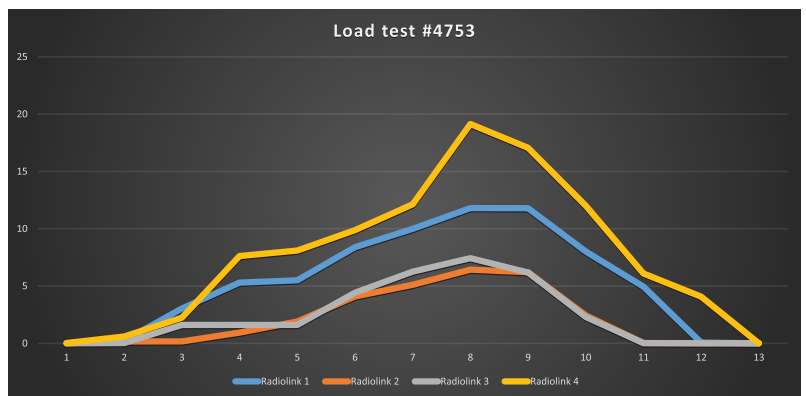
Part Number	SW-PTP
IP rating (SW-USBBSE)	IP67 NEMA6
Operating Temp	-20°C to 55°C
	-4°F to 131°F
Licence	Licence free
Frequency	2.4 GHz
Range	700 metres
	2300 feet
Load Cell Inputs	1
PC Requirements	Intel i3 processor with 2GB RAM
Operating System	Windows XP, Vista, Windows 7, 8 or 10



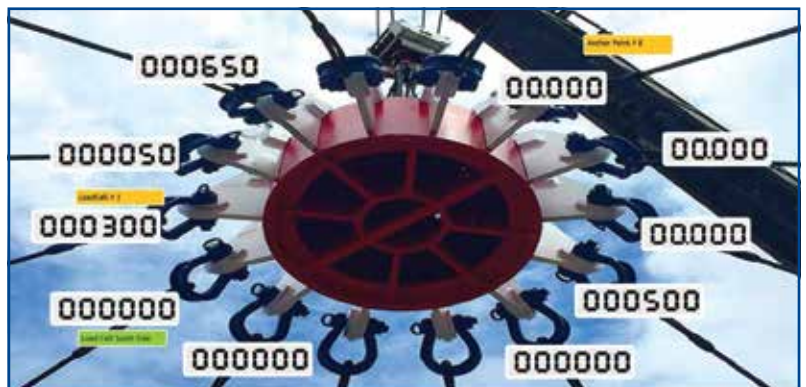
## Datalog .CSV file sample

Date	Time	Elapsed mS	Radiolink 1	Radiolink 2	Radiolink 3	Radiolink 4	Total Load
10/03/2015	10:41:38	1000	0.01	0	0	0.02	0.03
10/03/2015	10:41:39	2000	0.23	0.16	0.03	0.59	0.73
10/03/2015	10:41:40	3000	3.04	0.16	1.6	2.23	14.17
10/03/2015	10:41:41	4000	5.3	0.94	1.6	7.62	32.45
10/03/2015	10:41:42	5000	5.5	1.9	1.6	8.1	36.72
10/03/2015	10:41:43	6000	8.39	4.09	4.42	9.87	46.37
10/03/2015	10:41:44	7000	9.99	5.11	6.26	12.13	62.56
10/03/2015	10:41:45	8000	11.8	6.43	7.43	19.14	72.8
10/03/2015	10:41:46	9000	11.79	6.2	6.18	17.06	73.85
10/03/2015	10:41:47	10000	8.01	2.43	2.3	12	52.72
10/03/2015	10:41:48	11000	4.94	0.02	0.01	6.09	32.69
10/03/2015	10:41:49	12000	0.06	0.01	0	4.08	15.19
10/03/2015	10:41:50	13000	0	0	0	0	-3.53

## Load trend chart



## Load visualisation screen



**Straightpoint's Multiple Wireless Load Cell Controller (SW-MWLC) software package is a versatile, user friendly, wireless load cell control, display and data logging tool, designed for use on the Windows PC platforms, Vista, Win 7, 8 & 10.**

SW-MWLC allows simultaneous, wireless communication between Straightpoint wireless load cells and a Windows PC. A resizable window displays a table of up to 100 wireless load cell channels of live data. Channels can be set up with user defined mathematical functions that can be used to calculate a multitude of results.

For example, a display can show the value from a single load cell or the sum of multiple load cells. Visual display and audio alarms can indicate under and over range as well as loss in communications, low battery and error reports. SW-MWLC can log on demand, at pre-set intervals, on entering and leaving a pre-set overload and during an overload. Data is logged to a CSV file which can be opened for analysis by software programs such as Microsoft Excel. JSON format data is also available on demand via the built-in web server.

For more complex applications, graphical pages can be built showing the data in a variety of formats, including digital display or bar graphs. Up to eight pages can be defined and the pages easily navigated between a variety of image formats that can be imported, including JPG, GIF, PDF and DXF.

Custom applications including branding and colour scheme are available. Please contact Straightpoint's sales department for pricing.

SW-MWLC software is supplied with a SW-USBBSE extended range USB transceiver.

## Features and benefits:

- Displays and logs data up to 100 Straightpoint wireless load cells simultaneously
- Mapping/graphical capabilities
- Webserver offers remote viewing on iPads/tablets/smart phones and also supplies JSON data on demand
- Logging at timed intervals, manual or on overload/underload
- Visual and audible alarms indicates overload, low battery and communications error
- Zoom in to channel to see data trends and history
- Export and log data in CSV format

Part Number	SW-MWLC
IP rating	IP67
(SW-USBBSE)	NEMA6
Operating Temp	-20°C to 55°C
	-4°F to 131°F
Licence	Licence free
Frequency	2.4 GHz
Range	700 metres
	2300 feet
Load Cell Inputs	Up to 100
PC Requirements	Intel i3 processor with 2GB RAM
Operating System	Windows XP, Vista, Windows 7, 8 or 10

# Wireless Accessories

Straightpoint's range of wireless accessories may be used with any Straightpoint wireless load cells



## SW-OAM

*Wireless overload alarm module*

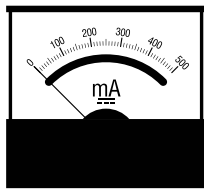
The SW-OAM is a wireless relay module featuring audio and visual warning indicators. The unit's two set point alarms can be triggered from a single or summed group of up to eight Straightpoint wireless load cells. The SW-OAM is ideal as a wireless overload detection system.



## SW-SD

*Wireless scoreboard display*

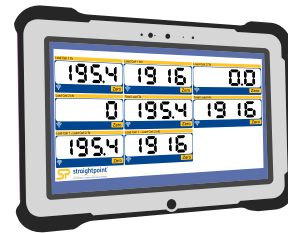
This 100mm (4") scoreboard LED display is wireless and viewable for up to 45m/150 ft. Perfect for installation on a crane gantry, the unit operates on 110-240 VAC and displays an individual load or summed load for up to eight Straightpoint wireless devices.



## SW-AO1i

*Wireless base station with analogue output*

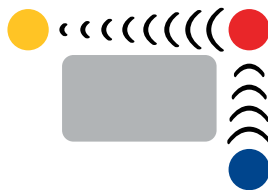
The SW-AO1i provides a configurable analogue output for any single Straightpoint wireless load cell and is ideal for integration to a PC, PLC or other data acquisition system. Housed in a IP65/NEMA4X enclosure, the output can be selected from pre-calibrated voltage and current ranges of 0-5vdc, +5vdc, 0-10vdc, +10vdc, 0-20mA, 4-20mA.



## SW-RWT

*Rugged tablet*

The SW-RWT tablet is the latest generation fully-rugged tablet. Featuring an array of integrated options, and a sleek, sophisticated design, the SW-RWT will change the way you look at tablets. With a MIL-STD-810G rating and Windows 7 Pro, the SW-RWT can go from the boardroom to the work site without missing a beat.



## SW-SB

*Wireless signal booster*

The SW-SB signal booster/repeater module is battery operated. It can easily pair to any Straightpoint wireless device e.g. load cell, accessories and software solutions within range, quickly increasing coverage and extending range.



## SA700C

*Load cell transmitter*

The SA700C transmitter connects to strain gauge transducers such as load cells, torque sensors and pressure transducers, allowing them to form part of a Straightpoint wireless system.



Connecting to up to eight smart devices, the HHP App allows you to stand back and remotely monitor the level of force being measured by your SP product in real-time, without the need for troublesome cabling. Once the app has been downloaded and installed on to a smart phone or tablet, the Bluetooth feature can be used to connect wirelessly to any Bluetooth-enabled wireless SP device. This will provide the operator with ease of surveying a situation from a distance of up to 100m/328ft, giving them a wider perspective of the immediate area. If working within a high-risk environment, the remote monitoring ability will also provide that extra safety assurance.

Once connected to the SP device, the simple and easy-to-use interface will allow the operator to use the app with the upmost efficiency. There are up to four different measurement units to choose from, depending on preferences within a particular project. If the peak load needs monitoring, there is a 'Peak Hold' button which can be selected on your device, to display the highest measurement only, via the SP HHP app. Accompanying this is an option to set an audible alarm when a new high or low measurement value is detected, so the operator knows exactly when this has occurred.

The app also has a record and log feature, where a particular measurement needs to be recorded for later referral. Once logged to the app it will then allow the operator the convenience of exporting the details of the logged measurement(s) either to a mobile device or send it to a particular email address, in a spreadsheet format.

## Features and benefits:

- Up to 100m (328ft) remote monitoring distance
- Multiple weight unit measurement options (kN, te, kg & lbs)
- Peak Hold button
- Measurement reporting
- Export measurement report
- Zero and Gross monitoring options
- Audible alarm alert for high/low values
- User defined resolution set-up



# Handheld plus



## Features and benefits:

- Overload counter
- User settable 90db audible overload alarm
- Multiple display units – tonnes, lbs, kg and kN
- 100Hz Peak hold
- Pre-set tare
- Wireless range 700m/2300ft

The Handheld plus is a rugged and versatile digital handheld display, with a broad range of features and suitable for all Straightpoint load cell products.

At the heart of the ergonomically designed Handheld plus is a powerful PCB, providing industry leading features such as user selectable units of measure (tonnes, lbs, kg and kN), programmable audible overload alarm, peak hold, pre-set tare and a user resettable overload counter.

This crucial overload alarm counter is a requirement for many safety and quality control departments, as it keeps track of overload events. Should this occur, the load cell in question can be removed from service immediately, following the calibration-voiding overload event. It can then be sent out for proper testing and, if necessary, a recalibration can be done before it re-enters service.

The HHP is suitable for connection via cable to any Straightpoint cabled load cell product. It can easily be adapted to any other manufacturers' load cell product with a mv/v output. In addition to the standard HHP, the SW-HHP is suitable for connection to any Straightpoint wireless load cell, with a range of up to 700m/2300ft and is supplied as standard with the Radiolink plus load cell.

Also available with hazardous area approval



**ATEX / IECEx**

Ex ia II C T4 Ga

Certification number:

**SW-HHP ATEX**

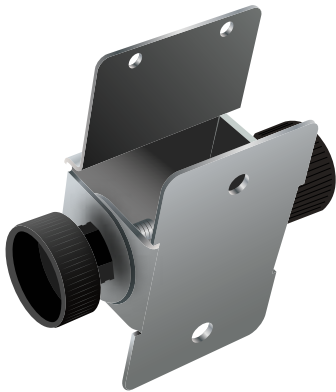
IECEX SIR 15.0072X / Sira 15ATEX2196X

**When ordering ATEX/IECEX version of SW-HHP, order using code: SW-HHP-ATEX**

**Please note:** There is no audible alarm with ATEX

Part Number	SW-HHP	HHP
Battery Type	2 x AA	1 x PP3 9v alkaline
Battery Life	60hrs continuous	80hrs continuous
Display Type	6 digit 25mm LCD / 6 digit 1" LCD	
Operating Temp	-10°C to +50°C / 14°F to 122°F	
Display Rate	3Hz	
Protection	IP65 / NEMA4X	
Excitation	N/A	5v
Max Sensitivity	N/A	3mv/v
Max Resolution	1:999999 (normal mode)	
Connectivity	Wireless 2.4GHz	6-way female binder 723 socket

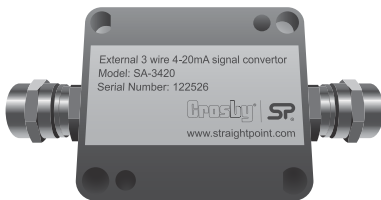




## SU3282

### Wall or Cab Mount Bracket

Constructed from stainless steel and fitted with a viewing angle adjusting mechanism, the SU3282 bracket fits either the HHP or SW-HHP handheld displays. Ideal for wall or cab mounting, leaving the operators to work safely, hands free.



## SA-3420

### External Amplifier

The SA-3420 external amplifier allows the operator to convert the output of any of the SP cabled load cell products into a three wire 4-20mA analogue output. The weatherproof enclosure is fitted with stainless steel glands and is suitable for connection to a PLC, data logger or other instrumentation.



## DCP10M

### Windows-based Software Package

Windows-based software, DCP10M, plugs into the spare port on a load cell and connects to a Windows-based PC, laptop or tablet. This easy-to-use software allows the operator to view live loads, control the load cell on screen and then log data dynamically by time and date or as a single reading report. Supplied with a 10 metre or 30 foot cable assembly; other lengths are available on application. A spare USB port is required.



## SU4045

### Handheld Rubber Boot

Drop tested to one metre at  $-30^{\circ}\text{C}$ , this 70SHA rubber boot is purpose moulded to fit and protect the HHP and SW-HHP handheld display against impact, especially when it is used in the harshest industrial environments.



# Loadlink plus



Known worldwide as the original electronic force measurement device to feature an integral display, the Loadlink plus has been in production since 1979. Over the years, the line has been expanded and it is now used on a daily basis for load monitoring and heavy lifts. These can range in capacity from 1t to 300t, and are used by a variety of industrial and commercial industries including manufacturing, transportation, agriculture, oil and gas, utilities, aerospace and clean energy.

This latest version of the well-known product has advanced features and benefits, providing solutions for today's complicated load test and force monitoring needs. The Loadlink plus features full function push button controls for tare, choice of units (lbs, kg, kN and tonnes), peak hold, preset tare, audible set-point alarm and an overload counter.

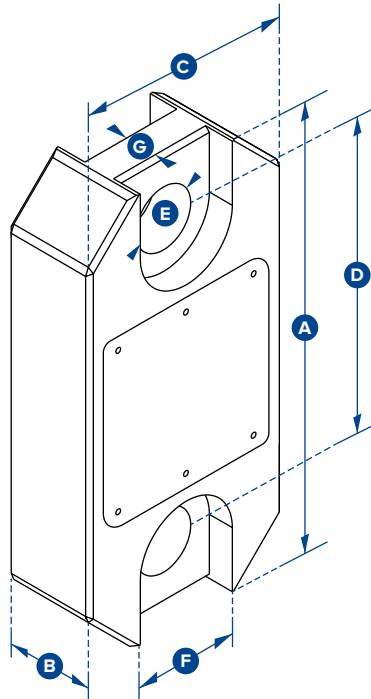
The advanced microprocessor-based electronics provide the Loadlink plus with high speed read rates, extreme resistance to industrial level noise and unprecedented stability. This high stability gives the Loadlink plus over 5,000 divisions and the highest standard resolution of any digital dynamometer on the market today. Constructed of high-grade aircraft quality aluminium, Straightpoint's advanced internal design structure allows the product to once again top the charts with an unmatched weight to strength ratio. Straightpoint's link style dynamometers are on average 30% lighter than their closest competitor with the same safety rating.

Optional connection to Straightpoint's Handheld plus (HHP) or Straightpoint's Desktop controller data logging software package (DCP10M).

## Features and benefits:

- Large 25mm/1" LCD display
- High accuracy
- Selectable units te, lbs, kN & kg
- High resolution
- 100Hz Peak hold
- Push button tare
- Light weight
- Preset tare
- Overload counter
- 90db Audible set point alarm
- RS-485 serial output
- Design validated by F.E.A.
- 2 year warranty
- DNV-GL Type Approval
- Complies with ASME B30.26





Part Number	LLP1T	LLP2T5	LLP6T5	LLP12T	LLP25T	LLP35T	LLP55T	LLP75T	LLP100T	LLP150T	LLP200T	LLP250T	LLP300T
Capacity	1,000kg 2200lb	2.5te 5500lb	6.5te 14300lb	12te 26000lb	25te 55000lb	35te 77000lb	55te 120000lb	75te 165000lb	100te 220000lb	150te 330000lb	200te 440000lb	250te 550000lb	300te 660000lb
Resolution	0.5kg 1lb	0.001te 2lb	0.001te 2lb	0.002te 5lb	0.005te 10lb	0.005te 10lb	0.01te 20lb	0.01te 20lb	0.05te 100lb	0.05te 100lb	0.1te 200lb	0.1te 200lb	0.1te 200lb
Units	kg lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb
Weight	1.5kg 3.3lb	1.5kg 3.3lb	2.4kg 5.3lb	3.7kg 8.2lb	5kg 11lb	8.6kg 19lb	13kg 28.7lb	16kg 35.3lb	34kg 75lb	46kg 101.4lb	82kg 180.8lb	82kg 180.8lb	118kg 260lb
Safety Factor	12:1	7:1	7:1	7:1	5:1	5:1	5:1	5:1	5:1	4:1	5:1	4:1	5:1
Battery Type	9v PP3												
Battery Life	80 hours continuous												
Display Type	6 digit 25mm / 1" LCD												
Operating Temp	-10°C to +50°C / 14°F to 122°F												
Accuracy	±0.1% of full scale												
Protection	IP65 / NEMA4X												
Dimension A	204 8.03"	204 8.03"	249 9.80"	305 12.01"	340 13.39"	393 15.47"	424 16.69"	470 18.50"	608 23.94"	670 26.38"	700 27.56"	700 27.56"	806 31.73"
Dimension B	43 1.69"	43 1.69"	43 1.69"	47 1.85"	60 2.36"	75 2.95"	75 2.95"	75 2.95"	99 3.90"	99 3.90"	144 5.67"	144 5.67"	150 5.91"
Dimension C	104 4.09"	104 4.09"	113 4.45"	113 4.45"	115 4.53"	126 4.96"	180 7.09"	202 7.95"	255 10.04"	303 11.93"	350 13.78"	350 13.78"	426 16.77"
Dimension D	146 5.75"	146 5.75"	165 6.50"	193 7.60"	215 8.46"	225 8.86"	230 9.06"	260 10.24"	320 12.60"	360 14.17"	350 13.78"	350 13.78"	350 13.78"
Dimension ØE	24.5 0.96"	24.5 0.96"	38 1.50"	47.5 1.87"	55 2.17"	60 2.36"	76 2.99"	76 2.99"	109 4.29"	109 4.29"	145 5.71"	145 5.71"	160 6.30"
Dimension F	48 1.89"	48 1.89"	66 2.60"	Not relevant in this capacity									
Dimension G	19 0.75"	19 0.75"	32 1.26"										
Crosby Shackle	G2130						G2140						
Loading Pin Ø	19 3/4"	19 3/4"	25 1"	35 1 3/8"	51 2"	57 2 1/4"	57 2 1/4"	70 2 3/4"	83 3 1/4"	95 3 3/4"	121 4 3/4"	127 5"	152 6"



# Wirelink plus



The Wirelink plus is the non-indicating version of Straightpoint's very popular Radiolink plus and Loadlink plus digital dynamometer tension load cells. This non-indicating Loadlink is designed for use with Straightpoint's Handheld plus digital display, desktop controller PC software (DCP10M) or other form of instrumentation.

Manufactured from aerospace grade aluminium, utilising an advanced internal design structure, this range of non-indicating load cells are extremely lightweight, easy to handle and are used worldwide in an array of industries for lifting, pulling, proof and structural load testing.

The extremely versatile platform can be used with digital displays, including the Straightpoint Handheld plus, PLCs, data acquisition systems (DAQ) etc. They are configured with a vast array of output formats to include mV/V, RS-422, RS-485, utilising the ASCII, MODBUS TRU and CAN-BUS protocols.

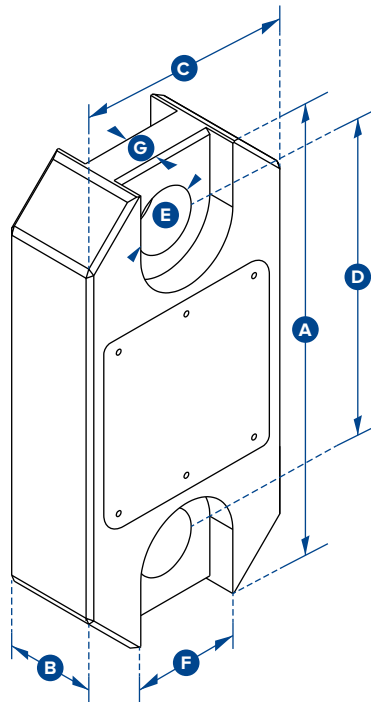
A standard analogue output option is available to include:

- 3 wire 0-10v
- 3 wire 0-5v
- 4 wire +/-10v
- 3 wire 4-20mA
- 2 wire 4-20mA

The Wirelink plus is supplied with a 10 metre cable as standard, however, usable cable length varies greatly with lengths available to 1,500 metres depending on output format.

## Features and benefits:

- Constructed of lightweight aluminium
- Available in capacities ranging from 1 to 300 tonnes
- High accuracy
- Multiple output options to include mV/V, analogue out, ASCII, MODBUS RTU and CAN-BUS
- Available with IP68 environmental protection
- Options for subsea use available
- 2 year warranty
- DNV-GL Type Approval
- Complies with ASME B30.26



Part Number	WLP1T	WLP2T5	WLP6T5	WLP12T	WLP25T	WLP35T	WLP55T	WLP75T	WLP100T	WLP150T	WLP200T	WLP250T	WLP300T
Capacity	1,000kg 2200lb	2.5te 5500lb	6.5te 14300lb	12te 26000lb	25te 55000lb	35te 77000lb	55te 120000lb	75te 165000lb	100te 220000lb	150te 330000lb	200te 440000lb	250te 550000lb	300te 660000lb
Resolution	0.5kg 1lb	0.001te 2lb	0.001te 2lb	0.002te 5lb	0.005te 10lb	0.005te 10lb	0.01te 20lb	0.01te 20lb	0.05te 100lb	0.05te 100lb	0.1te 200lb	0.1te 200lb	0.1te 200lb
Units	kg lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb	te lb
Weight	1.5kg 3.3lb	1.5kg 3.3lb	2.4kg 5.3lb	3.7kg 8.2lb	5kg 11lb	8.6kg 19lb	13kg 28.7lb	16kg 35.3lb	34kg 75lb	46kg 101.4lb	82kg 180.8lb	82kg 180.8lb	118kg 260lb
Safety Factor	12:1	7:1	7:1	7:1	5:1	5:1	5:1	5:1	5:1	4:1	5:1	4:1	5:1
Operating Temp	-10°C to +50°C / 14°F to 122°F												
Accuracy	±0.1% of full scale												
Protection	IP67/NEMA6												
Dimension A	204 8.03"	204 8.03"	249 9.80"	305 12.01"	340 13.39"	393 15.47"	424 16.69"	470 18.50"	608 23.94"	670 26.38"	700 27.56"	700 27.56"	806 31.73"
Dimension B	43 1.69"	43 1.69"	43 1.69"	47 1.85"	60 2.36"	75 2.95"	75 2.95"	75 2.95"	99 3.90"	99 3.90"	144 5.67"	144 5.67"	150 5.91"
Dimension C	104 4.09"	104 4.09"	113 4.45"	113 4.45"	115 4.53"	126 4.96"	180 7.09"	202 7.95"	255 10.04"	303 11.93"	350 13.78"	350 13.78"	426 16.77"
Dimension D	146 5.75"	146 5.75"	165 6.50"	193 7.60"	215 8.46"	225 8.86"	230 9.06"	260 10.24"	320 12.60"	360 14.17"	350 13.78"	350 13.78"	350 13.78"
Dimension ØE	24.5 0.96"	24.5 0.96"	38 1.50"	47.5 1.87"	55 2.17"	60 2.36"	76 2.99"	76 2.99"	109 4.29"	109 4.29"	145 5.71"	145 5.71"	160 6.30"
Dimension F	48 1.89"	48 1.89"	66 2.60"	Not relevant in this capacity									
Dimension G	19 0.75"	19 0.75"	32 1.26"										
Crosby Shackle	G2130						G2140						
Loading Pin Ø	19 3/4"	19 3/4"	25 1"	35 1 3/8"	51 2"	57 2 1/4"	57 2 1/4"	70 2 3/4"	83 3 1/4"	95 3 3/4"	121 4 3/4"	127 5"	152 6"

Options					
Part Number	ICA1	ICA2	ICA3	ICA4	ICA5
Description	3 wire 0-10v analogue output	3 wire 0-5v analogue output	4 wire ±10v analogue output	3 wire 4-20mA analogue output	2 wire 4-20mA analogue output

# Loadshackle



## Features and benefits:

- Robust construction
- Compact size and low headroom
- Every Loadshackle proof tested
- Lightweight
- Unrivalled resolution
- Push button tare
- Environmentally sealed to IP67/NEMA6
- Peak hold
- Advanced options available for subsea applications
- Manufactured using industry leading brand shackles
- mv/v or analog signal options
- Design validated by F.E.A.



Requires connection to Straightpoint's Handheld plus (HHP), Desktop Controller data logging software (DCP10M) or External Amplifier range (SA-3420) that can be configured to provide outputs such as 4-20mA, 0-10v, 0-5v for PLC or data logger integration.

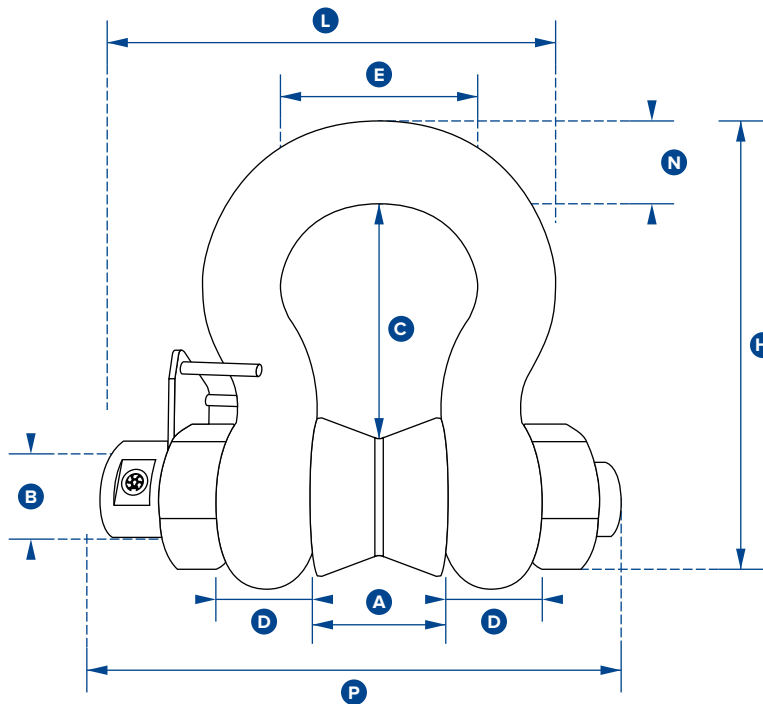
**Straightpoint's Loadshackle is available from stock in capacities of 3.25t to 400t, as well as being obtainable up to 3000t. Manufactured from Crosby's industry-leading 2130 Carbon and 2140 Alloy Bolt Type Anchor Shackle, the product offers reduced overall weight and headroom, providing a great fit for low headroom applications.**

Utilising the same advanced microprocessor based electronics as all Straightpoint products, the cabled Loadshackle benefits from high sampling rates, extreme resistance to industrial level noise and unprecedented stability.

A huge range of tooling allows Straightpoint to calibrate in shackle for extra accuracy, unlike many other load cell manufacturers. Their cabled Loadshackles are also environmentally sealed to IP67/NEMA6 and, as an option, sealed for permanent submersion for sub-sea use.

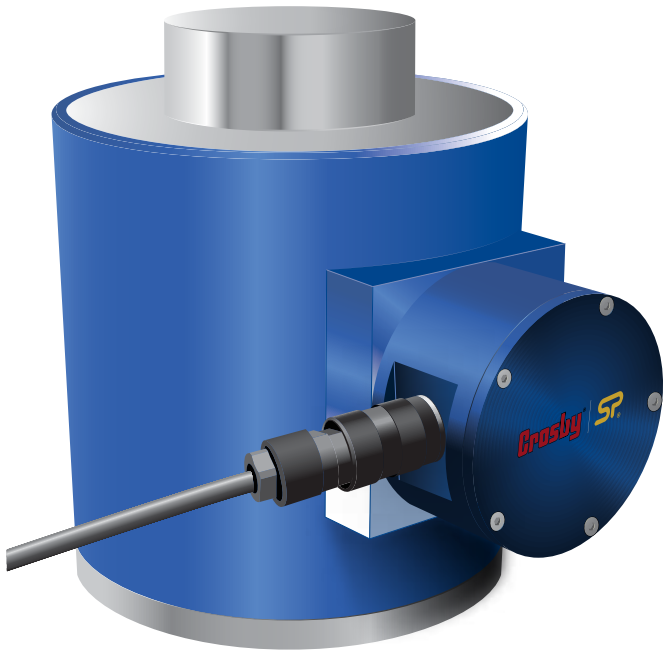
The cabled Loadshackle range can be used with digital displays, including the Straightpoint Handheld plus, PLCs, data acquisition systems (DAQ), etc. They are configured with a vast array of output formats to include mV/V, RS-422, RS-485, utilising the ASCII, MODBUS TRU and CAN-BUS protocols or supplied with integral amplifier allowing analogue outputs such as 4-20mA, 0-10v, 0-5v etc.

Whether used in heavy lifting, mooring anchor placement or sub-sea applications, Straightpoint's cabled Loadshackle offers robust construction, advanced electronics, industry leading resolution and accuracy - all at a cost-effective, affordable price.



Part Number	SLB3.25T	SLB6.5T	SLB12T	SLB25T	SLB55T	SLB85T	SLB120T	SLB200T	SLB300T	SLB400T
Capacity	3.25te	6.5te	12te	25te	55te	85te	120te	200te	300te	400te
	7150lb	14300lb	26400lb	55000lb	120000lbs	185000lbs	260000lbs	440000lbs	660000lbs	880000lbs
Resolution	0.005te	0.005te	0.01te	0.02te	0.05te	0.05te	0.1te	0.2te	0.5te	0.5te
	10lb	10lb	20lb	50lb	100lb	100lb	200lb	200lb	1000lb	1000lb
Units	tonne									
Weight	lb									
	2.8kg	3.2kg	8kg	18kg	25kg	45kg	85kg	230kg	398kg	556kg
	6.16lb	7lb	17.6lb	40lb	55lb	99lb	187lb	507lb	877lb	1226lb
Safety Factor	5:1 when used with load bobbin									
Operating Temp	-10°C to +50°C / 14°F to 122°F									
Accuracy	±1% of full scale									
Protection	IP67 std or sub sea as POA option / NEMA6									
Dimension A	26.9	36.6	51.5	73	82.5	105	127	184	213	210
	1.06"	1.44"	2.03"	2.87"	3.25"	4.13"	5.00"	7.24"	8.39"	8.27"
Dimension ØB	19.1	25.4	35.1	51	57	70	82.5	121	152	178
	0.75"	1.00"	1.38"	2.01"	2.24"	2.76"	3.25"	4.76"	5.98"	7.01"
Dimension C	56.9	79.7	113	170	189.5	253	319.5	366	451	542
	2.24"	3.14"	4.45"	6.69"	7.46"	9.96"	12.58"	14.41"	17.76"	21.34"
Dimension D	14.46	22.4	31.8	44.5	51	66.5	76	116	124	165
	0.57"	0.88"	1.25"	1.75"	2.01"	2.62"	2.99"	4.57"	4.88"	6.50"
Dimension E	42.9	58	82.5	127	164	184	200	279	330	330
	1.69"	2.28"	3.25"	5.00"	6.46"	7.24"	7.87"	10.98"	12.99"	12.99"
Dimension H	103.3	148	210	313	348	453	546	706	871	1022
	4.07"	5.83"	8.27"	12.32"	13.70"	17.83"	21.50"	27.80"	34.29"	40.24"
Dimension L	124.2	153.5	193.8	278	303	365	405	577	649	577
	4.89"	6.04"	7.63"	10.94"	11.93"	14.37"	15.94"	22.72"	25.55"	22.72"
Dimension N	17.5	24.6	35.1	57	61	79	92	127	154	184
	0.69"	0.97"	1.38"	2.24"	2.40"	3.11"	3.62"	5.00"	6.06"	7.24"
Dimension P	140	170	215	290	314	391	438	664	719	781
	5.51"	6.69"	8.46"	11.42"	12.36"	15.39"	17.24"	26.14"	28.31"	30.75"

# Compression Load Cell



## Features and benefits:

- Compact size
- Environmentally sealed to IP67/NEMA6
- Optional analogue outputs
- Stainless steel element
- High accuracy
- Lightweight
- Unrivalled resolution
- Custom versions available
- Design validated by F.E.A.



Requires connection to Straightpoint's Handheld plus (HHP), Desktop Controller data logging software (DCP10M) or External Amplifier range (SA-3420) that can be configured to provide outputs such as 4-20mA, 0-10v, 0-5v for PLC or data logger integration.

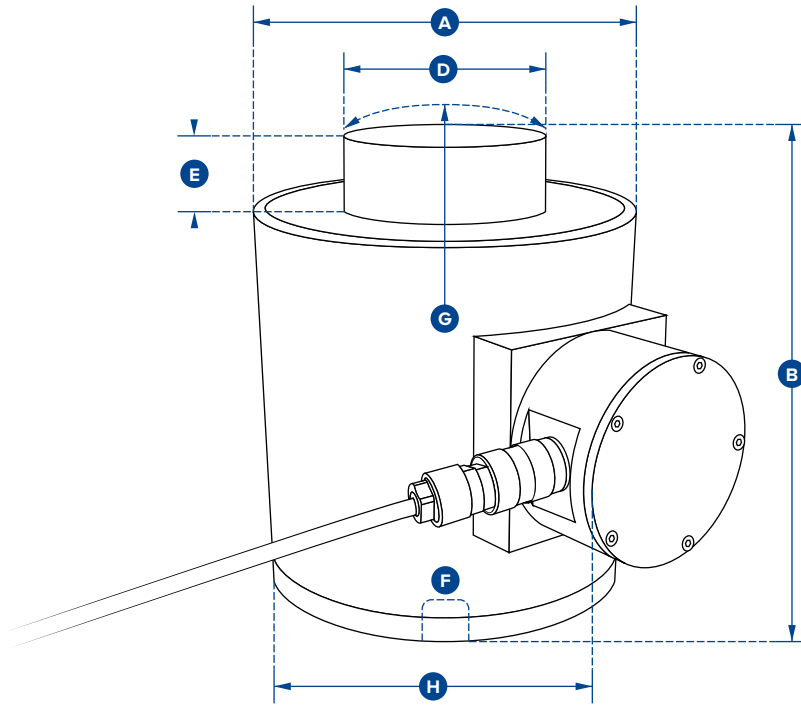
**Manufactured in ranges from 5te to 1000te - other capacities available on application.**

**Straightpoint compression load cells are manufactured to the same stringent standards as all Straightpoint products. The bodies are machined from high grade stainless steel, offering excellent strength and anti-corrosion properties. Compression load cells can be supplied with optional loadcaps to protect objects being tested.**

The compact lightweight design provides ease of use and superior portability, allowing Straightpoint compression load cells to be used in a broad range of industries including mining, energy, defence, heavy rigging, shipping and general transportation sectors.

Utilising the same advanced microprocessor based electronics as all Straightpoint products, Straightpoint's compression load cells benefit from high sampling rates, extreme resistance to industrial level noise and unprecedented stability. This high stability gives this product over 5,000 divisions and the highest standard resolution of any high-capacity compression load cell on the market today.

Like all Straightpoint products, Straightpoint compression load cells offer robust construction, advanced electronics, industry leading resolution and accuracy - all at a cost-effective, affordable price.



Part Number	NI5TC	NI10TC	NI25TC	NI50TC	NI100TC	NI150TC	NI300TC	NI500TC	NI1000TC
Capacity	5te	10te	25te	50te	100te	150te	300te	500te	1000te
	11000lb	22000lb	55000lb	110000lb	220000lb	330000	660000lb	1100000lb	2200000lb
Resolution	0.001te	0.002te	0.005te	0.01te	0.05te	0.05te	0.1te	0.2te	0.5te
	2lb	5lb	10lb	20lb	100lb	100lb	200lb	500lb	1000lb
Units	tonne								
Weight	lb								
	6.2kg	6.2kg	6.2kg	6.2kg	15.5kg	15.5kg	65kg	65kg	172kg
	13.64lb	13.64lb	13.64lb	13.64lb	34lb	34lb	143lb	143lb	379lb
Safety Factor	3:1								
Operating Temp	-10°C to +50°C / 14°F to 122°F								
Accuracy	±0.1% of full scale								
Protection	IP67/NEMA6								
Dimension ØA	100	100	100	100	152	152	185	185	362
	3.94"	3.94"	3.94"	3.94"	5.98"	5.98"	7.28"	7.28"	14.25"
Dimension B	127	127	127	127	184	184	300	300	310
	5.00"	5.00"	5.00"	5.00"	7.24"	7.24"	11.81"	11.81"	12.20"
Dimension ØD	59	59	59	59	80	80	155	155	270
	2.32"	2.32"	2.32"	2.32"	3.15"	3.15"	6.10"	6.10"	10.63"
Dimension E	16	16	16	16	26	26	27.5	27.5	40
	0.63"	0.63"	0.63"	0.51"	1.02"	1.02"	1.08"	1.08"	1.57"
Dimension F	M18 x 2.5	M18 x 2.5	M18 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M30 x 3.5
	M18 x 2.5	M18 x 2.5	M18 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M30 x 3.5
Dimension G	152	152	152	152	432	432	432	432	950
	5.98"	5.98"	5.98"	5.98"	17.01"	17.01"	17.01"	17.01"	37.40"
Dimension H	158	158	158	158	204	204	237	237	416
	6.22"	6.22"	6.22"	6.22"	8.03"	8.03"	8.03"	8.03"	16.38"



## Features and benefits:

- Multiple weight capacity options: from 1t to 150t
- Polished Stainless Steel construction
- Ingress protection up to IP66 allowing for use in a variety of outdoor weather conditions (including high winds and heavy rain) \*
- Compatible to fit standard metric rod-end bearing sizes
- Flexible bespoke options - customisable sizes and features
- Multiple thread options – including imperial and male or male/female end threads
- Additional option to include mating spherical rod-end bearings

\* IP67 and submersible versions also available for use in marine environments

**Ideal for measuring both tensile and compressive forces, the SP STC Series load cell has been engineered to the highest standards needed for exceedingly precise test results. The polished stainless steel casing provides durability and toughness for repeated use under a variety of conditions. The IP66 certificated ingress protection takes this robustness further, by allowing the STC to be used outdoors in a variety of environmental conditions such as dust winds, monsoon, snow, etc. It also includes indoor conditions, such as carpenter workshops, refurbishments or water maintenance.**

SP offer a large range of size options to cope with different levels of load forces to fit with specific measurement needs. Whatever the application, no matter how specific, Straightpoint can tailor the end threads to different sizes/combinations. End thread combinations are as shown:

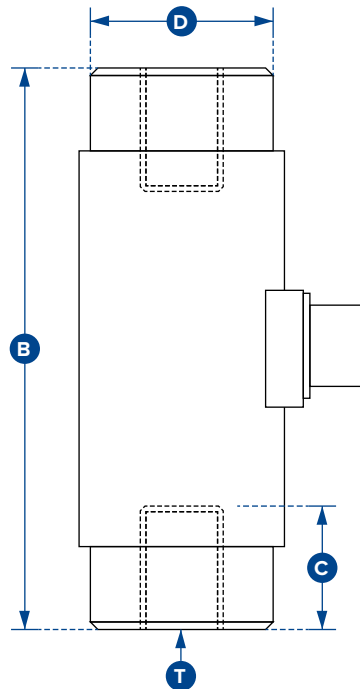
Male to Male  
Female to Female  
Male to Female  
Female to Male

Imperial thread sizes can also be supplied with the entire STC series.

SP will be more than happy to discuss specific requirements of a job/project and provide the upmost confidence to match specific requirements. SP can also provide an extensive range of associated products to help package a complete load monitoring/measuring system. This will, simultaneously, ensure the highest level of safety precaution whilst working.

For example: When paired with the SA700C Load Cell Transmitter, the operator will be able to wirelessly connect to the Handheld Plus (SW-HHP) digital handheld display and also to the SW-MWLC (Multiple Wireless Load cell Controller) software package for the ultimate in remote load monitoring set-ups.



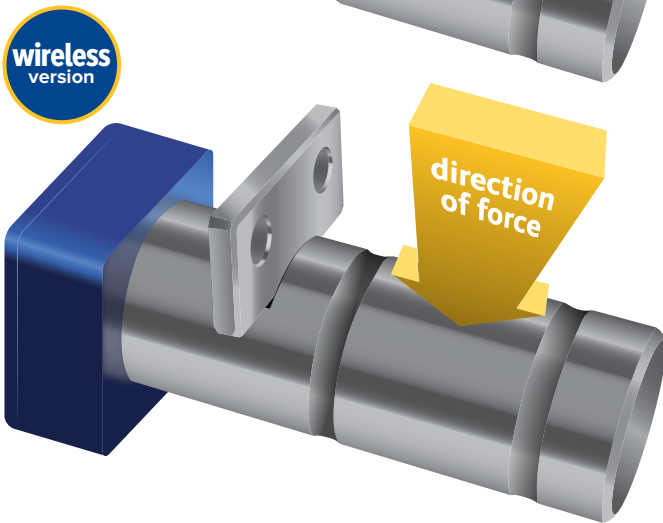
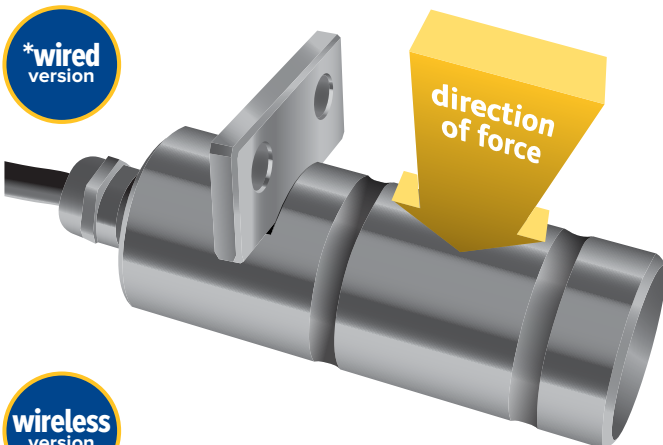


Rating (tonnes)	B	C	D	T	Weight (kgs)	Resolution (tonnes)
1	76	16	Ø31	M12 x 1.25	0.4	0.001
2	76	16	Ø31	M12 x 1.25	0.4	0.002
3	84	22	Ø38	M20 x 1.5	0.7	0.005
5	84	22	Ø38	M20 x 1.5	0.7	0.005
7.5	108	29	Ø44	M24 x 2	1.3	0.01
10	108	29	Ø44	M24 x 2	1.3	0.01
20	203	50	Ø57	M36 x 3	3.3	0.02
30	355	89	Ø114	M64 x 4	20	0.02
50	355	89	Ø114	M64 x 4	20	0.05
75	458	100	Ø130	M100 x 3	35.7	0.05
100	458	100	Ø130	M100 x 3	35.7	0.1
150	458	100	Ø156	M100 x 3	40.5	0.2

Rated load (tonnes)	1, 2, 3, 5, 7.5, 10, 20, 30, 50, 75, 100, 150
Proof load	150% of rated load
Ultimate breaking load	>300% of rated load
Output	1.5mV/V [±0.1%]
Accuracy	±0.1% full scale
Non-repeatability	<±0.1% of rated load
Excitation voltage	10vdc recommended, 15dvc maximum
Bridge resistance	1te: 350Ω, 20 to 50te: 700Ω, 75 to 150te: 1400Ω
Insulation resistance	>500MΩ @ 500vdc
Operating temperature range	-20°C to +70°C
Compensated temperature range	-10°C to +50°C
Zero temperature coefficient	<±0.01% of rated load/°C
Span temperature coefficient	<±0.01% of rated load/°C
Environmental protection level	IP66 [IP67 optional]
Connection type	Integrated bayonet lock connector, supplied with 5 metre mating cable assembly
Wiring connections	+supply: Red, -supply: Blue, +signal: Green, -signal: Yellow

**Note:** Default calibration of load cells rated up to 20 tonnes will be in tension. STCs rated 30 tonnes and above will be in compression. If you require calibration in a different mode to the standard or in both tension and compression, please state at time of order (additional charges may apply).

# Loadpin



## Applications:

- Marine tankers, offshore platforms
- Elevator and floor conveyor testing and certification
- Bearing blocks, pivots and shackles
- Cable laying equipment
- Rope, chain and brake anchors
- Bridge support cables
- Mooring lines
- Pulleys and sheaves
- Crane cables
- Hoisting gear
- Winches
- Design validated by F.E.A.

**Please note:** Please advise cable configuration on order - Radial or Axial pin exit.  
If you require a Loadpin to a particular size and design, download Straightpoint's Loadpin questionnaire and return, POA. [www.straightpoint.com/loadpin.html](http://www.straightpoint.com/loadpin.html)



\*Requires connection to Straightpoint's Handheld plus (HHP), Desktop Controller data logging software (DCP10M) or External Amplifier range (SA-3420) that can be configured to provide outputs such as 4-20mA, 0-10v, 0-5v for PLC or data logger integration.

**The Straightpoint range of Load Measurement Pins (LMP's) are designed for use in applications where an end of line load cell cannot be used, meaning an integrated solution is required.**

Often a customised solution, they are manufactured from high tensile stainless steel and are normally supplied complete with an anti-rotation plate as a cabled or wireless solution.

Built to withstand the harshest environments in industries such as marine and offshore oil and gas, they are suitable for use in exposed situations and can also be supplied to withstand immersion in seawater at extreme depths.

Straightpoint Loadpins are typically connected to Straightpoint's Handheld plus, or may be supplied with a vast array of output formats. These include mV/V, RS-422, RS-485, utilising the ASCII, MODBUS TRU and CAN-BUS protocols or an analogue output such as 4-20mA for PLC integration. All are also supplied with a 10 metre / 32ft cable as standard, however, usable cable length varies greatly with lengths available to 1500 metres / 4900ft, depending on output format.

Please email your enquiry to: [sales@straightpoint.com](mailto:sales@straightpoint.com)

Also available with hazardous area approval. Zones 0, 1 & 2



**ATEX / IECEx**  
Ex ia II C T4 Ga

Certification numbers:

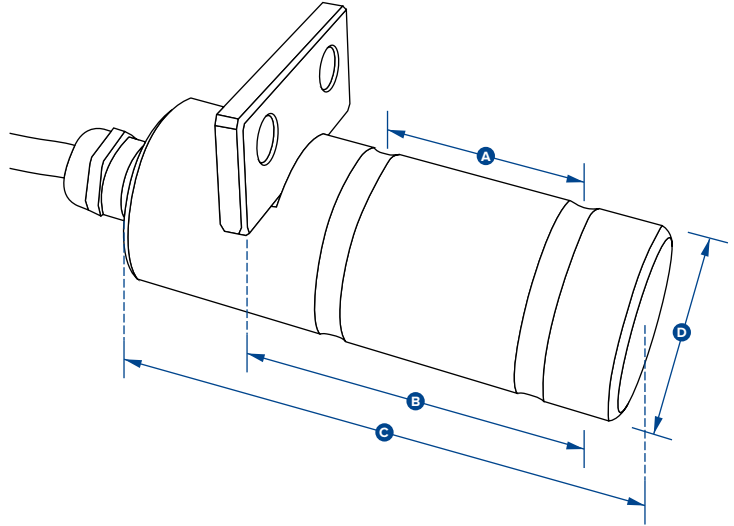
**LP ATEX**

IECEx SIR 16.0041X / Sira 16ATEX2108X

**SW-HHP ATEX**

IECEx SIR 15.0072X / Sira 15ATEX2196X

**Add 'ATEX' to the part number when ordering ATEX/IECEx products. For example: LP500KG-ATEX**



Part Number	LP500KG	LP1T	LP2.5T	LP3.5T	LP6.5T	LP15T	LP25T	LP50T	LP100T	LP250T	LP500T	LP750T	LP1000T	LP1500T
Capacity	500kg	1000kg	2.5te	3.5te	6.5te	15te	25te	50te	100te	250te	500te	750te	1000te	1500te
	1100lb	2200lb	5500lb	7700lb	14000lb	33000lb	55000lb	110000lb	220000lb	550000lb	1100000lb	1650000lb	2200000lb	3300000lb
Resolution	0.2kg	0.5kg	0.001te	0.001te	0.002te	0.002te	0.005te	0.01te	0.05te	0.1te	0.2te	0.2te	0.5te	0.5te
	0.5lb	1lb	2lb	2lb	5lb	5lb	10lb	20lb	100lb	200lb	500lb	500lb	1000lb	1000lb
Units	kgs, tonnes													
	lbs													
Weight	0.9kg	1kg	1.2kg	1.4kg	2kg	3.1kg	5.6kg	8.6kg	11.8kg	29.8kg	79.2kg	146kg	275kg	389kg
	0.4lb	0.5lb	0.9lb	1.3lb	2.6lb	5lb	10.3lb	18lb	24lb	64lb	172lb	319lb	603lb	854lb
Safety Factor	300% of SWL													
Operating Temp	-20°C to +70°C / -4°F to 158°F													
Accuracy	±1% of full scale													
Protection	IP67 (IP68 available as an option) / NEMA6 (NEMA6P available on application)													
Dimension A	24	35	45	50	63	75	89	102	110	130	225	295	360	430
	0.94"	1.38"	1.77"	1.97"	2.48"	2.95"	3.50"	4.02"	4.33"	5.12"	8.86"	11.61"	14.17"	16.93"
Dimension B	36	49	70	75	95	114	152	178	190	220	370	500	612	731
	1.42"	1.93"	2.76"	2.95"	3.74"	4.49"	5.98"	7.01"	7.48"	8.66"	14.57"	19.69"	24.09"	28.78"
Dimension C	70	80	100	105	125	150	195	225	230	300	440	590	712	832
	2.76"	3.15"	3.94"	4.13"	4.92"	5.91"	7.68"	8.86"	9.06"	11.81"	17.32"	23.23"	28.03"	32.76"
Dimension ØD	20	20	25	30	40	50	63	75	88	125	170	200	250	275
	0.79"	0.79"	0.98"	1.18"	1.57"	1.97"	2.48"	2.95"	3.46"	4.92"	6.69"	7.87"	9.84"	10.83"

# Loadblock plus



## Features and benefits:

- Large 25mm/1" LCD Display
- High resolution
- 100Hz Peak hold
- Compact size
- Push button tare
- Preset tare
- RS485 port for connection to datalogging system
- Selectable units te, lbs, kN & kg

**The Loadblock plus is a low capacity, self-indicating compression load cell, used in many testing and load monitoring applications worldwide.**

The integral display eliminates the need for a separate display or cable assembly that can be easily damaged. Applications include the measurement of loads associated with the testing of hydraulic presses, cylinders or jacks.

This latest version of Straightpoint's Loadblock has advanced features and benefits that provide solutions for today's complicated load test, as well as force monitoring needs. Features include full function push button controls for tare, units of measure (lbs, kg, kN and tonnes), peak hold, pre-set tare, audible set-point alarm and an overload counter.

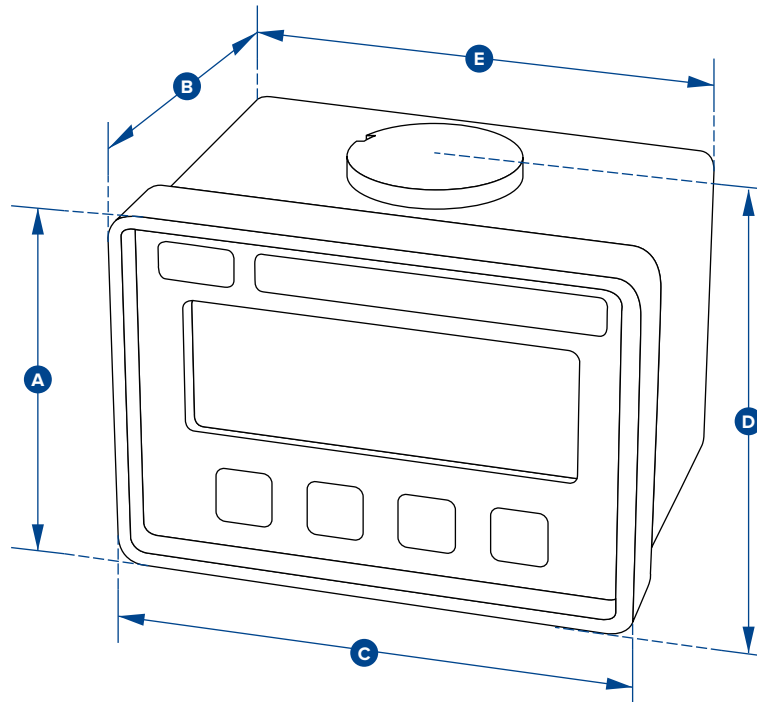
This crucial overload alarm counter is a requirement for many safety and quality control departments, as it keeps track of overload events. Should this occur, the load cell in question can be removed from service immediately, following the calibration-voiding overload event. It can then be sent out for proper testing and, if necessary, a recalibration can be done before it re-enters service.

The advanced microprocessor based electronics provide the Loadblock plus with high speed read rates (500/sec), extreme

resistance to industrial level noise and unprecedented stability.

This high stability provides the Loadblock plus with 5,000+ divisions and the highest standard resolution of any self-indicating compression load cell on the market today.

The unit also features a RS-485 serial output port allowing for remote viewing with either the Handheld plus digital display/controller or Windows PC desktop controller data logging software.



Part Number	LBP250KG	LBP500KG	LBP1T	LBP2T	LBP5T
Capacity	250kg 550lb	500kg 1100lb	1te 2200lb	2te 4400lb	5te 11000lb
Resolution	0.1kg 0.2lb	0.2kg 0.5lb	0.0005te 1lb	0.001te 2lb	0.001te 2lb
Units	t, kg, kN and lb lb, te, kN and kg				
Weight	900g 2lb	900g 2lb	900g	1.5kg 3.3lb	3.1kg 6.8lb
Safety Factor	4:1	5:1	5:1	5:1	5:1
Battery Type	9v PP3				
Battery Life	80hrs continuous				
Display Type	6 digit 25mm LCD / 6 digit 1" LCD				
Operating Temp	-10°C to 50°C / 14°F to 122°F				
Accuracy	±0.1% of full scale				
Protection	IP65 / NEMA4X				
Dimension A	81 3.19"	81 3.19"	81 3.19"	92 3.62"	92 3.62"
Dimension B	81 3.19"	81 3.19"	81 3.19"	117 4.61"	136 5.35"
Dimension C	113 4.45"	113 4.45"	113 4.45"	112 4.41"	112 4.41"
Dimension D	90 3.54"	90 3.54"	90 3.54"	104 4.09"	115 4.53"
Dimension E	104 4.09"	104 4.09"	104 4.09"	Not available in this capacity	

# Miniweigher plus



## Features and benefits:

- Large 25mm/1" LCD Display
- High Accuracy
- Selectable Units te, lbs, kN & kg
- High Resolution
- Compact Size
- Tare
- Preset Tare
- Lightweight
- Overload Counter
- 90dB Audible Set Point Alarm
- RS-485 Serial Output
- Corrosion-Resistant Finish

Optional connection to Straightpoint's Handheld plus (SU3343) or Straightpoint's Desktop controller data logging software package (DCP10M).

**This small and compact mini crane weigher scale will suit most lifting applications and is available in capacities from 100kg to 5t. Worldwide, it is Straightpoint's most popular product and has been manufactured since 1987. The Miniweigher plus crane scale offers robust construction, high accuracy, compact size and extreme portability.**

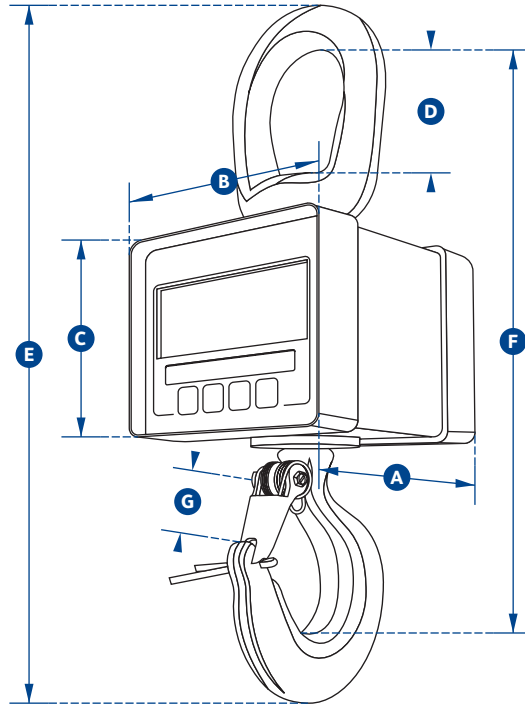
Utilised by utility companies on every continent, the Miniweigher plus crane scale is quite often mounted between a winch and a tripod. This mounting point allows for load monitoring to be integrated within the lift, ensuring safety levels during the lowering and raising of equipment and/or personnel are optimised. It has proven itself to be an indispensable tool for underground sewer, water, gas and utility vault access.

The Miniweigher plus features full function push button controls for tare, choice of units (lbs, kg, kN and tonnes), peak

hold, preset tare, audible set-point alarm and an overload counter.

Straightpoint's advanced microprocessor based electronics provide the Miniweigher plus with high speed read rates, extreme resistance to industrial level noise and unprecedented stability. This high stability allows 5,000+ divisions and the highest standard resolution of any compact digital crane scale on the market today. The unit also features a RS-485 serial output providing added functionality and versatility.

In all, the lightweight design, corrosion-resistant finish, advanced electronics and full feature display have made the Miniweigher plus crane scale the only choice when looking for a compact, safe and accurate, crane scale.



Part Number	MWP100KG	MWP250KG	MWP500KG	MWP1T	MWP2T	MWP5T
Capacity	100kg 220lb	250kg 550lb	500kg 1100lb	1000kg 2200lb	2te 4400lb	5te 11000lb
Resolution	0.05kg 0.1lb	0.01kg 0.2lb	0.2kg 0.5lb	0.5kg 1lb	0.001te 2lb	0.001te 2lb
Units	t, kg, kN and lb lb, t, kg and kN					
Weight	1.5kg 3.3lb	1.5kg 3.3lb	1.5kg 3.3lb	1.5kg 3.3lb	3.1kg 6.8lb	8.7kg 19.2lb
Safety Factor	10:1	5:1	5:1	5:1	5:1	5:1
Battery Type	9v PP3					
Battery Life	80 hours continuous					
Display Type	6 digit 25mm LCD / 6 digit 1" LCD					
Operating Temp	-10°C to +50°C / 14°F to 122°F					
Accuracy	±0.1% of full scale					
Protection	IP65 / NEMA4X					
Dimension A	82 3.23"	82 3.23"	82 3.23"	82 3.23"	117 4.61"	136 5.35"
Dimension B	113 4.45"	113 4.45"	113 4.45"	113 4.45"	112 4.41"	112 4.41"
Dimension C	81 3.19"	81 3.19"	81 3.19"	81 3.19"	92 3.62"	92 3.62"
Dimension D	50 1.97"	50 1.97"	50 1.97"	50 1.97"	64 2.52"	98 3.86"
Dimension E	240 9.45"	240 9.45"	240 9.45"	240 9.45"	320 12.60"	444 17.48"
Dimension F	208 8.19"	208 8.19"	208 8.19"	208 8.19"	271 10.67"	365 14.37"
Dimension G	22 0.87"	22 0.87"	22 0.87"	22 0.87"	28 1.10"	42 1.65"

# Jumboweigher



5t and  
10t  
version



20t  
version

## Features and benefits:

- Large bright LED display
- High accuracy
- Aluminium housing
- Power saving mode
- Push button tare
- Hold function
- Large keys make operation simple even when wearing gloves

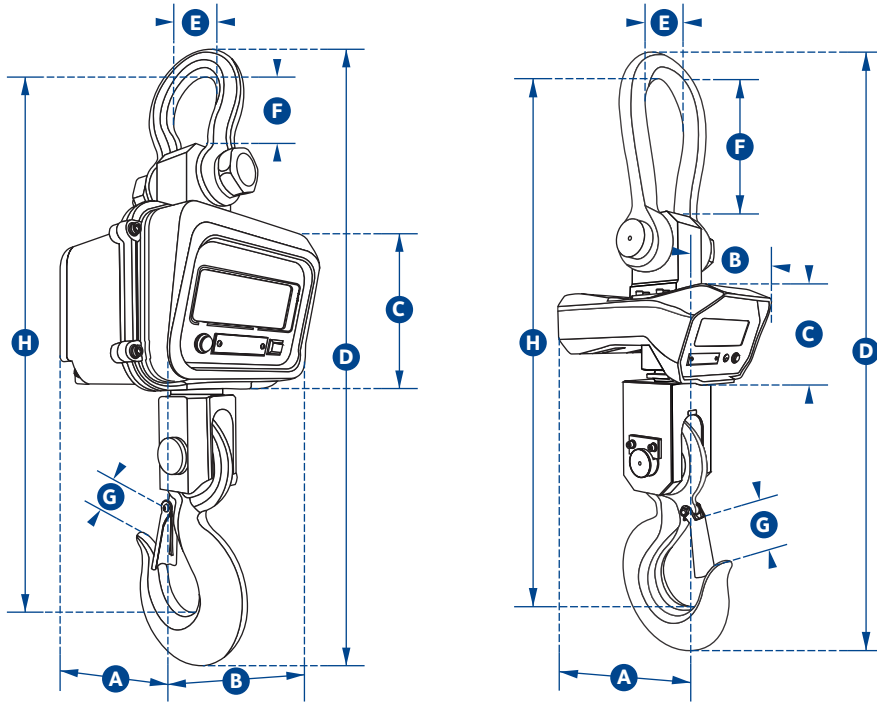
The Jumboweigher crane scale is a popular choice among steel service centres and other heavy industrial applications because it is a cost-effective alternative to its more expensive rivals, yet a far safer option over low-cost crane weighers. The Jumboweigher series of crane scales offer high capacity, quality, accuracy and safety at low capacity prices. They are utilised worldwide in a variety of manufacturing and industrial applications.

As with all Straightpoint products, each Jumboweigher crane scale receives superior electronics, excellent build quality, certified calibration and proof testing. The heavy duty crane scale is extremely accurate, manufactured from quality materials, and features a high-strength aluminium alloy outer housing.

Each unit is equipped with a large and bright LED display that can be easily read, even in direct sunlight. The simple to use remote features oversized buttons, enabling use with gloved hands, providing control of tare and hold functions. Battery charging intervals are extended by the standby power-saving mode, as well as the automatic shut off feature. As with all Straightpoint products, each Jumboweigher is safety tested and is supplied with certification of calibration and proof testing.

When looking for a high-quality, cost-effective crane scale and are unwilling to give up features and safety, look no further than the Jumboweigher crane scale from Straightpoint.





Part Number	JW5T	JW10T	JW20T
Capacity	5000kg	10000kg	20000kg
	11000lb	22000lb	44000lb
Resolution	2kg	5kg	10kg
	5lb	10lb	20lb
Units	kg		
	lb		
Weight	18kg	29kg	75kg
	40lb	64lb	165lb
Safety Factor	5:1		
Battery Type	Internal rechargeable		
Battery Life	20hrs		
Display Type	30mm / 1.18" LED		
Operating Temp	-10°C to +40°C / 14°F to 104°F		
Accuracy	±0.1% of full scale		
Protection	IP54 / NEMA3		
Dimension A	195	195	355
	7.68"	7.68"	13.98"
Dimension B	255	255	230
	10.04"	10.04"	9.06"
Dimension C	180	180	165
	7.09"	7.09"	6.50"
Dimension D	715	780	1115
	28.15"	30.71"	43.90"
Dimension E	72	90	140
	2.83"	3.54"	5.51"
Dimension F	90	110	230
	3.54"	4.33"	9.06"
Dimension G	36	50	70
	1.42"	1.97"	2.76"
Dimension H	595	660	980
	23.43"	25.98"	38.58"

# Accreditations/Affiliations

## Accreditations

Third party accreditation communicates to our customers and prospects that we comply with internationally recognised standards, building confidence whilst demonstrating our commitment to safety and quality.



FM 584438

ISO 9001 is the internationally recognised standard for the quality management of businesses. Our BSI accreditation means that we have been assessed against internationally recognised standards and operate to the highest levels of quality and service, providing further assurance to you that the certificate issued to us is credible.



Ex/IECEx approval on Straightpoint wireless product range, all connected to the first of its kind. Hand Control SW-HHPEX, Radiolink plus, Loadshackle, Compression Load Cell, Loadpin and Running Line Tensiometer.



All Straightpoint products are CE marked. CE is an abbreviation of the French phrase "Conformité Européene" which means "European Conformity". CE Marking on a product is our declaration that the product complies with the essential requirements of the relevant European health, safety and environmental protection legislation.



CSA Group is a global provider of testing, inspection and certification services for products from a wide range of market sectors, and a leader in safety and environmental certification for Canada and the US. They are one of the largest standards development organisations in North America—their CSA certification mark appears on billions of products worldwide.



DNV GL enables organisations to advance the safety and sustainability of their business, providing them with classification, technical assurance, software and independent expert advisory services to the maritime, oil and gas and energy industries. Operating in more than 100 countries, their professionals are dedicated to helping customers make the world safer, smarter and greener.

## Affiliations



LEEA is established across the globe as the respected and authoritative representative body for all those involved in the lifting industry worldwide, representing their members at the highest levels across a range of both public and private bodies. The association has played a key role in this specialised field for over 70 years, from training and standards setting through to health and safety, the provision of technical and legal advice, and the development of examination and licensing systems.



ASME is the leading international developer of codes and standards associated with the art, science, and practice of mechanical engineering. Starting with the first issuance of its legendary Boiler & Pressure Vessel Code in 1914, ASME's codes and standards have grown to nearly 600 offerings currently in print. These offerings cover a breadth of topics, including pressure technology, nuclear plants, elevators / escalators, construction, engineering design, standardisation, and performance testing.



AWRF was formed in 1975 and incorporated the following year by a group of concerned businessmen who felt there was a need for sling fabricators and special rigging components manufacturers to join together to form a trade association. Originally created by representatives from nine companies in the United States, in two decades the organisation grew to concentrate on the needs of over 400 member companies worldwide.



SC&RA is an international trade association of nearly 1,300 member companies from 43 nations. Members are involved in specialised transportation, machinery moving and erecting, industrial maintenance, millwrighting, crane and rigging operations, manufacturing and rental. It helps run more efficient and safer businesses by monitoring and affecting pending legislation and regulatory policies at the state and national levels; researching and reporting on safety concerns and best business practices.



## construction

Tower cranes weighing materials with a digital dynamometer, using compression load cells to monitor piling loads, testing of reinforced steelworks or real-time monitoring of building load distribution are all applications where Straightpoint can offer a load monitoring solution.

Straightpoint's range of wireless tension and compression load cells connected to our impressive range of handheld displays or multi Load cell data logging or centre of gravity software are used throughout the worldwide construction industry on a daily basis.

## logistics

From simple logistics and shipping weighing to measuring forces on mooring tension lines, Straightpoint have a solution. Products are IP rated and constructed from marine-grade materials to ensure that they remain accurate, reliable and most importantly, safe for use.

For weighing up to 5t the Miniweigher plus is the go-to compact crane scale for safe and accurate weighing. Straightpoint's bestselling Radiolink plus takes care of the heavier lifts, allowing the operator to safely stand at distance of 700m or 2300 feet from the load.

For moving lines with no dead end to rig a digital dynamometer, the TIMH dynamic load monitoring system will measure tension in motion and display either via cable or wirelessly to the monitoring station.

## oil and gas

In the oil and gas centres of Scotland, Scandinavia and the gulf states of the USA the Radiolink plus load cell, along with the new addition of the Radiolink Plus ATEX / IECEx, are the industry standard for weighing and dynamic load monitoring applications.

For lower headroom applications our wireless load shackles are also the first choice for service trucks and riggers in the oilfields. A rugged handheld display with easy to change AA batteries, no external antennae and industry leading wireless range allow the operator to stand at a safe distance in the most hazardous areas up to zone 0.

## utilities

Utility companies across the globe all use Straightpoint products.

Power line tensioning, pump station maintenance and critical lift monitoring are all applications for Straightpoint's range of load cells. No utility service truck is complete without a Straightpoint product in its kit.

## marine

For offshore, subsea and general marine applications Straightpoint have a range of Running Line Dynamometers, Loadshackles and Shear Pin load cells. Straightpoint's Loadshackles and Loadpin products can be manufactured for subsea use if required and output options such as 4-20mA or Modbus.

For mooring, cable laying and winch applications, the TIMH running line dynamometer can be used to measure both tension and line out.

## heavy lift

When large industrial items such as absorbers, generators, turbines, reactors, boilers, towers, locomotives, boats, military equipment or offshore industry parts such as oil rigs and production platforms have to be moved on short lead times, heavy lift companies need large capacity load cells.

For many heavy lift projects there is an absence of standardisation which requires an individual transport planning and with a range of tension and compression load cells and software including an ISO19901 compliant centre of gravity software package in stock and ready to ship Straightpoint's commitment to the heavy lift industry is second-to-none.

## towage and salvage

Load monitoring is essential in the marine, towing and mooring industries as ever changing sea states create unknown and variable loads.

## stage and event rigging

With safety in mind, Straightpoint has a range of stage and event rigging load cells. The load shackle and low headroom link are specifically useful where there is little head room space.

Up to 100 load cells can be connected to the wireless load shackle via Straightpoint's software SW-MWLC100 for more complex applications.

## testing

Load testing with water bags, other weights or fixed load points are ideal applications for the Straightpoint range of load cells.

Straightpoint's Radiolink plus, Wireless shackle load cells or compression load cells, used in parallel with the Proof Test plus software package, testing can be performed at a safe distance. All dynamic and static forces are logged onto a test certificate for later analysis and client approval.



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