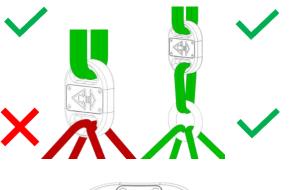# smart**link** Guide

Product Description

smart**link**s are wireless load sensors, manufactured in titanium to be the lightest, strongest and smallest load sensors on the market. Designed in collaboration with leading race teams, smart**link** will help you measure and repeat your fast settings every time.

How it works…

Simply add inline of any 'soft' stay or sheet. Easily connect the sensor to your phone via the latest smartphone app or to marine electronics via optional smart**fittings** gateway for immediate load data.

Correct loading with soft lines

smart**link** is designed to be loaded inline with soft lines/rope/strops, for the most accurate load measurement. If smart**link** is loaded in a bridle configuration the displayed load will be inaccurate.
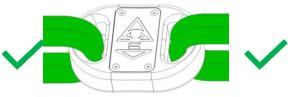

Figure 1 Incorrect and correct strop loading

Use of metal shackles/pins directly on smart**link** is not advised as it may mark the titanium body and could cause permanent damage.

Strops

The strops used for final calibration are built using wound Dyneema cored basket loops, to the below finished diameter. Cyclops Marine recommends using strops built to this diameter to achieve the stated ±1% of maximum working load (MWL) accuracy.

Contact us for pricing and availability of strops.

Model	Nano	2t	5t	10t	20t
Finished Diameter (mm)	4.0	9.0	10.7	12.4	15.0

Safety

Please read all instructions before using smart**link** to measure loads. Always perform a safety evaluation before use to ensure that use of the sensor is not dangerous to nearby people or property.

smart**link** is not intended to support personnel working aloft. Please follow all standard working aloft safety procedures.

Overload

The MWL of a smart**link** must not be exceeded, as this may cause damage to the internal instrumentation and will invalidate the warranty.

SHOCK LOADING (i.e. strop failure) OR OVERLOADING TO 150% OF MWL WILL RESULT IN PERMANENT DAMAGE TO THE SENSOR THAT WILL REQUIRE RECALIBRATION

Calibration

If smart**link** has been under load for a significant length of time, the sensor may take 1-2 minutes to return to zero when the load is removed. This is to be expected.

A significant impact to the body of the sensor can affect the calibration. This would require the device to be returned to Cyclops for inspection and re-calibration.

smart**power** button

To maximise battery life, the sensor will be powered on for different lengths of time depending on how many times the power button is pressed. A single firm button press will result in a single light flash.

Press button:	Light flashes	Powered on for:
Once	Once	30 sec
Twice	Twice	20 min
3 times	3 times	2 hrs
4 times	4 times	8 hrs
5 times	5 times	Continuous

If the sensor is on, press the button once to power it down after 30 seconds.

Changing the CR2032 battery

FAILURE TO MAINTAIN THE BATTERY COVER SEAL WILL RESULT IN WATER INGRESS & PERMANENT DAMAGE NOT COVERED UNDER WARRANTY.

Cyclops recommends Renata batteries for maximum battery life and performance.
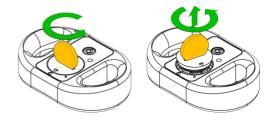
The sensor will show 0.00 as the load (even when under load) when the batteries need to be replaced.

Cyclops recommends removal of the battery from the device and storage of the sensor in a cool, dry place away from direct sunlight during extended periods of time where it is not expected to be used.

Please dispose of used batteries responsibly.
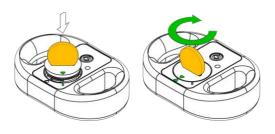
Removing battery & cover

Use a coin that fills the battery cover slot and twist the coin until the battery cover pops out and comes completely free. If necessary, free the battery with a gentle tap to the opposite face of the sensor.

Replace the CR2032 battery with equivalent. Do not use non-standard batteries or other sizes, as this can cause damage.

Replacing battery & cover

To reinstall the battery & cover, install battery +ve side up, insert cover, line up the arrow on the cover with the diagonal dash on the housing. Press firmly so the cover is flush with the housing. Use a coin to twist the cover until the arrows in the cover are aligned, and the battery cover is flush with the housing.

Technical Data

Model	MWL tonnes	Dimensions mm	Mass g	Accuracy range* kg
nano	0.6	64x55x17	80	±6
2t	2	79x55x19	160	±20
5t	5	83x66x22	210	±50
10t	10	93x74x25	360	±100
20t	20	107x88x39	770	±200

*Accuracy range achieved using Cyclops Marine supplied strops.

Frequency	1Hz (custom available on request)
Accuracy	±1% of MWL within 0-40ºC
Body Material	Al6082-T6 (600kg), Ti6Al4V (2, 5, 10, 20 tonne)
Housing Material	Acetal, IP67 rated
Battery	life 200 hours, 1x CR2032

smart**link**s are not warranted to be accurate for the purposes of buying/selling products by weight

Displaying Load Data

For both seeing live loads and logging load data from a sailing session, either a mobile phone or a Cyclops Marine Gateway should be used. Scan the applicable QR code below for instructions.

Mobile app instruction:

Cyclops Gateway installation guide: