

# smarttoggle™ Guide

## Product Description

smarttoggles are wireless load sensors, manufactured in aluminium to be the lightest, strongest and smallest load sensors on the market. Designed in collaboration with leading furling brands, smarttoggle will help you measure and repeat your fast settings whilst having the safest furling experience.

## How it works...

Simply add inline between your flying sail furler and sail cable. Easily connect the sensor to your phone via the latest smartphone app or to marine electronics via optional smartfittings gateway for immediate load data.

## Recommended Installation



Figure 1: Installation guide

## Safety

Please read all instructions before using smarttoggle 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.

smarttoggle is not intended to support personnel working aloft or in structural rig locations such as forestays. Please follow all standard working aloft safety procedures.

## Overload

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

SHOCK LOADING OR OVERLOADING TO 150% OF MWL WILL RESULT IN PERMANENT DAMAGE TO THE SENSOR THAT WILL REQUIRE RECALIBRATION.

## Inspection and maintenance

It is recommended to check the dimensions of the sensor periodically as stated in the technical data.

The only maintenance needed is to charge the sensor with the provided charger. Please do not attempt to repair the sensor by removing any parts from the product. Please contact Cyclops for further information.

## Calibration

If smarttoggle 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.

## smartpower button

smarttoggle has 3 modes: powered on, extended use & off.

Mode	Powered on	Extended use	Powered off
A quick button press shows	Green flash	Red flash	Red flash
How to activate mode	Long press to green flash	Long press to red flash	Very long press to red flash x2
Frequency	1 Hz	0.25Hz	No data
Ideal for	General usage	Battery saving	Shipping
Battery life	2000 hrs	8000 hrs	2 years

Extended use & powered off modes can only be activated from powered on mode.

## Wireless charging (( ))

To charge smarttoggle with the wireless charger, plug the charger into a USB port or power plug (not supplied), a quick blue flash indicates it has been powered on. Place the smarttoggle on the charger with the wireless charging logo facing the charger.



Figure 2: Charging procedure

Ensure that the smarttoggle is powered on when charging, or else charging indication will not be visible. The sensor is charging when the LED constantly flashes red. The sensor is >90% charged when the LED turns green.

## LED light indication

At <20% charge, LED indications during on and extended use modes will be a double flash.

When the LED flashes red & green together, it indicates the sensor is in direct connection mode with the app or with a 3rd party device.

## Technical Data

Model	MWL (t)	Dimensions (mm)	Pin Dia (mm)	Mass (g)	Accuracy range* (kg)
FE-02	4.5	140/51/35	12	299	±45
FE-03	7	162/56/50	16	tbc	±70
FE-04	4.5	140/51/35	12.7	299	±45

Frequency 1Hz

Accuracy ±1% of MWL (between -10 to +40°C)

Body Material AL6082-T6

Housing Material Acetal, IP67 rated

Battery Lithium Polymer, 0.925Wh

\*smarttoggles 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. The smarttoggle can be added to the application using the data key or QR code that was supplied with the unit. Scan the applicable QR code below for instructions.

smartfittings manager app tutorial:



smartfittings gateway installation guide:

