

# smarttune<sup>2</sup>guide

For load display, see 'App Instructions', 'Gateway Install Guide' and 'Gateway Instructions' before sensor installation.




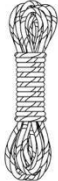
## Product Description

smarttune<sup>2</sup> is an innovative solution for accurate, live measurement of rigging load. Simple to retro-fit at the dock, smarttune<sup>2</sup> makes repeatable standing rigging load data available through precision-designed, wireless technology. Designed to replace existing double acting turnstubs, it allows you to record and repeat your fast rig settings, creating the optimum sail shape and the best racing performance, in all conditions.

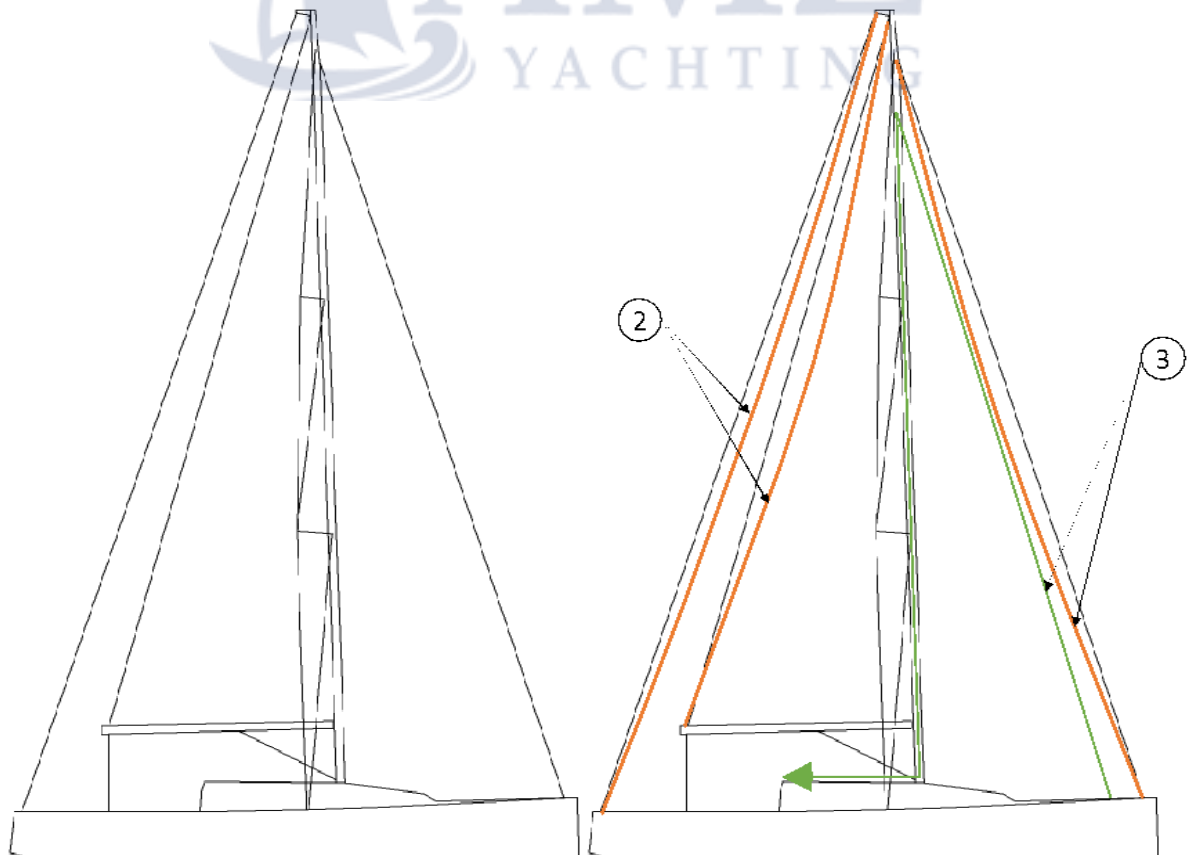
## How it works...

Simply unthread the existing turnstubs and screw on smarttune<sup>2</sup>. Easily connect the sensor to your phone via the latest smartphone app or to marine electronics via optional smarttune<sup>2</sup> Gateway for immediate load data.

## Installation

	<p>2x</p> 		<p><b>Tef-Gel</b></p> <p><b>Duralac</b></p> <p>Or similar</p>	
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1. If installing smarttune<sup>2</sup> with a gateway, follow 'Gateway install guide' before installing smarttune<sup>2</sup>.
2. Release backstay & mainsheet completely, remove any mast shims and de-jack mast (if applicable).
3. Secure a halyard to a hardpoint near the chain-plate. Tension halyard until stay sag visible. Secure halyard and attach another halyard near chainplate as a safety.



4. Remove split pins/Velcro from turn screw studs.
5. Measure a reference stay length using ruler or verniers. e.g. distance between stud ends inside the turn screw.
6. Use rope to secure stay to a hardpoint.
7. Unscrew existing turn screw using the spanners. Ensure that stay is secure before completely disconnecting turn screw. Once the turn screw is free from the upper and the lower threads stay will hang.
8. Apply anti-corrosion paste to threads.
9. Locate smarttune<sup>2</sup> turn screw and correctly orientate to chain-plate. The model/serial numbers should be the right way up when correctly oriented.
10. Looking down, rotate smarttune<sup>2</sup> anti-clockwise onto stay stud. Take 3 complete turns onto stud.
11. Offer smarttune<sup>2</sup> turn screw up to chainplate stud and continue winding anti-clockwise to thread. Use one spanner to hold stay stud still, and the other to rotate turn screw.
12. Thread turn screw on until reference measurement taken in step 5 is reached.
13. Reinstall any split pins/Velcro.
14. Remove rope securing the stay and halyards.
15. Return rig to dock tune as desired. Go sailing!

## Wireless Charging

### 1/4" and 5/16"

Strap a Cyclops charging pad around the fitting, with the charging face up against the face on the fitting with the Cyclops logo engraved. Power the charger from a USB port and the charger light will illuminate in Blue to indicate charging. The LED on the sensor will flash slow red to indicate charging.

### smartpower button

smarttune<sup>2</sup> has 3 modes: powered on, extended use & off.

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

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

### LED light indication

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

## Safety

Please read all instructions before using smarttune<sup>2</sup> 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.

### Overload

The Maximum Working Load (MWL) of a smarttune<sup>2</sup> must not be exceeded, as this may cause damage to the internal instrumentation and will invalidate the warranty.

OVERLOADING TO 150% OF CALIBRATED LOAD COULD RESULT IN PERMANENT DAMAGE TO THE SENSOR THAT WILL REQUIRE RECALIBRATION.

### Calibration

If the smarttune<sup>2</sup> 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.

## Operation of sensor

Please note that smarttune<sup>2</sup> is designed to work in tension only, with the load applied by studs threaded into the turn screw.

Any loads applied to the plastic body (e.g. squeezing due to sails furled tightly around the sensor), may result in unexpected or incorrect reported loads, including negative loads. This is to be expected, and provided the sails do not cause physical damage to the plastic body, the sensor will continue to report the loads correctly when the squeezing is removed (i.e. when the sail is unfurled).

## Technical Data

Frequency	1Hz (custom available on request)
Accuracy	±1% of MWL within 0-40°C
Body Material	SS 316L, Brass threaded inserts
Housing Material	Acetal, IP67 rated
Battery	Lithium Polymer, 0.925Wh

Thread	Dimensions (mm)	Mass (g)	Calibrated load (tonnes)	Accuracy range* (kg)
1/4"	112x55x18	180	0.5	±5
5/16"	112x55x18	180	1.0	±10
7/16"	165x61x26	390	1.9	±19
1/2"	165x61x26	390	2.4	±24
5/8"	83x66x22	620	2.7	±27
3/4"	93x74x25	1500	5.0	±50

\*smarttunes 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:

