



smarttune²guide

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

Product Description





smarttune² is an innovative solution for accurate, live measurement of rigging load. Simple to retro-fit at the dock, smarttune² makes repeatable standing rigging load data available through precision-designed, wireless technology. Designed to replace existing double acting turnscrows, 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...

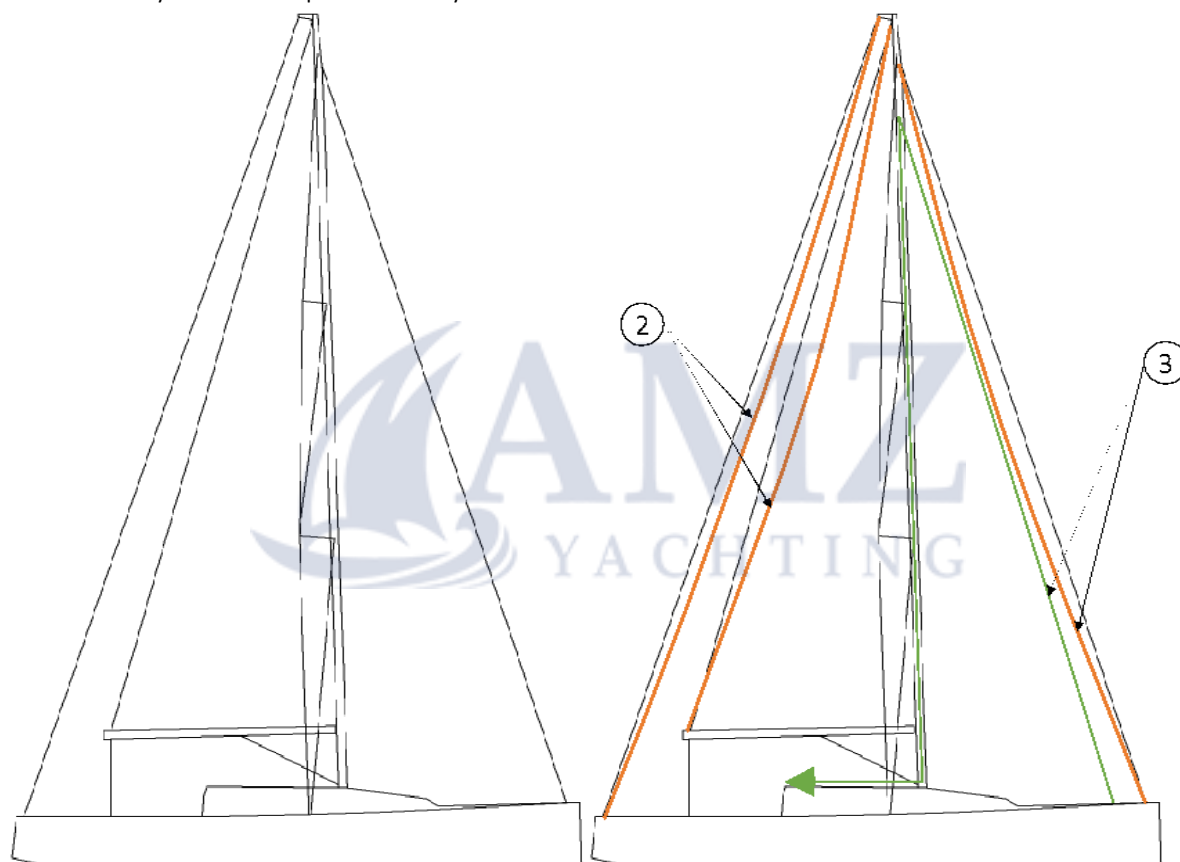
Simply unthread the existing turnscrow and screw on smarttune². Easily connect the sensor to your phone via the latest smartphone app or to marine electronics via optional smarttune² Gateway for immediate load data.



Installation

smarttune + 	2x 		Tef-Gel Duralac Or similar	
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1. If installing smarttune² with a gateway, follow 'Gateway install guide' before installing smarttune².
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 turncrew studs.
5. Measure a reference stay length using ruler or verniers. e.g. distance between stud ends inside the turncrew.
6. Use rope to secure stay to a hardpoint.
7. Unscrew existing turncrew using the spanners. Ensure that stay is secure before completely disconnecting turncrew. Once the turncrew is free from the upper and the lower threads stay will hang.
8. Apply anti-corrosion paste to threads.
9. Locate smarttune² turncrew and correctly orientate to chain-plate. The model/serial numbers should be the right way up when correctly oriented.
10. Looking down, rotate smarttune² anti-clockwise onto stay stud. Take 3 complete turns onto stud.
11. Offer smarttune² turncrew up to chainplate stud and continue winding anti-clockwise to thread. Use one spanner to hold stay stud still, and the other to rotate turncrew.
12. Thread turncrew 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

Strap a Cyclops charging pad around the fitting, with the charging face up against the face on the fitting with the Cyclops logo (¼" and 5/16"), or wireless charging symbol (1") engraved. Power the charger from a USB port and the charger light will be solid Blue to indicate charging. Ensure that the smarttune² is powered on when charging, or else charging indication will not be visible. The LED on the sensor will flash slow red to indicate charging. The sensor is >90% charged when the LED turns green.

smartpower button

smarttune² 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.

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.

Safety

Please read all instructions before using smarttune² 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 smarttune² 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.

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 the smarttune² 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 smarttune² is designed to work in tension only, with the load applied by studs threaded into the turnscrew.

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 (1/4" and 5/16")
	Lithium Polymer, 1.1Wh (1")

Thread	Dimensions (mm)	Mass (g)	Calibrated load (tonnes)	Accuracy range* (kg)
1/4"	112x55x18	180	0.5	±5
5/16"	112x55x18	180	0.75	±10
7/16"	165x61x26	390	1.9	±19
1/2"	165x61x26	390	2.5	±24
5/8"	230x65x31	620	3.8	±27
3/4"	275x74x40	1500	5.0	±50
7/8"	320x56x38	1530	8.0	±80
1"	400x58x40	1900	12.0	±120

*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:

