Coastline Technology

Horizontal Windlass Chain Count Sensor

Installation Instructions

Many horizontal windlasses are not equipped for chain counting as standard, so they need some (relatively simple) modification.

Coastline Technology has developed a very robust chain count sensor system that can be installed with a new or existing horizontal windlass.

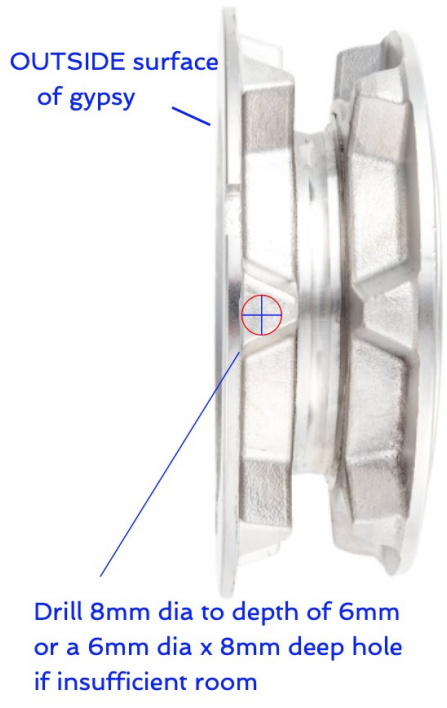
Installation is very straightforward and involves drilling a small hole for a magnet in one tooth of the gypsy, and drilling a 12mm hole in the deck.

The height of the sensor is adjusted using the supplied nuts and washers above and below the deck, to bring the sensor in close proximity to the magnet in the gypsy.

The kit includes the 120mm M12 stainless steel bolt, nuts and washers, the sensor itself with a cable gland for attaching it to the bolt, a waterproof junction box for connecting to the windlass controller, a rubber sleeve and a selection of magnets.

Coastline Technology supplies a comprehensive range of marine radio remote controls including a Windlass Radio Remote Control with Chain Counter.

Example Installation (Lofrans Kobra)



Modifications to the gypsy

Drill a hole, typically 8mm in diameter and 6mm deep, in the gypsy to take a magnet. Position the hole in one of the outer 'V' shaped teeth of the gypsy. The hole should be drilled deep enough so the magnet is fully recessed and ideally about 1-2mm below the surface. Hold in place with Araldite or a marine sealant/adhesive and cover the top of the magnet to prevent corrosion.

We supply the Lewmar Magnet and Sensor Kit (66000615), which comprises a 6mm diameter reed sensor (2.4m connecting cable) with an 8mm diameter x 4mm button magnet (typical 15mm sensing distance)

We also include the following alternative button magnets that can be used if a greater sensing range or smaller diameter is required:

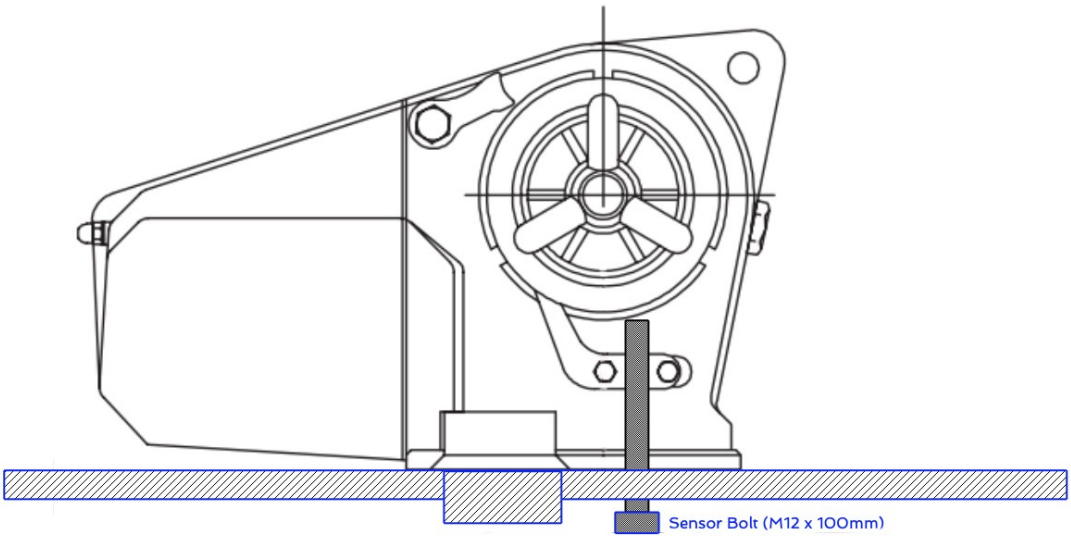
8mm diameter x 5mm (typical 20mm sensing distance)
6mm diameter x 6mm (typical 15mm sensing distance)
5mm diameter x 5mm (typical 10mm sensing distance)

Drilling the gypsy can be done in situ, but it is much better and easier to remove the gypsy and use a workshop pillar drill. We recommend that a 4mm pilot hole be drilled first.

If there is insufficient space in the 'V' for the 8mm diameter magnet, we recommend drilling a 6mm diameter hole instead.

Installing the Sensor Bolt

The other modification needed is to drill an M12 hole in the deck close to where the chain enters the chain locker.



Looking sideways on, the chain leaves the locker and couples with the gypsy at the 9 o'clock position and leaves at 12 o'clock. The idea is to locate the sensor bolt as close to the 6 o'clock position as possible and in line with the magnet. Anywhere between 4 o'clock and 6 o'clock is fine.

Please allow room for the 25mm diameter washers fitted above and below deck. We recommend drilling a 4mm pilot hole first.

Measuring for required bolt length

The chain sensor comprises a 120mm M12 A4 Stainless bolt drilled out to take the sensor itself. This is long enough for the very great majority of installations.

Two sets of nuts and washers are supplied that go either side of the hole in the deck. This enables the height of the sensor to be easily adjusted to bring it close to the magnet. If necessary, the length of the M12 bolt can also be reduced.

Once the M12 bolt has been installed, the reed sensor itself is inserted by pushing it up from the head-end of the bolt. A cable gland is provided to hold the cable and sensor at the correct height just below the end of the bolt.

A waterproof in line connector is provided to connect the wires from the sensor to the two white wires from the Receiver.

Testing the Sensor
Once the Receiver has been installed and the white wires connected to the reed sensor (via the inline connector) the red 'Chain Sensor' LED on the Receiver will light up whenever the sensor detects the magnet.

Alternatively, the sensor can be tested using a continuity tester that makes a 'beep' when a short circuit is detected and connects this to the wires from the reed sensor.

Release the clutch on the gypsy and manually rotate the gypsy. A 'beep' should be heard every time the magnet passes the sensor.

Once the operation of the sensor has been proven, the end of the bolt can be sealed with marine sealant.

Finally, a length of rubber hose is supplied that will fit over the M12 thread.

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