PTS – xxx
Hook Load Sensor
Installation Manual

hohner

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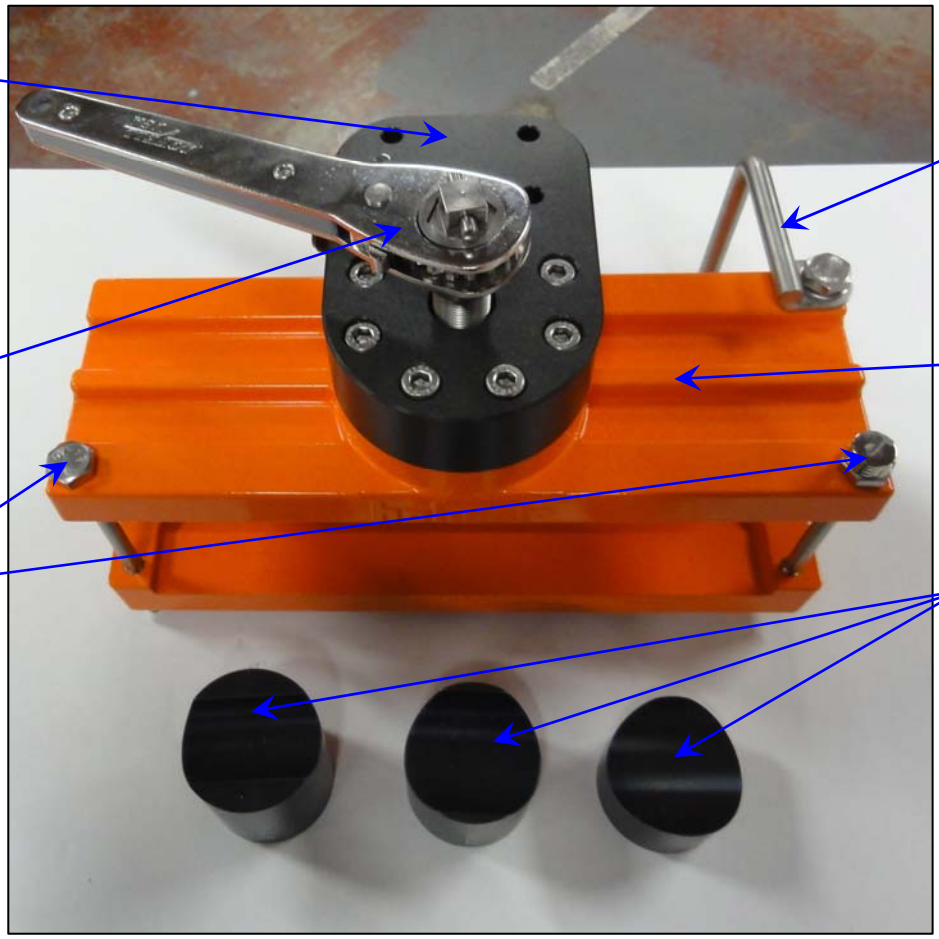
Contents of this Manual

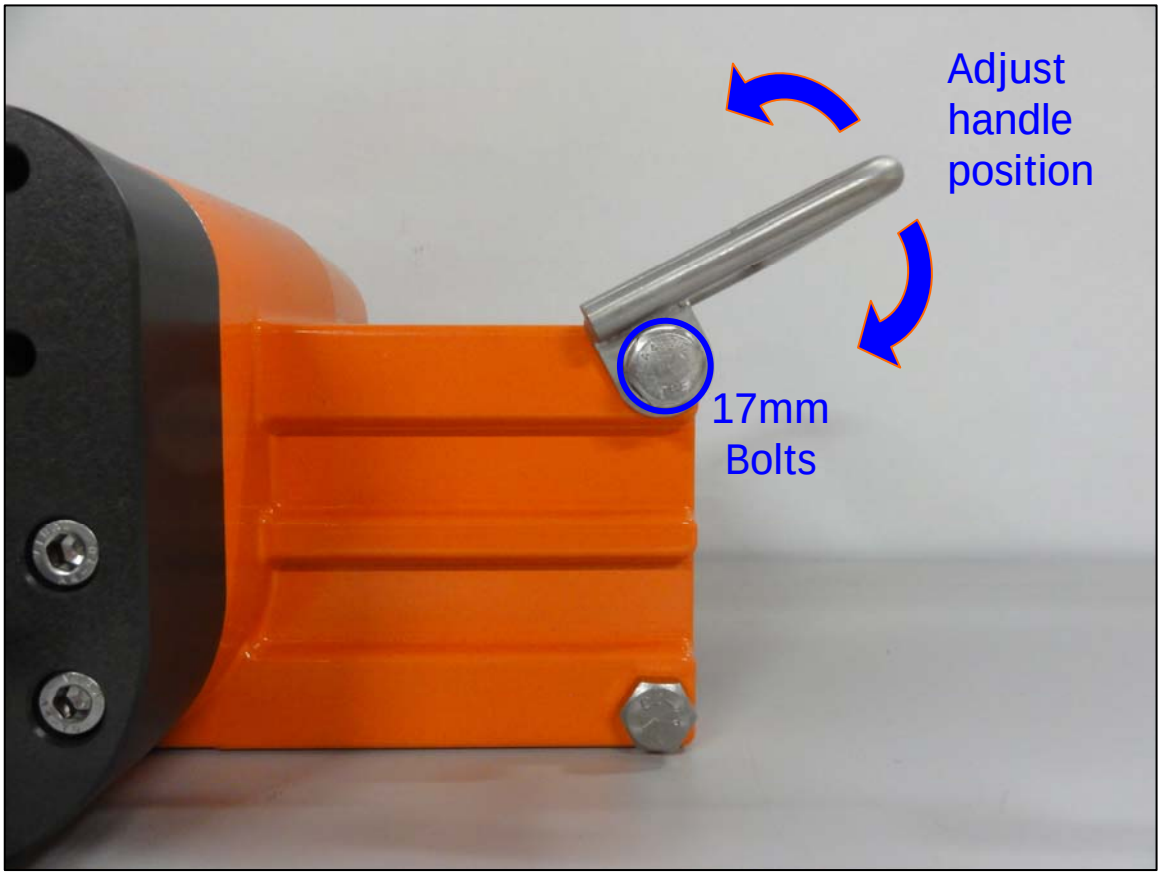
Kit Contents

1 x Hook load Sensor
1 x Squex / Ratchet Assembly
1 x 1.5” Cable Insert
1 x 2” Cable Insert
1 x 2.5” Cable Insert

Overview of Hook Load Sensor



Fixing Handle into Position



Before installing the hookload sensor it is important to lock the handle into position.
Choose an angle for the handle that will be comfortable to hold during installation of the sensor
Once a suitable angle has been found
tighten the two bolts using a 17mm spanner

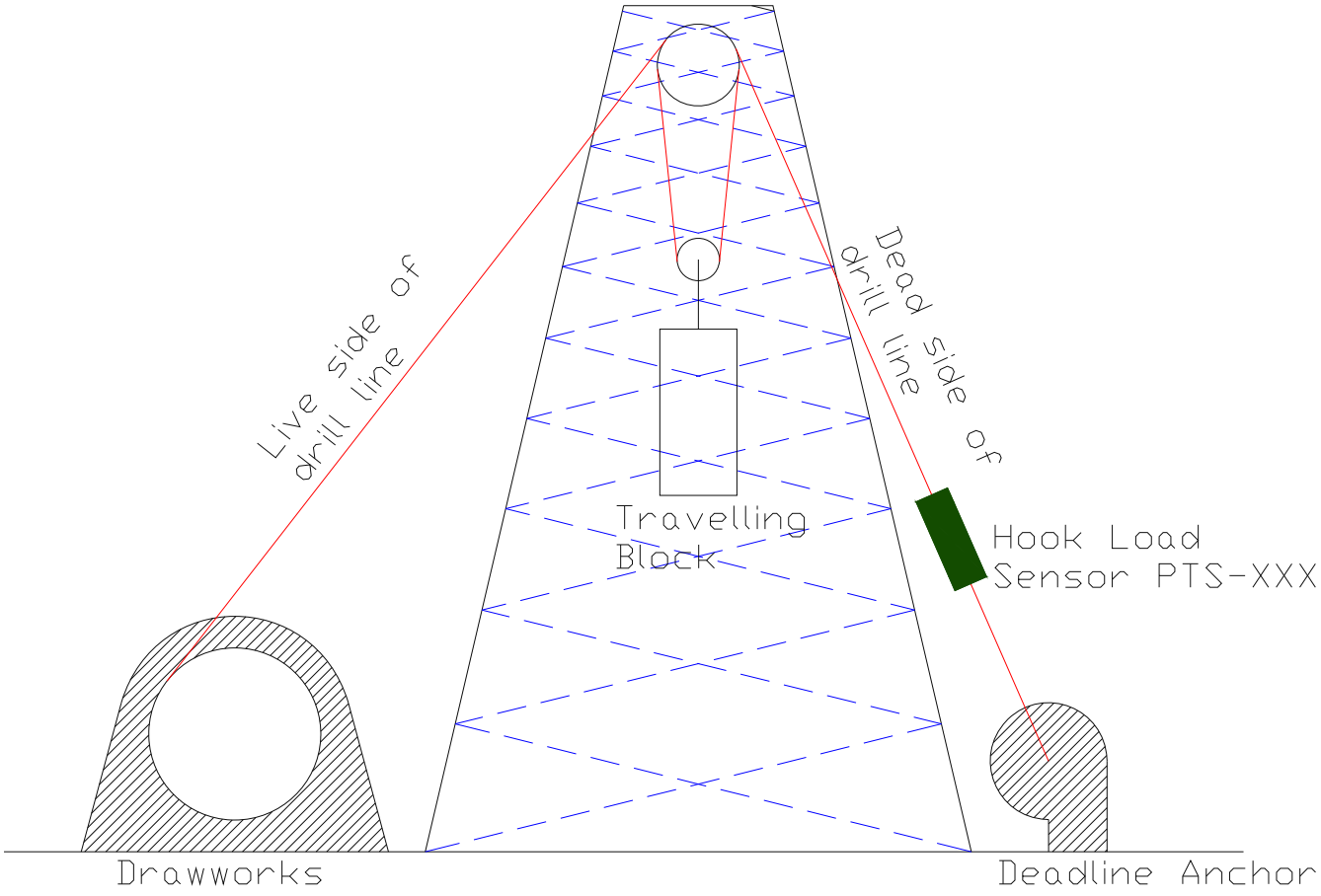
Insert Selection and Fitting

Select one of the three supplied inserts for desired diameter of drill line

- Max diameter of 1.5”
- Max diameter of 2”
- Max diameter of 2.5”

Push the selected insert into the cavity in the centre of the upper wall of the channel
The tip of the ‘squex’ and each insert contain magnets to help hold one to the other
Rotate the ‘squex’ until it mates with the insert; the insert should now be held in place

Fitting Sensor to Line

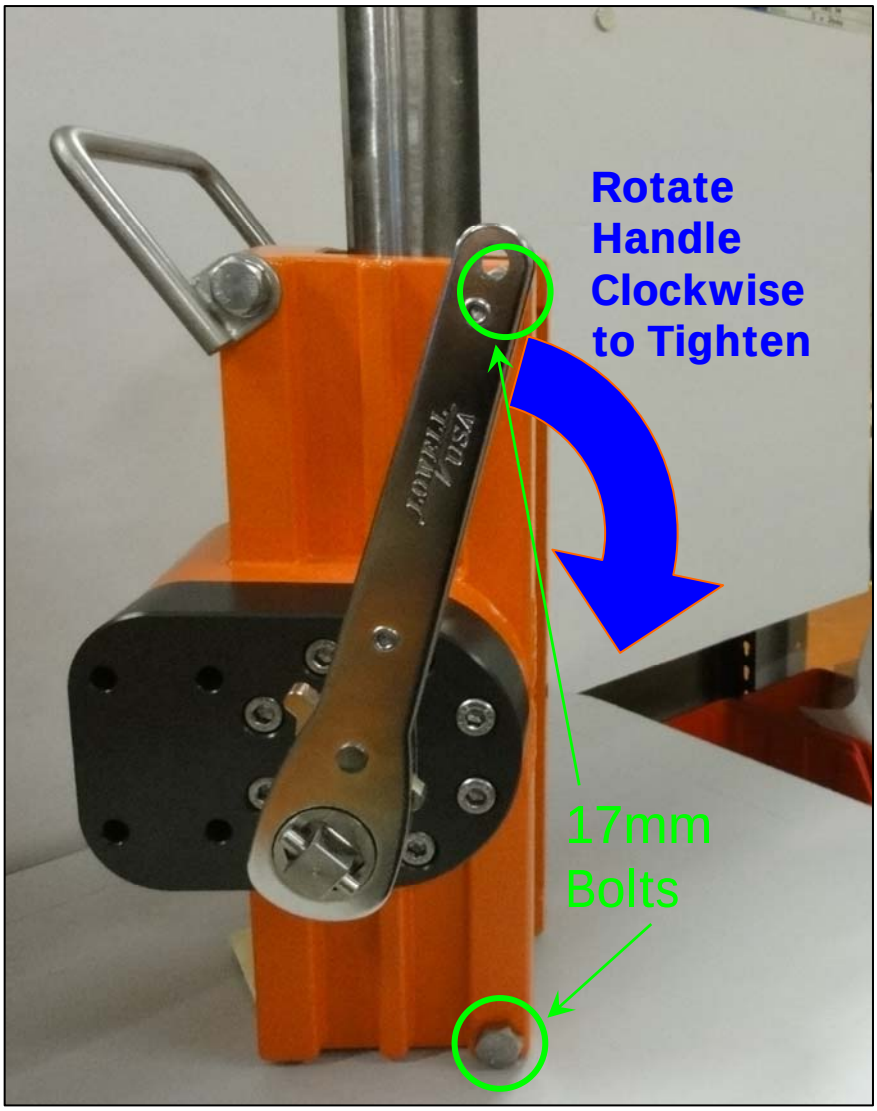


The above diagram is an overview of the positioning of the sensor

****IMPORTANT****

THE SENSOR MUST ALWAYS BE INSTALLED ON THE DEAD SIDE OF THE DRILL LINE

Fitting Sensor to Line



- Position the sensor on the line (Ensuring that the line is in the channels of both the sensor and the insert)
- Tighten the two 17mm security bolts into position.
- Rotate the ‘squex’ ratchet in a clockwise direction to secure the sensor to the line until the line is slightly deformed (bent); the sensor should now be supporting its own weight

***NOTE* do not over tighten at this point as the sensor is not yet calibrated**

Calibrating the Sensor

Overview

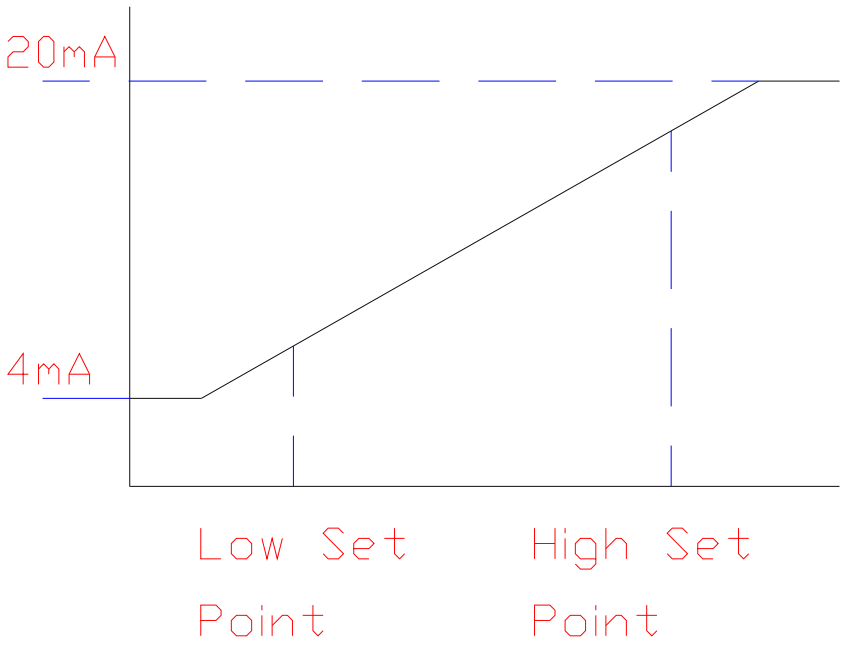
The output of the sensor is a 4..20mA linear scale which is dependant on the calibration points set by the end user.

Two points are required to set a linear scale for ideal operation of the sensor.

The measured output depends on how tight the sensor is attached to the drilling line and thus can be infinitely adjusted for the different spans required.

Once the calibration points have been set; it is ideal to re-calibrate at two day intervals; this is due to the strain in the drill line and temperature variances.

The re-calibration will will simply raise / lower the linear line.



Calibrating the Sensor

There are three methods of calibrating the sensor; these are described below

Method 1 - Calibration using two known weights

• Ensure that only the travelling block is attached to the drill line; nothing else is to be attached at this point in time.

• attach the sensor to the dead line and tighten onto the line until it is secure and supporting its own weight (as previously explained on page 8).

• Setting the zero weight point -The mA reading shown at this point is now the reading for the zero weight point (travelling block only)

• Setting the second point - lift a known weight on the travelling block; The mA reading shown at this point is now the value for the known weight.

The two points are now set; all other values are now linearly derived from these two values.

Method 2 - Calibration using dead line anchor values

• Attach the sensor to the dead line and tighten onto the line until it is secure and supporting its own weight (as previously explained on page 8).

• Compare the mA value to the actual value from the built in deadline anchor value and set this point into your system

• To set another value; add / remove weight from the travelling block and again compare the mA value to the actual value from the built in deadline anchor and set this point into your system

The two points are now set; all other values are now linearly derived from these two values.

Method 3 - Calibration of a Specific Span

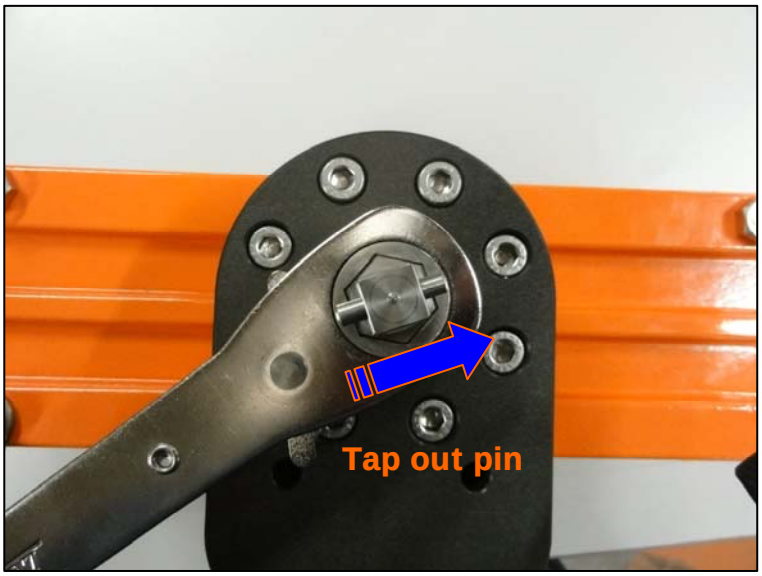
• Ensure that only the travelling block is attached to the drill line; nothing else is to be attached at this point in time.

• Attach the sensor to the dead line and tighten onto the line until it is secure and supporting its own weight (as previously explained on page 8).

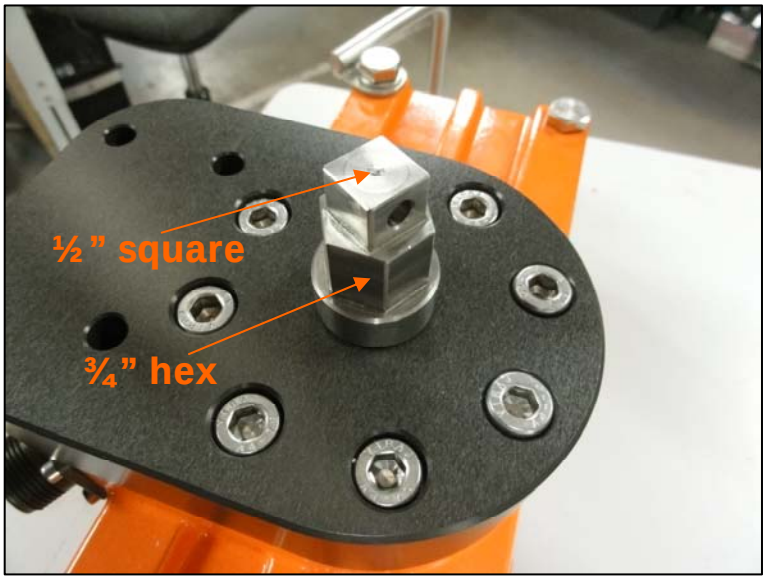
• Lift the amount of weight required for the 20mA reading; once the weight is lifted adjust the ratchet on the sensor until the mA output reaches 19 / 20mA. The maximum weight and 20mA high point are now set.

• Release the weight and observe the mA value with the travelling block only. The zero weight point is now set

Removal of Ratchet from Squex



If the ratchet becomes damaged it can be removed by tapping out the retaining pin



Once the retaining pin has been removed the squex can still be operated By using either a ¾" spanner or a ½" spanner

Certification & Special Conditions

The following instructions apply to the electrical aspects of the Hook Load Sensor covered by the following certificate numbers: Sira 13ATEX2365X and IECEx SIR 13.0148X.

Load Cell Manufacturer: Sensy SA, Belgium.
Type of Protection: Intrinsically Safe.
Markings (ATEX & IECEx): Ex ia IIC T6 Ga
Ex ia IIIC T80°C Da
Ta = -40°C to +60°C

Instructions for safe selection, installation, use, maintenance and repair

The equipment may be used in zones 0, 1, and 2 with flammable gases and vapours.

For Gas the equipment may be used in the presence of flammable gases and vapours with apparatus Groups IIB and IIA and with temperature classes T1, T2, T3 and T4.

For Dust, the equipment may be used in the presence of conductive dusts with apparatus Groups IIIC or IIIB or IIIA, with the enclosure having a maximum surface temperature of 100°C.

The equipment is certified for use in ambient temperatures in the range of -40°C to +60°C and should not be used outside this range.

The equipment is to be installed by suitably trained personnel in accordance with the applicable code of practice (typically IEC EN60079-14).

The electrical parts of the equipment do not require assembly or dismantling.
With regard to safety it is not necessary to check for correct operation.

The equipment is not intended to be repaired by the user. Repair of the equipment is to be carried out by the manufacturer, or their approved agents, in accordance with the applicable code of practice.

Special Conditions

When the apparatus is used in dust atmospheres, connectors, plugs and cable glands used shall have an ingress protection of at least IP6X.

The equipment is not capable of withstanding the 500V dielectric strength requirement in accordance with clause 6.3.13 of IEC 60079-11:2011. This shall be taken into account when installing the equipment.