

INSTALLATION GUIDE

Draw wire mechanics series SX

For further information please see the data sheet at www.waycon.biz/products/draw-wire-sensors

FIRST STEPS

WayCon Positionsmesstechnik GmbH would like to thank you for the trust you have placed in us and our products. This manual will make you familiar with the installation and operation of our draw wire sensors. Please read this manual carefully before initial operation!

Unpacking and checking:

Carefully lift the device out of the box by grabbing the housing. Do not pull the rope. After unpacking the device, check it for any visible damage as a result of rough handling during the shipment. Check the delivery for completeness.

If necessary consult the transportation company, or contact WayCon directly for further assistance.

MOUNTING OF THE SENSOR

Please start by mounting the encoder to the SX draw wire mechanics. A description is given on the following pages.

Next mount the sensor at the designated place, before extracting the rope and before attaching the rope to the measuring target.

Depending on the sensor model it can be installed either by using the boreholes in the mounting plate, or by using the supplied T-slot nuts/clamp brackets. You will find a detailed description of both installation methods in this installation guide.

Open the rope clip after the sensor is fully mounted and carefully extract the measuring rope. Hook the rope clip on the measuring target and close the bracket of the clip. For safety reasons put a screw driver through the clip to extract the rope.

HANDLING THE WIRE ROPE

When installing or operating the sensor, take care not to let the rope snap back by mistake or extract the rope over the specified measurement range, as this might destroy the sensor.

The rope must be extracted from the sensor vertically. The maximum variation from the vertical is 3°. Avoid carefully extracting the rope at an inclination, since the durability of the instrument would shorten considerably. If it is not possible to keep the limit of 3°, a deflection pulley has to be used.

Guide the rope preferably in corners or guarded in channels to prevent pollution or accidental touch.

Avoid guiding the rope over edges or corners. Use a deflection pulley instead.

Do not operate the sensor if the rope is buckled or damaged. A ripping of the rope may lead to injuries or a damaging of the sensor.

ENCODER ASSEMBLY FOR F58NK

SX80, SX120, SX135 (up to 8 m range)

For further information please see the data sheet at www.waycon.biz/products/draw-wire-sensors

MOUNTING AN ENCODER

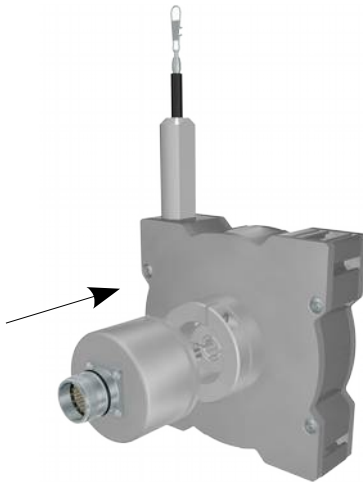
The F58NK draw wire mechanics allows a fast and easy encoder assembly by the customer.

A detailed description of the mounting procedure is shown in the following pictures.

IMPORTANT: All incremental and absolute encoders are suitable that have a clamping flange with 36 mm diameter, a shaft diameter of 10 mm and a shaft length between 10 - 20 mm.

MOUNTING BY CLAMPING FLANGE

1. Start by inserting the encoder into the clamping flange.

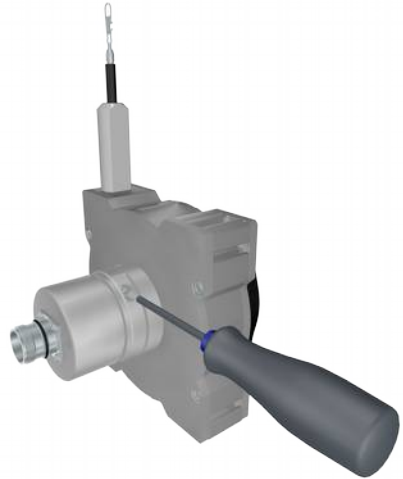


2. The encoder is now connected to the clamping flange.



MOUNTING BY CLAMPING FLANGE

3. By tightening (approx. 2 Nm) the inner radial screw with a hexagon screwdriver, size 2.5 the encoder shaft will be clamped to the sensor mechanics and is secured from twisting.



4. By tightening (approx. 2 Nm) the outer radial screw with a hexagon screwdriver, size 2.5 the encoder housing will be clamped to the sensor housing and is secured from twisting. The system is now ready to be mounted at the designated place.

ENCODER ASSEMBLY FOR F58K

SX135 (10 m range or greater)

For further information please see the data sheet at www.waycon.biz/products/draw-wire-sensors

MOUNTING AN ENCODER

The SX135 with measurement ranges 10 m or greater is available in a version (F58K) prepared for an encoder assembly by the customer.

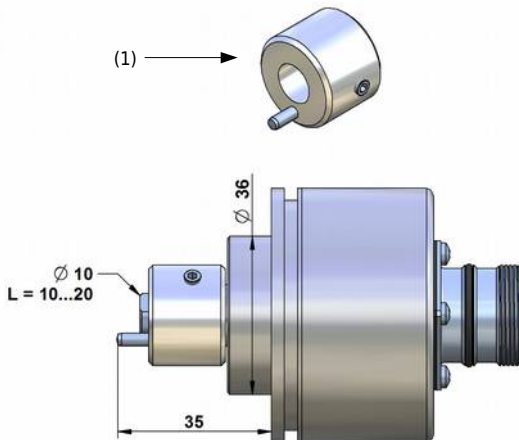
You will find a detailed 3 step description of this EASY-Clamp-Mechanism in the next section.

IMPORTANT: All incremental and absolute encoders are suitable that have a clamping flange with 36 mm diameter, a shaft diameter of 10 mm and a shaft length between 10 - 20 mm.

USING THE EASY-CLAMP-MECHANISM

1.

Start by sliding the included coupling (1) onto the shaft of the encoder and fix the set screw (1.0 Nm) with a hexagon screwdriver, size 2. Please pay attention that the dimension between contact surface of the encoder and the end of the cylinder bolt is 35 mm.

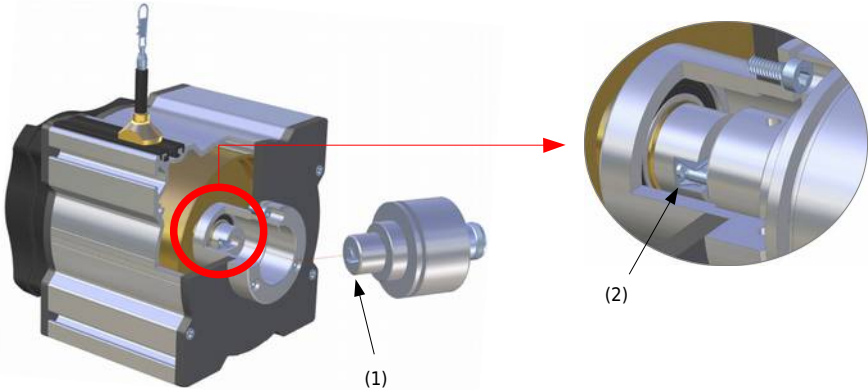




USING THE EASY-CLAMP-MECHANISM

2.

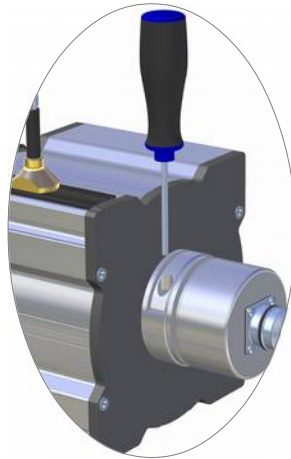
The next step is to mount the encoder into the easy-clamp-flange. The cylinder bolt (1) of the coupling must slip into the spring (2).



3.

By tightening (1.5 Nm) the radial screw the encoder will be clamped and secured from twisting. Use a hexagon screwdriver, size 3.

The system is now ready to be mounted at the designated place.



MOUNTING THE SENSOR

Draw wire sensors Series SX80, SX120

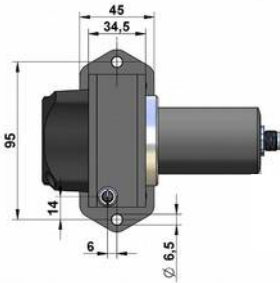
For further information please see the data sheet at www.waycon.biz/products/draw-wire-sensors

SX80

Mounting: standard rope outlet, rope outlet sideways top (S1)

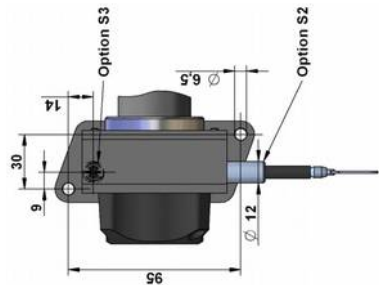
The sensor is usually installed by using the regular mounting plate.

By disassembling the mounting plate, there are 2 x M4 threads in the sensor housing for alternative installation.



Mounting: rope outlet sideways bottom (S2), rope outlet bottom (S3)

Sensors with option rope outlet S2 and S3 have a modified base plate:



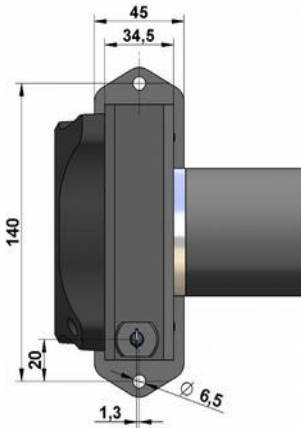


SX120

Mounting: standard rope outlet, rope outlet sideways top (S1)

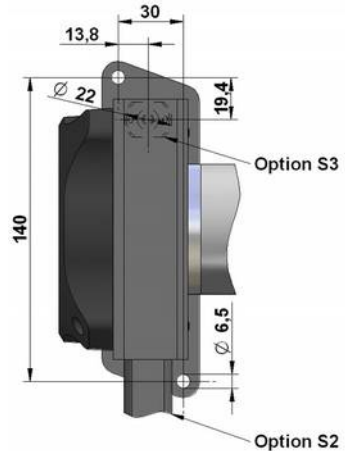
The sensor is usually installed by using the regular mounting plate.

By disassembling the mounting plate, there are 2 x M4 threads in the sensor housing for alternative installation.



Mounting: rope outlet sideways bottom (S2), rope outlet bottom (S3)

Sensors with option rope outlet S2 and S3 have a modified base plate:



MOUNTING THE SENSOR

Draw wire sensors series SX135

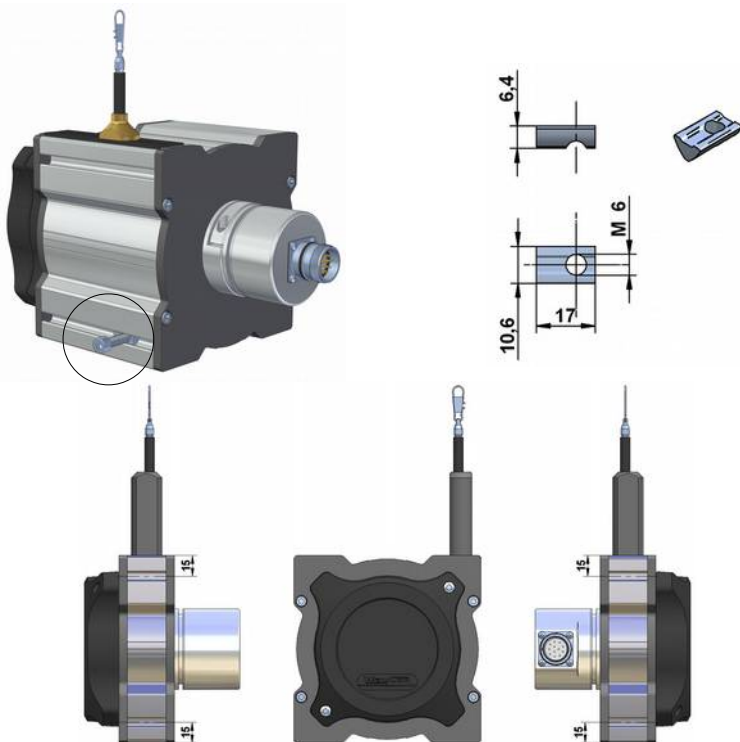
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USING THE T-SLOT NUTS

1. by using the grooves in the sensor housing

The included T-slot nuts can be easily inserted into the grooves of the sensor housing. The nuts have a metric thread M6.

Each sensor up to 20 m measurement range comes with 2 nuts. From ranges 20 to 42.5 m four nuts are included.



Important:

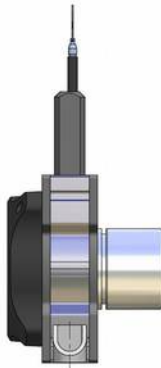
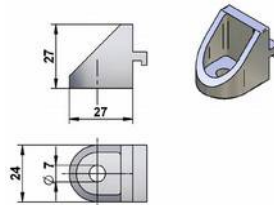
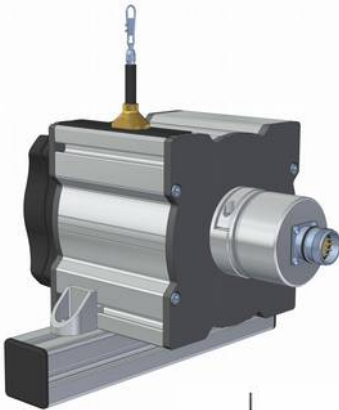
The grooves of the sensor housing, the nuts and brackets are compatible to the aluminium building kit system from *item Industrietechnik GmbH* (www.item.info).



USING THE CLAMP BRACKETS

2. by angle clamp brackets

The angle clamp brackets feature a bore for M6 screws to fix it on a plate/ slab or a profile. Each sensor up to 20 m measurement range comes with 2 brackets. From ranges 20 to 42.5 m four brackets are included.



Important:

The grooves of the sensor housing, the nuts and brackets are compatible to the aluminium building kit system from *item Industrietechnik GmbH* (www.item.info).

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Draw wire sensors series SX

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HANDLING THE WIRE ROPE



The rope must be extracted from the sensor vertically.



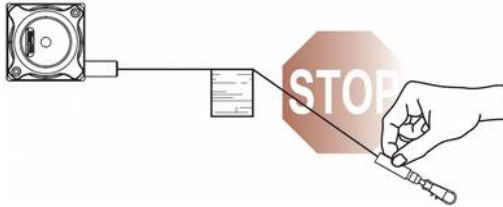
Do not pull on the rope directly. This will buckle the rope. Do not operate the sensor if the rope is buckled or damaged. A ripping of the rope may lead to injuries or a damaging of the sensor.



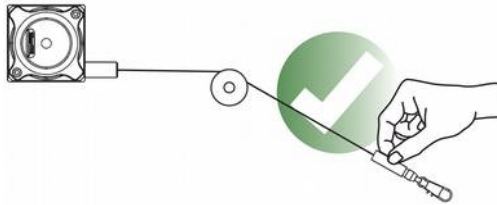
When installing or operating the sensor, take care not to let the rope snap back by mistake or extract the rope over the specified measurement range, as this might destroy the sensor.



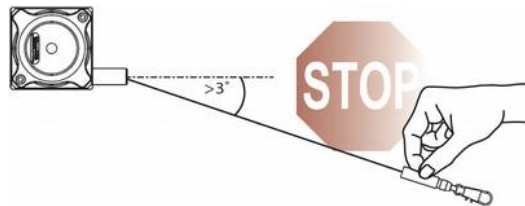
HANDLING THE WIRE ROPE



Avoid guiding the rope over edges or corners.



One, or if needed many deflection pulleys can be used to change the extraction direction.



The maximum variation from the vertical is 3° . Avoid carefully extracting the rope at an inclination, since the durability of the instrument would shorten considerably.
If it is not possible to keep the limit of 3° , a deflection pulley has to be used.



WARNING NOTICES

Do not try to open the device. The stored energy of the spring drive may lead to injuries when being mishandled.

Do not touch the rope when operating the sensor.

When mounting outdoors protect the sensor and the rope from icing at temperatures below 0 °C. The usage of a deflection pulley may help defrosting the wire rope.

When operating the sensor in a humid environment, install the sensor with the rope outlet downwards. Otherwise water will gather inside the housing, which leads to corrosion.

MAINTANANCE

The devices are maintenance-free. If however, the rope is soiled due to adverse environmental conditions, it can be cleaned with a cloth drenched in resin-free machine oil.

DECLARATION OF EC-CONFORMITY

WayCon Positionsmesstechnik GmbH
Mehlbeerenstrasse 4
82024 Taufkirchen / Germany

This is to certify that the products

Classification
Product series

draw wire sensor
SX

fulfill the current request of the following EC-directives:
EMC-directive 2004/108/EU (until April 19th, 2016)
2014/30/EU (from April 20th, 2016)

applied harmonized standards:
EN 61326-1: 2013

The declaration of conformity loses its validity if the product is misused or modified without proper authorisation.

Taufkirchen, 24.02.2016

Andreas Träger
CEO