



INSTALLATION GUIDE

Draw wire sensors series SX50, SX80, SX120

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

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. Where applicable use option S3.

MAINTENANCE

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

Manufacturer WayCon Positionsmesstechnik GmbH
Mehlbeerenstrasse 4
82024 Taufkirchen / Germany

This is to certify that the products

Classification draw wire sensors
Product series SX

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

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

Mount the sensor at the designated place by using the fixing holes before extracting the rope and before attaching the rope to the measuring target.

The sensor is usually installed by using the regular mounting plate. By disassembling the mounting plate, 4 threads (2 x M3, 2 x M5) will become visible in the sensor housing for alternative installation. Sensors with option rope outlet S2 and S3 have a modified base plate.

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.

ELECTRICAL CONNECTION

Draw wire sensors series SX

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

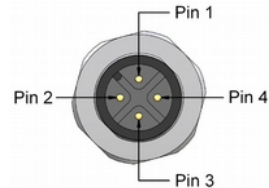
ANALOG OUTPUT

Cable output SX50, SX80, SX120

| Cable colour | 0...10 V | 4...20 mA | 1 kOhm |
|--------------|------------|-----------|--------|
| brown | V + | V + | V + |
| white | Signal | n. c. | Cursor |
| blue | GND | Signal | GND |
| black | GND Signal | n. c. | n. c. |

Connector output SX80, SX120

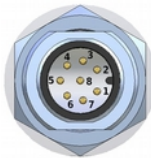
| Pin | 0...10 V | 4...20 mA | 1 kOhm |
|-----|------------|-----------|--------|
| 1 | V + | V + | V + |
| 2 | Signal | n. c. | Cursor |
| 3 | GND | Signal | GND |
| 4 | GND Signal | n. c. | n. c. |



DIGITAL OUTPUT INCREMENTAL

Connector output SX80, SX120

| Signal | 0 V | +V | A | A _{Not} | B | B _{Not} | Z | Z _{Not} |
|--------|-----|----|---|------------------|---|------------------|---|------------------|
| PIN | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |



Connector output, M23 12 poles: SX80, SX120

| Signal | 0 V | +V | 0 V _{sens} * | +V _{sens} * | A | A _{Not} | B | B _{Not} | Z | Z _{Not} |
|--------|-----|----|-----------------------|----------------------|---|------------------|---|------------------|---|------------------|
| PIN | 10 | 12 | 11 | 2 | 5 | 6 | 8 | 1 | 3 | 4 |

* only for Linedriver L.



Cable output (Linedriver L: 10 wires, Push-Pull G: 8 wires): SX50, SX80, SX120

| Signal | 0 V | +V | A | A _{Not} | B | B _{Not} | Z | Z _{Not} | 0 V _{sens} * | +V _{sens} * |
|--------------|-------|-------|-------|------------------|------|------------------|------|------------------|-----------------------|----------------------|
| Cable colour | white | brown | green | yellow | gray | pink | blue | red | black | violet |

* only for Linedriver L

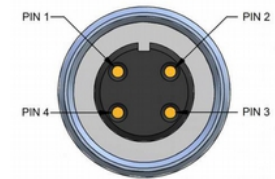


CONNECTION CABLES (ACCESSORIES)

Analog Output

Cable with mating connector M12, 4 pole, shielded

| | |
|---------------|--------------------------------|
| K4P2M-S-M12 | 2 m, straight connector, IP67 |
| K4P5M-S-M12 | 5 m, straight connector, IP67 |
| K4P10M-S-M12 | 10 m, straight connector, IP67 |
| K4P2M-SW-M12 | 2 m, angular connector, IP67 |
| K4P5M-SW-M12 | 5 m, angular connector, IP67 |
| K4P10M-SW-M12 | 10 m, angular connector, IP67 |

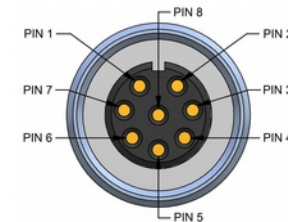


| PIN No. | Colour | PIN No. | Colour |
|---------|--------|---------|--------|
| PIN 1 | brown | PIN 3 | blue |
| PIN 2 | white | PIN 4 | black |

Digital Output Incremental, M12

Cable with mating connector M12, 8 pole, shielded

| | |
|---------------|--------------------------------|
| K8P2M-S-M12 | 2 m, straight connector, IP67 |
| K8P5M-S-M12 | 5 m, straight connector, IP67 |
| K8P10M-S-M12 | 10 m, straight connector, IP67 |
| K8P2M-SW-M12 | 2 m, angular connector, IP67 |
| K8P5M-SW-M12 | 5 m, angular connector, IP67 |
| K8P10M-SW-M12 | 10 m, angular connector, IP67 |



| PIN | Colour | PIN | Colour | PIN | Colour | PIN | Colour |
|-------|--------|-------|--------|-------|--------|-------|--------|
| PIN 1 | white | PIN 3 | green | PIN 5 | grey | PIN 7 | blue |
| PIN 2 | brown | PIN 4 | yellow | PIN 6 | pink | PIN 8 | red |