

INSTALLATION GUIDE

Draw wire sensors series GX200

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.

WARNING NOTICES

- Do not try to open the device. The stored energy of the spring drive may lead to serious 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.

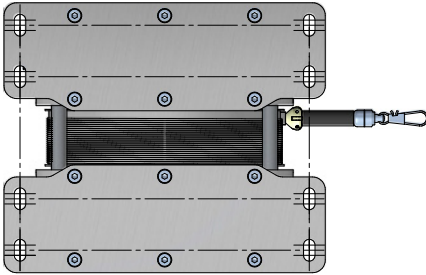
HANDLING THE WIRE ROPE

- 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 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.

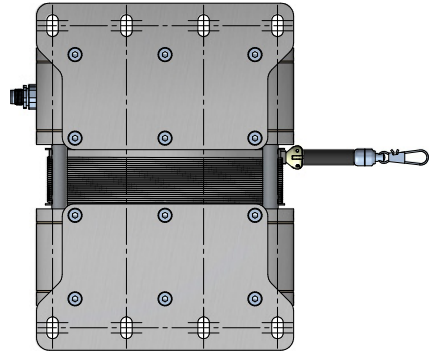
MOUNTING OF THE SENSOR

- 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 GX200 can be fixed by using the 12 x M6 threaded holes (max. depth 12 mm). These holes are located on all 4 sides of the sensor housing.
- Alternatively, the GX200 can be mounted using the GX200-BP1 or GX200-BP2 base plates available as accessories. The base plates must be fitted to the threaded holes using the 12 x M6 cylinder head screws supplied (torque approx. 9 Nm). The sensor is then attached via the base plates using 8 x M8 cylinder head screws and 8 x washers (torque approx. 20 Nm).

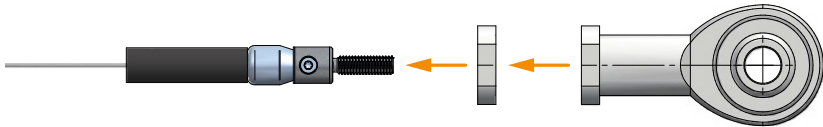
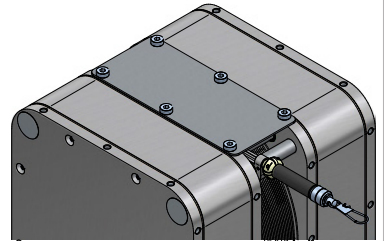
GX200-BP1



GX200-BP2



- After mounting the sensor, carefully extract the measuring rope and attach it to the measuring target. Do not let the rope go while extracting it from the sensor and pay attention not to bend or buckle the rope during the procedure.
- To mount the GX200-PC1 protection plate, use the inner mounting holes and the 6 included M6 cylinder screws (torque approx. 9 Nm). Please note that the protection plate and base plates cannot be mounted on the same side.
- When using the ball joint GX200-GK6, first fit the supplied lock nut. Then fit the ball joint and use the nut to lock it.



ELECTRICAL CONNECTION ANALOG OUTPUTS

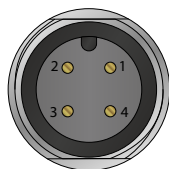
Single output signal

Cable output	Connector output	Potentiometer output	Voltage output	Current output	Connection cable K4P...
BN	Pin 1	+V	+V	+V	BN
WH	Pin 2	Cursor	Signal	n. c.	WH
BU	Pin 3	GND	GND	Signal	BU
SW	Pin 4	n. c.	GND _{Signal}	n. c.	SW

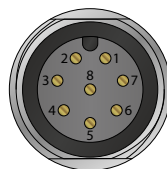
Redundant output signal

Cable output	Connector output	Potentiometer output	Voltage output	Current output	Connection cable K8P...
WH	Pin 1	+V ₁	+V ₁	+V ₁	WH
BN	Pin 2	Cursor ₁	Signal ₁	n. c.	BN
GN	Pin 3	GND ₁	GND ₁	Signal ₁	GN
YE	Pin 4	n. c.	GND _{Signal,1}	n. c.	YE
GY	Pin 5	+V ₂	+V ₂	+V ₂	GY
PK	Pin 6	Cursor ₂	Signal ₂	n. c.	PK
BU	Pin 7	GND ₂	GND ₂	Signal ₂	BU
RD	Pin 8	n. c.	GND _{Signal,2}	n. c.	RD

Connector output,
M12, male



Connector output,
M12, male



Cable specifications

	cable, 4 poles	cable, 8 poles
Cable type	TPE, flexible	
Cable diameter	Ø 4.5 mm	Ø 6.6 mm
Wire	0.14 mm ²	0.25 mm ²
Temperature	fixed installation: -30...+85 °C, flexible installation: -20...+85 °C	

DIGITAL OUTPUT CAN_{OPEN}

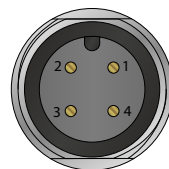
Information on the CANopen digital output and the corresponding pin assignment can be found in the [manual](http://www.waycon.biz/downloads) at www.waycon.biz/downloads.

ELECTRICAL CONNECTION VELOCITY AND INCLINATION

Velocity or inclination output

Cable output	Connector output	Velocity	Inclination	Connection cable K4P...
BN	Pin 1	n. c.	+V	BN
WH	Pin 2	Signal	Signal CW	WH
BU	Pin 3	n. c.	GND	BU
SW	Pin 4	GND _{Signal}	Signal CCW	SW

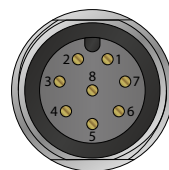
Connector output, M12, male



Velocity and inclination output

Cable output	Connector output	Function	Connection cable K8P...
WH	Pin 1	+V _{Inclination}	WH
BN	Pin 2	Signal CW _{Inclination}	BN
GN	Pin 3	GND _{Inclination}	GN
YE	Pin 4	Signal CCW _{Inclination}	YE
GY	Pin 5	n. c.	GY
PK	Pin 6	Signal _{Velocity}	PK
BU	Pin 7	n. c.	BU
RD	Pin 8	GND _{Velocity}	RD

Connector output, M12, male



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.

DISPOSAL

Please always dispose of defective or irreparable appliances in an environmentally friendly manner and in accordance with the applicable legal provisions and disposal regulations. **Please observe the warnings regarding the spring!** If required, we will be happy to assist you with environmentally friendly disposal.

Caution: Incorrect disposal can cause environmental damage!

Certain components such as electrical waste, electronic components, lubricants and other auxiliary materials must be disposed of as hazardous waste.

Please note that hazardous materials may only be disposed of by authorized specialist companies.

Dismantled components should be disposed of as follows:

Metal components with scrap metal

- Electronic components with electronic waste
- Plastic parts at the recycling centre
- Other components must be sorted and disposed of according to their material properties