DRAW WIRE SENSOR

"High Resolution, Programmable Output, IP67 Protection"

AWP 110 HR

GENERAL FEATURES

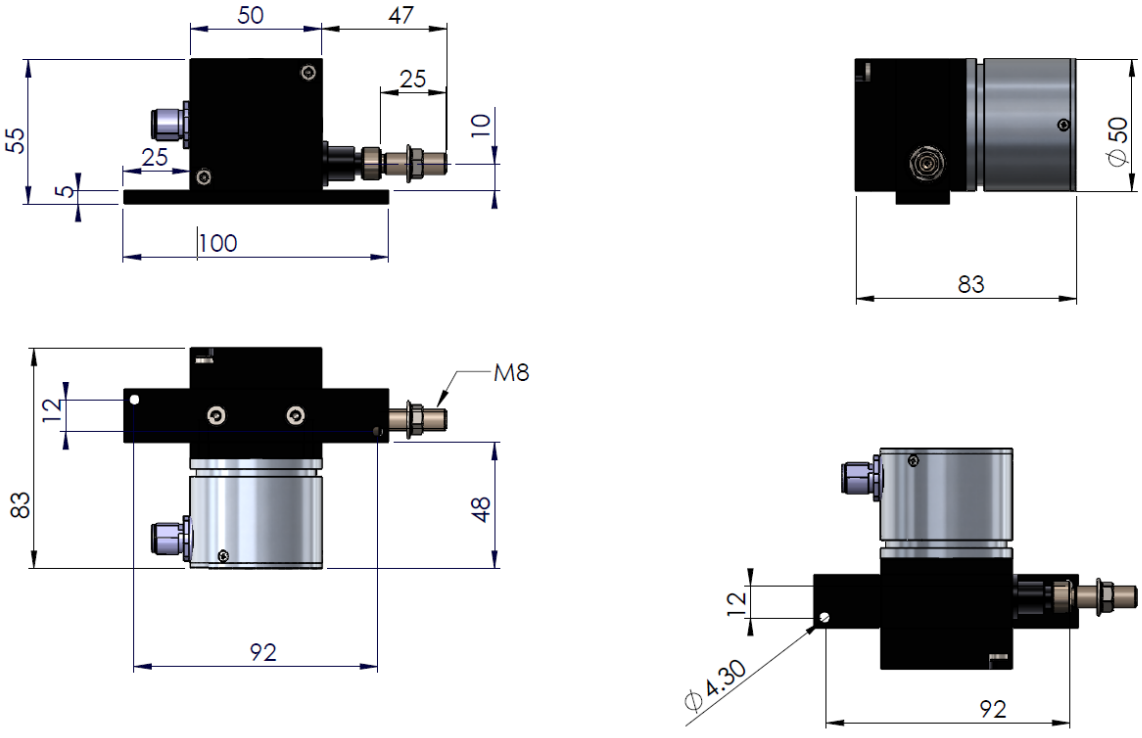
- 400...1200 mm stroke (measuring) length
- High resolution
- ±%0.25 FS linearity
- Analog or CANopen interface
- Thanks to the teachi-in feature, the minimum and maximum measurement limits can be adjusted on the sensor
- IP67 protection class
- 2 m/s maximum speed
- Shock/vibration resistant
- Robust aluminum housing and stainless steel measuring wire
- Compact design

AWP 110 HR series high resolution draw wire sensors work as absolute. They make measurement by pulling and rewinding stainless steel wire. The have 400...1200 mm stroke (measuring) lenth. They converts linear motion to analog or CANopen output. Thanks to its high IP67 protection class, they can work in harsh ambient conditions.

MECHANICAL DATA

Stroke (measuring) Length	400...1200 mm
Required Force	5 N
Max Speed	2 m/s
Linearity	±%0.25 FS
Weight	≈460 gr
Protection Class	IP67
Operating Temperature	-20°C…+85°C
Relative Humudity	%10 …%90
Material	Body: Aluminum
	Measuring Wire: Stainless Steel

MECHANICAL DIMENSIONS (mm)



TECHNICAL DATA

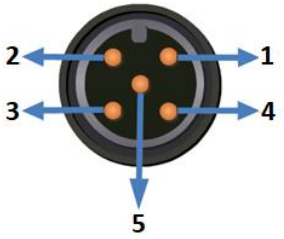
ANALOG VERSION

Electrical Features

Measuring Range	400...1200 mm
Working Principle	Hall Effect
Output Signal	Voltage: 0–10V, 0.5–4.5V, 0–5V Current: 4–20mA
Signal charasteristics	Increasing (exmp: 4–20mA) Decreasing (exmp:20–4 mA)
Supply Voltage	15 …26 VDC
Current Consumption	≤60 mA
Output load	For current output; min 250Ω For voltage output; min 1 KΩ
Resolution	16 bit
Response Frequency	500 Hz
Reverse Polarity Protection	Yes
Short circuit protection	Yes (only supply)
Electrical Connection	M12 / 5 pin male connector

Electrical Connection

Signal	Cable	M12 5 Pin Male Connector
V+(15…26 VDC)	Red	Pin 1
Analog output signal	Yellow	Pin 2
GND	Black	Pin 3
N/C	Green	Pin 4
N/C	Pink	Pin 5



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Model

AWP 110HR - **XXXX** - **XXXX** - **XX**

Stroke (Measuring) Length

Different stroke lengths from 400 to 1200 mm

Electrical Connection

S13M: M12 5 pin male connector

Analog Output Signal

V	: 0–10VDC
V1	: 0–5VDC
A	: 4–20mA
V3	: 0.5–4.5VDC
NV	: 10–0VDC
NV1	: 5–0VDC
NA	: 20–4mA
NV3	: 4.5–0.5VDC

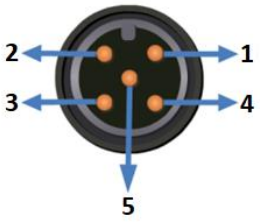
ANALOG VERSION, PROGRAMMABLE

Electrical Features

Measuring Range	400...1200 mm
Working Principle	Hall Effect
Output Signal	Voltage: 0–10V, 0.5–4.5V, 0–5V (programmable) Current: 4–20mA (programmable)
Signal charasteristics	Increasing (exmp: 4–20mA) Decreasing (exmp:20–4 mA)
Supply Voltage	15 …26 VDC
Current Consumption	≤60 mA
Output load	For current output; min 250Ω For voltage output; min 1 KΩ
Resolution	16 bit
Response Frequency	500 Hz
Reverse Polarity Protection	Yes
Short circuit protection	Yes (only supply)
Electrical Connection	M12 / 5 pin male connector

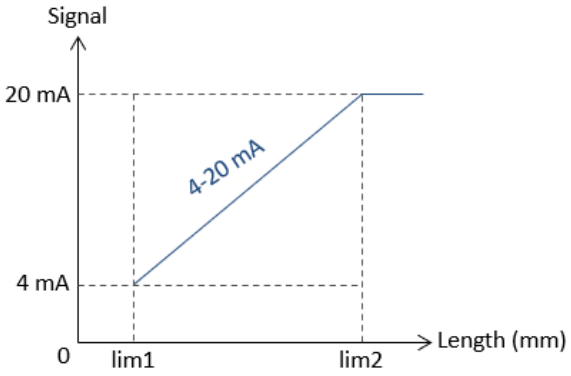
Electrical Connection

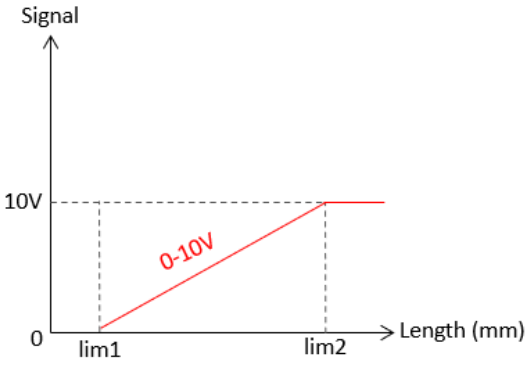
Signal	Cable	M12 5 Pin Male Connector
V+(15…26 VDC)	Red	Pin 1
Analog output signal	Yellow	Pin 2
GND	Black	Pin3
N/C	Green	Pin 4
SPAN/ZERO	Pink	Pin 5



SETTING MEASUREMENT LIMITS: With this feature, you can set the minimum and maximum measurement limits.
In order to determine the **minimum measurement limit (lim1)**, the SPAN/ZERO and GND terminal are short–circuited for at least 3 seconds.
In order to determine the **maximum measurement limit (lim2)**, the SPAN/ZERO and GND terminal are short–circuited for at least 6 seconds.
To **return to the factory settings**, the SPAN/ZERO and GND terminal are short–circuited for at least 10 seconds.

SAMPLE SIGNAL OUTPUT GRAPHICS





Order Code

Model

Electrical Connection
S13M: M12 5 pin male connector

Programming Feature
PL: Programmable

AWP 110HR	-	XXXX	-	XXXX	-	XX	-	XX

Stroke (Measuring) Length
Different stroke lengths
from 400 to 1200 mm

Analog Output Signal

V:	0–10 VDC
V1:	0–5 VDC
A:	4–20 mA
V3:	0.5–4.5 VDC
NV:	10–0 VDC
NV1:	5–0 VDC
NA:	20–4 mA
NV3:	4.5–0.5 VDC

CANopen VERSION

Electrical Features

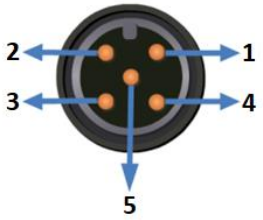
Measuring Range	400...1200 mm
Working Principle	Hall Effect
Supply voltage	12…30 VDC
Current consumption	≤60 mA
Reverse polarity protection	Yes
Short circuit protection	Yes (only supply)
Response frequency	500 Hz
Resolution	6µm
Electrical connection	M12 5 pin male connector

CANopen Features

Communication Profile	CiA 301
Device Type	CANopen, CiA DS406
Node ID	Adjustable from 1 to 127 with LSS or SDO
Baud Rate	10 kBit/s, 20 kBit/s, 50 kBit/s, 100 kBit/s, 125 kBit/s, 250 kBit/s, 500 kBit/s, 800 kBit/s, 1 Mbit/s
PDO Data Rate	100 ms
Error Control	Heartbeat, Emergency Message
PDO	3 Tx PDO
PDO Modes	Event/Time triggered, Synch/Asynch
SDO	1 server
Position Information	Object Dictionary 0x6020
Termination Resistance	Optional 120Ω

Electrical Connection

Signal	Cable	M12 / 5 Pin Male Connector
CAN_SHIELD	CAN SHIELD	Pin 1
V+(12...30VDC)	Red	Pin 2
GND (0V)	Black	Pin 3
CAN_H	Yellow	Pin 4
CAN_L	Green	Pin 5



Order Code

Model

Electrical Connection

S13M: M12 5 pin male connector

AWP 110HR	-	XXXX	-	XXXX	-	X

Stroke (Measuring) Length

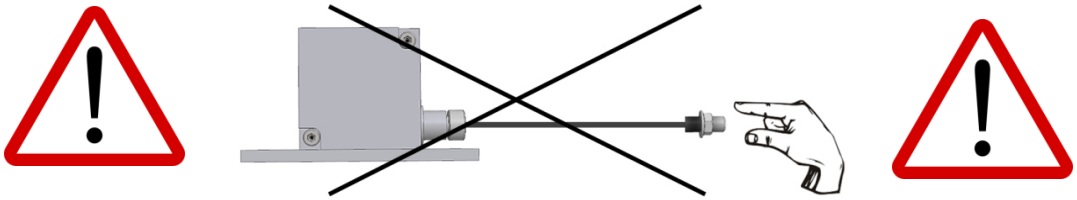
Different stroke lengths from 400 to 1200 mm

Output Signal

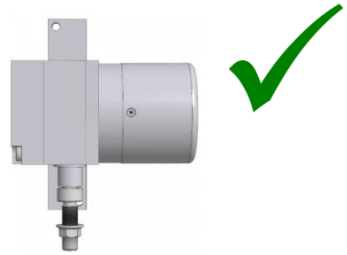
C: CANopen

MOUNTING AND WARNINGS

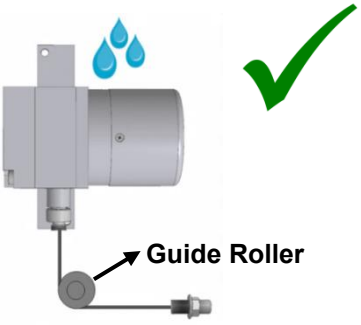
1. Never release the wire after pulling. Otherwise, the coil spring will be damaged.



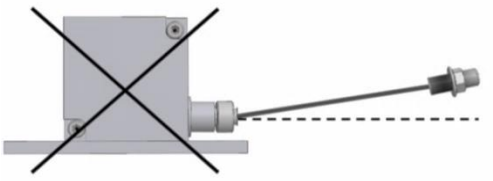
2. Mount the sensor according to the mounting directions shown below.

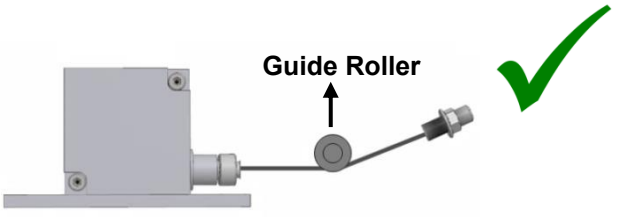


3. If there is a trickle of water (like a rain), the wire outlet must not be a drip of water upstream. If needed please use guide rollers.



4. The wire should not be pulled in angular. If needed, please use guide rollers.





Important Note(!): Failure to comply with these recommendations, the malfunctions that may occur will not be under the warranty.

SAMPLE APPLICATION FIELDS

- Elevators
- Press machines
- Crane systems
- Wood processing machines
- Marble processing machines
- Storage positioning
- Sluice gate control
- Air compressors
- Glass processing machines
- Lifting platforms
- Applications in medical technologies
- Forklifts
- Screw machines
- Paper machines
- Sewing machines
- Hydraulic machines
- Sheet metal machines
- Printing machines
- Horizontal control equipments
- Construction machines
- Industrial robots
- Injection machines
- X–Yaxis displacement
- Various otomation applications