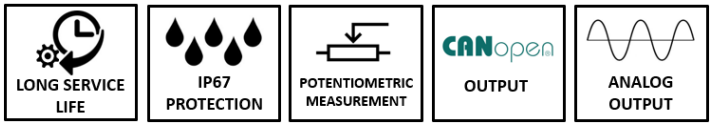
DRAW WIRE SENSOR

"High strength stainless steel wire"

AWP 404

GENERAL FEATURES

- Different stroke (measuring) lengths between 0…1000 mm and 0…4200 mm
- ±0.1% FS linearity
- Potentiometric, 0-10 VDC, 4-20 mA or CANopen output options
- Redundant output option
- IP67 protection class
- Compact design and easy installation
- 2 m/s maximum speed
- Shock/vibration resistant
- Aluminum body



AWP 404 series draw wire sensors; consists of a rotary potentiometer which is controled by stainless steel wire. They make measurement by pulling and rewinding stainless steel wire. They converts linear motion to potentiometric output.
The "A" series gives of 4-20 mA analog output, the "V" series gives of 0-10 VDC analog and the "C" series gives of CANopen signal output with the help of the converter card.
Optionally, redundant output, different cable length or socket model can be requested.

TECHNICAL SPECIFICATIONS

***Stroke (measuring) Length**	Different measuring lengths between 0…1000 mm and 0…4200 mm	***Resistance**	5 KΩ (standard), 10 KΩ
		Measuring Type	Potentiometric
***Supply Voltage**	"A" and "V" models: 12…30 VDC	**Materials**	Housing: Aluminum/plastic
	CANopen output model: 10…30 VDC		Measuring Wire: Stainless steel
	Potentiometric output model: 42V max.	**IP Protection Class**	IP67
***Output Signals**	Potentiometric 0-10 VDC 4-20 mA CANopen (Optionally Redundant Output)	***Electrical Connection**	Analog: 3x0,14 mm^2 shielded cable or M12 socket CANopen: 6x0,34 mm^2 twisted shielded cable or M12 5 pin male socket + M12 5 pin female socket
Linearity	±0.1% FS	**Operating Temp.**	-25°C … +85°C
Maximum Speed	2 m/s	**Relative Humudity**	%95
Required Force	5N	**Weight**	≈1400gr

Note: The technical specifications indicated by (*) vary according to the selected model. The detailed code table is shown on page 4.

CANopen SPECIFICATIONS

Resolution	23 Bit
Communication profile	CiA 301
Device Type	CANopen, CiA DS406
Node ID	Between 1 and 127, it can be adjusted 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	500 ms
Error Control	Heartbeat, Emergency Message
PDO	2 Tx PDO
PDO Modes	Event/Time triggered, Synch/Asynch
SDO	1 server
Position Information	Object Dictionary 6004
Termination Resistance	Optional, specify at the order stage.

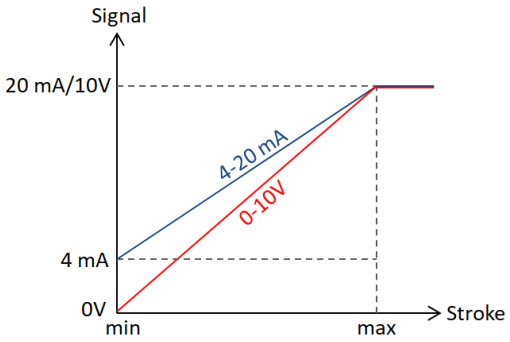
ELECTRICAL CONNECTIONS

Analog

0-10V or POTENTIOMETER Connection		
Signal	**Cable Color**	**M12 5 pin socket**
Earth	Silver	Pin 1
+V	Red	Pin 2
0V	Black	Pin 3
0-10V / Pot	Yellow	Pin 4
-	-	Pin 5

4-20 mA Connection		
Signal	**Cable Color**	**M12 5 pin socket**
Earth	Silver	Pin 1
+V	Red	Pin 2
-	-	Pin 3
4-20 mA	Yellow	Pin 4
-	-	Pin 5

* 1 pcs M12 5 pin male connector is used as standard for single output models
* Redundant models have two outputs. 1 pcs M12 5 pin male and 1 pcs M12 5 pin female sockets are used as standard.
* Different socket models can be requested optionally.

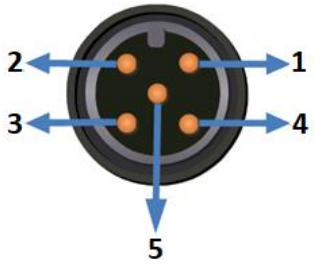


CANopen

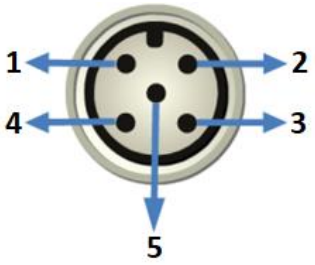
Signal	Cable Color	M12-5 Pin Socket
CAN_SHIELD	Silver (mesh)	Pin 1
+V (10...30 VDC)	Red	Pin 2
GND (0V)	Black	Pin 3
CAN_H	Yellow	Pin 4
CAN_L	Green	Pin 5

* CANopen models have 2 outputs. 1 pcs M12 5 pin male and 1 pcs M12 5 pin female sockets are used as standard.
* Different socket models can be requested optionally.

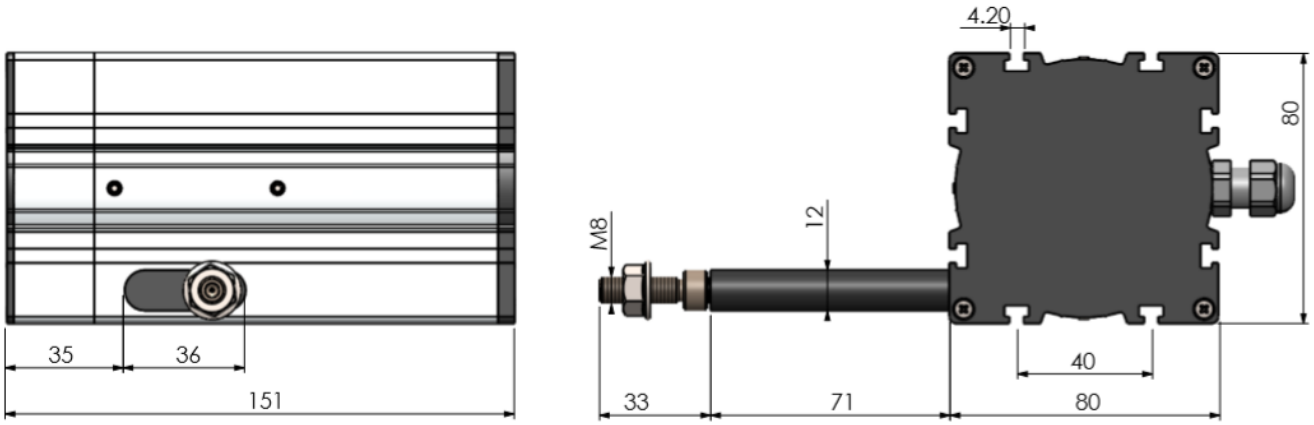
M12 5 Pin Male Socket



M12 5 Pin Female Socket



MECHANICAL DIMENSIONS (mm)



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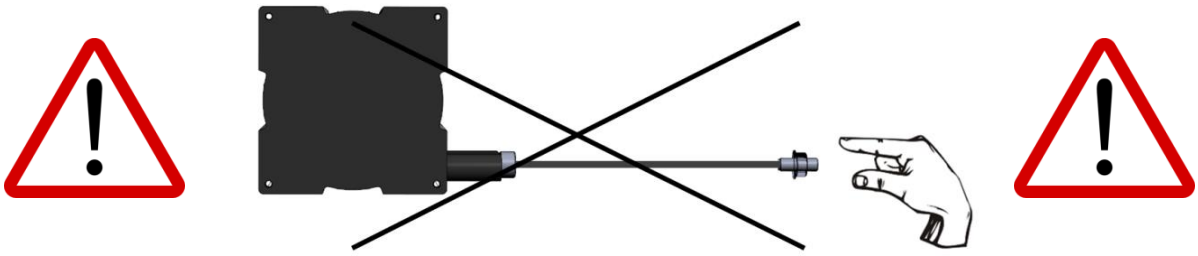
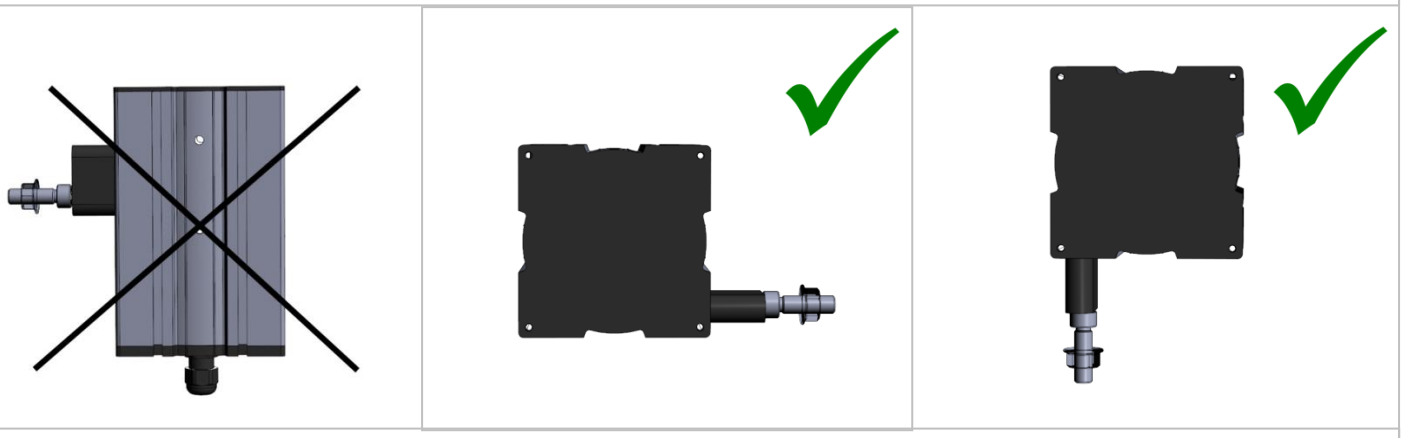
MOUNTING AND WARNINGS

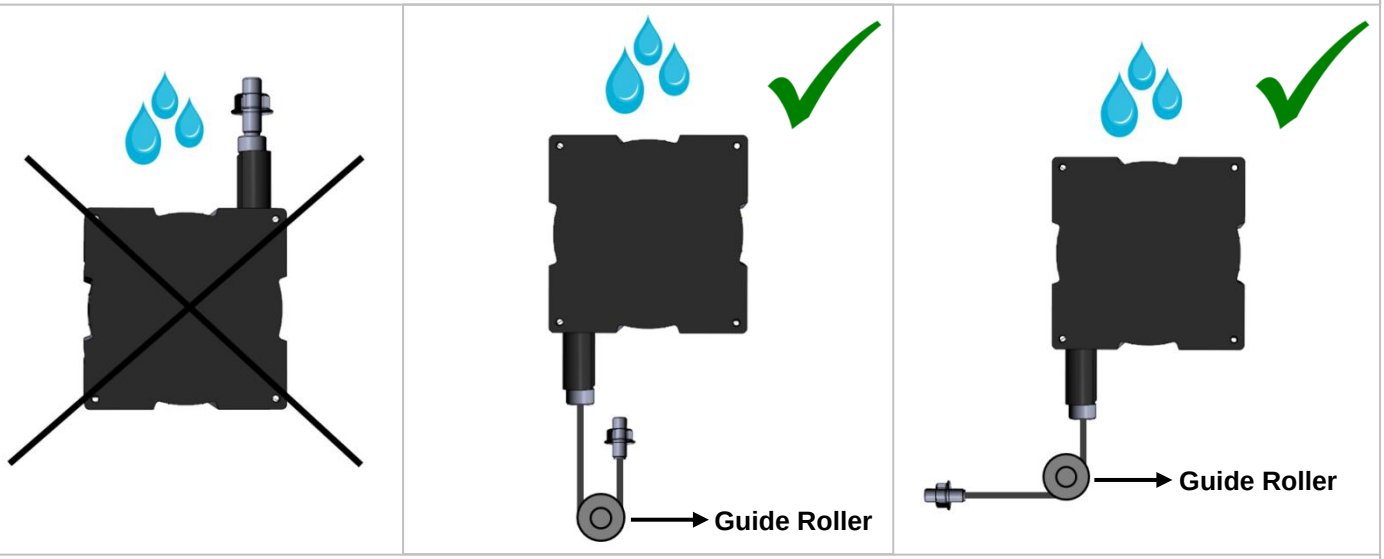
1. Never release the wire after pulling. Otherwise, the coil spring will be damaged.



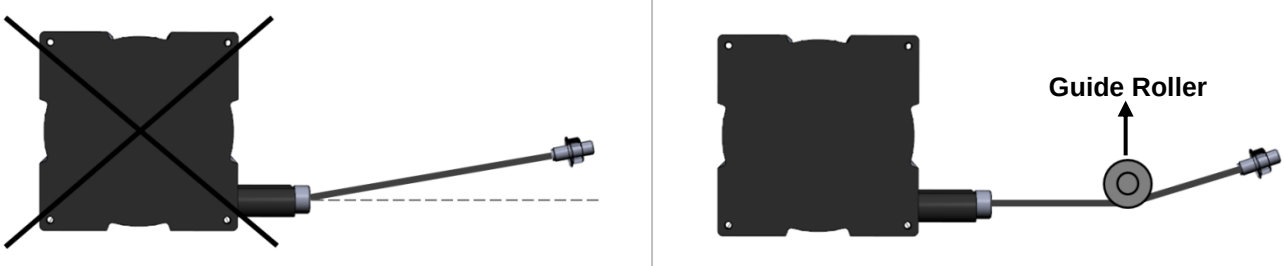
2. Mount the sensor according to the mounting directions shown below.



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
- Dam protections
- Sluice gate control
- Air compressors
- Glass processing machines
- Lifting platforms
- Applications in medical technologies (operating table etc.)
- Forklifts
- Screw machines
- Paper machines
- Sewing machines
- Hydraulic machines
- Sheet metal machines
- Printing machines
- Horizontal control equipments
- Construction machines
- Industrial robots
- Injection machines
- X-Y axis displacement
- Liquid level measurements and position control

PRODUCT CODE

Model

AWP 404 – **XXX** – **XX** – **XX** – **X** – **X** – **XX**

Stroke Length

Different measuring lengths between 0…1000 mm and 0…4200 mm

Resistance (1)

5K: 5 KΩ (standard)
10K: 10 KΩ

Electrical Connection(2)

3M : 3 m cable
5M : 5 m cable
10M : 10 m cable
S13F : M12 5 pin female socket
S13M : M12 5 pin male socket
S13FM: M12 5 pin female + M12 5 pin male socket (available on redundant and CANopen models)

Cable or Socket Direction

B : From backside
S : From side

Output Signals

No Code : Potentiometric
V : 0-10 VDC
A : 4-20 mA
C : CANopen

Output Type

No Code : Single Output
Dual : Redundant Output)

(1) For other resistance options, please contact us.
(2) The product can be requested with cable or socket.
As standard;
For single output models, 1 pcs M12 5 pin male socket (S13M) is used.
For redundant and CANopen output models, 1 pcs M12 5 pin female + 1 pcs M12 5 pin male socket (S13FM) is used.
However, different socket combinations may be requested as in the examples below.
Please contact us for any other socket model other than M12.

Sample 1: AWP 404-4000-5K-**S13M**-S-A-DUAL
AWP 404 series, 4000 mm stroke, 5K resistance, **2 pcs M12 5 pin male socket**, side socket outlet, current output, redundant
Sample 2: AWP 404-4000-5K-**S13FM**-B-C-DUAL
AWP 404 series, 4000 mm stroke, 5K resistance, **1 pcs M12 5 pin female + 1 pcs M12 5 pin male socket**, backside socket outlet, CAN output, redundant
Sample 3: AWP 404-4000-5K-**3M**-S-A-DUAL
AWP 404 series, 4000 mm stroke, 5K resistance, **3 meters cable output**, side cable outlet, current output, redundant

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