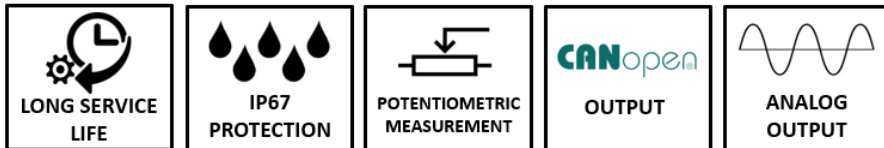


## AWP 404

“High strength stainless steel wire”



- Different stroke (measuring) lengths between 0...1000 mm and 0...4000 mm
- $\pm 0.1\%$  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 controlled by stainless steel wire. They make measurement by pulling and rewinding stainless steel wire. They convert linear motion to potentiometric, analog or CANopen output.

Optionally, redundant output, different cable length or socket model can be requested.

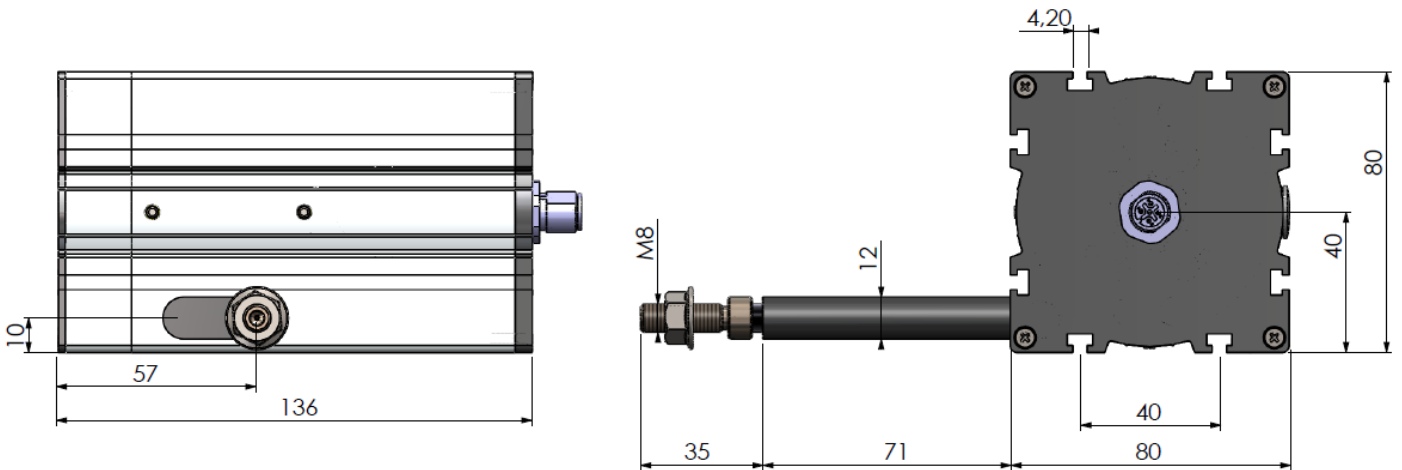
## MECHANICAL DATA

### Mechanical and Environmental Data

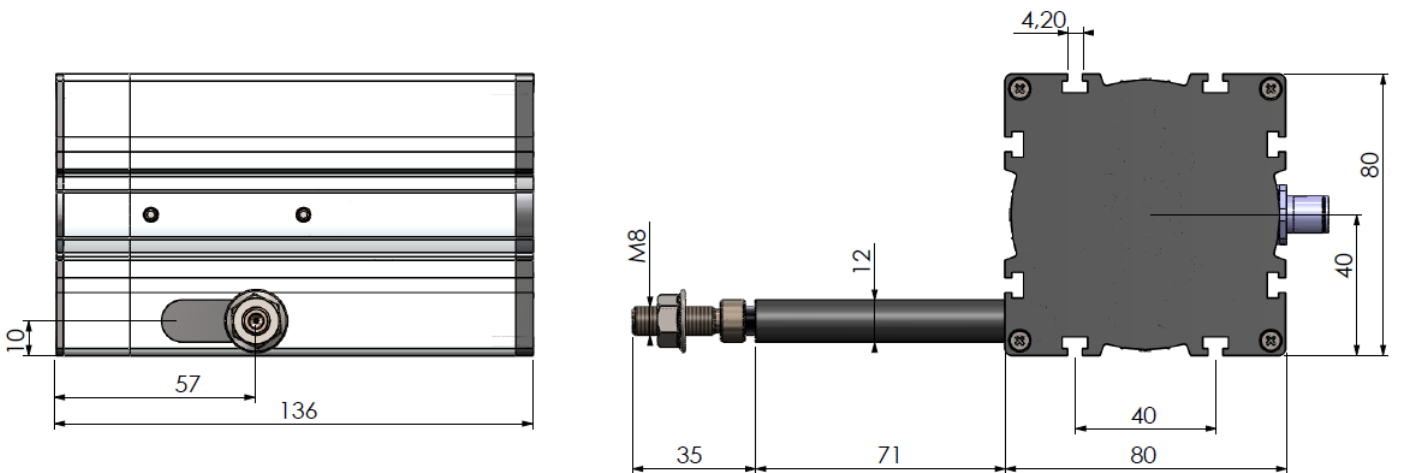
<b>Stroke (measuring) Length</b>	Different measuring lengths between 0...1000 mm and 0...4000 mm	
<b>Linearity</b>	±0.1% FS	
<b>Maximum Speed</b>	2 m/s	
<b>Required Force</b>	5N	
<b>Protection Class</b>	IP67	
<b>Operating Temp.</b>	-25°C ... +85°C	
<b>Relative Humidity</b>	%95	
<b>Materials</b>	Body	Aluminum/plastic
	Measuring Wire	Stainless steel

## MECHANICAL DIMENSIONS (mm)

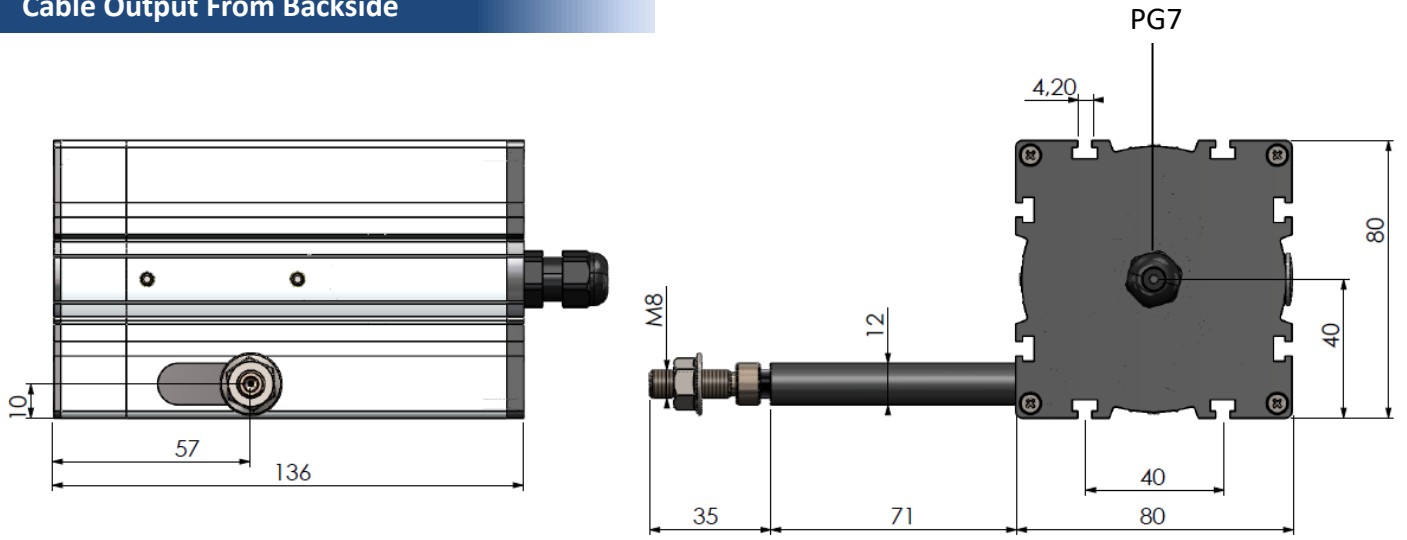
### M12 Connector Output From Backside



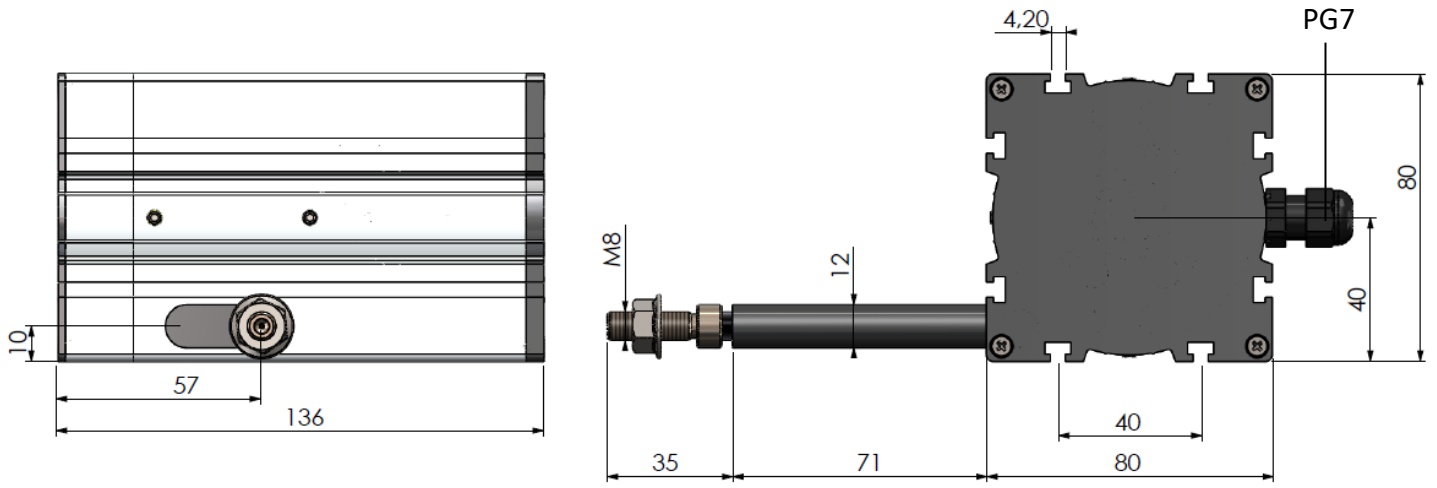
### M12 Connector Output From Side



### Cable Output From Backside

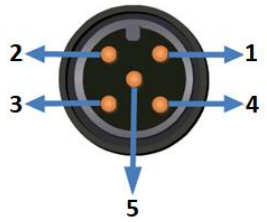


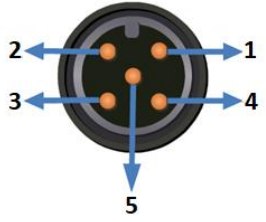
### Cable Output From Side



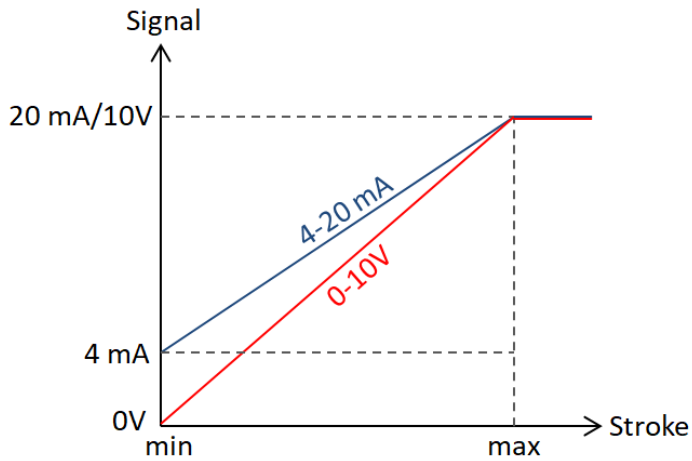
ANALOG OUTPUT

<b>Measuring Type</b>	Potentiometric		
<b>Output Signals</b>	Potentiometric	0 ... 10 V	4 ... 20 mA
<b>Resistance</b>	5 K $\Omega$ (standard), 10 K $\Omega$	-	-
<b>Supply Voltage</b>	42V max.	12...30 VDC	12...30 VDC
<b>Reverse polarity protection</b>	Yes		
<b>Short circuit protection</b>	Yes		
<b>Electrical Connection</b>	3x0,14 mm <sup>2</sup> shielded cable or M12 connector (optional others)		

0-10V or POTENTIOMETER Connection		
Signal	Cable Color	M12 5 pin male connector
		
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 male connector
		
Earth	Silver	Pin 1
+V	Red	Pin 2
-	-	Pin 3
4-20 mA	Yellow	Pin 4
-	-	Pin 5

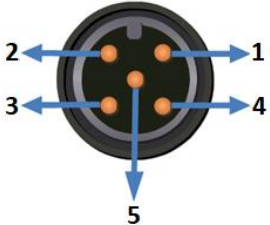
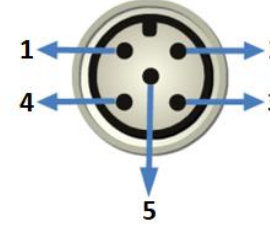
- \* 1 pcs M12 5 pin male connector is used as standard for single output models
- \* Redundant models have two outputs. 1 pcs M12 5 pin male and 1 pcs M12 5 pin female sockets are used as standard.
- \* Different socket models can be requested optionally.



## CANopen OUTPUT

<b>Measuring Type</b>	Potentiometric
<b>Device Type</b>	CANopen, CiA DS406
<b>Communication profile</b>	CiA 301
<b>Node ID</b>	Between 1 and 127, it can be adjusted with LSS or SDO
<b>Baud Rate</b>	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
<b>PDO Data Rate</b>	500 ms
<b>Error Control</b>	Heartbeat, Emergency Message
<b>PDO</b>	2 Tx PDO
<b>PDO Modes</b>	Event/Time triggered, Synch/Asynch
<b>SDO</b>	1 server
<b>Position Information</b>	Object Dictionary 6004
<b>Termination Resistance</b>	Optional, specify at the order stage.
<b>Supply Voltage</b>	10...30 VDC
<b>Reverse polarity protection</b>	Yes
<b>Short circuit protection</b>	Yes
<b>Electrical Connection</b>	6x0,34 mm <sup>2</sup> twisted shielded cable or M12 5 pin male + M12 5 pin female connector

\*Click for CANopen EDS file.

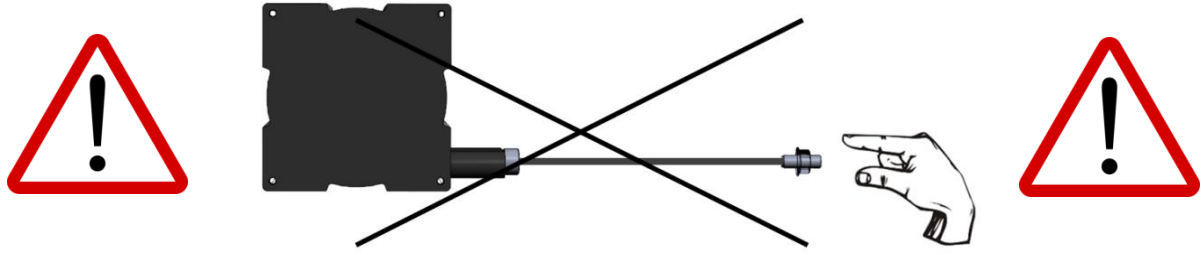
Signal	Cable Color	M12 5 pin male connector	M12 5 pin female connector
			
CAN_SHIELD	Silver (mesh)		Pin 1
+V (10...30 VDC)	Red		Pin 2
GND (0V)	Black		Pin 3
CAN_H	Yellow		Pin 4
CAN_L	Green		Pin 5

\* CANopen models have 2 outputs. 1 pcs M12 5 pin male and 1 pcs M12 5 pin female sockets are used as standard.

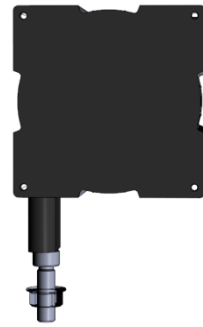
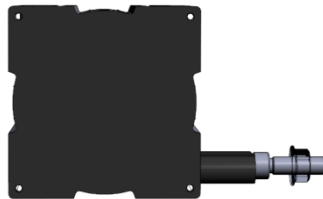
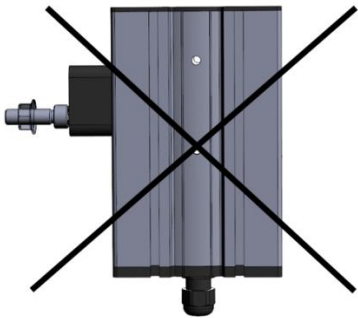
\* Different socket models can be requested optionally.

## MOUNTING AND WARNINGS

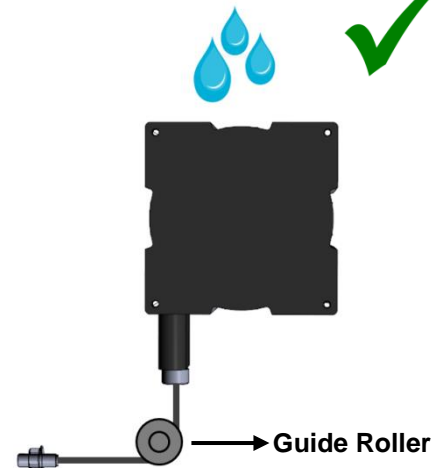
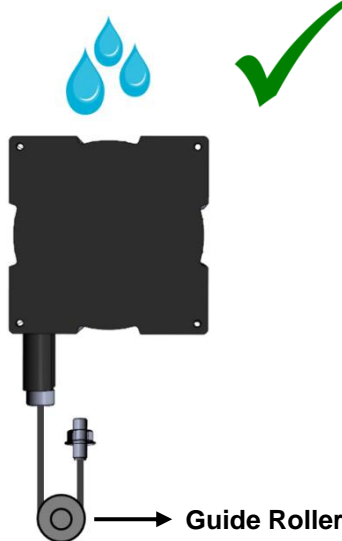
1. Never release the wire after pulling. Otherwise, the coil spring will be damaged.



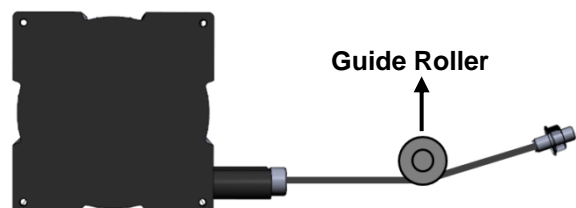
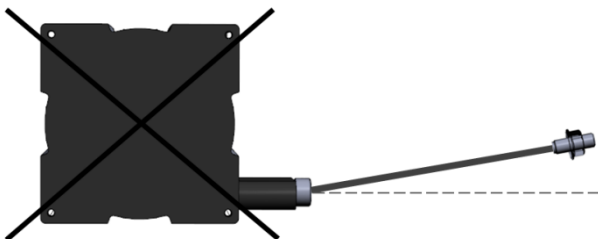
2. Mount the sensor according to the mounting directions shown below.



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.



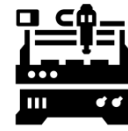
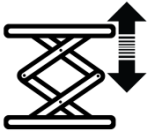
4. The wire should not be pulled in angular. If needed, please use guide rollers.



**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



## ORDER CODE

Model		XXXX		Resistance <sup>(1)</sup> 5K: 5 KΩ (standard) 10K: 10 KΩ		XXX		Cable or Socket Direction B : From backside S : From side		X		Output Type No Code : Single Output Dual : Redundant Output)	XXXX
AWP 404	-	XXXX	-	XXX	-	XXX	-	X	-	X	-	XXXX	
<b>Stroke Length</b>				<b>Electrical Connection<sup>(2)</sup></b>				<b>Output Signals</b>					
Different measuring lengths between 0...1000 mm and 0...4000 mm				<b>3M</b> : 3 m cable <b>5M</b> : 5 m cable <b>10M</b> : 10 m cable <b>S13F</b> : M12 5 pin female conn. <b>S13M</b> : M12 5 pin male conn. <b>S13FM</b> : M12 5 pin female + M12 5 pin male Conn.(available on redundant and CANopen models)				<b>No Code</b> : Potentiometric <b>V</b> : 0-10 VDC <b>A</b> : 4-20 mA <b>C</b> : CANopen					

(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