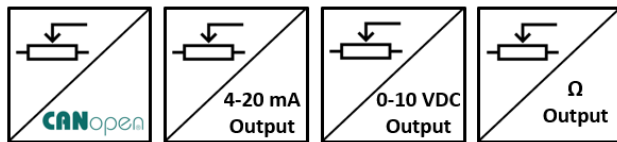


## AWP 821

“Potentiometric, Analog or CANopen Output,  
High Accuracy”



- Different stroke (measuring) lengths up to 8000 mm (optional other strokes)
- $\pm 0.5\%$  FS linearity
- Potentiometric, 0-10 VDC, 4-20 mA analog output or CANopen output options
- Redundant output model option
- Stainless steel measuring wire
- IP54 protection class (Optional IP67)
- Compact design
- Easy installation
- 2 m/s maximum speed
- Shock/Vibration resistant
- Aluminum body

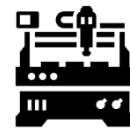
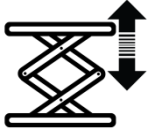
AWP 821 series draw wire sensors; consists of a rotary potentiometer which is controlled by stainless steel wire. They make measurement by pulling and rewinding stainless steel wire. They convert linear motion to potentiometric output.

The “A” series gives of 4-20 mA analog output with the help of the converter card.  
The “V” series gives of 0-10 VDC analog output with the help of the converter card.  
The “C” series gives of CANopen signal output with the help of the converter card.

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

## 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



## MECHANICAL DATA

<b>Measuring Range (stroke)</b>	Different stroke (measuring) lengths up to 8000 mm (optional other strokes)
<b>Maximum Speed</b>	2 m/s
<b>Required Force</b>	12N
<b>Protection Class</b>	IP54 (Optional IP67)
<b>Operating Temperature</b>	-25°C...+85°C
<b>Material</b>	Body: Aluminum
	Measuring Wire: Stainless steel

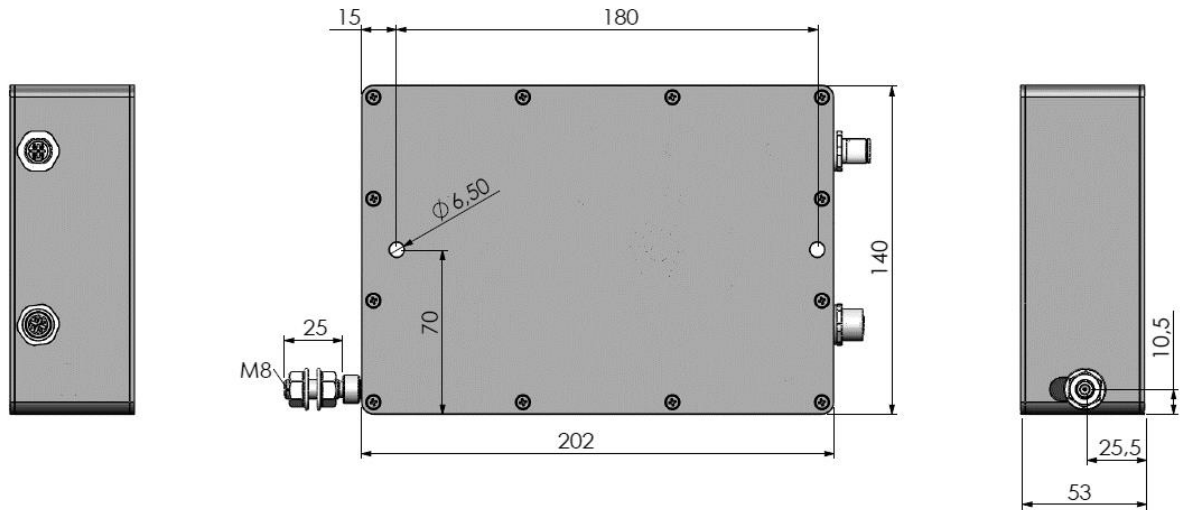
## ELETRICAL DATA

<b>Measuring Range (stroke)</b>	Different stroke (measuring) lengths up to 8000 mm (optional other strokes)		
<b>Mesuring Type</b>	Potentiometric		
<b>Output Signal Type</b>	<b>Potentiometric</b>	<b>Analog: 0-10V / 4-20mA</b>	<b>CANopen</b>
<b>Resistance</b>	5 K $\Omega$ (standard), 10 K $\Omega$	-	-
<b>Supply Voltage</b>	42V max.	12...30 VDC	10...30 VDC
<b>Linearity</b>	$\pm$ 0.5 FS		
<b>Electrical Connection</b>	M12 connector or cable		

## CANopen SPECIFICATIONS

<b>Resolution</b>	23 Bit
<b>Communication profile</b>	CiA 301
<b>Device Type</b>	CANopen, CiA DS406
<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 Mbit/s
<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.

## MECHANICAL DIMENSIONS (mm)



## ELECTRICAL CONNECTIONS

### Analog or Potentiometric

#### 0-10V or Pot Connection

Signal	Cable Color	M12 5 pin connector
Earth	Silver	Pin 1
+V	Red	Pin 2
0V	Black	Pin 3
0-10V / Pot	Yellow	Pin 4
-	-	Pin 5

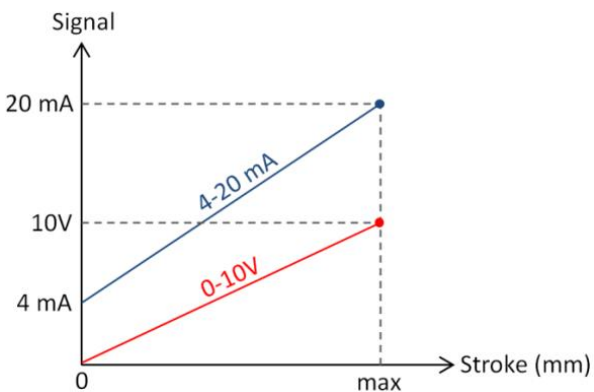
#### 4-20 mA Connection

Signal	Cable Color	M12 5 pin 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.



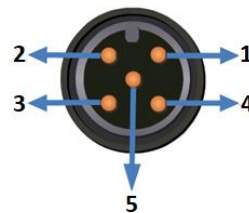
### CANopen

Signal	Cable Color	M12 5 pin 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

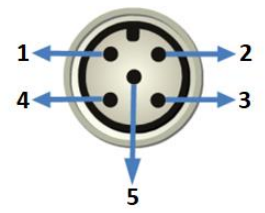
\* CANopen models have 2 outputs. 1 pcs M12 5 pin male and 1 pcs M12 5 pin female sockets are used as standard.

\* Different socket models can be requested optionally.

#### M12 5 Pin Male Connector

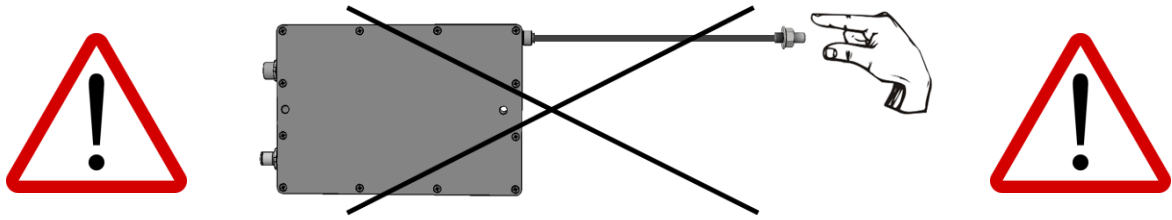


#### M12 5 Pin Female Connector

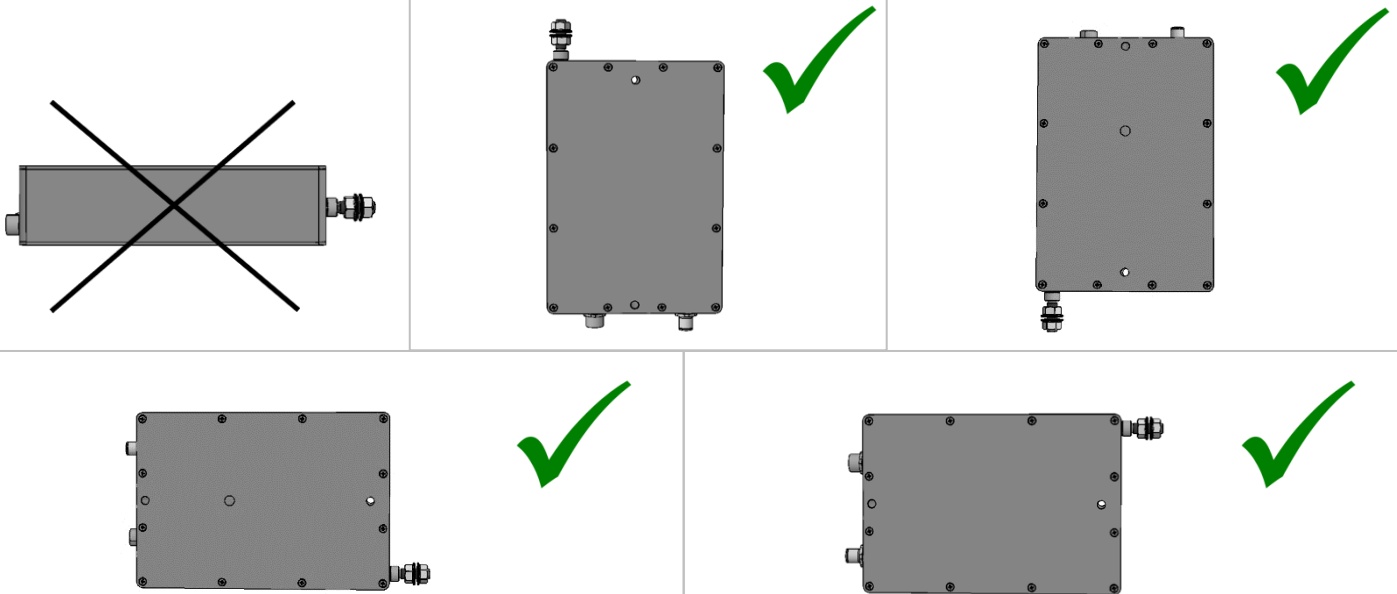


## MOUNTING AND WARNINGS

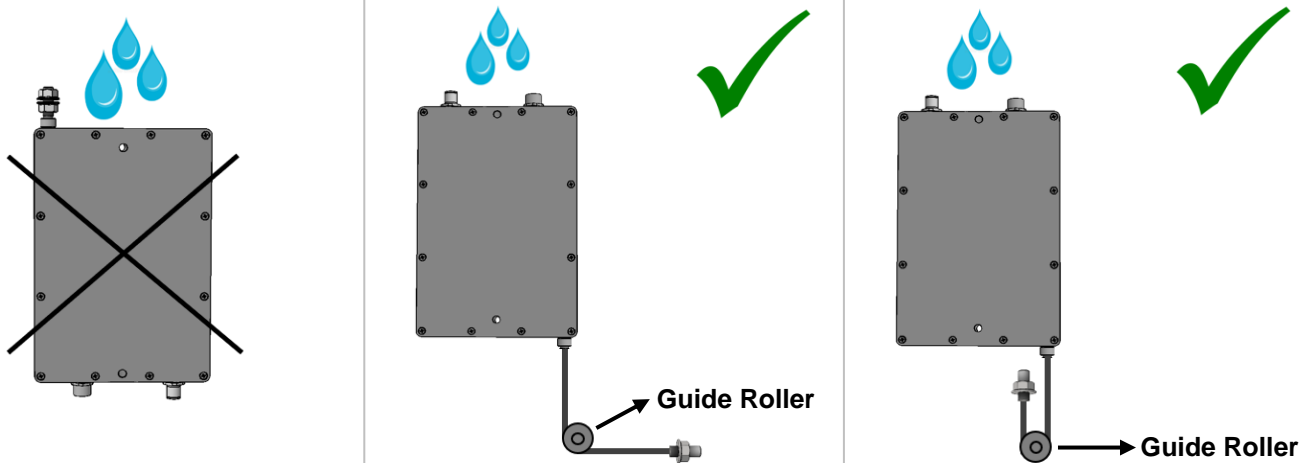
1. Never release the wire after pulling. Otherwise, the coil spring will be damaged.



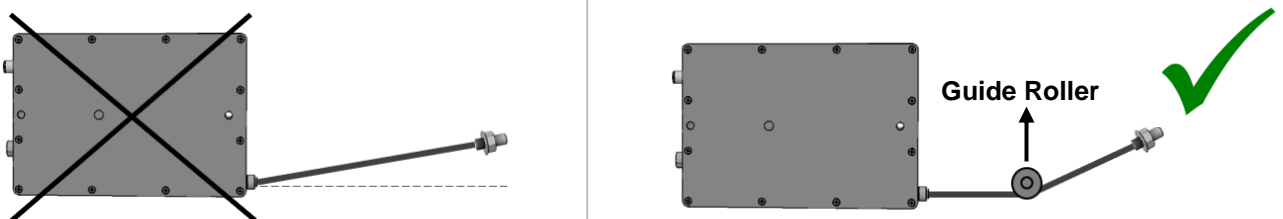
2. Mount the sensor according to the mounting directions shown below.



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.**

## ORDER CODE

Model		XXXX		XXX		XXXX		X		XXXX		XXX			
				<b>Resistance <sup>(2)</sup></b> No Code: Analog or CANopen output 5K: 5 KΩ (standard) 10K: 10 KΩ				<b>Output Signals</b> No Code : Potentiometric V : 0-10 VDC A : 4-20 mA C : CANopen				<b>Protection Class</b> No code : IP54 (std) E067 : IP67			
<b>Stroke Length <sup>(1)</sup></b> Different measuring lengths up to 8000 mm *Ask for other strokes				<b>Electrical Connection <sup>(3)</sup></b> 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)				<b>Output Type</b> No Code : Single Output Dual : Redundant Output							

- (1) For other (special production) stroke lengths, please contact us.
- (2) For products with analog or CANopen output, resistance value is not selected. Please contact for other resistance options for potentiometric output products.
- (3) 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 (Potentiometric output) : AWP-821-8000-5K-S13M**

AWP 821 series, 8000 mm stroke, 5K resistance, **M12 5 pin male socket**, potentiometric output

**Sample 2 (CANopen output) : AWP-821-8000-S13FM-C-DUAL**

AWP 821 series, 8000 mm stroke, **1 pcs M12 5 pin female + 1 pcs M12 5 pin male socket**, CAN output, redundant

**Sample 3 (Analog output) : AWP-821-8000-3M-A-DUAL**

AWP 821 series, 8000 mm stroke, **3 meters cable output**, current output, redundant