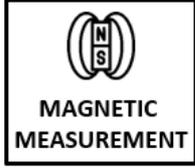


# PROGRAMMABLE DRAW WIRE SENSOR

## AWP 506

“Analog or CANopen Output,  
Redundant Output, High Accuracy,  
IP67 Protection”



MAGNETIC  
MEASUREMENT



PROG. ANALOG  
OUTPUT



CANopen  
OUTPUT



REDUNDANT  
OUTPUT



HIGH  
ACCURACY



LONG SERVICE  
LIFE



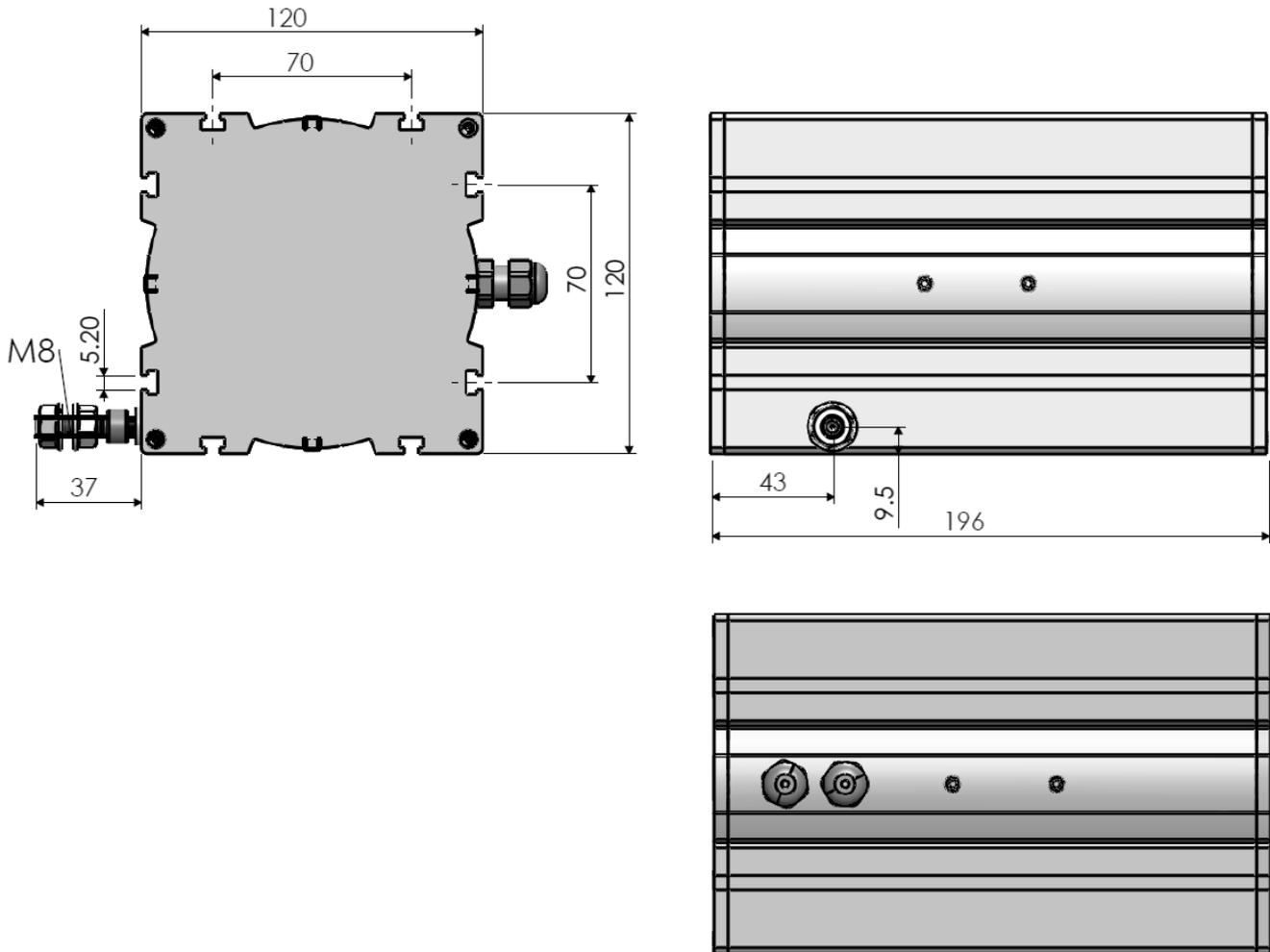
IP67  
PROTECTION

- Measuring length up to 6000 mm
- Magnetic absolute measurement technology
- Analog or CANopen output (Redundant output option)
- Programmable analog output option
- Robust stainless steel measuring wire
- Aluminium housing
- IP67 protection class
- Compact design and easy mounting
- 1 m/s maximum movement speed
- Shock/vibration resistant

## MECHANICAL DATA

<b>Measuring Range (stroke)</b>	Up to 6000 mm
<b>Max. Movement speed</b>	1 m/s
<b>Extension Force</b>	10N
<b>Protection Class</b>	IP67
<b>Operating Temperature</b>	-40°C...+85°C
<b>Material</b>	Body: Aluminium
	Measuring wire: Stainless steel

## MECHANICAL DIMENSIONS (mm)



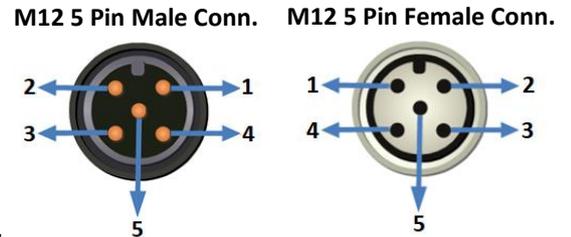
**ANALOG VERSION**

**Electrical Specifications**

Measuring range	Up to 6000 mm
Supply voltage	15...26 VDC
Current consumption	≤60 mA
Reverse polarity protection	Yes
Short circuit protection	Yes (only supply)
Response frequency	500 Hz
Resolution	0.05 mm
Linearity	±%0.5 FS
Output signal	Voltage: 0-10V, 0.5-4.5V, 0-5V Current: 4-20 mA (Optional redundant)
Signal characteristics	Increasing (exmp: 4-20 mA) Decreasing (exmp:20-4 mA)
Sensing device	Magnetic absolute encoder
Electrical connection	M12 connector or cable (Redundant models have 2 connectors or cable outlets)

**Electrical Connection**

Signal	Cable	M12 / 5 pin 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



- \* In single output models, 1 cable outlet or 1 M12 5 pin male connector is used as standard.
- \* In redundant models, 2 cable outlets or 2 M12 connectors are used as standard.
- \* Optionally, different cable lengths or connector models can be requested.

**Order Code**

Model	Electrical Connection <sup>(1)</sup>	Output Type
AWP 506 - XXXX - XXXX - XX - XXXX	<p><b>S13F</b> : M12 5 pin female conn.</p> <p><b>S13M</b> : M12 5 pin male conn.</p> <p><b>S13FM</b>: M12 5 pin female + M12 5 pin male conn. (only on redundant models)</p> <p><b>2M</b>: 2m cable</p> <p>*Optional others</p>	<p><b>No code</b> : Single output</p> <p><b>Dual</b> : Redundant output</p>
<b>Measuring Range</b>	<b>Analog Output Signal</b>	
Up to 6000 mm	<p><b>V</b> : 0-10 VDC</p> <p><b>V1</b> : 0-5 VDC</p> <p><b>A</b> : 4-20 mA</p> <p><b>V3</b> : 0.5-4.5 VDC</p> <p><b>NV</b> : 10-0 VDC</p> <p><b>NV1</b> : 5-0 VDC</p> <p><b>NA</b> : 20-4 mA</p> <p><b>NV3</b> : 4.5-0.5 VDC</p>	

(1) The product can be requested with cable or connector.

As standard;

In single output models, 1 M12 5 pin male connectors (S13M) is used.

In redundant models, 2 connectors are used: 1 M12 5 pin female + 1 M12 5 pin male socket (S13FM).

However, different connector combinations can also be requested, as in the examples below (for example, 2 M12 5 pin male connectors).

Please contact us for your requests for connector models other than M12.

**Example 1 (Single output) : AWP-506-6000-S13M-A**

AWP506 series, 6000 mm stroke, **1 x M12 5 pin male connector**, 4-20mA output, single output

**Example 2 (Redundant output) : AWP-506-6000-S13FM-A-DUAL**

AWP506 series, 6000 mm stroke, **1 x M12 5 pin female + 1 x M12 5 pin male connector**, 4-20mA output, redundant output

**Example 3 (Redundant output) : AWP-506-6000-S13M-A-DUAL**

AWP506 series, 6000 mm stroke, **2 x M12 5 pin male connector**, 4-20mA output, redundant output

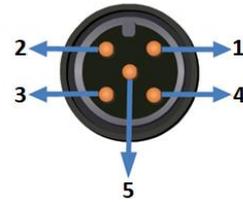
## Electrical Specifications

Measuring range	Up to 6000 mm
Supply voltage	15...26 VDC
Current consumption	≤60 mA
Reverse polarity protection	Yes
Short circuit protection	Yes (only supply)
Response frequency	500 Hz
Resolution	0.05 mm
Linearity	±%0.5 FS
Output signal	Voltage: 0-10V, 0.5-4.5V, 0-5V (programmable) Current: 4-20 mA (programmable) (Optional redundant)
Signal characteristics	Increasing (exmp: 4-20 mA) Decreasing (exmp:20-4 mA)
Sensing device	Magnetic absolute encoder
Electrical connection	M12 connector or cable (Redundant models have 2 connectors or cable outlets)

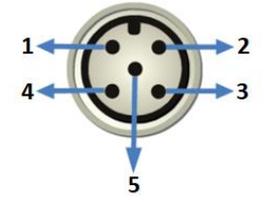
## Electrical Connection

Signal	Cable	M12 / 5 pin connector
V+ (15...26 VDC)	Red	Pin 1
Analog output signal	Yellow	Pin 2
GND	Black	Pin 3
N/C	Green	Pin 4
SPAN/ZERO	Pink	Pin 5

M12 5 Pin Male Conn.



M12 5 Pin Female Conn.



- \* In single output models, 1 cable outlet or 1 M12 5 pin male connector is used as standard.
- \* In redundant models, 2 cable outlets or 2 M12 connectors are used as standard.
- \* Optionally, different cable lengths or connector models can be requested.

**SETTING MEASUREMENT LIMITS:** With this feature, you can set the minimum and maximum measurement limits.

**NOTE:** In models with redundant outputs, this setting must be made for both outputs.

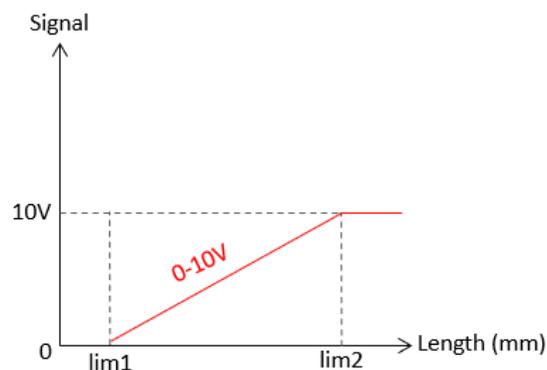
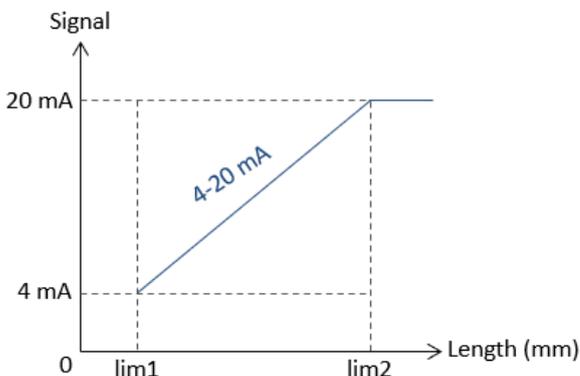
In order to determine the **minimum measurement limit (lim1)**, the SPAN/ZERO and GND terminal are short-circuited for at least 3 seconds.

In order to determine the **maximum measurement limit (lim2)**, the SPAN/ZERO and GND terminal are short-circuited for at least 6 seconds.

The measuring range will thus be stored permanently.

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**

**Electrical Connection <sup>(1)</sup>**

**S13F** : M12 5 pin female conn.  
**S13M** : M12 5 pin male conn.  
**S13FM**: M12 5 pin female + M12 5 pin male conn. (only on redundant models)  
**2M**: 2m cable  
 \*Optional others

**Programming Feature**

**PL**: Programmable

Model	XXXX	XXXX	XXX	XX	XXXX
<b>AWP 506</b>	-	-	-	-	-
<b>Measuring Range</b>	Up to 6000 mm		<b>Analog Output Signal</b>	<b>Output Type</b>	
			<b>V</b> : 0-10 VDC	<b>No code</b> : Single output	
			<b>V1</b> : 0-5 VDC	<b>Dual</b> : Redundant output	
			<b>A</b> : 4-20 mA		
			<b>V3</b> : 0.5-4.5 VDC		
			<b>NV</b> : 10-0 VDC		
			<b>NV1</b> : 5-0 VDC		
			<b>NA</b> : 20-4 mA		
			<b>NV3</b> : 4.5-0.5 VDC		

(1) The product can be requested with cable or connector.

As standard;

In single output models, 1 M12 5 pin male connectors (S13M) is used.

In redundant models, 2 connectors are used: 1 M12 5 pin female + 1 M12 5 pin male socket (S13FM).

However, different connector combinations can also be requested, as in the examples below (for example, 2 M12 5 pin male connectors).

Please contact us for your requests for connector models other than M12.

**Example 1 (Single output)** : AWP-506-6000-S13M-A-PL

AWP506 series, 6000 mm stroke, **1 x M12 5 pin male connector**, 4-20mA output, programmable, single output

**Example 2 (Redundant output)** : AWP-506-6000-S13FM-A-PL-DUAL

AWP506 series, 6000 mm stroke, **1 x M12 5 pin female + 1 x M12 5 pin male connector**, 4-20mA output, programmable, redundant

**Example 3 (Redundant output)** : AWP-506-6000-S13M-A-PL-DUAL

AWP506 series, 6000 mm stroke, **2 x M12 5 pin male connector**, 4-20mA output, programmable, redundant output

## Electrical Specifications

Measuring range	Up to 6000 mm
Supply voltage	12...30 VDC
Current consumption	≤60 mA
Reverse polarity protection	Yes
Short circuit protection	Yes (only supply)
Response frequency	500 Hz
Resolution	20 μm
Linearity	±%0.5 FS
Output Signal	CANopen (optional redundant)
Sensing device	Magnetic absolute encoder
Electrical connection	M12 connector or cable (Redundant models have 2 connectors or cable outlets)

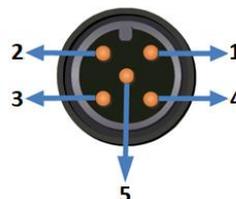
## CANopen Specifications

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

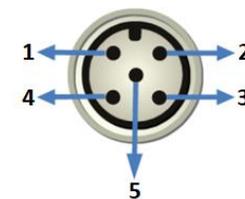
## Electrical Connection

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

M12 5 Pin Male Conn.



M12 5 Pin Female Conn.



\* In single output models, 1 cable outlet or 1 M12 5 pin male connector is used as standard.

\* In redundant models, 2 cable outlets or 2 M12 connectors are used as standard.

\* Optionally, different cable lengths or connector models can be requested.

## Order Code

### Electrical Connection <sup>(1)</sup>

**S13F** : M12 5 pin female conn.

**S13M** : M12 5 pin male conn.

**S13FM**: M12 5 pin female + M12 5 pin male conn. (only on redundant models)

**2M**: 2m cable

\*Optional others

### Output Type

**No code** : Single output

**Dual** : Redundant output

Model								
AWP 506	-	XXXX	-	XXXX	-	X	-	XXXX
Measuring Range				Output Signal				
Up to 6000 mm				C : CANopen				

(1) The product can be requested with cable or connector.

As standard;

In single output models, 1 M12 5 pin male connectors (S13M) is used.

In redundant models, 2 connectors are used: 1 M12 5 pin female + 1 M12 5 pin male socket (S13FM).

However, different connector combinations can also be requested, as in the examples below (for example, 2 M12 5 pin male connectors).

Please contact us for your requests for connector models other than M12.

**Example 1 (Single output) :** AWP-506-6000-S13M-C

AWP506 series, 6000 mm stroke, **1 x M12 5 pin male connector**, CANopen output, single output

**Example 2 (Redundant output) :** AWP-506-6000-S13FM-C-DUAL

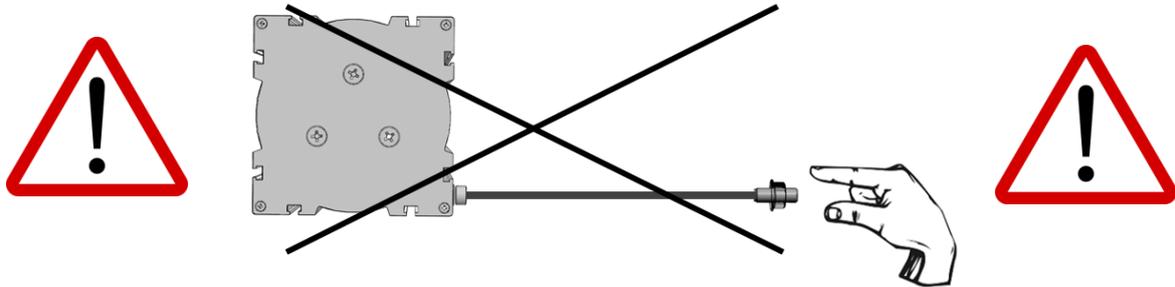
AWP506 series, 6000 mm stroke, **1 x M12 5 pin female + 1 x M12 5 pin male connector**, CANopen output, redundant output

**Example 3 (Redundant output) :** AWP-506-6000-S13M-C-DUAL

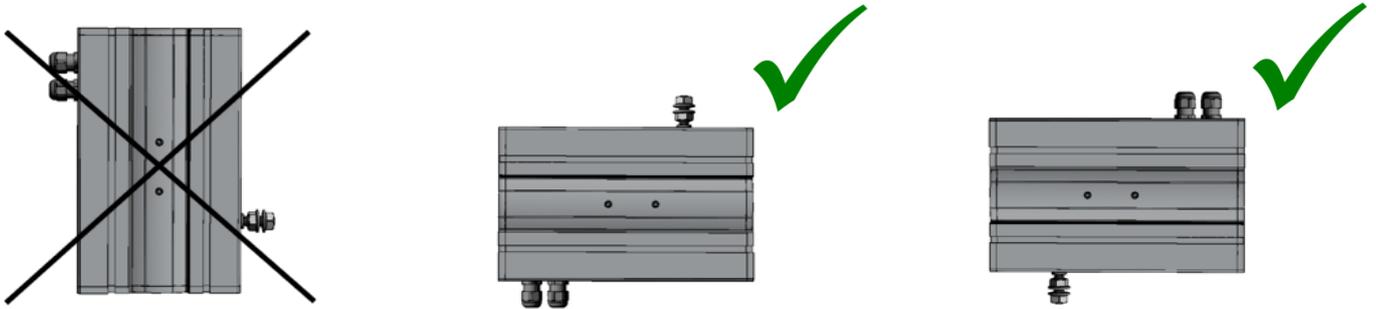
AWP506 series, 6000 mm stroke, **2 x M12 5 pin male connector**, CANopen output, redundant output

## MOUNTING AND WARNINGS

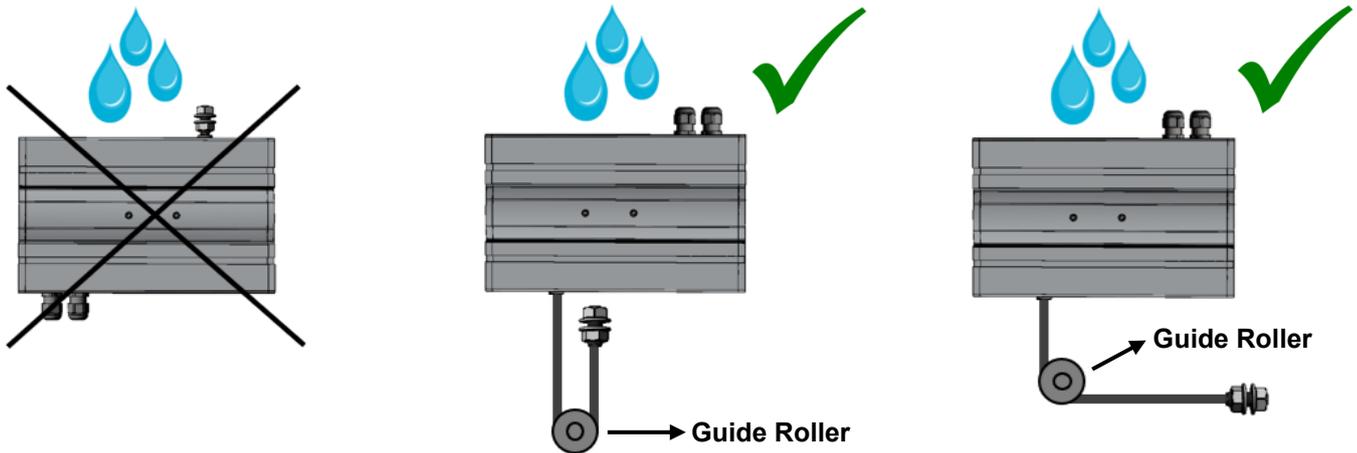
1. Never release the wire after pulling. Otherwise, the coil spring will be damaged.



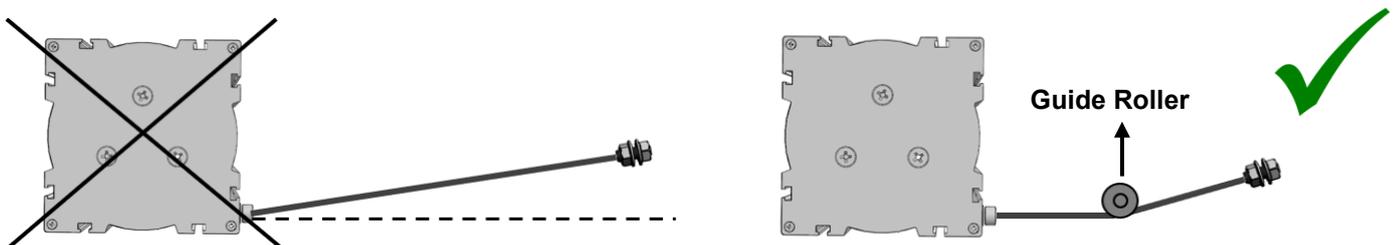
2. Mount the sensor according to the mounting directions shown below.



33. 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.