

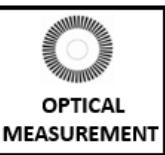
# DRAW WIRE ENCODER

## AWE 404

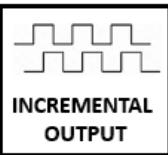
“High strength stainless steel wire”



LONG SERVICE  
LIFE



OPTICAL  
MEASUREMENT



INCREMENTAL  
OUTPUT

- Different stroke (measuring) lengths between 0...1000 mm and 0...4000 mm
- Incremental output
- Stainless steel measuring wire
- IP54 protection class (Optional IP67)
- Compact design
- Easy installation
- 2 m/s maximum speed
- Shock/Vibration resistant
- Aluminum body

AWE 404 series wire encoders convert linear motion into incremental digital pulses. They have different stroke lengths up to 4000 mm. Optionally other resolutions, cable lengths and socket connectors can be requested.

They make measurement by pulling and rewinding stainless steel wire. Usage is practical and usage area is quite wide. By connecting to a counter or position controller, they become a perfect system in high resolutions for position control in wood processing, marble machines, glass processing machines and other machines.

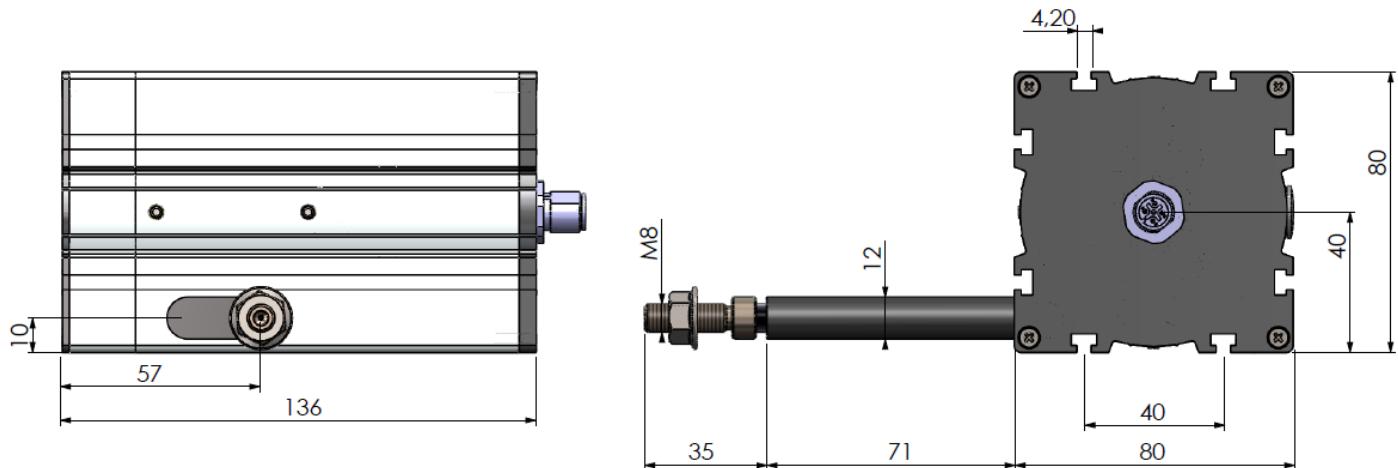
## MECHANICAL DATA

### Mechanical and Environmental Data

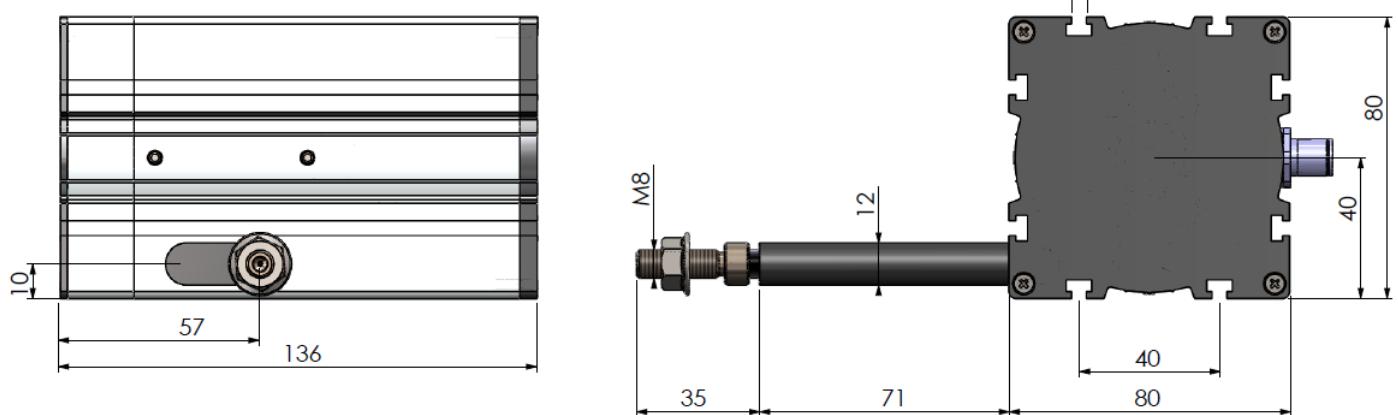
<b>Stroke Length</b>	Different measuring lengths between 0...1000 mm and 0...4000 mm	
<b>Linearity</b>	$\pm 0.03\%$ FS	
<b>Maximum Speed</b>	2 m/s	
<b>Required force</b>	5 N	
<b>Protection Class</b>	IP54 (Optional IP67)	
<b>Operating Temperature</b>	-25°C ... +85°C	
<b>Relative Humidity</b>	%95	
<b>Material</b>	Body	Aluminum/steel /plastic
	Measuring wire	Stainless steel

### MECHANICAL DIMENSIONS (mm)

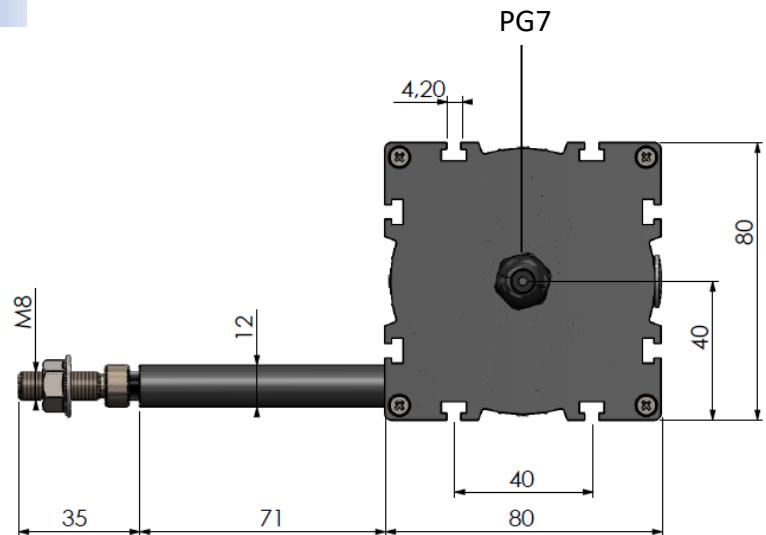
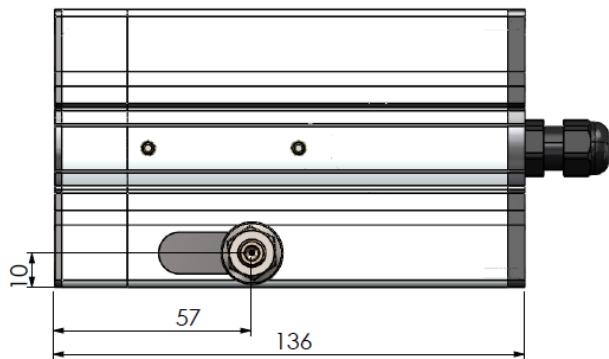
#### M12 Connector Output From Backside



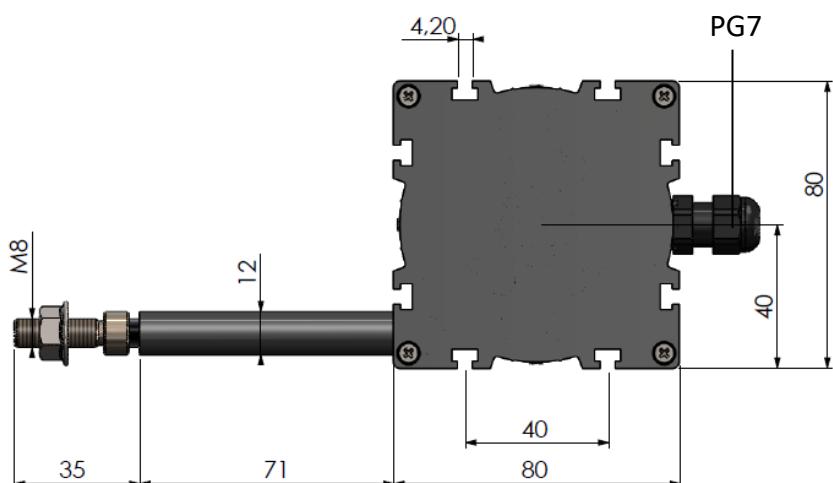
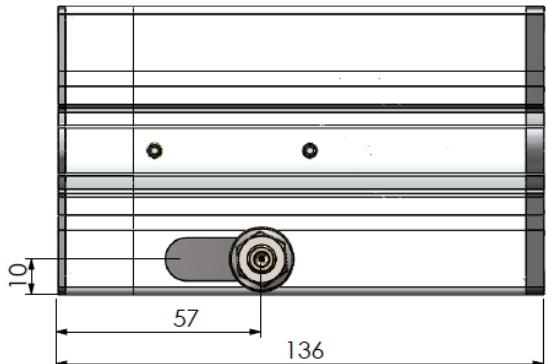
#### M12 Connector Output From Side



## Cable Output From Backside



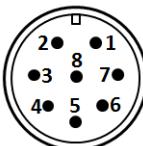
## Cable Output From Side



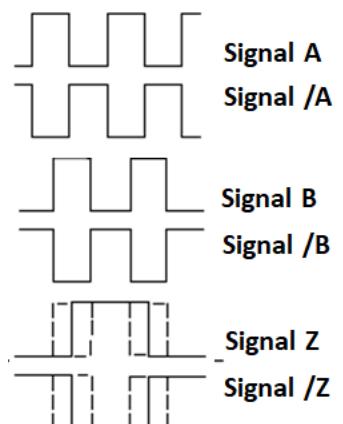
## ELECTRICAL DATA

<b>Measuring Type</b>	Optical	
	<b>pulse/mm</b>	<b>mm/edge</b>
<b>*Resolution</b>	5 pulses/mm 10 pulses/mm (std) 20 pulse/mm	0.05 mm 0.025 mm (std) 0.0125 mm
	<b>Supply</b>	<b>Output</b>
	<b>PP</b>	10...30 VDC
<b>*Electrical Interface</b>	<b>TTL</b>	5VDC TTL RS422 Line Driver
	<b>HTL</b>	5VDC TTL RS422 Line Driver
	<b>HPL</b>	5...30 VDC Push-Pull
<b>*Output Signals</b>	A,B,Z (standard) A,B A,/A,B,/B A,/A,B,/B,Z,/Z	
<b>Max Output Current</b>	60 mA (per channel)	
<b>*Electrical Connection</b>	5 or 8x0,14 mm <sup>2</sup> shielded cable M12 / 8 pin male connector	

## ELECTRICAL CONNECTIONS

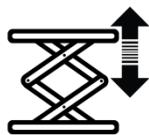
		
<b>SIGNAL</b>	<b>CABLE COLOR</b>	<b>M12 8 PIN MALE CONN. PIN NO</b>
A	Yellow	1
B	Green	2
+V	Red	3
0V	Black	4
Z	Pink	5
/A	Blue	6
/B	White	7
/Z	Grey	8
EARTH	Silver	-

In the right table the cable colors of sensors output signals are given. If the control circuit is suitable in the Line Driver sensors of the not output signals (/A, /B, /Z) have to be added to the system. If it is not suitable /A, /B, /Z signal cables must be fixed as insulated separately. Don't forget that these edges have electricity too.



## 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

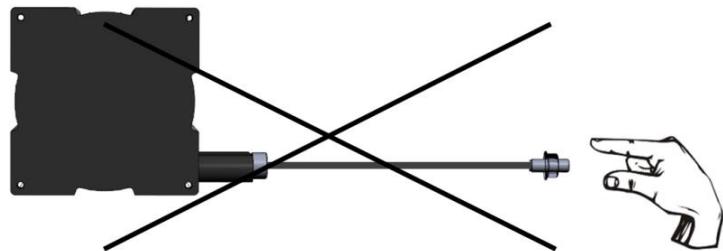


## ORDER CODE

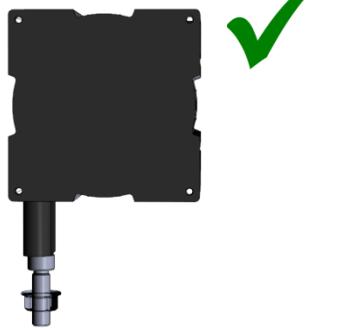
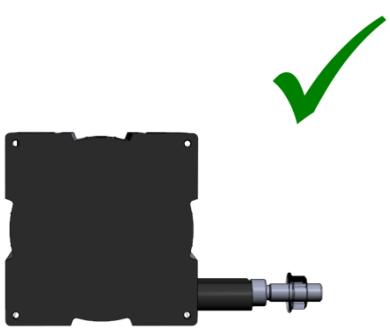
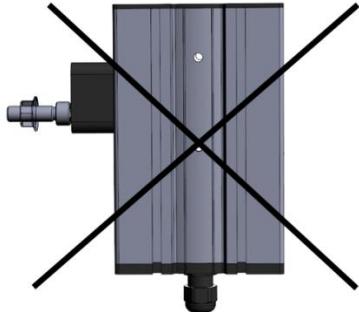
Model	Stroke Length		Output Signals	Cable or Socket Direction										
	Different measuring lengths between 0...1000 mm and 0...4000 mm	Resolution												
AWE 404	-	XX	-	XXXX	-	XXX	-	X	-	XX	-	X	-	XXXX
		Resolution	Supply and Output	Electrical Connection	Protection Class									
	05 : 0.05 mm/pulse	PP : 10...30 VDC Supply	3M : 3m (standard)	No code : IP54 (std)										
	01 : 0.1 mm/pulse (standard)	: 10...30VDC Push-Pull Output	5M : 5m	E067 : IP67										
	02 : 0.2 mm/pulse	TTL : 5 VDC Supply	10M : 10m											
		: 5 VDC TTL RS422 Line Driver Output	S14M : M12 / 8 Pin Male Conn.											
		HTL : 10...30 VDC Supply												
		: 5 VDC TTL RS422 Line Driver Output												
		HPL : 5...30 VDC Supply (standard)												
		: 5...30 VDC Push-Pull Output												

## MOUNTING AND WARNINGS

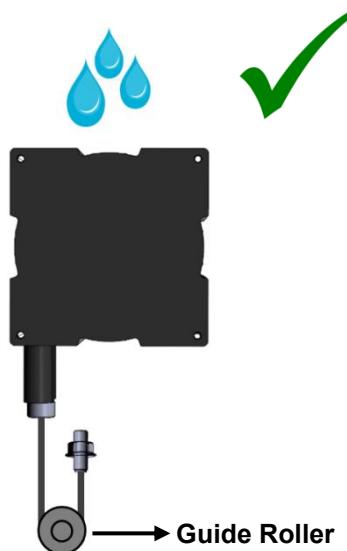
1. Never release the wire after pulling. Otherwise, the coil spring will be damaged.



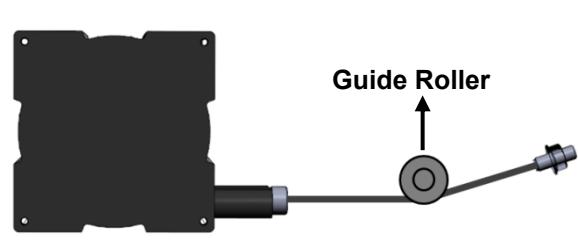
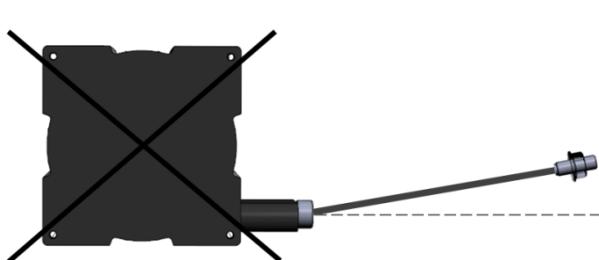
2. Mount the sensor according to the mounting directions shown below.



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.