

DRAW WIRE SENSOR

AWP 404

"High strength stainless steel wire"





- Different stroke (measuring) lengths between 0...1000 mm and 0...4000 mm
- ±0.5% FS linearity
- Potentiometric, 0-10 VDC, 4-20 mA, CANopen or SSI output options
- IP54 protection class (Optional IP67)
- Compact design and easy installation
- 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, analog, CANopen or SSI output.

MECHANICAL DATA

Mechanical and Environmental Data							
Stroke (measuring) Length	Different measurin	ng lengths between 01000 mm and 04000 mm					
Linearity	±0.5% FS						
Maximum Speed	0.5 m/s).5 m/s					
Required Force	5N						
Protection Class	IP54 (Optional IP67)						
Operating Temp.	-25°C +85°C						
Relative Humudity	%95						
Ndata viala	Body	Aluminum/plastic					
Materials	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





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











- Printing machines
- Horizontal control equipments
- Construction machines
- Industrial robots
- Injection machines
- X-Y axis displacement
- Liquid level measurements and position control





ELECTRICAL DATA

ANALOG AND POTENTIOMETRIC OTUPUT

Measuring Type	Potentiometric	Potentiometric						
Output Signals	Potentiometric	otentiometric 0 10 V 4 20 mA						
Resistance								
Supply Voltage	42V max. 1230 VDC 1230 VDC							
Reverse polarity protection	Yes							
Short circuit protection	Yes							
Electrical Connection	3x0,14 mm ² 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									
		M12 5 male connector							
Signal	Cable Color								
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.

 Different connector models can be requested optionally.

Signal 20 mA/10V 4 mA 0V min max Stroke

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Resistance ⁽¹⁾ No Code: Analog output 5K: 5 KΩ (standard) 10K: 10 KΩ					itput	put B : From backside S : From side					Protection Class No code : IP54 (std) E067 : IP67				
AWP 404 -	XXXX	-	XXX	-	XXX	-	Х	-	Х	-	XXXX				
	Stroke Length					Electrical Connection ⁽²⁾					Output Signals				
	Different mea between 01 04000 mm	ng lengths mm and	3M : 3 m cable 5M : 5 m cable 10M : 10 m cable			No Code : PotentiometricV: 0-10 VDCA: 4-20 mA									
					S13F : M12 5 pin S13M : M12 5 pin	ferr ma	ale conn. le conn.								

(1) For products with analog output, resistance value is not selected. Please contact for other resistance options for potentiometric output products.

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

As standard 1 pcs M12 5 pin male connector (S13M) is used. Please contact us for other connector model requests.

Sample 1 (Potentiometric output): AWP 404-4000-5K-S13M-S

AWP 404 series, 4000 mm stroke, 5K resistance, M12 5 pin male connector, side connector outlet, potentiometric output Sample 2 (Analog output): AWP 404-4000-3M-S-A

AWP 404 series, 4000 mm stroke, 3 meters cable output, side cable outlet, current output

CANopen OUTPUT

Measuring Type	Potentiometric
Device Type	CANopen, CiA DS406
Communication profile	CiA 301
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
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.
Supply Voltage	1030 VDC
Reverse polarity protection	Yes
Short circuit protection	Yes
Electrical Connection	6x0,34 mm ² twisted shielded cable or M12 5 pin male + M12 5 pin female connector

*Click for CANopen EDS (electronic datasheet).

Signal	Cable Color	M12 5 pin male connector	M12 5 pin female connector					
CAN_SHIELD	Silver (mesh)	Р	in 1					
+V (1030 VDC)	Red	Р	in 2					
GND (0V)	Black	Р	in 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 connectors are used as standard.

* Different connector models can be requested optionally.

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				Electrical Conne	ectio	on ⁽¹⁾					
				 3M : 3 m cable 5M : 5 m cable 10M : 10 m cab 513FM: M12 5 p 	3M : 3 m cable 5M : 5 m cable 10M : 10 m cable S13FM: M12 5 pin female Output Signal						
Model			+ M12 5 pin ma	le co	onn.		C : CANopen				
AWP 404	-	XXXX	-	XXXX	XXXX - X - X -					XXXX	
		Stroke Lengt	n		Cable or Connector Direct					Protection Class	
Different measuring lengths between 01000 mm and 04000 mm				B : From backsideS : From side	No code : IP54 (std) E067 : IP67						

 The product can be requested with cable or connector. As standard;

1 pcs. M12 5 pin female + 1 pcs. M12 5 pin male connector (S13FM) is used. Please contact us for other connector model requests.

331 001701	
Measuring Type	Potentiometric
Signal Output	SSI 24 bit
Encoding	Gray
Parity	Even or Odd
Data update rate	500 Hz (2 ms)
Frame Format	MSB First -[22 Bit Position] +[1 Bit Parity] + [1 Bit Alarm] - LSB
Max. Cable Length	13m @2 MHz, 44m @1 MHz, 85m @600 kHz, 300m @200 kHz, 750m @80 kHz It is recommended to use twisted pair cables that comply with the RS-422 standard.
Physical Interface	RS-422
Max clock rate	2 MHz
Monoflop time (tm)	20 μs
Resolution	16 bit
Independent Linearity	≤ ± %0.5
Supply voltage	6 - 33 VDC
Overvoltage protection	36 V
Current consumption without load	12 mA typ.
Current consumption	30 mA typ.
Power consumption without load	0.3 Watt @ 24VDC
Initializing time	<250 ms (after powered)
Supply polarity protection	Yes
Short circuit protection	Yes (Short circuit to 0V, when power supply is applied correctly)
Output Load	120 ohm

SSI TIMING DIAGRAM



Alarm: If 1, there is an alarm If 0, there is no alarm MCU lock up alarm MCU watchdog alarm

If the device resolution is less than 22 Bits, the remaining bit fields from the MSB are filled with 0. The device indicates this situation with the Alarm

bit when it is turned on after the locking state.

M12 / 8 pin male connector	Cable Color	Signal
1	Red	+VDC
2	Black	GND
3	Yellow	Data +
4	Green	Data -
5	White	Clock +
6	Blue	Clock -
7	N/C	N/C
8	N/C	N/C

Ele 3M 5M 101 S14			Electrical Conn 3M : 3 m cabi 5M : 5 m cabi 10M : 10 m ca 514M: M12 8 p	Electrical Connection ⁽¹⁾ 3M : 3 m cable 5M : 5 m cable 10M : 10 m cable S14M: M12 8 pin male conn.				Electrical Interface			
AWP 404 -	XXXX	-	XXX	-	Х	-	XXX	-	Х	-	XXXX
Stroke Length					Cable or Connector Direction O				Output Signal		
Different measuring lengths between 01000 mm and 04000 mm				B : From b S : From s	oacksio ide	de		24G : SSI 24 bit,	Gra	ау	

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

ORDER CODE

1 pcs. M12 8 pin male connector (S14M) is used.

Please contact us for other connector model requests.



Important Note(!): Failure to comply with these recommendations, the malfunctions that may occur will not be under the warranty.