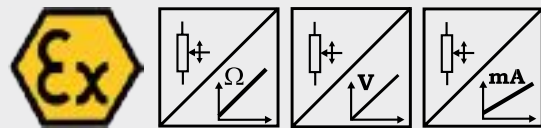


POSIWIRE®
WS12EX
Analog Output, Dust Explosion-Proof



Sensor for hostile environments

- Protection class IP67
- Measurement range 0 ... 100 mm to 0 ... 3000 mm
- Analog output
- Dust ex-proof, category 3, zone 22
- II 3D Ex tD A22 IP67 T80°C



Specifications	Outputs	Potentiometer 1 kΩ Voltage 0 ... 10 V Current 4 ... 20 mA, 2 or 3 wire
Resolution		Essentially infinite
Linearity		Up to ±0.05% f.s.
Sensing device		Precision potentiometer
Material		Aluminum and stainless steel; cable: stainless steel
Connection		Cable output, standard length 2 m
Weight		≤1500 mm: approx. 1 kg; ≥2000 mm: approx. 1.5 kg
Temperature		-20 to +40 °C
Environmental		
Explosion-proof		EN 61241-0:2007; EN 61241-1:2005
EMC		EN 61326:2006
Protection class of housing		EN 60529:2000, IP67
Shock		EN 60068-2-27:1993, 50 g 11 ms, 100 shocks
Vibration		EN 60068-2-6:1995, 20 g, 10 Hz - 2 kHz, 10 cycles

Order code WS12EX



Model name

Measurement range (in mm)

100 / 125 / 500 / 1000 / 1250 / 1500 / 2000 / 2500 / 3000

Output

- R1K = Potentiometer 1 kΩ
- 10V = 0 ... 10 V signal conditioner
- 420A = 4 ... 20 mA signal conditioner, 2 wire
- 420T = 4 ... 20 mA signal conditioner, 3 wire

Linearity

L10 = ±0.10 % option: L05 = ±0.05 % L25 = ±0.25 %

Cable fixing

- M4 = M4 cable fixing
- SB0 = Cable clip

Connection

KAB2M = Cable output, standard length 2 m

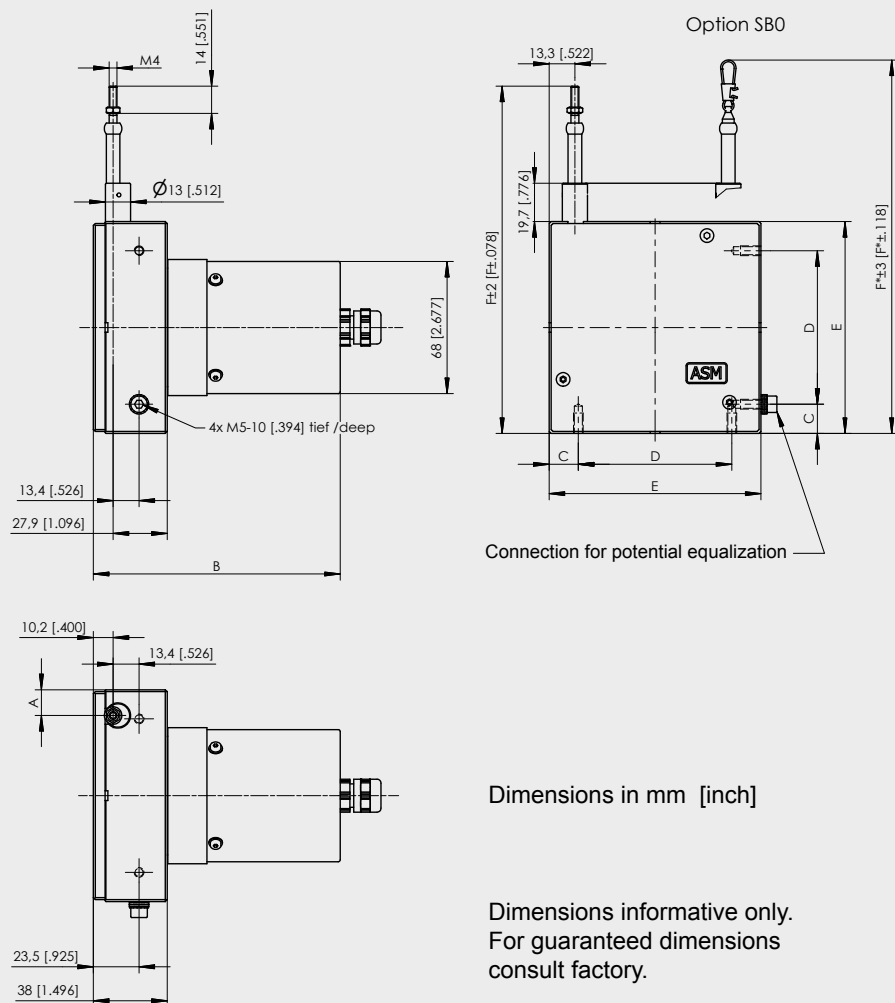
Order example: WS12EX - 2500 - 420A - L10 - M4 - KAB2M

POSIWIRE®
WS12EX
Analog Output, Dust Explosion-Proof



Cable forces, typical at 20 °C	Range	Max. pull-out force	Min. pull-in force
	[mm]	[N]	[N]
	100	5.2	2.8
	125	4.6	2.5
	500	5.9	2.6
	1000	5.5	2.4
	1250	4.8	2.1
	1500	10.4	6.4
	2000	8.1	5.0
	2500	6.7	4.0
	3000	6.2	3.0

Outline drawing



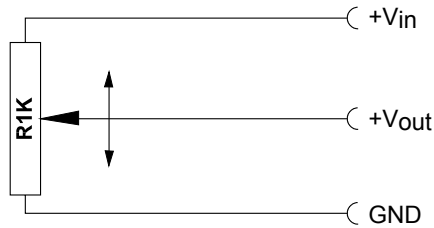
Dimensions in mm	Range	A	B	C	D	E	F	F*
	100; 500; 1000	18.3	112	14	43	71	141	154
125; 1250	14.5	112	14	43	71	141	154	
1500	10.7	127	14	43	71	141	154	
2000	21.5	127	15	79	109	179	192	
2500	13.3	127	15	79	109	179	192	
3000	9.2	127	15	79	109	179	192	

POSIWIRE® R1K and 10V Analog Output



Voltage divider R1K Potentiometer 	Excitation voltage	32 V DC max. at 1 kΩ (max. power 1 W)
	Potentiometer impedance	1 kΩ ±10 %
	Thermal coefficient	±25 x 10 ⁻⁶ / °C f.s.
	Sensitivity	Depends on the measuring range, individual sensitivity of the sensor is specified on the label
	Voltage divider utilization range	Approx. 3 % ... 97 %
	Operating temperature	-20 ... +85 °C

Output signals



Note: The Potentiometer must be connected as a voltage divider. The input impedance of the following processing circuit should be 10 MΩ min.

Signal conditioner 10V and 10V5 Voltage output 	Excitation voltage	18 ... 27 V DC non stabilized
	Excitation current	20 mA max.
	Output voltage	10V: 0 ... 10 V DC; 10V5: 0.5 ... 10 V DC
	Output current	2 mA max.
	Output load	> 5 kΩ
	Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s.
	Protection	Reverse polarity, short circuit
	Output noise	0.5 mV _{RMS}
	Operating temperature	-20 ... +85 °C
	EMC	According EN 61326:2006

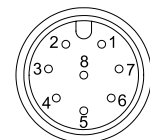
Output signals



Signal wiring	Signal name R1K	10V	Cable color	Connector pin no.
	+Vin	Excitation + +	White	1
	GND	Excitation GND	Brown	2
	+Vout	Signal +	Green	3
		Signal GND	Yellow	4

Connection

View to sensor connector



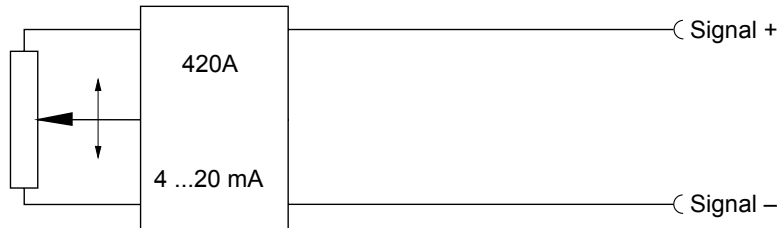
CONN-M12-8F

POSIWIRE® 420A and 420T Analog Output



Signal conditioner 420A Current output (2 wire) 	Excitation voltage	12 ... 27 V DC non stabilized, measured at the sensor terminals
	Excitation current	35 mA max.
	Output current	4 ... 20 mA equivalent for 0 ... 100 % range
	Stability (temperature)	$\pm 100 \times 10^{-6} / ^\circ\text{C}$ f.s.
	Protection	Reversed polarity, short circuit
	Output noise	0.5 mV _{RMS}
	Operating temperature	-20 ... +85 °C
	EMC	According to EN 61326:2006

Output signals



Signal conditioner 420T Current output (3 wire) 	Excitation voltage	18 ... 27 V DC non stabilized
	Excitation current	40 mA max.
	Load resistor	350 Ω max.
	Output current	4 ... 20 mA equivalent for 0 ... 100 % range
	Stability (temperature)	$\pm 50 \times 10^{-6} / ^\circ\text{C}$ f.s.
	Protection	Reverse polarity, short circuit
	Output noise	0.5 mV _{RMS}
	Operating temperature	-20 ... +85 °C
	EMC	According to EN 61326:2006

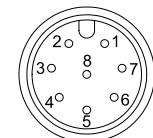
Output signals



Signal wiring	Signal name		Cable color	Connector pin no.
	420A	420T		
Signal +		Excitation +	White	1
Signal -		Excitation GND	Brown	2
		Signal +	Green	3

Connection

View to sensor
connector



CONN-M12-8F