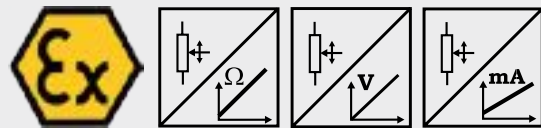


POSIWIRE®
WS10EX
Analog Output, Dust Explosion-Proof



Very compact sensor for dust explosive areas

- Protection class IP65
- Measurement range 0 ... 100 mm to 0 ... 1250 mm
- Analog output
- Dust ex-proof, category 3, zone 22
- II 3D Ex tD A22 IP65 T80°C X



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		Approx. 800 g max.
Temperature		-20 to +40 °C
Environmental		
Explosion-proof		EN 61241-0:2007; EN 61241-1:2005 X = Tested with low impact energy 4 J
EMC		EN 61326:2006
Protection class of housing		EN 60529:2000, IP65
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 WS10EX



Model name

Measurement range (in mm)

100 / 125 / 375 / 500 / 750 / 1000 / 1250

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

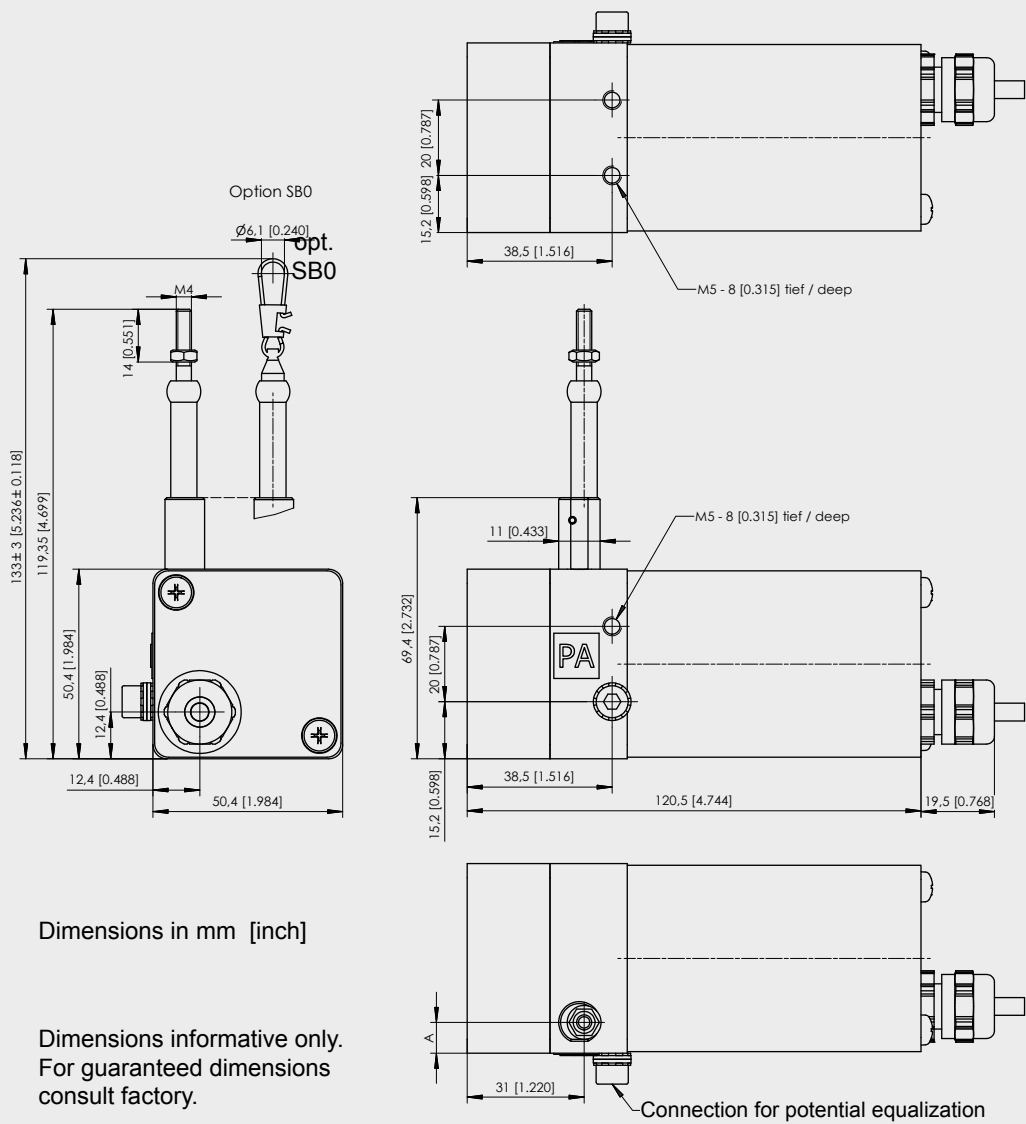
Order example: WS10EX - 1250 - 420A - L10 - M4 - KAB2M

POSIWIRE®
WS10EX
Analog Output, Dust Explosion-Proof



Cable forces, typical at 20 °C	Range	Max. pull-out force	Min. pull-in force
	[mm]	[N]	[N]
	100	4.7	3.0
	125	4.6	2.4
	375	7.4	3.9
	500	5.5	2.8
	750	7.6	3.8
	1000	5.3	2.9
	1250	4.6	2.4

Outline drawing



Dimensions in mm [inch]

Dimensions informative only.
 For guaranteed dimensions
 consult factory.

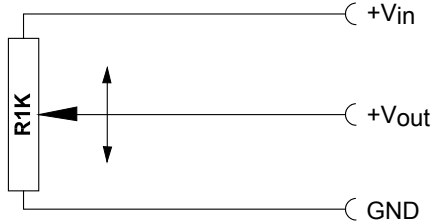
Dimensions in mm	Range	A
	375; 750	12.4
100; 125; 500; 1000; 1250	8	

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

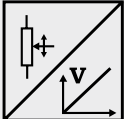


The metal wiper of the potentiometer must be protected against current load!

Electrical current flow impact on the wiper causes linearity errors and shortens the lifetime of the potentiometer.

More information:

http://www.asm-sensor.com/asm/pdf/pro/ws_poti_technote_en.pdf

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

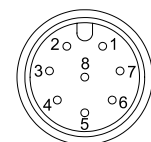
Output signals



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



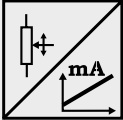
CONN-M12-8F

POSIWIRE®

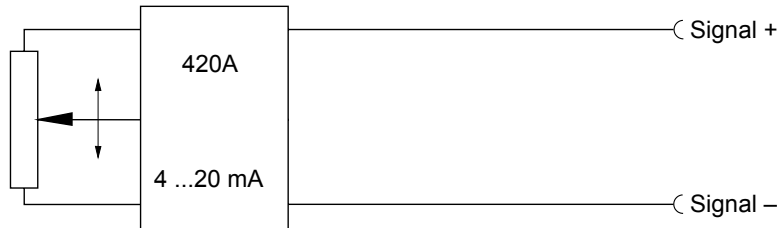
420A and 420T

Analog Output



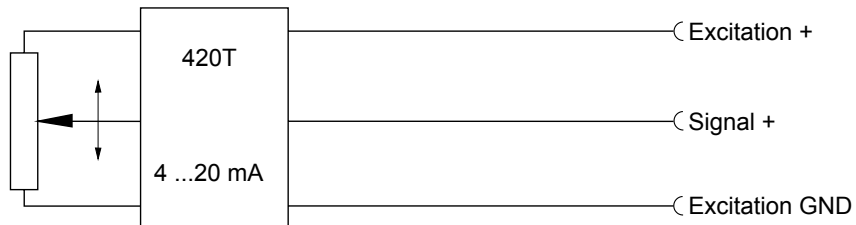
Signal conditioner 420A Current output (2 wire) 	Excitation voltage	12 ... 27 V DC non stabilized, measured at the sensor terminals
	Excitation current	35 mA max.
	Output current	4 ... 20 mA equivalent for 0 ... 100 % range
	Stability (temperature)	$\pm 100 \times 10^{-6} / ^\circ\text{C}$ f.s.
	Protection	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

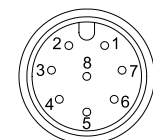
Output signals



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