

Rotary Sensor Industrial Grade Hybrid Potentiometer

AWS360 ZE Series



Special features

- full 360° angular range
- excellent linearity to $\pm 0.07\%$
- repeatability to 0.007°
- 12 bit resolution
- long lifetime - to 50 million movements
- robust industrial version with 10 mm shaft
- sealed to IP65

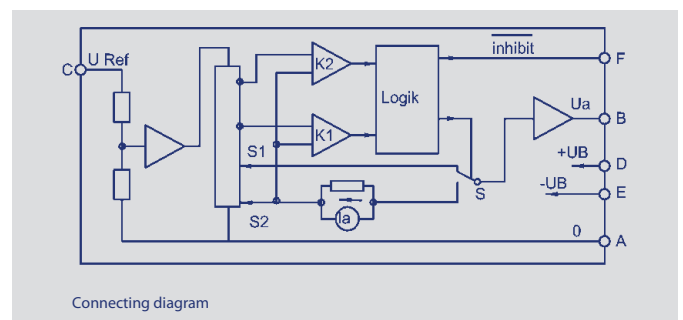
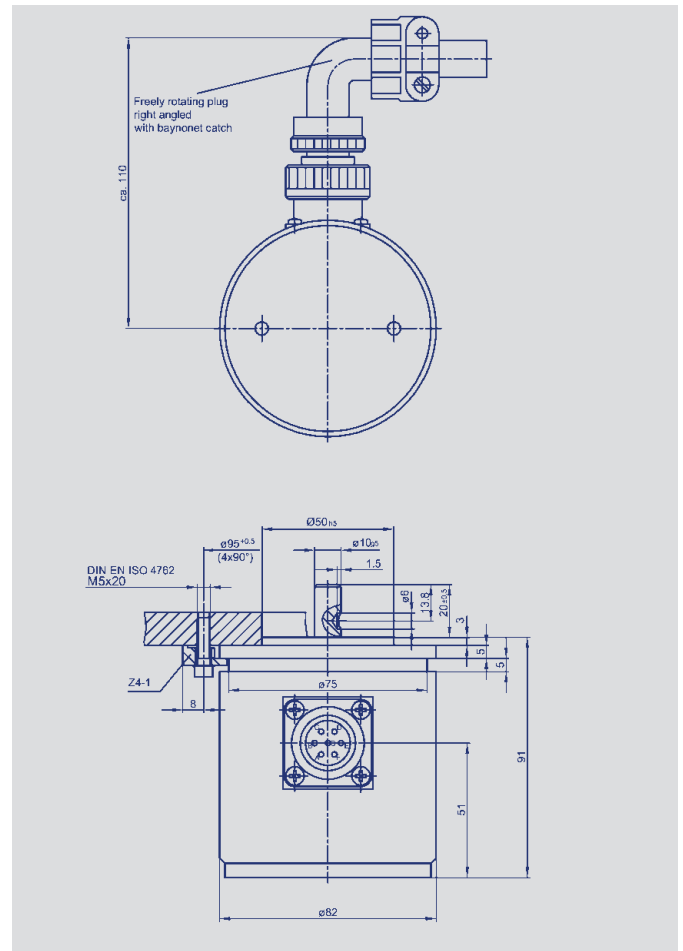
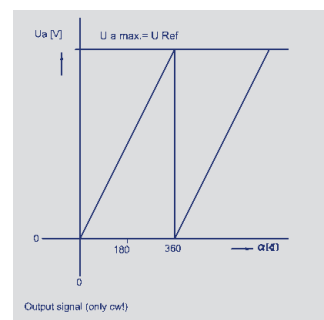
The AWS360 ZE combines the best qualities of modern potentiometers with on-board electronics to offer a high-precision device with a full 360° angular range. There is no dead band, as with conventional potentiometers.

The on-board electronics offers well-defined minimum and maximum output voltages. In addition, the AWS360 ZE delivers a logical output during its reset / power-up period, which can be used by the application controller to disable A/D and avoid measurement errors during that period.

Rotating the shaft clockwise results in an increase in the output voltage. Other output signal characteristics available upon request.

The anodized aluminum housing is sealed to IP65.

The AWS360ZE is well-suited for heavy duty requirements in machine and manufacturing plant applications.



Description		
Case	aluminium, varnished, shaft passage sealed	
Shaft	stainless steel	
Bearings	stainless ball bearings	
Resistance element	conductive plastic	
Wiper assembly	precious metal multi-finger wiper	
Mounting position	any optional position	
Connections	7pin connector; all-metal round plug, freely rotatable, 90° right angled, protection class IP 65, bayonet catch	
Electrical circuitry	gybrid circuit integrated into housing	
Mechanical Data		
Dimensions	see drawing	
Mounting	with 4 mounting clamps Z-4-1	
Mechanical travel	360, continuous	°
Permitted shaft loading (axial and radial) static or dynamic force	300	N
Starting torque	< 10	Ncm
Maximum operational speed	2000	RPM
Weight approx.	1200	g
Electrical Data		
Actual electrical travel	360	°
Absolute linearity	±0.07	%
Repeatability	0.002 (~0.007°)	%
Effective temperature coefficient of resistance	typical 100	ppm/K
Supply for on-board electronics ($\pm U_B$)	±15 (±1)	V
Potentiometer supply voltage (U_{Ref})	≤ ±10	V
Inhibit signal from $\pm U_B$ to zero	approx. 50	µs
Zero offset	< 2	mV
Max. difference of supply voltage U_{Ref}	±2	mV
Output current	5, short-circuit protected	mA
Output resistance	< 0.1	Ω
Electronic circuit current (no load)	10	mA
Insulation resistance (250 VDC, 1 bar, 2 s)	≥ 10	MΩ
Dielectric strength (50 Hz, 2 s, 1 bar, 250 VAC)	≤ 100	µA
Environmental Data		
Temperature range	0...+70	°C
Vibration	10...2000 $A_{max} = 0.76$ $a_{max} = 20$	Hz mm g
Shock	50 11	g ms
Life	50 million	movements
Protection class	IP65 (DIN 400 50 / IEC 529)	

Included in delivery

3 mounting clamps Z-4-1,
Right-angled plug Cannon No.
CA 08 COM-E16S-1S-B,
1 anti-kink sleeve

Recommended accessories

Spring-operated backlash-free
coupling Z-110-G10,
MAP process control indicators
with display
MUP/MUK signal conditioners
for standard voltage or
current outputs.

Order designations

Type	P/N
AWS-360-ZE-10	011061

