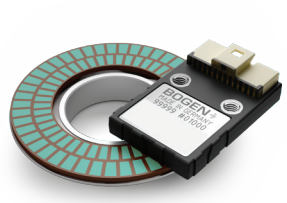
Absolute Magnetic Sensing Heads

BOGEN absolute encoders and the corresponding magnetic scales offer cost-efficient solutions for industrial applications where positions and motions have to be measured with a high degree of accuracy and reliability, even in harsh environments. All encoders are available for linear, rotary-radial or rotary-axial measurement and include multiple sensor output protocols. Small dimensions ensure implementation even in confined spaces.

	 AKS16	 AKS16-MT	 AKS17
description	• for two-track scales • linear and rotary applications	• for two-track scales • linear and rotary applications	• for three track magnetic scales • linear and rotary applications
max. resolution	• up to 0.15 µm • 18 to 20 bit absolute resolution • 18 bit incremental resolution	• 19 to 20 bit single-turn • up to 18 bit of revolution counting (up to 262144 (2^{18}) multi-turn	• 21 - 24 bit absolute resolution • 18 bit incremental resolution
distance sensor/scale	• 0.4 - 0.6 mm, depending on pole pitch	• 0.5 mm, depending on pole pitch	• 0.4 - 0.5 mm, depending on pole pitch
movement speed	• resolution 18 bit: up to 24,000 rpm • resolution 19 bit: up to 12,000 rpm • resolution 20 bit: up to 6,000 rpm	• resolution 19 bit: up to 12 000 rpm • resolution 20 bit: up to 6 000 rpm	• up to 20 m/s, depending on pole pitch • 375 - 3.000 rpm, depending on resolution
output signals interface	• absolute: BISS-C, SSI • incremental: ABZ, UVW, STEP, CW/CCW	• absolute: BISS-C, SSI • incremental: sin/cos 1 V_{PP}	• absolute: BISS-C, SSI • incremental: ABZ
power supply	• 5 V ± 5 %	• 5 V ± 5 %	• 5 V ± 5 %
electric connections	• FFC 12 pin • Molex 12pin	• Molex 12pin	• FFC 12 pin • Molex 12 pin
dimensions	• 1.28 and 1.50 mm pole pitch: FFC: 24.2 x 16 x 3.4 mm Molex: 24.2 x 16 x 6.6 mm • 2 mm pole pitch: FFC: 28 x 16 x 3.4 mm Molex: 28 x 16 x 6.6 mm	• 24.2 x16 x6.6 mm	• FFC: 28 x 16 x 3.4 mm • Molex: 28 x 16 x 6.6 mm
max. operating temperature	• - 40 to + 100 °C (32 to + 212 °F)	• - 25 to + 85 °C (-13 to +185 °F)	• - 40 to + 100 °C (32 to + 212 °F)
IP code	• IP67 (with FFC connector)	• IP67 (with FFC connector)	• IP67 (with FFC connector)
applications	• robotics and handling systems • factory automation • electro-medical devices	• robotics and handling systems • factory automation • electro-medical devices	• robotics and handling systems • factory automation • electro-medical devices

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	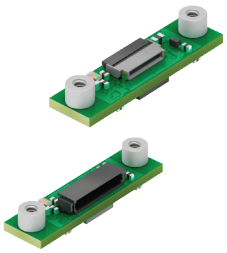	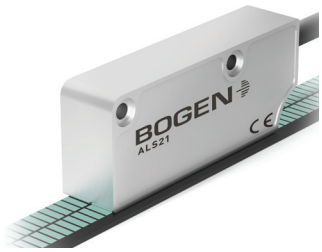	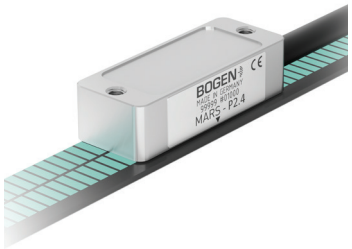
	AKP18	**ALS21**	**xMARS**
description	• space-saving implementation • daisy-chainable with wire to board connector	• linear applications • absolute measuring	• Multi Adaptive Range Sensor • high resolution absolute sensing • virtually unlimited ring sizes and tape lengths
max. resolution	• 18 - 20 bit absolute resolution	• up to 1 µm	• absolute: up to 0.29 µm • incremental: 2400 µm
distance sensor/scale	• 0.4 - 0.6 mm, depending on pole pitch	• 0.1 - 0.6 mm	• 2 mm ± 0.2
movement speed	• 6.000 - 24.000 rpm, depending on resolution • up to 15 m/s	• 1.4 - 7 m/s, depending on resolution	• > 20 m/s
output signals interface	• absolute: BISS-C, SSI	• absolute: SSI, BiSS-C • incremental: NPN o.c. (AB)	• absolute: SSI, BiSS-C • incremental: 1 V_{PP}
power supply	• 5 V ± 5 %	• 5 Vdc ± 5 %	• 5 Vdc ± 5 %
electric connections	• FFC 10 pin, 0.5 mm pitch • wire to board	• Hi-flex cable M8 2,0 m or M12 8 pin inline plug	• M12 inline connector 8 pin (BiSS/SSI only) • M12 inline connector 12 pin (BiSS/SSI + sin/cos only)
dimensions	• 22.5 x 6 x 3.9 mm (1.28 and 1.50 mm pole pitch) • 22.5 x 8 x 3.9 mm (2.00 mm pole pitch)	• 62 x 25 x 14 mm	• 16 x 10 x 3 mm
max. operating temperature	• - 40 to + 100 °C (- 40 to +212 °F)	• -25 to +85 °C (-13 to +185 °F)	• - 40 to + 85 °C (- 40 to +185 °F)
IP code	• IP00	• IP67	• IP67
applications	• robotics and handling systems • factory automation • electro-medical devices	• linear motors • factory automation	• linear motors • torque motors • handling systems