

Durable and space-saving

HDmag MHAD – high-resolution absolute encoder without bearings with additional incremental signals



Another
BAUMER
Innovation



Baumer

Passion for Sensors

Fitting into any tight spot:

HDmag MHAD – Absolute encoder without bearings with additional incremental signals.

The *HDmag* series by Baumer, a product platform of high-resolution absolute and incremental encoders with magnetic sensing, offers a wide product selection for direct installation at large shafts. Our customers in mechanical engineering and industry automation rely on the robust technique.

New *HDmag* MHAD builds further on our successful technology concept. With a pole wheel diameter of 50 mm the encoder is all but perfect for shafts up to 42 mm. Forgoing any additional fittings or shaft couplings, it provides most convenient and quick installation capabilities.

Lots of product benefits where space is a constraint.

Minimum space requirements

With its narrow dimensions of only 20 mm in width the compact housing fits into any tight spot. The pole wheel allows flexible attachment to the shaft, the end remains available for any other purpose.

Quick and easy installation

The integrated LED indicator acts also as an installation aid and will ensure observing the tolerances during attachment. This way, pole wheel and sensor are quickly and accurately installed without effort.

Capable of large shaft tolerances

Allowing for a wide air gap up to 1 mm between rotor and sensing head, the sensor provides dependable operation even with axial shaft displacements of ± 1 mm.

Ultimate level of operational safety

The magnetic sensing technique withstands dust, dirt and humidity. With an extended operating temperature range between -40 and $+85$ °C and insensitive to condensing the encoders master also outdoor applications.

Two interfaces in one device

Besides the absolute value, the singleturn encoder provides additional incremental signals via SSI or CANopen interface which can be used for speed control or further processing in a second loop.



Bearingless
and robust



SSI



Magnetic incremental/
absolute



Cold climate



CANopen



IP 67

Maximum availability thanks to monitoring functionalities and redundant sensing.

Absolutely precise and reliable position values at all times: You can be sure by virtue of the integrated sine/cosine signal monitoring functionality. The integrated LED will always provide you with the current encoder activity state. Any errors, alarms or warnings are immediately transmitted via interface to the master control.

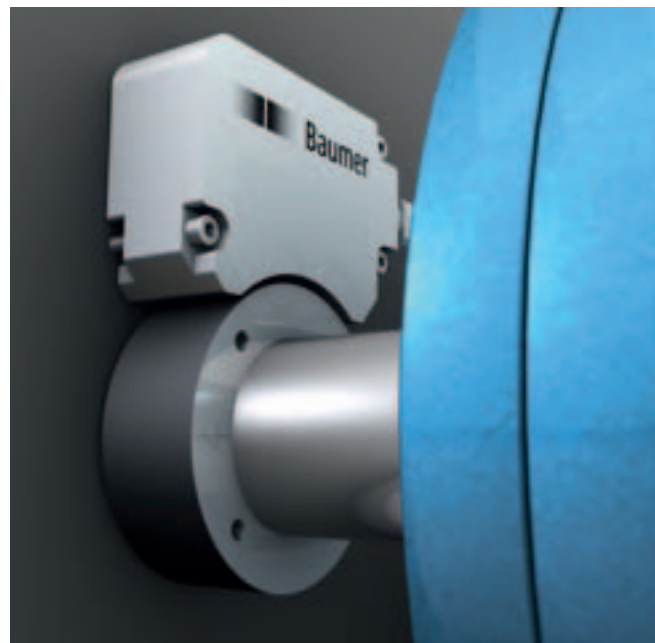
The special housing design opens up new possibilities for reliable and cost-saving deployment in applications with up to four sensors. Flexible redundant systems with maximum availability and minimum space requirements – the perfect fitting solution for your application.



Ultimate reliability and nearly unlimited longevity.

Bearingless encoders with non-contacting technique forgo any mechanical wearing parts. Your product benefit: A nearly unlimited service life which is further backed by the tight sensor housing enclosure compliant to IP 67.

Baumer encoders operate on the magnetic sensing technique. It allows for large mechanical tolerances of 1 mm on the air gap between sensor and pole wheel, thus eliminating any direct sensor impact by shaft displacements. Shocks and vibrations are compensated to ensure absolutely dependable measured values even under extreme conditions and in demanding applications.



Fitting any shaft.



	High resolution			Industry		
	<i>HDmag</i> MHAP 100/200/400	<i>HDmag</i> MHAD 50	<i>HDmag</i> MHGE 100/200/400/800	ITD 69	MDFK	MEFK
Incremental	•	•	•	•	•	•
Resolution (steps/turn)	1 to 131072 1 to 262144 1 to 524288	1024 to 8192	64 to 4096 128 to 8192 256 to 16384 512 to 32768	128 to 4096	256 to 4096	20 to 720
Absolute	•	•				
Resolution	17 bit	16 bit				
Interfaces	HTL/push pull TTL/RS422 Sin/Cos 1 Vss SSI	HTL/push pull TTL/RS422 SSI CANopen	HTL/push pull TTL/RS422 Sin/Cos 1 Vss	HTL/push pull TTL/RS422 Sin/Cos 1 Vss	HTL/push pull TTL/RS422	HTL/push pull
Shaft diameters	16 to 80 mm 50 to 180 mm 70 to 340 mm	20 to 42 mm	16 to 80 mm 50 to 180 mm 70 to 340 mm 650 to 740 mm	40 to 65 mm	6 to 48 mm	6 to 48 mm

Full product information on our bearingless encoders is available under www.baumer.com/MHAD or gladly provided by our encoder experts. Contact us.

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