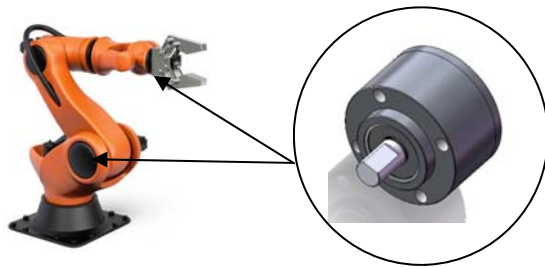
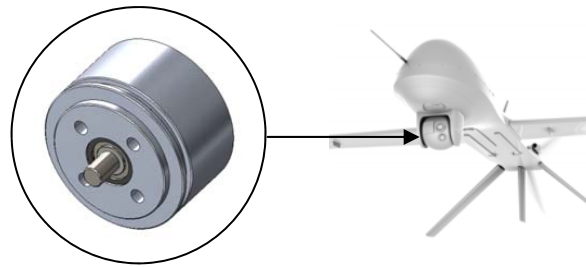


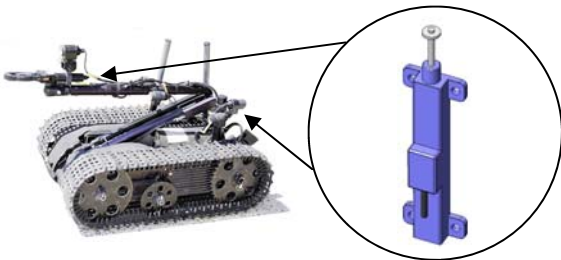
Encoder Magnets and Custom Encoders



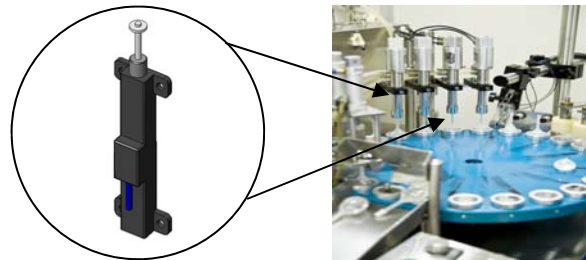
360° Industrial



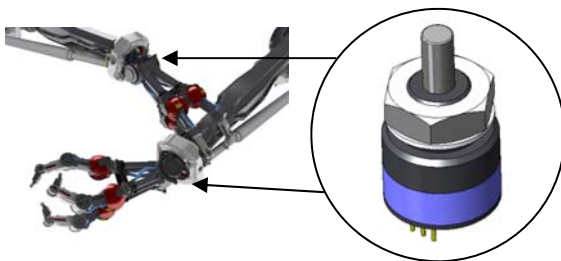
360° High Resolution



Linear: High Precision



Linear: Absolute Position



360° Small Form Factor



Partial Angle On-Shaft



Encoder Magnet Selection Matrix

We offer a full range of standard and custom magnets for use with austriamicrosystems's most popular magnetic encoders, including:

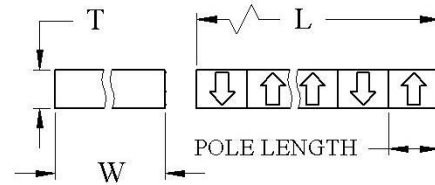
- > Linear
- > 2D
- > Rotary



 austriamicrosystems		Multipole Magnets			Axial Magnets				Diametric Magnets		
		60SXXXX20XX	60SXXXX12XX	60SXXXX10XX	2910042-1	2910043-1	2910044-1	2910045-1	2910041-1	2410025-1	2410022-1
Linear	AS5304	X									
	AS5306		X								
	AS5311			X							
	NSE-5310			X							
2D	AS5011				X	X	X	X			
	AS5013				X	X	X	X			
Rotary	AS5030								X	X	X
	AS5035								X	X	X
	AS5040								X	X	X
	AS5043								X	X	X
	AS5045								X	X	X
	AS5055								X	X	X
	AS5215								X	X	X
	AS5115								X	X	X
	AS5130								X	X	X
	AS5134								X	X	X
	AS5140								X	X	X
	AS5145								X	X	X
	AS5163								X	X	X
	AS5165								X	X	X
	AS5245								X	X	X
	AS5263								X	X	X

Multipole Magnets for Encoders

- > Our multipole magnets for encoders come with industry standard pole lengths, thicknesses and widths.
- > Accuracy within 2.0% (40 μm for 1.0 mm pole) of pole pair.
- > Cumulative pole accuracy within 1% per 10 mm.
- > Please use the alphanumeric coding system shown below to specify your multipole magnetic strip.



To configure, please select your specification from one of each box found below.

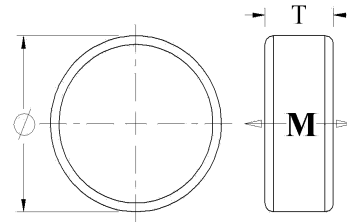
60S	XXXX	XX	X	X
Backing				
None Adhesive Steel				
Strip Type				
1 2				
Pole Length				
(10) (12) (20) 1.0mm 1.2mm 2.0mm				
Strip Length (+/- 0.3mm)				
0100mm 0300mm Custom lengths available upon request.				

Strip Type	1	2
Physical Data		
Thickness (T)	0.76 +/- .15mm	1.5 +/- .15mm
Width (W)	3.18 +/- .5mm	9.5 +/- .5mm
Density	3.7 gram/cc	3.7 gram/cc
Durometer	50-70 Shore-D	50-70 Shore-D
Mass	~8.9 gram/m	~53 gram/m
Operating Temperature	-40° to 80°C	-40° to 80°C
Linear Coefficient of Thermal Expansion (CTE)	$5 \times 10^{-5} \text{ } ^\circ\text{C}^{-1}$	$5 \times 10^{-5} \text{ } ^\circ\text{C}^{-1}$
Magnetic Characteristics		
Material	Flexible Magnet	Flexible Magnet
Energy Grade	1.4 MGOe	1.4 MGOe
Temperature Coefficient of Magnetic Field Strength	$-0.2\% \text{ } ^\circ\text{C}^{-1}$	$-0.2\% \text{ } ^\circ\text{C}^{-1}$
Max. Operating Temp.	80°C	80°C

AMS Encoder Compatibility		
1.0mm	1.2mm	2.0mm
AS5311 NSE-5310	AS5306	AS5304

Axial Disc Magnets for Encoders

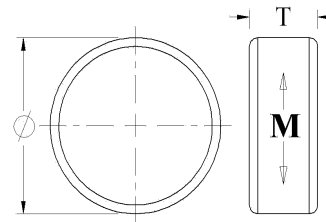
- > Our axial disc magnets for encoders are provided with standard diameters and thicknesses.
- > For custom sizes, please call or e-mail us.



Part Number >	2910042-1	2910043-1	2910044-1	2910045-1
Physical Data				
Diameter (Ø)	2.0 +/- .1mm	4.0 +/- .1mm	6.0 +/- .1mm	8.0 +/- .1mm
Thickness (T)	0.8 +/- .05mm	2.5 +/- .05mm	2.5 +/- .05mm	2.5 +/- .05mm
Density	7.6 gram/cc	7.6 gram/cc	7.6 gram/cc	7.6 gram/cc
Mass	~.02 gram	~.24 gram	~.53 gram	~.96 gram
Linear Coefficient of Thermal Expansion (CTE)	5.0 to 8.0x10 ⁻⁶ °C ⁻¹	5.0 to 8.0x10 ⁻⁶ °C ⁻¹	5.0 to 8.0x10 ⁻⁶ °C ⁻¹	5.0 to 8.0x10 ⁻⁶ °C ⁻¹
Magnetic Characteristics				
Material	Nd-Fe-B	Nd-Fe-B	Nd-Fe-B	Nd-Fe-B
Energy Grade	35 MGOe	35 MGOe	35 MGOe	35 MGOe
Temperature Coefficient of Magnetic Field Strength	-0.15%°C ⁻¹	-0.15%°C ⁻¹	-0.15%°C ⁻¹	-0.15%°C ⁻¹
Max. Operating Temp.	120°C	120°C	120°C	120°C
Coating	Nickel Plating	Nickel Plating	Nickel Plating	Nickel Plating
Compatible AMS Encoders	AS5011	AS5011	AS5011	AS5011

Diametric Disc Magnets for Encoders

- > Our diametric disc magnets for encoders are provided with standard diameters and thicknesses.
- > For custom sizes, please call or e-mail us.

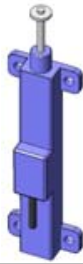


Part Number >	2910041-1	2410022-1	2410025-1
Physical Data			
Diameter (Ø)	6.0 +/- .1mm	6.0 +/- .1mm	6.0 +/- .1mm
Thickness (T)	2.5 +/- .05mm	3.0 +/- .05mm	3.0 +/- .05mm
Density	7.6 gram/cc	7.6 gram/cc	8.2 gram/cc
Mass	~.53 gram	~.64 gram	~.70 gram
Linear Coefficient of Thermal Expansion (CTE)	5.0 to 8.0x10 ⁻⁶ °C ⁻¹	5.0 to 8.0x10 ⁻⁶ °C ⁻¹	12.0 to 13.0x10 ⁻⁶ °C ⁻¹
Magnetic Characteristics			
Material	Nd-Fe-B	Nd-Fe-B	Sm-Co
Energy Grade	35 MGOe	35 MGOe	32 MGOe
Temperature Coefficient of Magnetic Field Strength	-0.15%°C ⁻¹	-0.15%°C ⁻¹	-0.03%°C ⁻¹
Max. Operating Temp.	120°C	120°C	120°C
Coating	Nickel Plating	Nickel Plating	N/A
Compatible AMS Encoder	AS5030 AS5035 AS5040 AS5043 AS5045 AS5055 AS5215 AS5115 AS5130 AS5134 AS5140 AS5145 AS5163 AS5165	AS5030 AS5035 AS5040 AS5043 AS5045 AS5055 AS5215 AS5115 AS5130 AS5134 AS5140 AS5145 AS5163 AS5165	AS5030 AS5035 AS5040 AS5043 AS5045 AS5055 AS5215 AS5115 AS5130 AS5134 AS5140 AS5145 AS5163 AS5165

Custom Magnetic Encoders

Dexter Magnetic Technologies offers a full range of high resolution linear position and angle encoders that act as a high reliability solution through non-contact magnetic sensing. Some typical examples of a sensor integrated into a module can be found in the table below and include:

- > Various Electronic Interface Signal Options
- > Full/Partial Rotational and Stroke Length Options
- > Mechanical and Mounting Options

	Linear: High Precision	Linear: Absolute Position	360° High Resolution
			
Main Features	> -0.5 μm resolution position information > Stroke length: 10mm-50mm	> Linear absolute position > Stroke length: 5mm-100mm	> 18-24bits over 360° > Absolute information
Advantages	> High resolution for precise positioning > Low power	> No "homing" required > Low power	> Rugged high resolution angle sensing > No "homing" required
Applications	> Precision robotics > Linear motion stages > Optical encoder replacement > LVDT replacement	> Intermittent power, live position requirement > Precision positioning > LVDT replacement	> Precision robotics > Long range scanners > Full rotation position sensing > Optical encoder replacement > Resolver replacement
Output Options	> Quadrature signal	> 1024 steps/stroke length > Analog/i2c	> Dual serial synchronous digital
Operating Conditions	> 5V, reverse protected > -40 to +150C	> 5V, reverse protected > -40 to +85C	> 5V, reverse protected > -40 to +85C
Mechanical	> Polymer/metal design > Sealed, splash resistant > Custom stroke > Custom package design	> Polymer/metal design > Sealed, splash resistant > Custom stroke > Custom package design	> Metal body, hardened steel shaft > Double ball bearing > Sealed, splash resistant

Our Advantages

Custom Modules

- > Magnet & Sensor Details Captured in Solution Design
- > Rugged Design for Repeatable Measurements
- > Customized Solutions for Plug and Play Use

Prototyping

- > Functional Polymer Prototypes in 2-4 Weeks
- > Functional Machined Prototypes in 2-4 Weeks

Features

- > Non-Contact Sensing
- > Up to 12 Bit Resolution
- > Various Electronic Outputs
- > Customized Mounting

Partial Angle On-Shaft	360° Small Form Factor	360° Industrial	Partial Rotation Industrial
			
> Absolute information > Stroke angle +/- 20° to +/-150°	> Compact form factor	> High resolution: 0.088°/step (12 bits) > Versatile design: several o/p configurations	> Customized partial rotation > Customized limit-value outputs > Resolution: 0.01°/step (45°/12 bits)
> No "homing" required > Rugged design solutions > Sealed for splash resistance	> High reliability non-contact sensing > Absolute angle at power-up > Operation in dusty conditions > Low power consumption > Direct output	> Rugged design > Low power > Sealed, splash resistant > No driver electronics > No "homing" required > Custom mounting configurations	> Rugged design > Sealed, splash resistant > No driver electronics > Low power
> Intermittent power, live position requirement > On-shaft position sensing > Resolver, RVDT replacement	> Shaft angle sensing > Optical encoder replacement > Resolver, RVDT replacement > Cost sensitive applications	> Robot arm and shaft angle position sensing > Optical encoder replacement > Resolver, RVDT replacement	> Robotic throttle position > Optical encoder replacement > Resolver, RVDT replacement
> Custom stroke angle > 1024 steps/stroke angle > Analog/i2c	> 4096 step resolution > Analog/PWM > Quadrature/Sine-Cosine	> 4096 step resolution > Analog/PWM > Quadrature/Sine-Cosine > Serial synchronous	> 4096 step resolution > Analog/PWM > Serial synchronous
> 5V, reverse protected > -40 to +85C	> 5V, reverse protected > -40 to +85C	> 5V/8-18V/18-28V > -40 to +150C	> 5V/8-18V/18-28V > -40 to +150C
> Polymer/metal design > Sealed, splash resistant > Custom angle range > Mechanical limits > Custom bore sizes	> Polymer/metal body > Polymer/metal shaft	> Aluminum/stainless body > Hardened steel shaft > Double ball bearing mounting > Sealed, IP68S compliant	> Aluminum/stainless body > Hardened steel shaft > Double ball bearing mounting > Sealed, IP68S compliant > Mechanical limits

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