

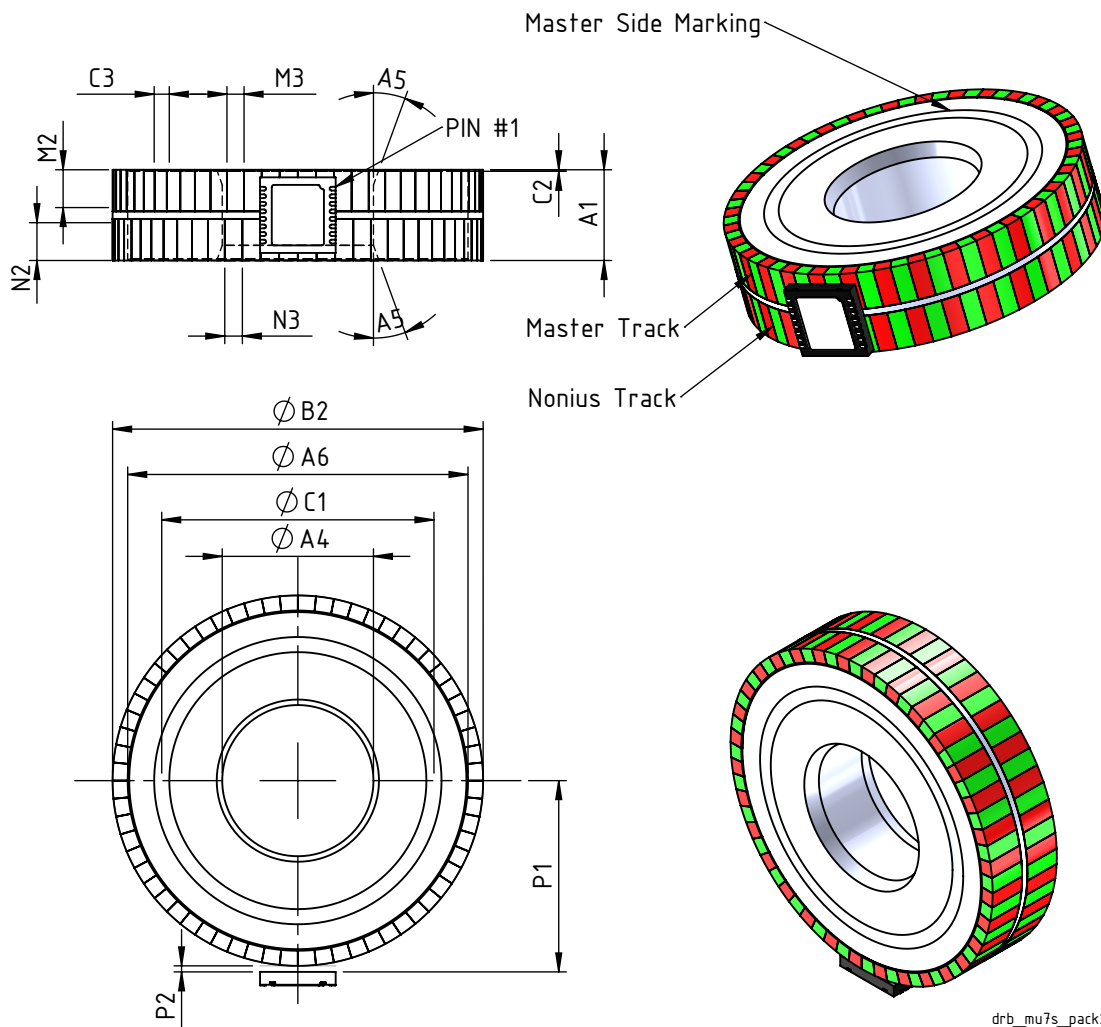
MU7S 25-32N

iC-MU MAGNETIC TARGET DESCRIPTION

ORDERING INFORMATION

Type	Order Destination	Description/Options
Magnetic target	MU7S 25-32N	2-Track nonius encoder drum Number of pole pairs: master 32, nonius 31 Diameter 24.5 mm, for 10 mm shaft Carrier material: ferritic steel 1.4104

CODE DISC DIMENSIONS



Notice: Interference in function

External magnetic fields change the functional properties. Magnetic fields of ≥ 1 mT reduce system accuracy, magnetic fields of ≥ 20 mT can damage the disc magnetization. The functionality of the system may no longer be ensured. Direct contact with magnetic clamps or other permanent magnets must be avoided.

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ABSOLUTE MAXIMUM RATINGS

Beyond these values damage may occur; device operation is not guaranteed

Item No.	Symbol	Parameter	Conditions			Unit
				Min.	Max.	
G001	Bext	Maximum External Magnetic Field Strength		-20	20	mT

THERMAL DATA

Operation conditions: No changes of the magnetic characteristics

Item No.	Symbol	Parameter	Conditions				Unit
				Min.	Typ.	Max.	
T01	Ta	Operating Ambient Temperature Range		-40		125	°C

DIMENSION TABLE

Carrier tolerances according to DIN ISO 2768-f unless otherwise specified

Item No.	Parameter	Comments	Min.	Typ.	Max.	Tolerance	Unit
Physical Dimensions Carrier							
A1	Total Height			6.0			mm
A4	Diameter of Bore Hole			10.0		M6	mm
A5	Chamfer			20°x1			mm
A6	Diameter of Carrier Plate			22.5		± 0.05	mm
Physical Dimensions Magnetic Coating							
B2	Outer Diameter of Magnetic Material			24.5		± 0.05	mm
Physical Dimensions Master Side Marking							
C1	Diameter of Marking Track			18.0			mm
C2	Depth of Marking Track			0.1			mm
C3	Width of Marking Track			1.0			mm
Magnetic Dimensions Master Track							
M2	Height of Master Track			2.75			mm
M3	Pole Pitch of Master Track			$\frac{360}{64}$			deg
Magnetic Dimensions Nonius Track							
N2	Height of Nonius Track			2.75			mm
N3	Pole Pitch of Nonius Track			$\frac{360}{62}$			deg
Chip Position							
P1	Radial Position of Package Surface	referred to axial center		12.65			mm
P2	Distance Package Surface DFN16-5x5	referred to magnetic coating surface		0.4			mm
P3	Distance Sensor Surface (Bare Die)	referred to magnetic coating surface		0.8			mm
P4	Tilt of Chip	vs. magnetic tracks		0.0			deg
Magnetic Material Characteristics							
Hc	Coercive Field Strength	at 20 °C		129			kA/m
Br	Remanence	at 20 °C		185			mT
TKB	Temperature Coefficient of the Remanence	temperature range -40 °C...125 °C		-0.2			%/K
Bpp	Magnetic Field Amplitude	at 0.8 mm effective distance (sensor to magnetic surface)	20				mT

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REVISION HISTORY

Rel	Rel.Date	Chapter	Modification	Page
A1	16-04-16		Initial Release	

Rel	Rel.Date	Chapter	Modification	Page
A2	14-10-02	CODE DISC DIMENSIONS	Fond implemented Added notice box: Interference in function	1
		THERMAL DATA	Max. temperature range expanded to +125°C	2
		DIMENSION TABLE	HC: corrected to 129 kA/m Br: corrected to 185 mT	2

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