

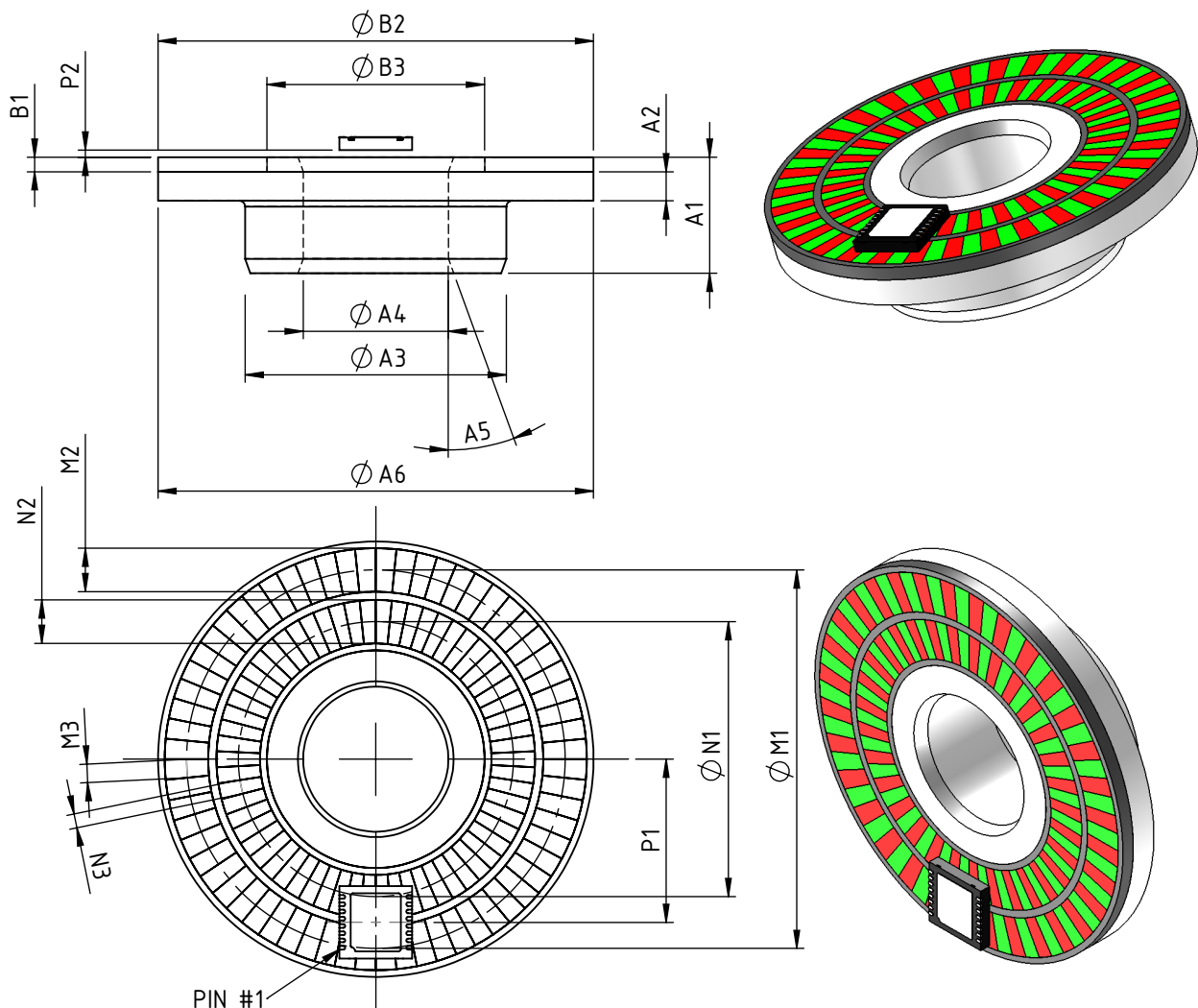
MU2S 30-32N

iC-MU MAGNETIC TARGET DESCRIPTION

ORDERING INFORMATION

Type	Order Destination	Description/Options
Magnetic target	MU2S 30-32N	2-Track nonius encoder disc, axial magnetization Number of pole pairs: master 32, nonius 31 Diameter 30 mm, for 10 mm shaft (press fit) Carrier material: Aluminium

CODE DISC DIMENSIONS



drc_mu2s_pack2, 2-1

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		95	°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			8.0		± 0.1	mm
A2	Height of Carrier Plate			2.0			mm
A3	Diameter of Shaft			18.0		r7	mm
A4	Diameter of Bore Hole			10.0		M7	mm
A5	Chamfer			20°x1			mm
A6	Diameter of Carrier Plate			30.0			mm
Physical Dimensions Magnetic Coating							
B1	Thickness of Magnetic Material			1.0			mm
B2	Outer Diameter of Magnetic Material			29.0			mm
B3	Inner Diameter of Magnetic Material			12.0			mm
Magnetic Dimensions Outer Track (Master)							
M1	Diameter of Master Track	referred to axial center		26.08			mm
M2	Width of Master Track			2.5			mm
M3	Pole Width of Master Track	referred to track center		1.28			mm
Magnetic Dimensions Inner Track (Nonius)							
N1	Diameter of Nonius Track	referred to axial center		18.88			mm
N2	Width of Nonius Track			2.5			mm
N3	Pole Width of Nonius Track	referred to track center		0.96			mm
Chip Position							
P1	Radial Position of Chip Center	referred to axial center		11.24			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	Rotation of Chip	vs. outer magnetic track		0.0			deg
Magnetic Material Characteristics							
Hc	Coercive Field Strength	at 20 °C		170			kA/m
Br	Remanence	at 20 °C		240			mT
TKB	Temperature Coefficient of the Remanence	temperature range -40 °C...95 °C		-0.2			%/K
Bpp	Magnetic Field Amplitude	at 0.8 mm effective distance (sensor to magnetic surface)	20				mT

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preliminary



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DESIGN REVIEW: Notes Regarding Magnetic Target

MU2S 30-32N 0		
No.	Function, item	Description and application notes
1	Tolerance of item #A3 and #A4	Tolerance of shaft is 18r6 Tolerance of bore hole is 10M6

Table 4: Notes regarding MU2S 30-32N release 0.

MU2S 30-32N Z		
No.	Function, item	Description and application notes
		None at time of release.

Table 5: Notes regarding MU2S 30-32N release Z.

REVISION HISTORY

Rel.	Rel. Date*	Chapter	Modification	Page
A1	12-09-29		Initial Releases	

Rel.	Rel. Date*	Chapter	Modification	Page
A2	14-04-11	CODE DISC DIMENSIONS	Drawing update, added Notice	1,2

Rel.	Rel. Date*	Chapter	Modification	Page
A3	14-09-26	DIMENSION TABLE	Item A1: Added tolerance	2

Rel.	Rel. Date*	Chapter	Modification	Page
B1	19-04-18	CODE DISC DIMENSIONS	Note box: Corrected value 30 mT to 20 mT	1
		DIMENSION TABLE	Changes for revision MU2S 30-32N Z Item A3: tolerance changed from 18r6 to 18r7 Item A4: tolerance changed from 10M6 to 10M7	2
		DESIGN REVIEW: Notes Regarding Magnetic Target	Chapter added	3

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* Release Date format: YYYY-MM-DD