

MU2S 30-32N

iC-MU MAGNETIC TARGET DESCRIPTION



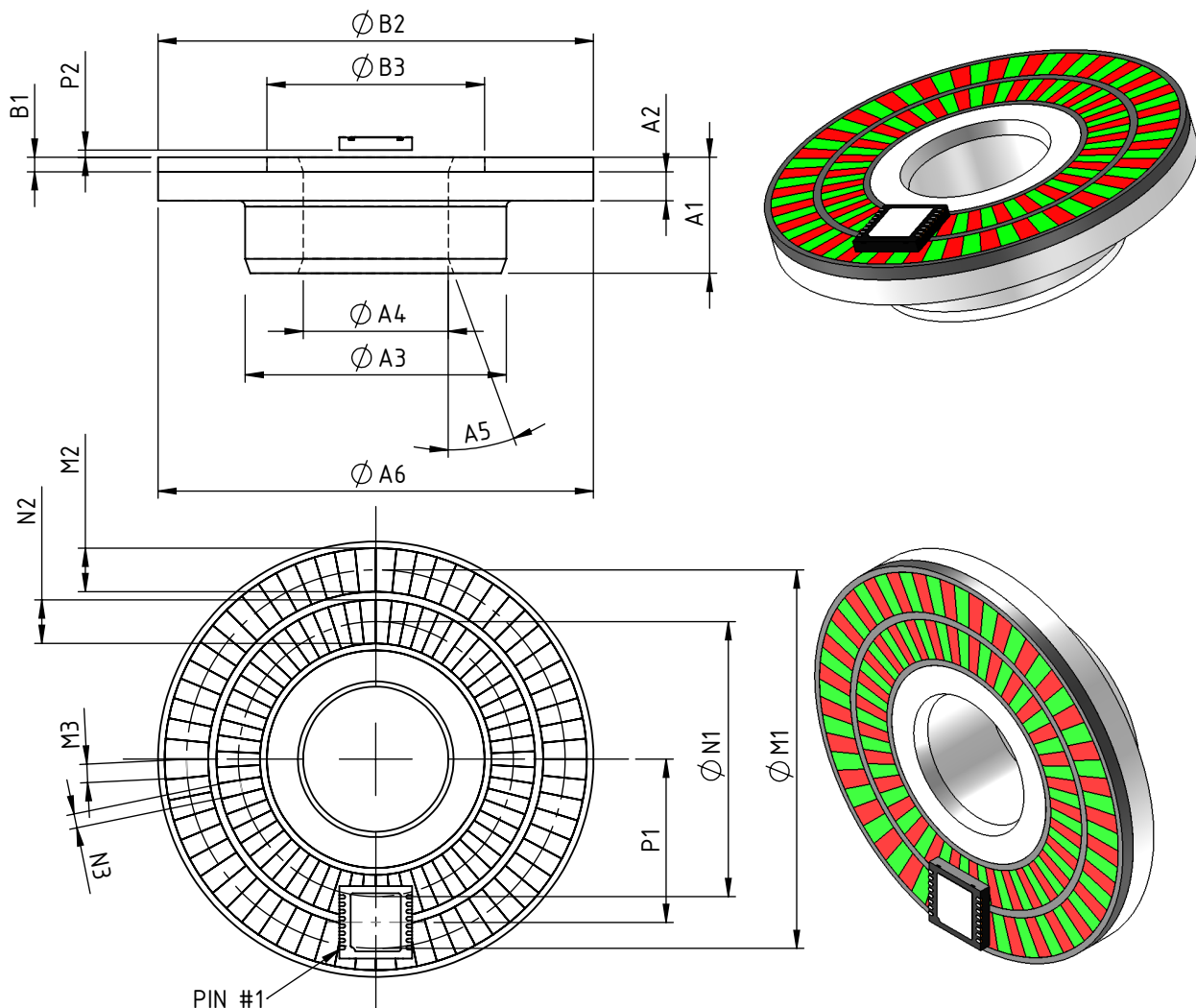
Rev B2, Page 1/3

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

Magnetic Target Manufacturer: Balluff GmbH

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.

MU2S 30-32N

iC-MU MAGNETIC TARGET DESCRIPTION



Rev B2, Page 2/3

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		h7	mm
A4	Diameter of Bore Hole			10.0		H7	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			15.0			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

MU2S 30-32N

iC-MU MAGNETIC TARGET DESCRIPTION



Rev B2, Page 3/3

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	2012-09-29		Initial Releases	

Rel.	Rel. Date *	Chapter	Modification	Page
A2	2014-04-11	CODE DISC DIMENSIONS	Drawing update, added Notice	1,2

Rel.	Rel. Date *	Chapter	Modification	Page
A3	2014-09-26	DIMENSION TABLE	Item A1: Added tolerance	2

Rel.	Rel. Date *	Chapter	Modification	Page
B1	2019-04-18	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

Rel.	Rel. Date *	Chapter	Modification	Page
B2	2021-06-23	DIMENSION TABLE	Item A3: corrected tolerance from 18r7 to 18h7 Item A4: corrected tolerance from 10M7 to 10H7 Item B3: corrected from 12.0 mm to 15.0 mm	2

iC-Haus expressly reserves the right to change its products, specifications and related supplements (together the Documents). A Datasheet Update Notification (DUN) gives details as to any amendments and additions made to the relevant Documents on our internet website www.ichaus.com/DUN and is automatically generated and shall be sent to registered users by email.

Copying – even as an excerpt – is only permitted with iC-Haus' approval in writing and precise reference to source.

The data and predicted functionality is intended solely for the purpose of product description and shall represent the usual quality and behaviour of the product. In case the Documents contain obvious mistakes e.g. in writing or calculation, iC-Haus reserves the right to correct the Documents and no liability arises insofar that the Documents were from a third party view obviously not reliable. There shall be no claims based on defects as to quality and behaviour in cases of insignificant deviations from the Documents or in case of only minor impairment of usability.

No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information/specification resp. Documents or the products to which information refers and no guarantee with respect to compliance to the intended use is given. In particular, this also applies to the stated possible applications or areas of applications of the product.

iC-Haus products are not designed for and must not be used in connection with any applications where the failure of such products would reasonably be expected to result in significant personal injury or death (*Safety-Critical Applications*) without iC-Haus' specific written consent. Safety-Critical Applications include, without limitation, life support devices and systems. iC-Haus products are not designed nor intended for use in military or aerospace applications or environments or in automotive applications unless specifically designated for such use by iC-Haus.

iC-Haus conveys no patent, copyright, mask work right or other trade mark right to this product. iC-Haus assumes no liability for any patent and/or other trade mark rights of a third party resulting from processing or handling of the product and/or any other use of the product.

Software and its documentation is provided by iC-Haus GmbH or contributors "AS IS" and is subject to the ZVEI General Conditions for the Supply of Products and Services with iC-Haus amendments and the ZVEI Software clause with iC-Haus amendments (www.ichaus.com/EULA).

* Release Date format: YYYY-MM-DD