MU18S 30-32N

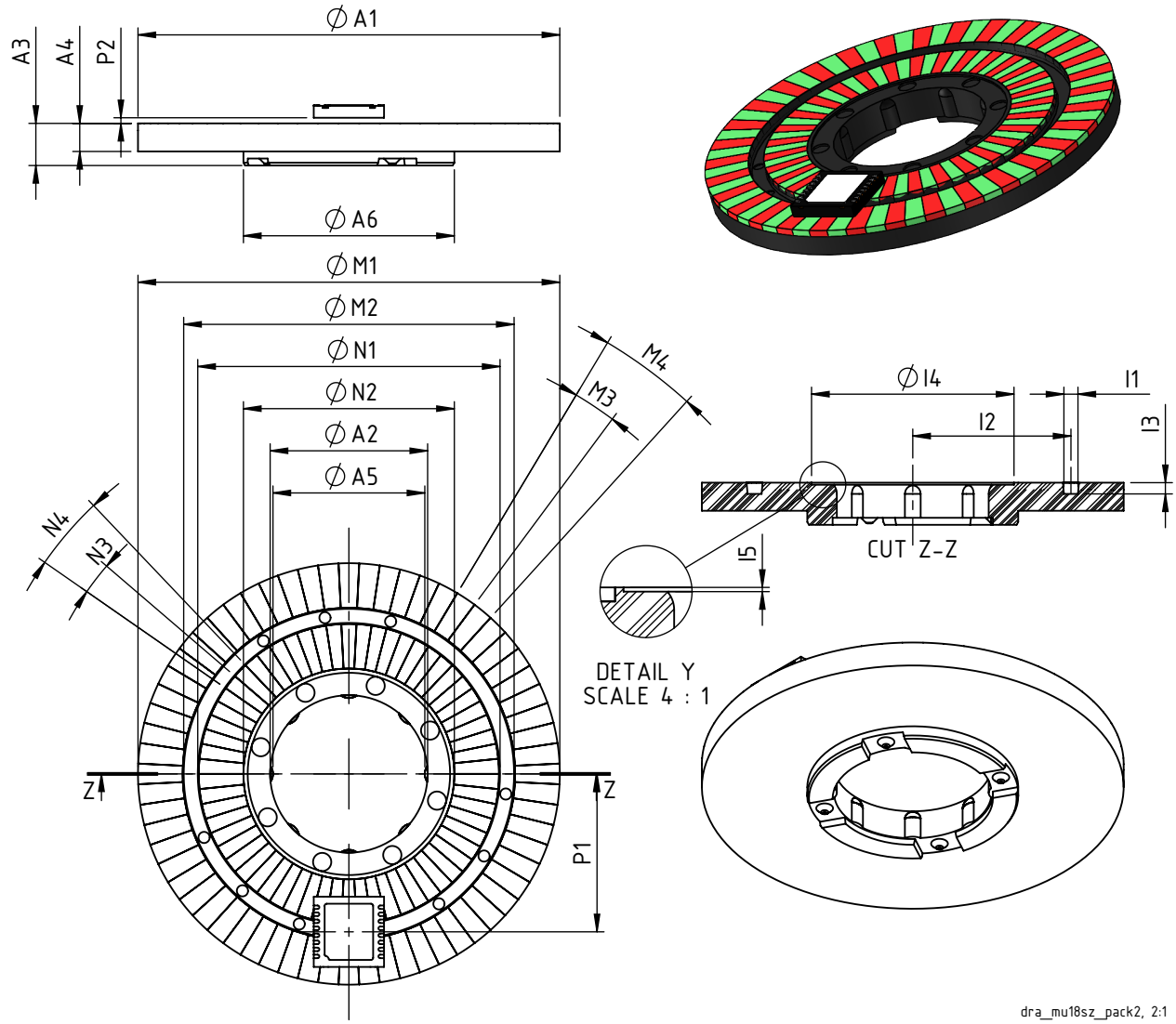
iC-MU MAGNETIC TARGET DESCRIPTION

preliminary

ORDERING INFORMATION

Type	Order Destination	Description/Options
Magnetic target (rotary, axial)	MU18S 30-32N	2-Track nonius encoder disc Bipolar magnetized Number of pole pairs: master 32, nonius 31 Outer diameter 30 mm, for 11.0 mm shafts Injection molded permanent magnet material

CODE DISC DIMENSIONS



Notice: Interference in function

External magnetic fields can change the functional properties and may reduce system accuracy or 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.

ABSOLUTE MAXIMUM RATINGS

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

Item No.	Symbol	Parameter	Conditions	Min.	Max.	Unit
G001	|Bext|	Max. External Magnetic Field Strength	at disc surface		20	mT

THERMAL DATA

Operation conditions: No changes of the magnetic characteristics

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

DIMENSION TABLE

Carrier material is a combination of polyamide and hard ferrite.

Item No.	Parameter	Comments	Min.	Typ.	Max.	Tolerance	Unit
Physical Dimensions Disc							
A1	Disc Outer Diameter			30.0		+ 0.0 / - 0.2	mm
A2	Diameter of Bore Hole	for pressing and guling on 11.0 mm shafts		11.2		±0.09	mm
A3	Total Height			3.0		±0.08	mm
A4	Disc Thickness			2.0		±0.05	mm
A5	Diameter of press ridge	centers magnetic target during press in		10.8		±0.08	mm
A6	Diameter of Outer Shaft			15.0		±0.1	mm
Physical Dimensions Code Free Area							
I1	Width of Code Free Area	between master and nonius track		1.0			mm
I2	Radius Code Free Area			11.25			mm
I3	Depth of Code Free Area			0.8			mm
I4	Diameter of Cavity			14.4			mm
I5	Depth of Cavity			0.15		+ 0.05 / - 0.1	mm
Magnetic Dimensions Outer Track (Master)							
M1	Outer Diameter of Master Track	referred to axial center		30.0			mm
M2	Inner Diameter of Master Track			23.5			mm
M3	Pole Angle of Master Track	$\frac{360}{64}$		5.625			°
M4	Pole Pair Angle of Master Track	$\frac{360}{32}$		11.25			°
Magnetic Dimensions Inner Track (Nonius)							
N1	Outer Diameter of Nonius Track	referred to axial center		21.5			mm
N2	Outer Diameter of Nonius Track			15.0			mm
N3	Pole Angle of Nonius Track	$\frac{360}{62}$		5.806			°
N4	Pole Pair Angle of Nonius Track	$\frac{360}{31}$		11.613			°
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
Magnetic Material Characteristics							
Br	Remanence	at 20 °C		235			mT
TKB	Temperature Coefficient of Remanence	temperature range -40 °C to 125 °C		-0.19			%/K

REVISION HISTORY

Rel.	Rel. Date*	Chapter	Modification	Page
A1	2015-04-27		Initial Release	

Rel.	Rel. Date*	Chapter	Modification	Page
B1	2016-06-21		Release valid for MU18S 30-32N revision Z	
		CODE DISC DIMENSIONS	Drawing updated, dimensioning l4 and l5 added	1
		DIMENSION TABLE	Item l4 & l5 added: indroduced cavity Tolerance of item A1 updated: from ±0.11 mm to + 0.0 / - 0.2 mm Tolerance of item A5 added Tolerance of item A6 updated: from ±0.09 mm to ±0.10 mm	2

* Release Date format: *YYYY-MM-DD*