

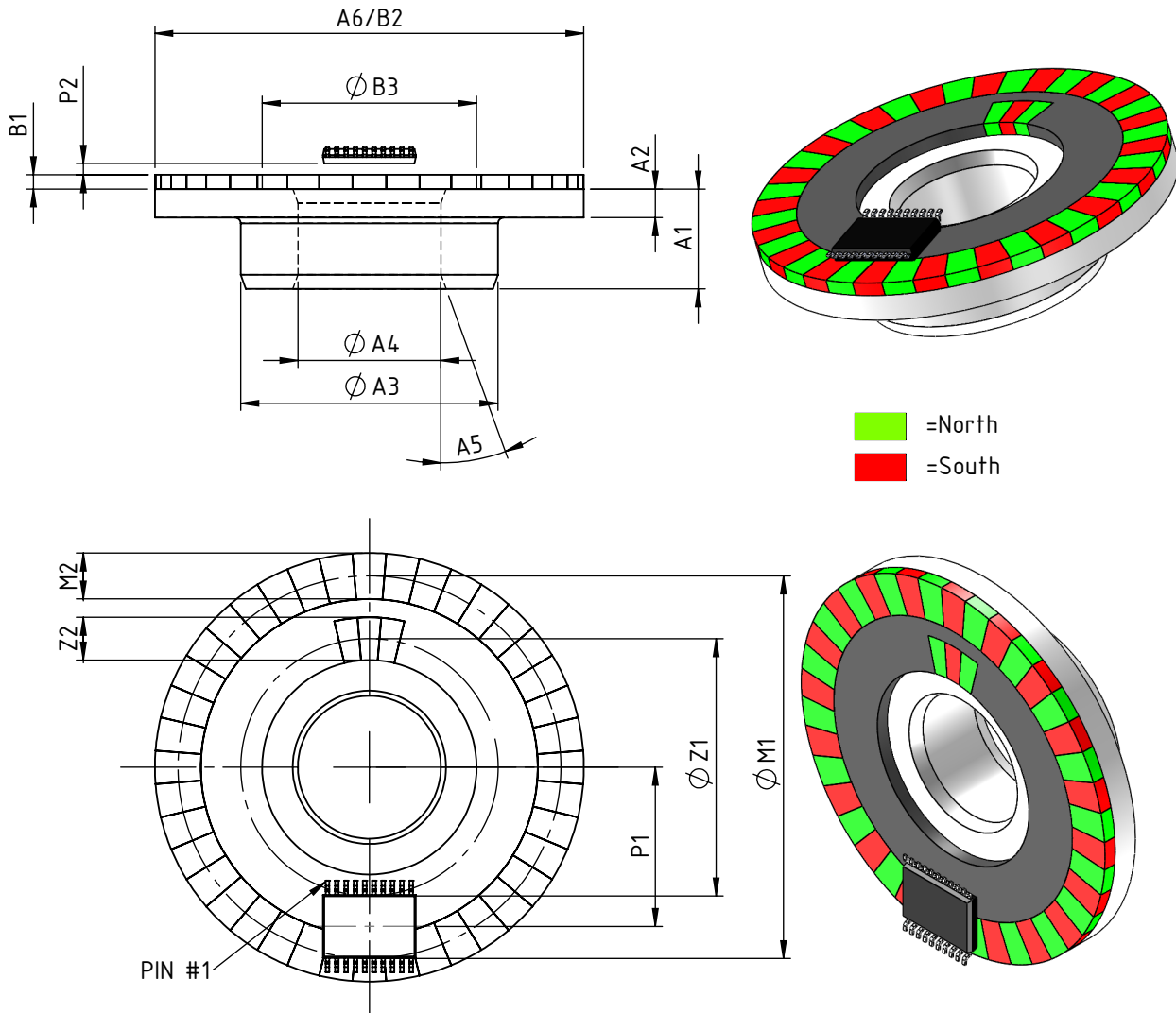
# MHL1S 30-20

## iC-MHL200 MAGNETIC TARGET DESCRIPTION

### ORDERING INFORMATION

Type	Order Destination	Description/Options
Magnetic target	MHL1S 30-20	Incremental magnetic encoder disc with index 40 poles 2 mm pitch incremental track NSN Index pattern in phase with incremental track Target diameter 30 mm, for 10 mm shaft Carrier material: ferritic steel 1.4104

### CODE DISC DIMENSIONS



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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
<b>Physical Dimensions Carrier</b>							
A1	Total Height			5.0			mm
A2	Height of Carrier Plate			2.5		±0.05	mm
A3	Diameter of Shaft			18.0			mm
A4	Diameter of Bore Hole			10.0		M6	mm
A5	Chamfer			20°x1			mm
A6	Diameter of Carrier Plate			30.0		±0.05	mm
<b>Physical Dimensions Magnetic Coating</b>							
B1	Thickness of Magnetic Material			1.0			mm
B2	Outer Diameter of Magnetic Material			30.0			mm
B3	Inner Diameter of Magnetic Material			15.0			mm
<b>Magnetic Dimensions Outer Incremental Track</b>							
M1	Nominal Track Diameter	referred to axial center		25.46			mm
M2	Track Width		2.5		5		mm
M3	Nominal Pole Width	referred to track center		2.0			mm
<b>Magnetic Dimensions Inner NSN-Index Track</b>							
Z1	Diameter of Index Track	referred to axial center		19			mm
Z2	Width of Index Track		2.5		4		mm
Z3	Nominal Pole Width of Index Track	referred to track center		1.49			mm
<b>MHL200 Chip Position</b>							
P1	Radial Position of Chip Center	referred to axial center		11.52			mm
P2	Distance Package Surface TSSOP20	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
<b>Magnetic Material Characteristics</b>							
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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### REVISION HISTORY

Rev	Notes	Pages affected
A1	Initial version	all

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