

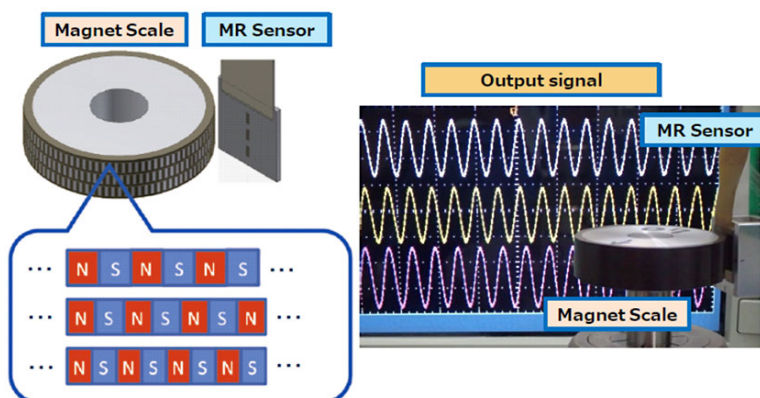
Encoder

Multi Pole Magnet Scales



In combination with Magnet Scale and Magneto-electric Conversion Device such as MR-Sensor, Signals shown below will be acquired. These signals can be used for Encoder.

■ Usage Example



■ Feature

Max. Work Size	Φ200mm × 20mm
Magnetizing Pitch	100μm~1,000μm
Single Pitch Error	0.10%
Cumulative Pitch Error	0.40%
Total Harmonic Distortion	2% (2~7th)
Application	Magnetizing Multi tracks and mixed pitches in track are available.

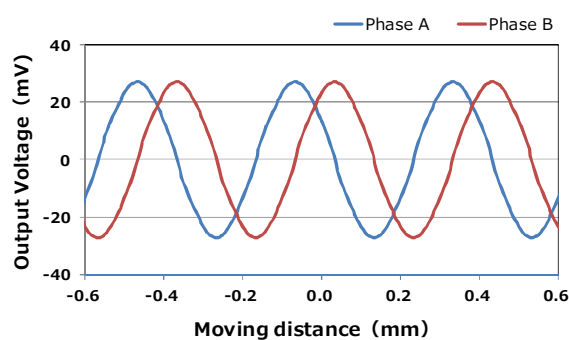
For details, please contact us.

■ Evaluation of Magnetization

Pitch Error (Single, Cumulative)

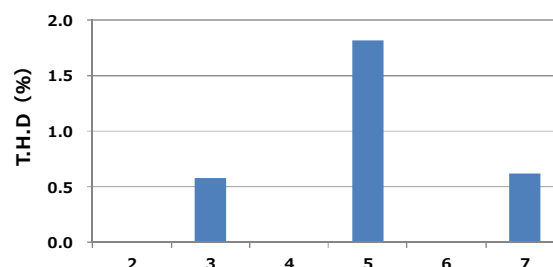
	Magnetizing Pitch Ref. ↓	Single Pitch Error (Each Pitch Error)	Cumulative Pitch Error (Cumulating Single Pitch Errors)
1	N S	0.05%	0.05%
2	N S	0.05%	0.10%
3	N S	-0.05%	0.05%
4	N S	-0.10%	-0.15%
5	N S	-0.10%	-0.25%
6	N S	-0.05%	-0.30%
7	N S	0.10%	-0.20%
..
Evaluation		0.10%	0.40%

Harmonic Distortion



Total Harmonic Distortion 2.0%
(3rd 0.57% 5th 1.82% 7th 0.63%)

FFT Analysis



Single Pitch Error --- Tolerance between actual and theoretical pitch.

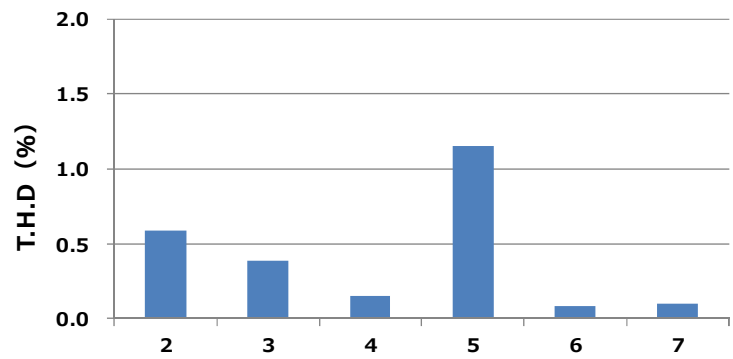
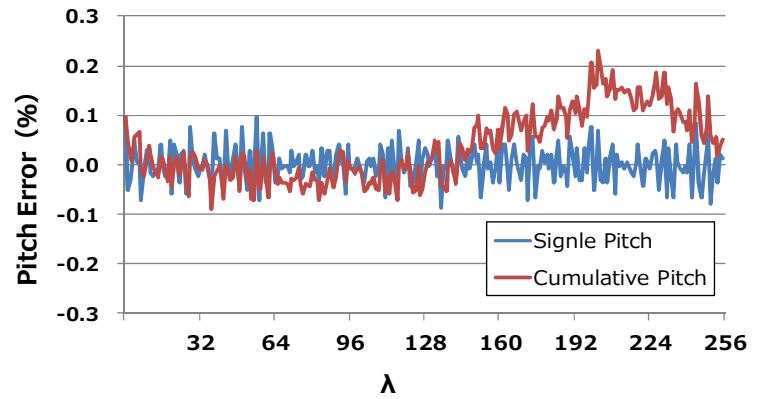
Its maximum value (absolute value)

Cumulative Pitch Error---Tolerance between maximum and minimum value of cumulating Single Pitch Errors over full range.

■ Evaluation of Magnetization

Φ32.6mm with shaft , Poles 512 (256λ) Magnetization Sample

Signle Pitch Error	0.10%
Cumulative Pitch Error	0.32%
Total Harmonic Distortion	1.37%
[
2nd.	0.59%
3rd.	0.39%
4th.	0.15%
5th.	1.15%
6th.	0.09%
7th.	0.10%
]	



■ Handling Instruction

·Characteristics of magnet may affected by excessive high/low temperature and strong magnetic force.