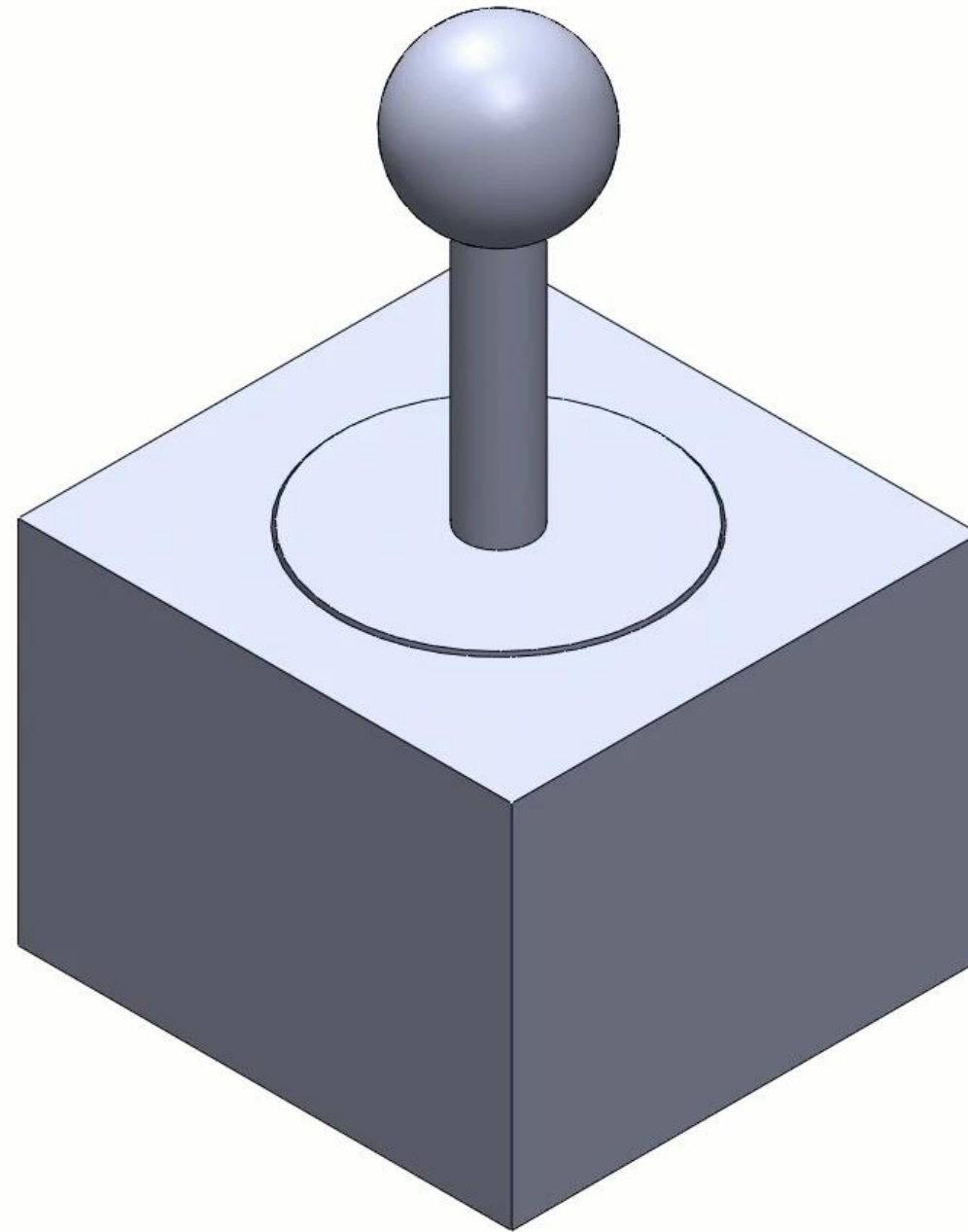


Changing rotation direction

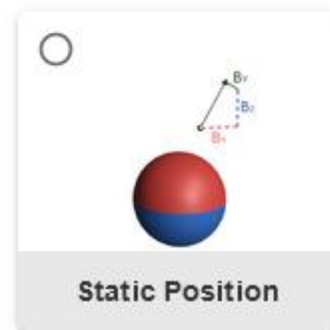
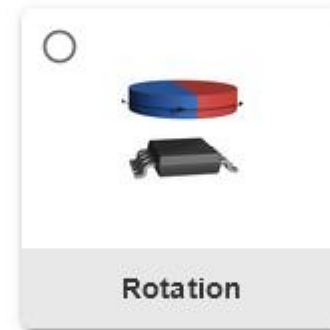
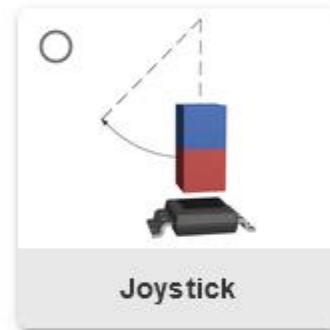
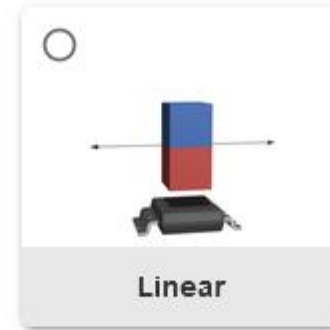
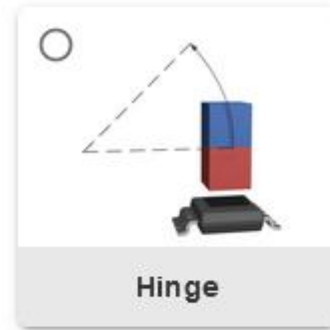
TI Precision Labs – TI Magnetic Sense Simulator

Presented and prepared by Patrick Simmons

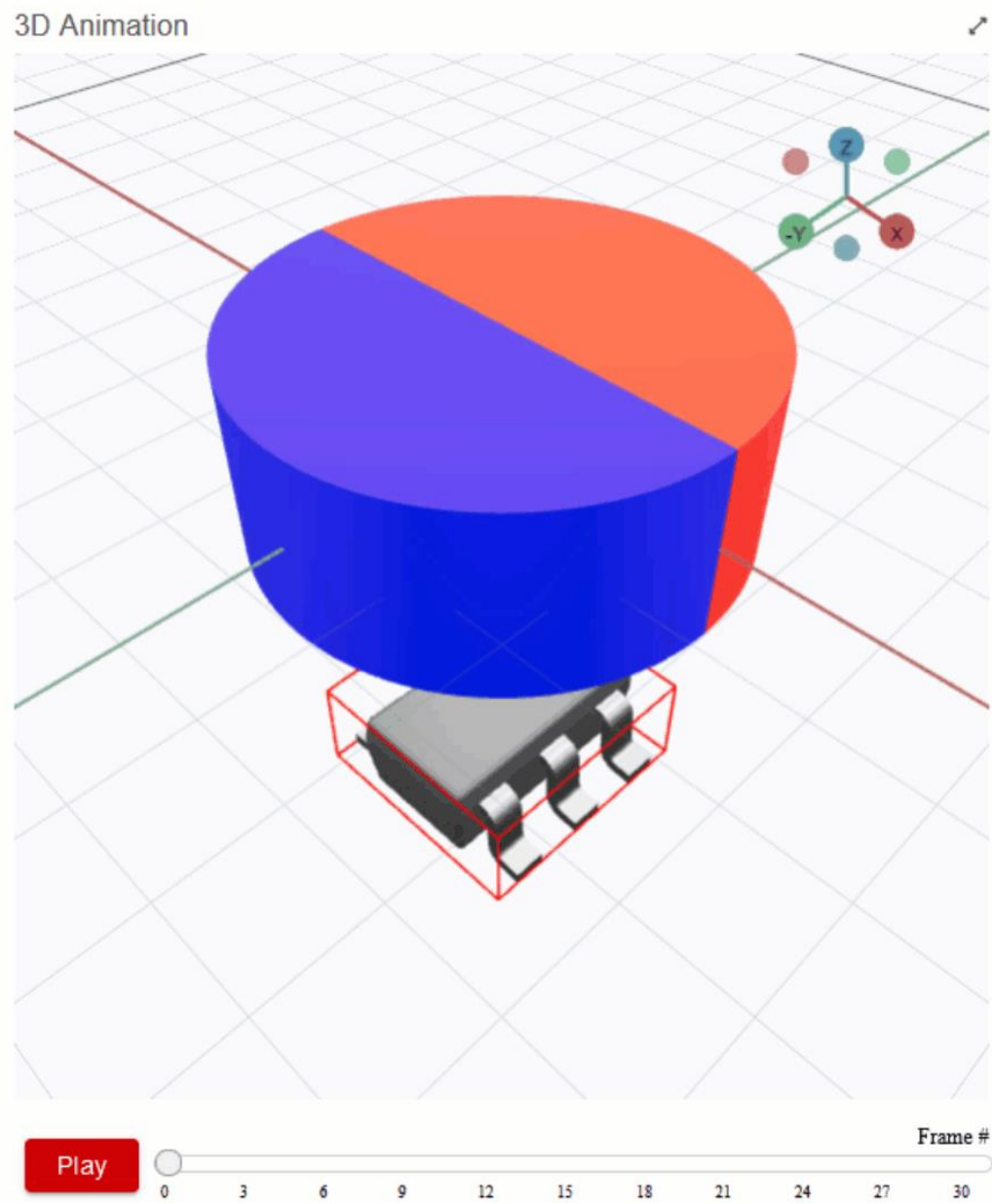
Rotation example



Similar rotating movement functions



The difference between the functions



Hinge Function

Origin Position

Position

X Axis

0 mm

Y Axis

0 mm

Z Axis

0 mm

Angle

X Axis

0 Deg

Y Axis

0 Deg

Z Axis

0 Deg

Final Position

Position

Arc Length

30 Deg

The difference between the functions

▼ Sensor Position

Position Properties

Position

X Axis

0

mm

Y Axis

0

mm

Z Axis

-5

mm

Angle

X Axis

0

Deg

Y Axis

0

Deg

Z Axis

0

Deg

▼ Magnet Motion

Origin Position

Position

X Axis

0

mm

Y Axis

0

mm

Z Axis

0

mm

Angle

X Axis

0

Deg

Y Axis

0

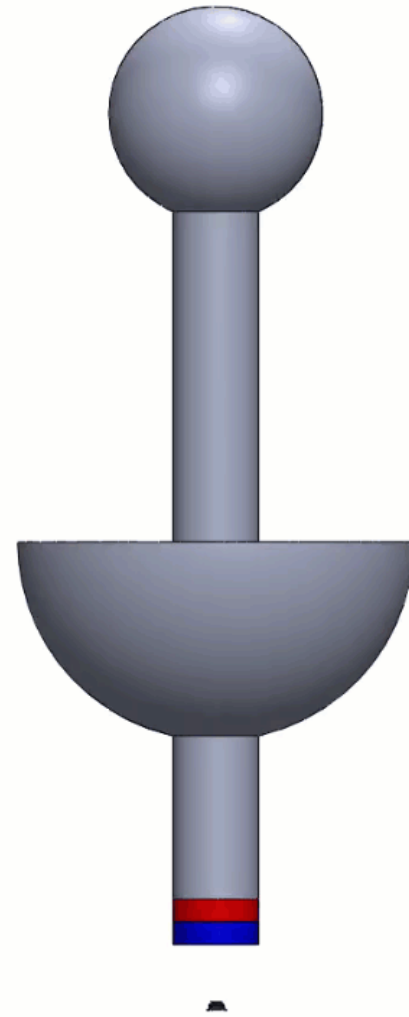
Deg

Z Axis

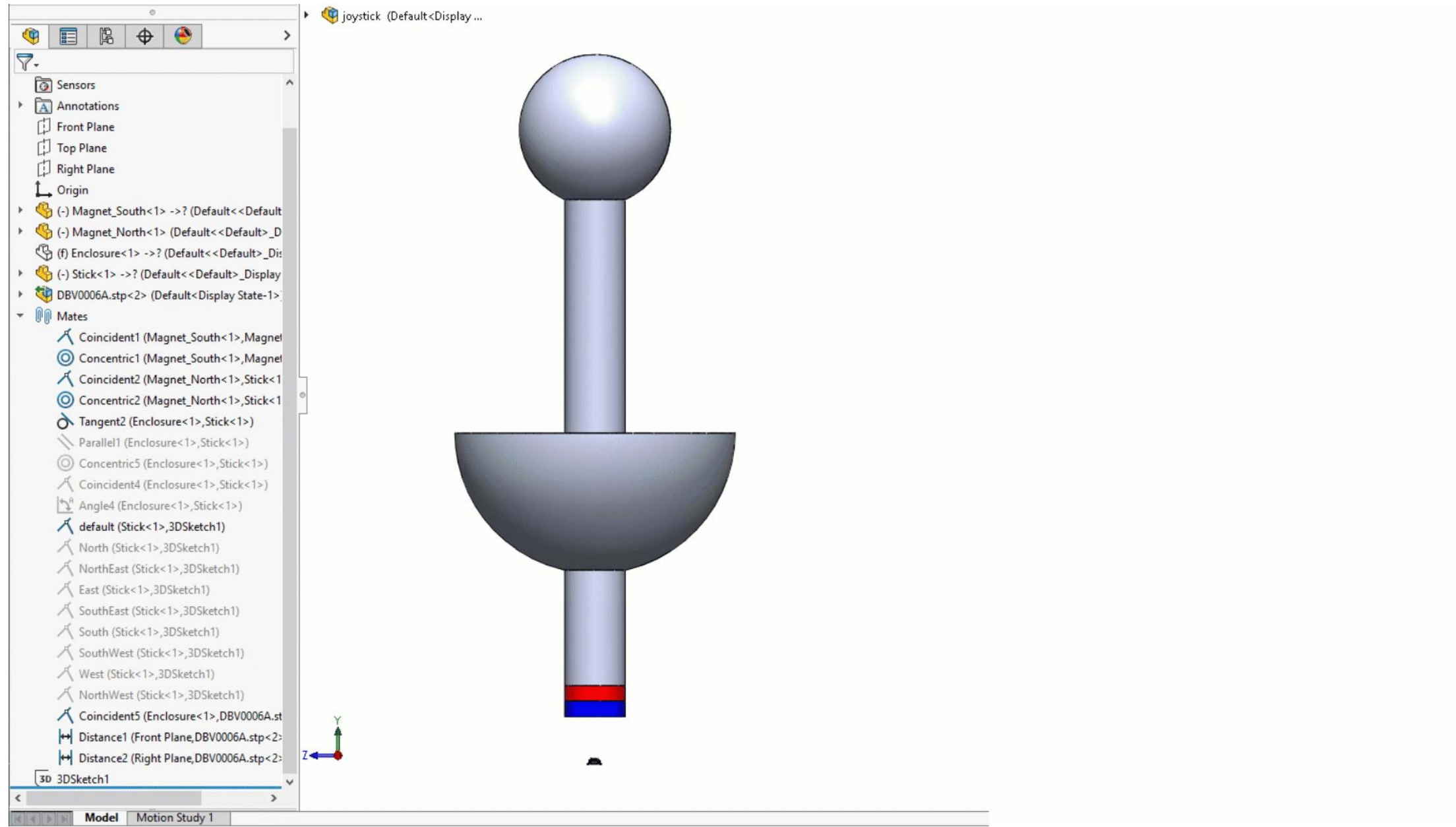
0

Deg

Function	Rotation Plane	Rotation Axis
Hinge	YZ	X
Rotation	XY	Z
Joystick	Adjustable, parallel and centered on Z-axis	Adjustable, in XY plane centered on Z-axis.



Importing design into different function



Additional rotation example

TI Magnetic Sense Simulator (TIMSS) Patrick

Joystick_Mod_# *

Function Joystick Save

Edit Design Output

Design

Parametric Sweep

Compare Design

Magnet Sensor Sim Settings

Magnet Specifications

Magnet Geometry

Magnet Motion

Origin Position

Position

X Axis 0 mm Y Axis 0 mm Z Axis 0 mm

Angle

X Axis 0 Deg Y Axis 0 Deg Z Axis 0 Deg

Final Position

Position

Tilt Angle 360 Deg XY Angle 0 Deg

Simulate

X Axis Angle	Y Axis Angle	Z Axis Angle	XY Angle Position
90°	Adjustable	Angle of wheel direction	180° - (Z Axis Angle)
0°	90°	Angle of wheel direction	90° - (Z Axis Angle)

Learn more

- TI Magnetic Sense Simulator Product Folder
<https://www.ti.com/TIMSS>
- TI Magnetic Sense Simulator User's Guide
<https://www.ti.com/lit/ug/slyu067/slyu067.pdf>
- TI Magnetic Sense Simulator App Brief
<https://www.ti.com/lit/ab/slya083/slya083.pdf>
- Position Sensing Demo Video Series
<https://www.ti.com/video/series/position-sensing-demos.html>
- TI Precision Labs: Magnetic Sensor Training Videos
<https://www.ti.com/video/series/precision-labs/ti-precision-labs-magnetic-sensors.html>
- Sensors E2E Forum
<https://e2e.ti.com/support/sensors-group/sensors/f/sensors-forum>
- TI Magnetic Sensor Portfolio
<https://www.ti.com/magneticsensors>

To start your simulation now, visit:
webench.ti.com/timss/



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