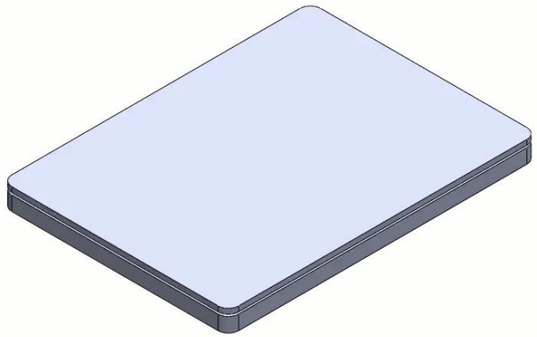
Hinge rotation

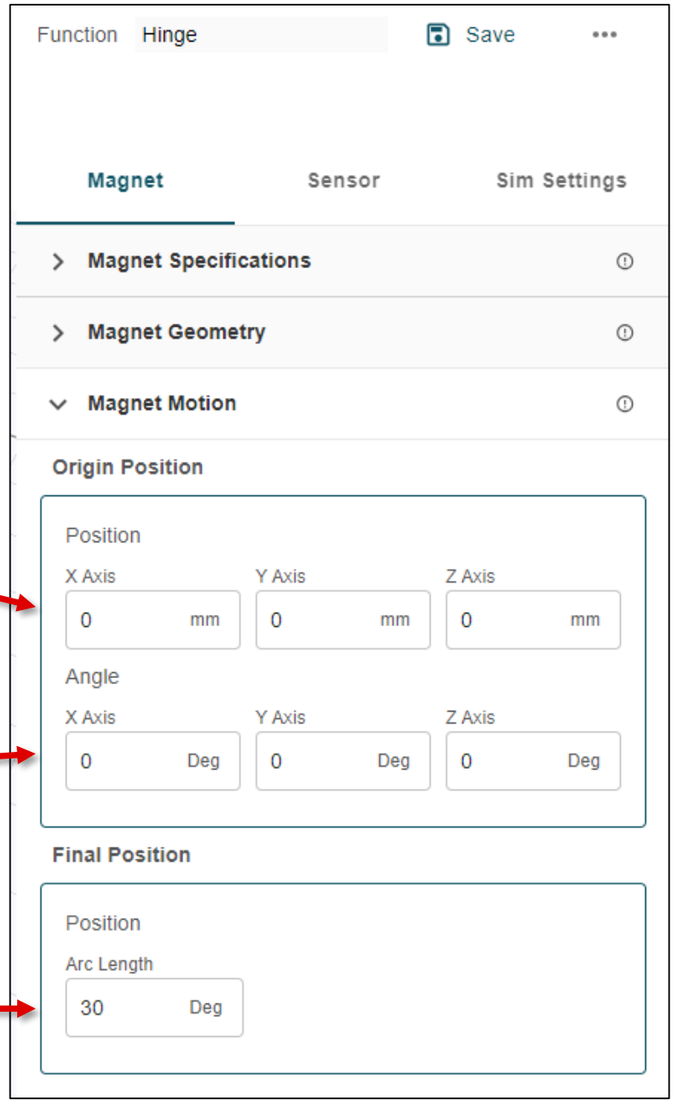
TI Precision Labs – TI Magnetic Sense Simulator (TIMSS)

Presented and prepared by Jesse Baker

Hinge motion



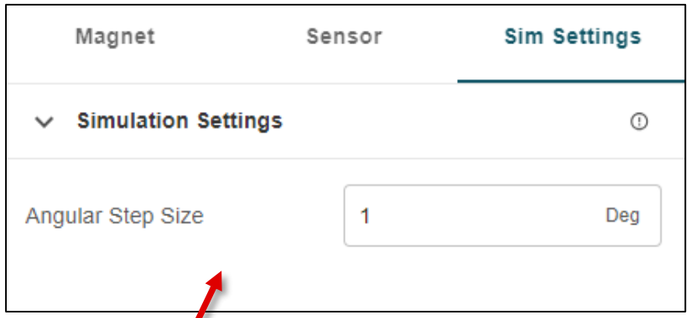
TIMSS simulation configuration



Initial location of the magnet center

Orientation of the magnet

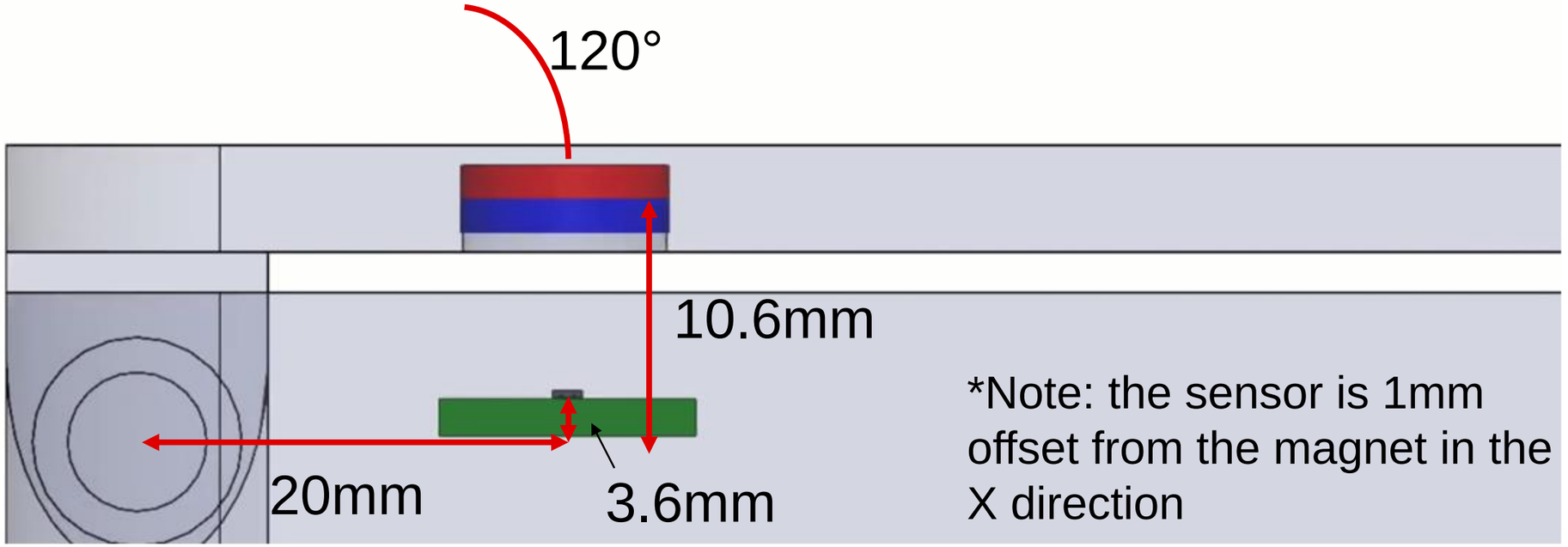
Degrees the magnet rotates about the X-axis



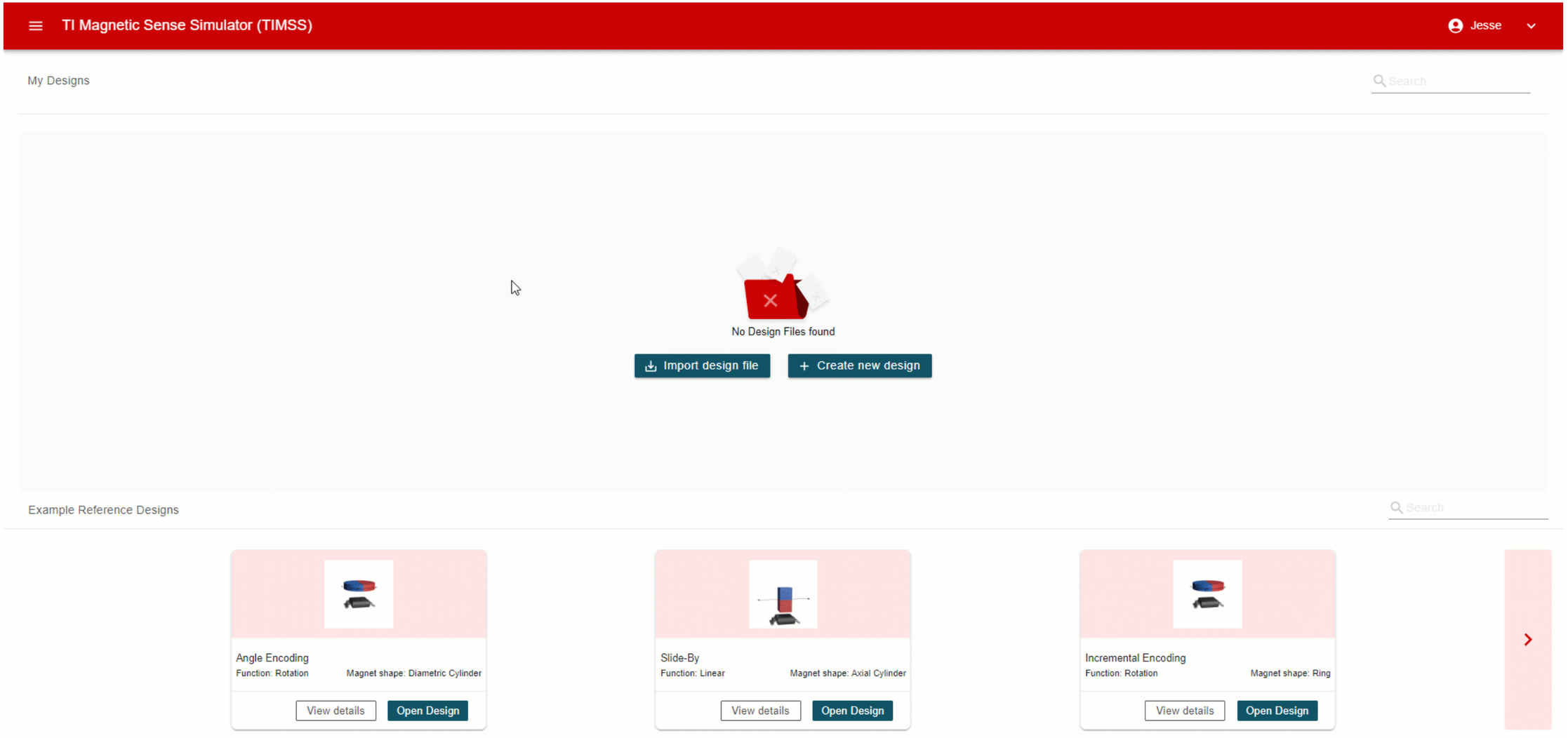
Simulation step size

Simulation configuration example

Magnet shape and dimensions:
Neodymium N52 bar magnet
4mm x 8mm x 1mm

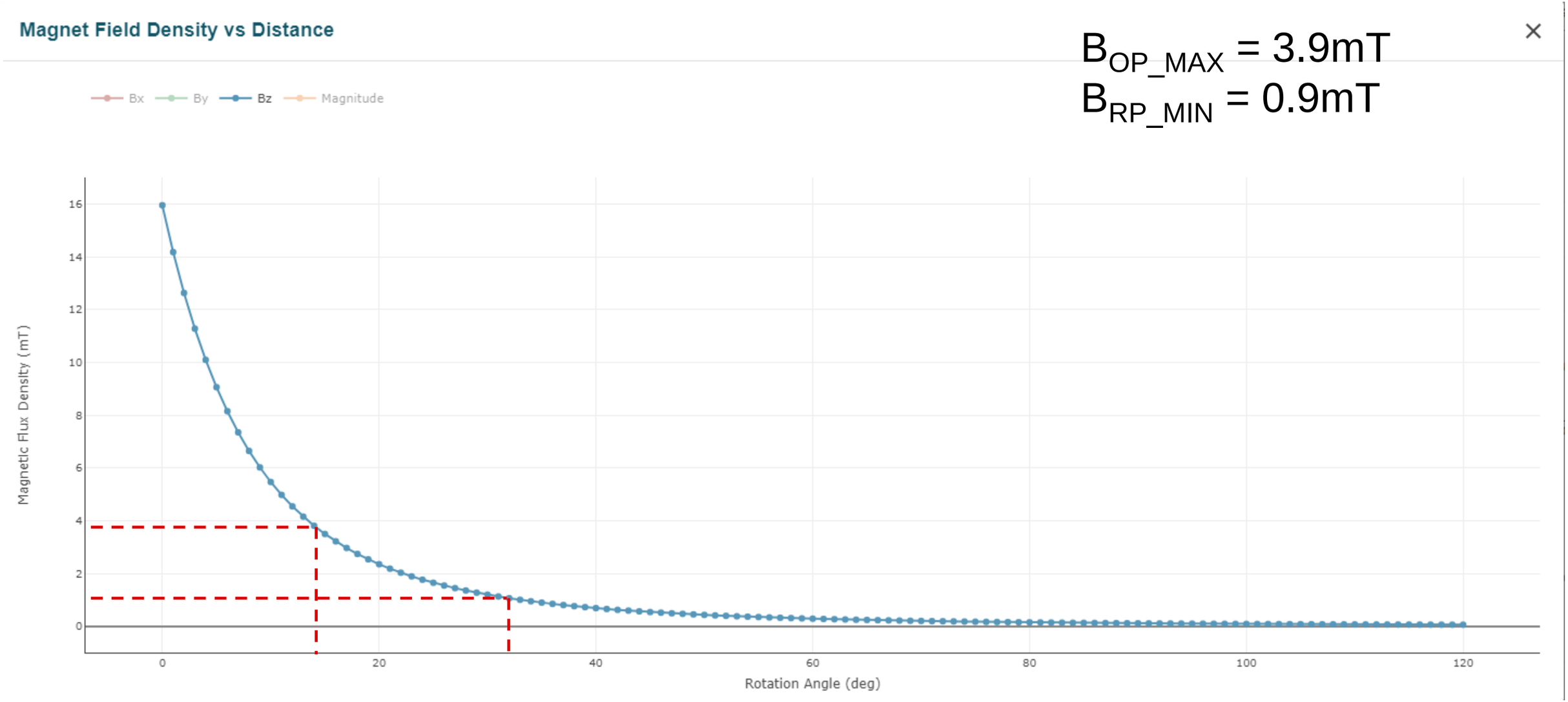


Simulation configuration example



Hinge field behavior

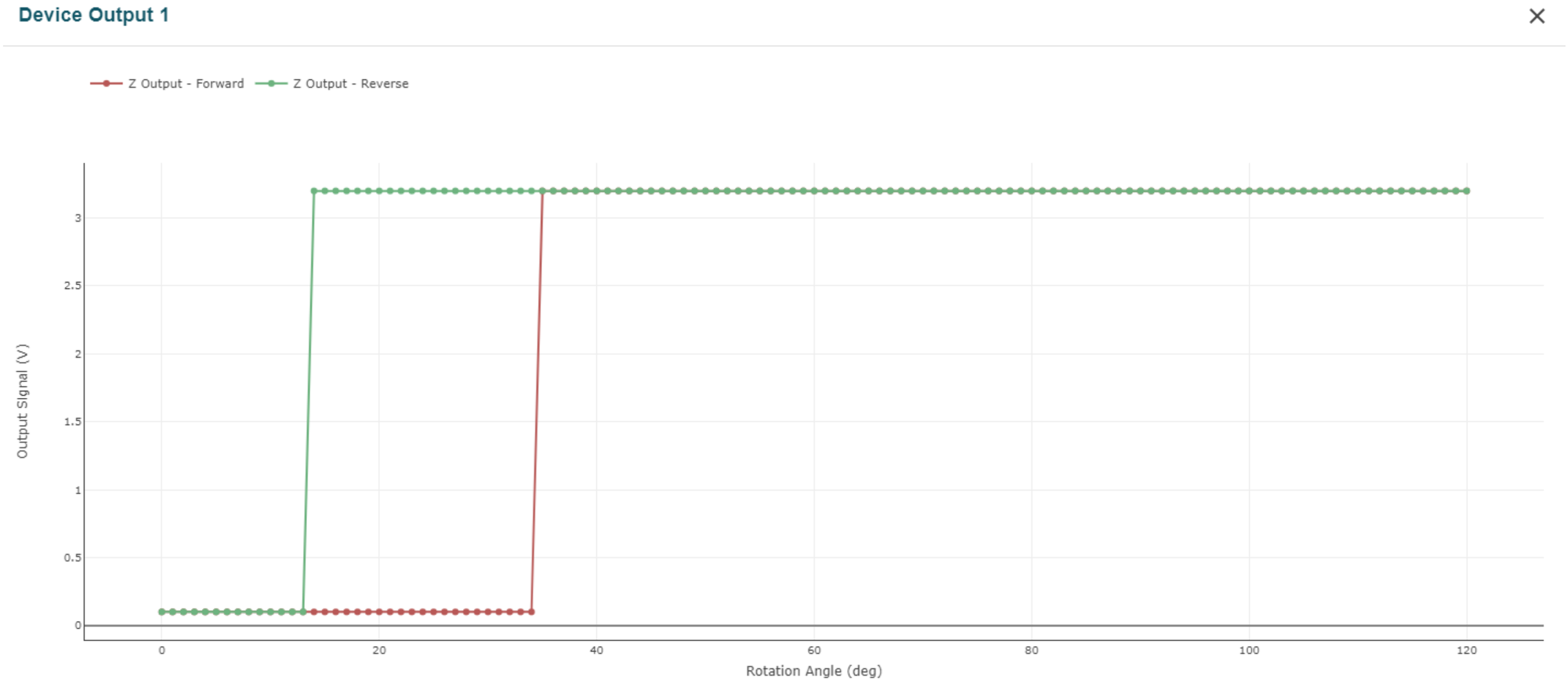
Limit detection



B_{OP_MAX} = 3.9mT

B_{RP_MIN} = 0.9mT

Sensor output



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
- HALL-HINGE-EVM
  https://www.ti.com/tool/HALL-HINGE-EVM
- Transition Detection Using Hall-Effect Sensors App Brief
  https://www.ti.com/lit/ab/slya055a/slya055a.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:
www.ti.com/timss