

# Chapter 1: Theory of Operation

The Gemco Series 2120 PLC Interface Module converts the input signal from a resolver based rotary transducer or Magnetostrictive Linear Displacement Transducer (LDT) to digital analog or overtravel relay outputs. Resolver based inputs provide up to 14 bit resolution per turn with a field programmable scale factor. LDT based inputs allow field selection of position data in inches to .001 inches or millimeters to .01 millimeter. The module's 6 digit display can show position or velocity data. The optional 20 bit digital output board allows field configuration of parallel digital outputs in a binary, BCD or grey code format. The optional analog output board allows field selection of a voltage or current output of position or velocity and is scalable over any portion of the displayed data. The optional relay output board provides two mechanical relay outputs intended for use as overtravel limits.

Advanced features include:

- Reset-to-Preset input for continuous recalibration or compensation for process drift.
- Turns counting software for multiple turn applications using a single turn resolver.
- Move detection software for detection of a jammed motor driven mechanism or drive component failure.
- Position hold input to freeze displayed data during high vibration periods at the sensor.

Field programmed data is protected by a hard contact closure on the back of the module and a user selectable security code.