

# Method and Apparatus for Two-Dimensional Absolute Optical Encoding

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## DESCRIPTION

This invention is a two-dimensional optical encoder for determining position of objects and detects imaged of scale pattern. A light source illuminates scale having grid/starfield type pattern indicating absolute location of object on scale, so that transmitted light is made incident on imaging arrangement to form an image of pattern. A detector detects the image and outputs signal for digitization and stored. A processor analyzes stored data to determine absolute two-dimensional position on scale in accordance with image.

## FEATURES AND BENEFITS

- The position of the object on the scale is obtained with high sensitivity and accuracy.
- Low signals on the image sensor may reduce sensitivity but do not encourage drift, helping to maintain image quality.
- The technology also controls optical signal level in a servo loop, helping to optimize image brightness.

## APPLICATIONS

- Space Flights
- Cryogenic Environments
- Machine Making
- Optical Metrology
- Surveying
- Defense

## FOR MORE INFORMATION

If you are interested in more information or want to pursue transfer of this technology, GSC-14330-2, please contact:

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