

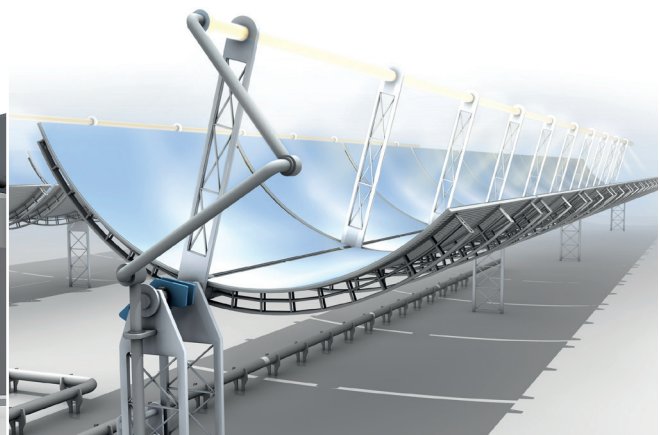
Measurement – Rotational position measurement

DETECTING SPEED AND POSITION

Do you need to measure the position or speed of a rotating axis? For example on a drive, a shaft or on moving machine members? As diverse as the applications are, so are the demands made on the measuring sensors. This is why different technologies are used: real-time capable and high-resolution magnetic encoders or precise inclination sensors.



Measuring object position on the conveyor of a cut-/print machine using a magnetic encoder



Measuring the parabolic trough position using inclination sensors to make optimal use of the solar energy

Workpieces such as a metal plate are printed, engraved or cut on a cut-/print machine. This demands special accuracy in positioning the workpiece on the machine. Magnetic encoders on both rotating axes of the machine measure the position of the workpiece and ensure an even feed rate.

In a parabolic trough system the sunlight is concentrated on parabolic troughs using parabolic mirrors and the heat energy then stored. To achieve the optimal energy efficiency, the position of the parabolic mirror must be guided to match the sun's path. Inclination sensors report the actual position of the parabolic mirror to the controller, which then adjusts it as needed.



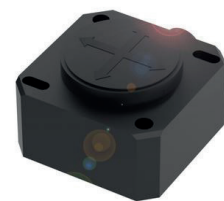
Magnetic encoder for unlimited rotational speeds, consisting of a magnet ring and sensor



Magnetic encoder for 360° measurement, consisting of a magnetic tape and sensor



Fluid-based inclination sensor with good resolution and high accuracy over the entire measuring and temperature range



MELS-based inclination sensor for measuring one or two axes

A **magnetic encoder** consisting of a magnetically coded tape and a sensor. The tape consists of successively coded north and south poles which generate a magnetic field. The sensor detects this field and the pole transitions as it passes over the tape. These distance measuring systems are very rugged, highly precise and very fast.

An **inclination sensor** continuously measures the position of an object on a horizontal and vertical axis up to 360°. The output signal is a function of the measured angle and the measuring range of the sensor. There are fluid-based inclination sensors for static applications and MEMS-based for motion applications.