



TIMKEN

PRECISION
DRIVES

for RENEWABLE ENERGY

RELIABLE MOTION FOR RENEWABLE ENERGY SYSTEMS

From solar tracking to wind energy, Timken Precision Drives delivers reliable motion technologies for accurate positioning and long-term performance.

Solar Tracking

Single and Dual Axis Trackers

Concentrated Solar

Wind Energy

Energy Automation

Designed to Meet Critical Requirements

- ✓ High torque and moment capacity
- ✓ Accurate, repeatable positioning
- ✓ Long service life
- ✓ Low maintenance requirements
- ✓ Reliable outdoor operation

Timken Precision Drives combines **slew drives and bearings, worm, planetary, cycloidal, and precision gearing technologies** with **encoders and engineered motion solutions** to support reliable positioning and automation throughout renewable energy systems.



Concentrated Solar

Built on Timken Capabilities

- ✓ Global manufacturing and support
- ✓ Collaborative application engineering
- ✓ Advanced engineering and R&D resources
- ✓ Decades of proven quality systems
- ✓ Standard, modified, and custom solutions
- ✓ Multiple motion technologies



Wind Energy



Single Axis Trackers

Precision motion. Global engineering and manufacturing. Timken quality.



TIMKEN

PRECISION DRIVES

**SPINEA****TIMKEN
ENCODERS**

ONE PARTNER. MULTIPLE MOTION TECHNOLOGIES.

Distinct technologies engineered for different motion challenges.

Together, they create one of the industry's most comprehensive precision motion portfolios.



STRAIN WAVE GEARING

Compact, zero-backlash precision

- ✓ Zero backlash
- ✓ High reduction ratios
- ✓ Exceptional positioning accuracy



CYCLOIDAL GEARING

High torque and exceptional rigidity

- ✓ High torque capacity
- ✓ Exceptional torsional stiffness
- ✓ DriveSpin® integrated actuators



WORM GEARING

Reliable right-angle motion

- ✓ High torque capacity
- ✓ Wide range of reduction ratios
- ✓ Flexible mounting configurations



PLANETARY GEARING

Compact, efficient power transmission

- ✓ High power density
- ✓ Low backlash options
- ✓ Efficient torque transmission



SLEW BEARINGS & DRIVES

Integrated rotary positioning

- ✓ High-capacity rotary positioning
- ✓ Smooth rotary positioning
- ✓ Bearing and drive configurations



MICRO GEARING

Miniature precision motion

- ✓ Extremely small package sizes
- ✓ Precision gearheads
- ✓ Custom configurations available



MAGNETIC ENCODERS

High-resolution motion feedback

- ✓ High-resolution position sensing
- ✓ Accurate speed feedback
- ✓ Compact, integrated design



ENGINEERED SOLUTIONS

Integrated motion solutions

Standard, modified, and custom solutions backed by application engineering expertise.

Why Timken Precision Drives?

- ✓ Multiple Motion Technologies
- ✓ Proven Quality & Reliability
- ✓ System-Level Engineering
- ✓ Global Support
- ✓ Standard, Modified, & Custom Solutions
- ✓ **125+ Years of Innovation**

One Partner. Every Motion Challenge.