



Transforming solar energy with tracking technology

In the dynamic world of solar energy, advancements in solar tracking technology are reshaping the industry. Discover how modular designs, advanced cable management systems, and integrated software solutions are optimizing solar installations, enhancing performance, and opening new opportunities in diverse settings. This article explores the cutting edge innovations driving the future of solar tracking technology.



IDEEMATEC has been a trailblazer in solar tracker technology, the standard for innovation and excellence since 2013. The Horizon L:TEC® family of trackers broke the mold with its revolutionary decoupled drive design, delivering unmatched flexibility and stability. With over 82 patents secured, the trackers are engineered with a focus on durability, reliability, and longevity, ensuring that the investment yields maximum returns over the long term.

The beating heart of L:TEC® is its decoupled drive mechanism and multi locked design, resulting in fewer components per string and unbeatable structural stability, even in extreme weather conditions. The efficiency of its drive system surpasses conventional tracker technology, requiring as few as seven motors per MW. The option to add additional mechanical locking points maximizes system stability where needed.

The key to the efficiency of the platform is its built in practical modularity. With standardized

components, easy installation, and full range module compatibility, the Horizon L:TEC® family is plug and play for any project. Countless field installations of the trackers have proven that straightforward design and procedures give developers and installers confidence during construction.

IDEEMATEC's Advanced Cable Management System (ACMS) keeps construction schedules on track, and O&M costs low by giving installers a fast, secure, and tool-less option for cable installation and safety. ACMS is capable of carrying up to 16 polarity isolated cables, consisting of eight positives and eight negatives, combined. ACMS is designed based on direct feedback from field installers and engineers. Leveraging the standardized design of L:TEC® and high quality materials, it provides a string level solution with no plastic waste and no downsides.

The Horizon L:TEC® family of solar trackers

L:TEC® solar trackers perfectly fit any project and application. They are available in three

variants: 1P, 2P, and Agri PV, the peak of cutting edge German engineering and design intelligence. Built on the core principle of adaptability, the trackers cater to the unique needs of every project site. The technology offers the flexibility to customize tracker designs to meet and exceed the customer's requirements.

The L:TEC® 1P solar tracker is engineered to optimize material use and simplify installation. With tracker lengths up to 260 meters and wind tunnel tested stability in up to 400 km/h (3-s gust @ 10m) winds, its innovative design creates new opportunities for solar developers. Providers can capitalize on these new opportunities thanks to the 60° tracking range, maximizing production from sunrise to sunset. 'Standard' terrain flexibility means any slope changes up to 36% are just another day in the office.

The larger sibling of the 1P is the L:TEC® 2P solar tracker, designed for sites with complex terrain and foundation requirements. The 2P



tracker leverages IDEEMATEC's decoupled drive and multi locking technologies to achieve the lowest possible levelized cost of energy (LCoE). Two in portrait tracker strings carry up to 360 modules and are up to 195 meters long end to end. With a track record of exceptional performance and reliability, the tracker uses minimal materials and offers easy installation, making it ideal for diverse geographical challenges.

IDEEMATEC's Agri PV solar tracker is the leading agricultural PV solution. This solution integrates advanced L:TEC® technology with agricultural applications. Standard Agri PV array heights of 2.8 m coupled with a standard tracking range of 60° and harvest mode positioning of 70° mean even the largest harvesting machines can move freely and

efficiently when and where needed. The Agri PV system complies with DIN SPEC 91434 standards, ensuring optimal light distribution and intensity for agricultural use while delivering two in portrait power levels.

Vertically integrated software suite

Joining the innovative design of the L:TEC® platform is IDEEMATEC's bespoke software suite, which seamlessly integrates the entire project workflow from inception and design to commissioning. By streamlining and automating time consuming design tasks, the software can produce designs with pinpoint accuracy faster than traditional design methods.

Every project design begins with a deep dive site survey to ascertain the tracker

configuration required to meet each project's unique specifications. Detailed aerial scans integrated into ID-Terrain 3D lay the groundwork for a customized pre project layout. Ecological specialists compile a comprehensive dataset, ensuring that every solar tracker is not only engineered to perfection but also harmonizes with the local environment.

THOR-Stow® is the ultimate shield for solar installations. This intuitive software package monitors local weather conditions. It makes intelligent decisions to protect the system by automatically moving all trackers leeward, allowing hail to glance harmlessly off of the sensitive modules. Integration with new or existing SCADA systems with bulletproof hardwired communication options offers an intelligent shield capable of independent safety control 24/7.

ID-AURORA is an intuitive software package developed to control your tracker system manually and automatically. AURORA uses geographic data and its intelligent backtracking algorithm to position all trackers in the optimal orientation for peak plant output. When current or upcoming weather conditions present a danger to plant operations, ID-AURORA overrides all tracking operations.

IDEEMATEC's Horizon L:TEC® trackers are the most adaptable on the market, opening new opportunities in diverse settings. Whether your project is an Agri PV venture or a utility scale solar farm, the tracker's flexibility ensures it can scale seamlessly to meet your needs. Be it the engineers, the design, the software, or the globally installed base, this family of next generation solar trackers is the future of the PV industry.

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