

HIGH-WIND THE POWER OF STABILITY

DID YOU KNOW?

The Horizon L:TEC® 1P is continuously tested by CPP Wind Engineering Consultants for aeroelastic stability. In recent tests, a special configuration of the L:TEC 1P tracker proved its stability in the wind tunnel, reaching speeds of 400 km/h. This industry-first stability comes from the combination of IDEEMATEC's decoupled drive and configurable multiple locking points. High-wind regions have now become prime locations for IDEEMATEC trackers.

Advanced wind tunnel testing

IDEEMATEC conducted an advanced aeroelastic wind tunnel study with CPP in Sydney, Australia. The objective was to methodically analyze the L:TEC 1P tracker, equipped with IDEEMATEC's patented multi-locking technology, under extreme wind conditions.

Partnering with CPP ensures access to top-tier aeroelastic testing facilities and adherence to the highest standards of wind tunnel testing. This proactive design testing continues to enhance the stability and performance of L:TEC solar trackers, driving the industry forward.

The tests assessed how the tracker resists torsional instability related to the tested tracker configuration. The verified results were groundbreaking.



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Stable up to wind speeds of 400 km/h

Testing a multi-locked tracker configuration of the L:TEC 1P showed that it remains completely stable up to wind speeds of 400 km/h (3-s gust at 10m) when in the stow position. This stability allows IDEEMATEC engineers to configure the L:TEC 1P for any wind region worldwide. The L:TEC 1P solar tracker system is configured to adapt to each project's specific needs. Our engineers adapt L:TEC tracker configurations depending on regional wind conditions by adding additional locking points to ensure long-term stability.

The incredible stability of IDEEMATEC's technology marks a significant milestone for the solar tracker industry, making the L:TEC 1P the **world's most stable tracker**.

Extreme weather conditions worldwide

In the design of solar tracker systems, understanding the impact of wind is crucial. Trackers need to be robust, not just to sustain everyday weather but also to withstand the extreme conditions they will face during their operational lifetime.

In a recent wind tunnel test, the innovative L:TEC 1P maintained stability at 400 km/h (3 s gust), comparable to the highest wind speed ever recorded, approximately 406 km/h (3 s gust), on **Barrow Island, Australia**, during Tropical Cyclone Olivia. This incredible record was documented and peerreviewed in the study "Documentation and verification of the world extreme wind gust record: 113.3 m/s on Barrow Island, Australia, during passage of tropical cyclone Olivia; J. Courtney et al.; 2012; Australian Meteorological and Oceanographic Journal 62".

For example, the L:TEC 1P is suitable for one of the highest wind regions across the **U.S.A. (Florida)**, where the maximum design wind speed according to ASCE 7-22 is 320 km/h (3s gust at 10m, highest risk category IV). Typically, U.S.A. regulations require project designs to meet wind speed risk category I or even category II. The L:TEC 1P can be perfectly configured to reach the US market's design wind speed criteria.



SETTING WIND SPEED BENCHMARKS

The L:TEC 1P's record-setting stability makes it the perfect fit for solar installations worldwide, regardless of local wind conditions. The future demands flexible and reliable renewable energy solutions. IDEEMATEC's L:TEC platform inspires confidence in the resilience of renewable infrastructures against increasingly unpredictable global weather patterns.

