

Tornado Detector

Approaching On-The-Ground Tornado Detection, Day or Night

The Tornado Detector, currently available in prototype formats, uses a low power Doppler radar to sense approaching tornadoes 2 mile (3.2 km) away, day or night.

Once detection is made, data on the tornado is sent via a dedicated wireless link to a central location. From there, warnings to other receivers and alarm devices may be made.

Warning time is nominally 5 minutes, depending on the tornado's approach speed.

The unit is available with either solar power or 110 V AC powered with battery backup, thus does not depend on electricity from the power company which often fails during storms.

Mounted on top of a 14 to 30 ft. (4.5 to 10m) tall mast, the Tornado Detector constantly sweeps the horizon, with its sensor aimed just above the tree line, scanning for tornadoes that are on or near the ground. It may be used in rural areas and small communities as an individual unit, or in urban areas as part of a network where units are spaced at 1 mile (1.6 km) intervals for protecting city wide areas.

Electronic filtering inside each unit suppresses false alarms from aircraft and blowing rain, snow or leaves.

The radar detector may be turned ON or OFF via data link.



General Specifications

Sensor Type	24 or 96 GHz low power Doppler/FMCW radar
Antennas	Sealed lens horn plus rotating parabolic dish
Range	2 miles (3.2km) nominal
Rotation Rate	6 rpm and lock on sweeping
Remote Control	Activation and deactivation via data link
Output Signal	2.4 GHz data linked mesh signal with speed and direction
Power Supply	110 V AC or self contained 100 Watt solar system with 110 A hour battery, surge suppressor and circuit breakers
Sensor Size	20 in. (50cm) height x 10 in. (25 cm) diameter mounted atop mast
Mast	14' to 30' (4.5 to 10m) standard light mast, optional to 36' (12 m) with base clamp