HUNTRON Products for the Power Generation Sector

Precision Diagnostics for Solar, Wind, and Nuclear Systems

In the power generation industry, reliability is non-negotiable. Whether you're maintaining solar inverters, wind turbine control boards, or nuclear facility instrumentation, downtime is costly, and safety is paramount. Nuclear facilities demand ultra-reliable testing to avoid risks in safety-critical circuits, where powered testing might activate sensitive circuits. Huntron's suite of diagnostic tools provides non-invasive, power-off testing that helps you identify faults quickly, reduce risk, and extend the life of critical systems.

Key Challenges in Power Generation Systems and How Huntron Solves Them

Industry Challenge	Huntron Solution
Complex component-level failures in harsh environments	Analog Signature Analysis (ASA) isolates the location of an intermittent, marginal, or catastrophic circuit board fault which can be hard to detect with traditional power on tests.
Maintaining legacy systems with limited to no documentation	Huntron Trackers compare analog signatures from known good boards to suspect boards, eliminating the need for documentation.
Safety and Compliance Requirements	Huntron ASA is a power-off test methodology and is inherently safe for sensitive environments. Workstation test management software enables generation of digital records for tests performed.
Reducing downtime and improving diagnostic accuracy	Access Probers automate diagnostics, taking the human error factor out of testing and speeding up the repair-cycle. ASA as a prognostics tool prevents downtime before it happens.

Huntron Features and Benefits

- Printed Circuit Assemblies (PCAs) of the current era continually get smaller and more complex. Automated micron level probing eliminates the error and time factor from manual hand probing for diagnostic or parametric testing.
- Huntron tools accelerate troubleshooting, providing a targeted area to look for issues on a PCA and reducing equipment downtime. Automated testing via Access Probers further reduces this downtime and accelerates the repair process.
- Completely customizable test routines can be integrated with existing test procedures.
- Troubleshoot undocumented or obsolete circuit boards by comparing to a known-good reference board. Isolate faults and repair at the component level instead of discarding the entire board.
- Huntron Trackers equipped with a Scanner enable the ASA power-off testing of device's electronic ports.
- Multiple options available for training and onboarding onto Huntron systems as well as world-class support.

New Perspectives: Unlocking Success for the Power Generation Industry

Huntron Trackers are used in many Nuclear Power facilities in the United States for prognostics. During scheduled shutdowns, Tracker ASA tests are conducted on systems for preventative maintenance to reveal hidden faults that conventional tools miss.

Let Huntron Help You Be Successful in Test and Repair of Power Electronics!

Huntron Products/Applications for the Power Generation Industry

Huntron Tracker – Models: 2800, 2800S, & 3200S

Application: Huntron Trackers provide a critical edge in maintaining and troubleshooting printed circuit assemblies (PCAs) within the power generation industry. This is especially important for devices such as MOSFETS in solar inverters, wind turbine pitch control boards, or nuclear control instrumentation, where powered testing can cause further damage. The Tracker helps technicians identify component-level faults without requiring detailed board-level information, even on mixed signal boards. It supports preventative maintenance by comparing baseline electronic signatures and can verify refurbished equipment before it is returned to service. This non-invasive method helps extend equipment lifespan, reduce downtime, and protect the reliability of critical power generation systems.

Description: The Huntron Tracker is a benchtop diagnostic tool that uses power-off Analog Signature Analysis (ASA) to identify component-level faults on PCAs.

Tracker 3200S is Huntron's most advanced model, offering expanded ASA capabilities and flexibility. It includes two 64-pin IDC connectors and supports automated ASA testing when integrated with the Access 2 Prober.

Tracker 2800S is a durable entry-level model suitable for general troubleshooting and includes two 40-pin IDC connectors for scanning connectors and ports using custom cable interfaces.

Tracker 2800 is a durable entry-level model suitable for general troubleshooting.

Huntron Access Prober – Models: Access 2, DH2

Application: Electronics often contain compact and densely populated PCAs. Access Probers use micro-stepping motors and linear encoders to place probes on the device under test with high precision. These systems automate the testing process, allowing technicians to focus on other tasks while tests are performed independently by a Prober. Access Probers are optimized for low-volume, high-mix testing environments. This makes them suitable for solar farms to streamline batch testing of inverter boards, or to test an array of circuit cards from a wind turbine during scheduled downtime. Repeatable test profiles developed in Workstation simplify switching between different boards. These systems can also be configured to work with external electronic measurement instruments such as oscilloscopes, digital multimeters (DMMs), and LCR meters, enabling integration with existing workflows.

Description: The Access Probers automate the testing of PCAs, achieving speeds up to ten times faster than manual methods. Using Huntron Workstation, a built-in camera is used to target probing locations, when CAD files are not available. Maintenance is straightforward, requiring occasional lubrication of the axis rails.

Access 2 Prober includes a single flying probe head for benchtop testing. When paired with the Tracker 3200S, it enables automated, power-off Analog Signature Analysis (ASA) testing in Workstation.

Access DH2 model features two flying probe heads and can test across components with a minimum spacing of 50 mils (0.050 inches / 1.27 mm). It is housed in a mobile cabinet and includes integrated ASA testing. This system can be configured for 4-wire measurements.

Huntron Software – Huntron Workstation 4.3

Application: **Huntron Workstation** allows users to perform tests consistently and document those tests as required for nuclear instrumentation. Workstation can be used to create a test library for different models of PCA's or a "signature" library of known good components. Workstation Remoting technologies allows users to interface with Workstation and a Tracker or Prober while offsite and allows integration with other software and testers via DLL calls.

Description: **Huntron Workstation** is the central software platform used with Huntron Trackers and Access Probers. It provides a unified system for managing and executing test procedures. Built on a database architecture, Huntron Workstation is reliable, user-friendly, and adaptable to various testing needs.