

HARMONICS AND FLICKER COMPLIANCE TEST SYSTEMS

Fully compliant:

- ✓ According to **POWER LINE Emissions per IEC 61000-3-XX**
- ✓ According to **POWER LINE Immunity per IEC 61000-4-XX**

ECTS2 - Series

EMC Compliance Test Systems

Key features ECTS2 Systems

Available Emissions Tests:

- IEC 61000-3-2 Harmonics Emissions
- IEC 61000-3-12 Harmonics Emissions
- IEC 61000-3-3 Flicker Emissions
- IEC 61000-3-11 Flicker Emissions

Available Immunity Test Software

(optional):

- IEC 61000-4-11
- IEC 61000-4-13
- IEC 61000-4-14
- IEC 61000-4-27
- IEC 61000-4-28
- IEC 61000-4-29
- IEC 61000-4-34

Available Avionics Test Software

(optional):

- RTCA/DO160, Section 16
- MIL-STD 704
- Airbus ABD0100.1.8 (A380)
- Airbus ABD0100.1.8.1 (A350)
- Airbus AMD24C (A400M)
- Boeing 787B3-0147

Versions: 6 kVA up to 90 kVA

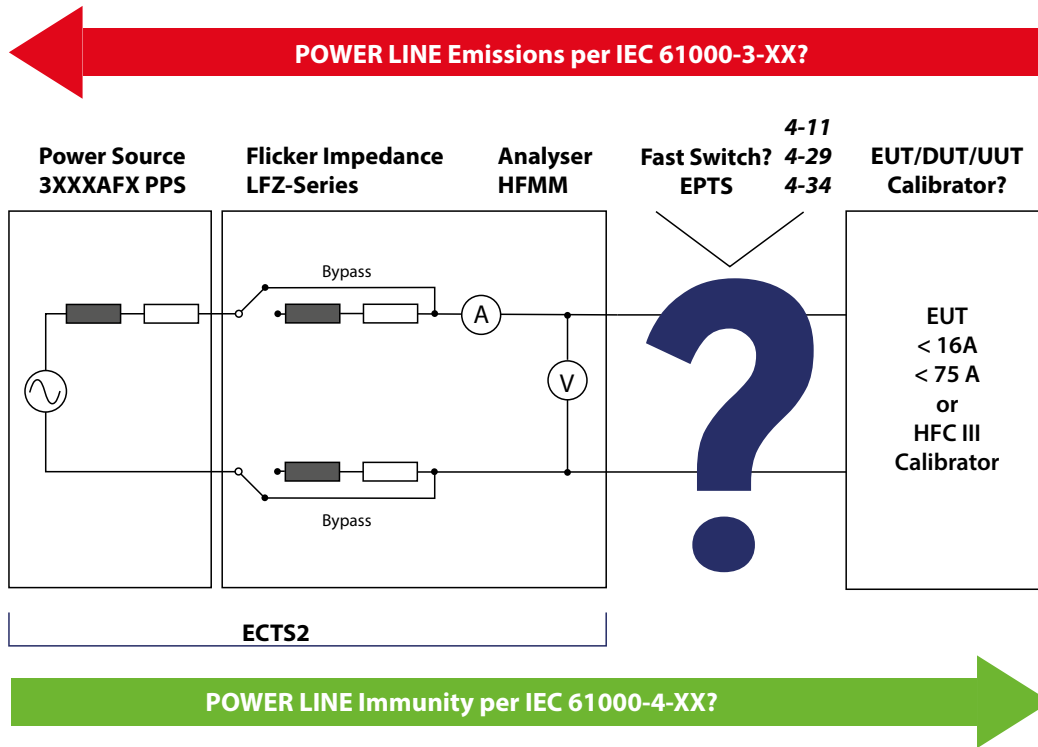
Electronic Power Transfer Switch
Single or Three Phase Configurations
Extensive Data Reporting
Easy to Use Windows Software
Choice of Lumped Impedance Networks



Three Phase System for IEC 61000-3-2
& -12 and IEC 61000-3-3 & -11

**More details
inside!**

Are you fully compliant with actual standards?



Full compliance

When it comes to fully compliant power line emission and immunity compliance testing, make sure your Harmonics and Flicker test system meets all the latest requirements of the applicable IEC 61000-3-XX and IEC 61000-4-XX standards.

This is important to ensure you correctly pass or reject Units Under Test (UUT) before you - if you are a Test Lab - certify your customers products.

Compliance also requires regular calibration to International and IEC Calibration Standards. This calibration extends beyond voltage and current measurement calibration. Calibration must be done to IEC TR 61000-4-37 (Harmonics) and IEC TR 61000-4-38 (Flicker) and include any flicker impedance that is part of the test system.

Caltest Instruments GmbH specializes in sales, support and calibration of AC and

DC power systems and has the expertise and equipment - including Harmonics & Flicker Calibrators - required to meet these standards.

Before making a decision, look beyond the product specs to total life-cycle cost and support requirements as these EMC Test systems have long life-cycles. As your Partners in Power, Caltest Instruments GmbH will be there to support you for many years to come.

Power Source

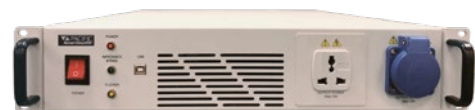
6 kVA - 90 kVA

AC Power Source
3450 AFX (45 kVA)

Measurement Unit with
40 A Flicker Impedance
3-Phase



Flicker Impedance + Analyzer LFZ-Series + HFMM



LFZ-1-16 or LFZ-3-16 Flicker Impedance - Front View



LFZ-1-40 or LFZ-3-40 Flicker Impedance - Front View

LFZ-Series available with 16 A, 40 A, 75 A

EPTS - Electronic Power Transfer Switch

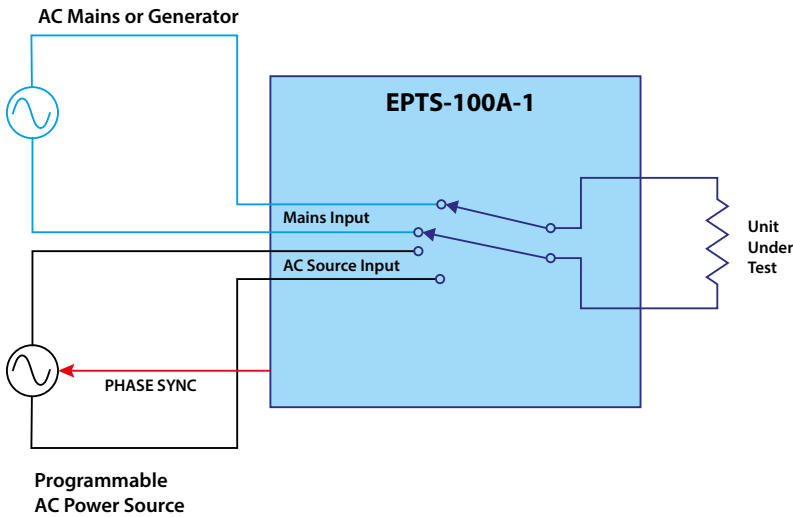
IEC 61000-4-11/-29/-34 Voltage Dips, Interrupts & Variations

Electronic Power Transfer Switch

Voltage Dips and Interruptions for either AC or DC power products are controlled by IEC 61000-4-11 (AC), IEC 61000-4-34 (AC) and IEC 61000-4-29 (DC).

The Pacific Power Source IEC VOLTAGE DIPS module uses solid-state electronic transfer switch technology to meet these three test standard requirements for voltage dips and

short interruptions with voltage slew rates less than 5 μ sec as required. This allows full compliance testing of equipment for CE compliance.



Not all Harmonics and Flicker Test Systems are equal in this respect so *buyer beware*. The diagram shows the principle used by the PPS Electronic Power Transfer Switch (EPTS) using two AC or DC sources to switch between using solid-state electronic switches.

The required Windows 10™ Graphical user interface is provided with the EPTS and includes pre-written, ready-to-run test sequences for all three IEC standards.

Software

The Pacific Power Source EMC Test systems are based on a precision power measurement instrument that can be certified to ISO17025 by an accredited lab.

The software guides the operator through all necessary steps, then acquires, displays and reports on the results. Data is displayed in real-time during the test so the operator can monitor progress and interrupt the test if needed without having to wait until the end of the

test run. This saves the operator time by allowing them to interrupt the testing when a fault is found in the Equipment Under Test (EUT).

For troubleshooting EUT's that fail to meet the emissions requirements, all measurement data can be replayed frame-by-frame for closer inspection without a need for re-measurements or having an ECTS2 System being connected to the PC.

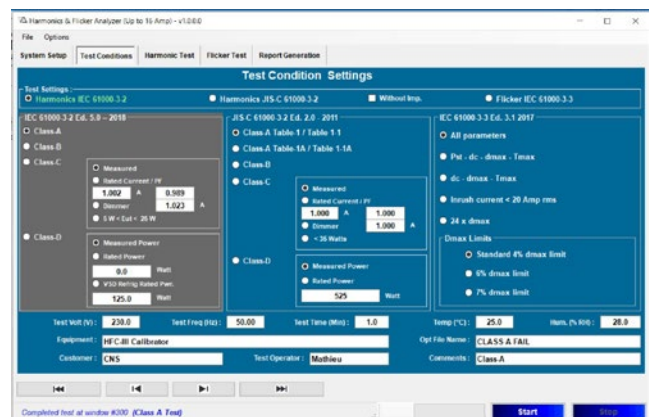
Easy-to-use GUI

H&F Emission

System Setup | Test Conditions | Flicker Test | Harmonic Test | Report Generation



Harmonics Display showing use of color to highlight information



Flicker Test Conditions selected from right-hand side panel

Your Partner in Calibration!

IEC TR 61000-4-37

IEC TR 61000-4-38

**We Calibrate ALL
H&F System Brands!**



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Caltest Instruments Ltd. has been providing power sources and test instrumentation solutions for over 26 years and is proud to represent a number of industry leading manufacturers. Caltest Instruments Ltd. has a UKAS accredited laboratory for DC and LF measurement focused on AC power and energy.



DIN EN ISO / IEC 17025

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Caltest Instruments GmbH distributes programmable AC and DC power sources, frequency converters, current sources, electronic loads, power analyzers, hipot testers, electrical safety testers and various other test and measurement equipment.



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A2LA**

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Pacific Power Source, Inc., provides technically advanced, reliable, and cost effective AC power solutions that feature fast transient response, tight regulation, high peak current capability, no switching noise (linear) and very low switching noise (PWM switching) models and low impedance.