

STCAL

Spark Test Calibration System

- >> Accurate calibration of AC, DC and high frequency spark testers
- >> Lightweight modular components
- >> Built-in spark tester profiles
- >> Calibration certificates with data can be printed or downloaded for storage
- >> Optional SM Sensitivity Module checks fault detection sensitivity to EN50356, IEC/CEI 62230 and NEMA specifications



STCAL Calibration System
with HF-15A Spark Tester

Clinton Instrument Company introduces a modular calibration system for AC mains, high frequency, and DC spark testers. The system includes separate high- and low-frequency voltmeters and a case containing a Windows-based touch-screen tablet and connecting cables.

The calibration procedure is a series of simple steps:

- >> Select the appropriate voltmeter and cables
- >> Connect the voltmeter to the spark tester and tablet
- >> Choose a spark tester profile from the touch screen menu
- >> Follow the on-screen directions for completing the calibration

The system generates a certificate of calibration suitable for download, printing and storage in the customer's computer. Data is traceable to NIST standards when the STCAL is incorporated into an effective quality assurance program.

STCAL components are light enough to be carried to the hard-to-reach locations where spark testers are sometimes situated.



Optional STCAL-SM Sensitivity Module

The system calibrates AC mains spark testers to 30kV, high frequency units to 15kV, and DC spark testers to 40kV.

The optional SM Sensitivity Module has a rotating spark gap that controls arc duration and gap distance. The operator simply selects the type of test to be performed; the SM displays the detection current and the required number of controlled faults the spark tester must identify to meet the norm. After the test, the operator compares the SM fault count to the faults counted by the spark tester to determine its conformity with the specification.

MODEL STCAL SPECIFICATIONS

High Frequency Calibrator

For voltage calibration of high frequency spark testers.

Components.....High Frequency Voltmeter (HFVM); Tablet and connecting cables in soft case.

Input Voltage Range.....500 volts to 15kV AC.

Input Frequency Range1 kHz to 5 kHz.

Output Voltage Reading Accuracy..... +/- .5%.

HFVM Weight.....8.9 lbs. (4.1 kg).

HFVM Dimensions5.9" H x 9.8" W x 10.2" D
(150mm H x 249mm W x 259mm).

Power.....from tablet via USB.

Tablet.....10.1" Windows 8 with charger, 1.5 lbs.
(approx dimensions and weight).

Connecting Cables.....HV Cables 1.5' and 3'; USB Cable 6';
RS485 Cable 10'; Ground Cable.

Low Frequency Calibrator

For voltage calibration of DC spark testers to 40kV and 50/60 Hz AC spark testers to 30kV.

Components.....Low Frequency Voltmeter (LFVM); Tablet and connecting cables in soft case.

Input Voltage Range.....100 volts to 40kV DC and 1kV to 30kV AC.

Input Frequency Range50-60 Hz.

Output Voltage Reading Accuracy..... +/- .5%.

LFVM Weight.....5.3 lbs. (2.4 kg.)

LFVM Dimensions5.9" H x 9.8" W x 10.2" D
(150mm H x 249mm W x 259mm).

Power.....from tablet via USB.

Tablet.....10.1" Windows 8 with charger, 1.5 lbs.
(approx dimensions and weight).

Connecting Cables.....HV Cables 1.5' and 3'; USB Cable 6';
RS485 Cable 10'; Ground Cable.

Spark Testers that can be calibrated with the STCAL (partial list)

Model Number	Voltmeter Required	Calibration Available		
		AutoCal	Assisted	Manual
Clinton AC-30A & AC-30AS 50/60 Hz 30kV AC Spark Testers	LFVM	✓		
Clinton HF-15A High Frequency Spark Testers	HFVM		✓	
Clinton HF-15B High Frequency Spark Testers	HFVM	✓		
Clinton HF-20E, HF-20H, HF-20GA and HF-20GB High Frequency Spark Testers	HFVM			✓
Clinton FL-8A and FL-20A Cable Fault Locators	LFVM	✓		
Clinton DC-10A, DC-20A, and PDC-20A DC Spark Testers	LFVM		✓	
Clinton STB-10G, STB-20G and PDC-20 DC Spark Testers	LFVM			✓
Clinton STA-30A and STA-30GB 50/60 30kV AC Spark Testers	LFVM			✓
DC Spark Testers by other manufacturers, to 40kV	LFVM			✓
High Frequency Spark Testers by other manufacturers, to 15kV	HFVM			✓

Certificate of Calibration
Certificate No. HA1234@4/16/2014

Equipment Owner: Name: Clinton Instrument Company Address: 205 East Main Street Clinton, CT 06413 USA	Calibration Service Provider: Name: Clinton Instrument Company Address: 205 East Main Street Clinton, CT 06413 USA
Equipment Manufacturer: Name: Clinton Instrument Company Model: HF-15A Description: 15kV High Frequency Spark Tester Electrode Model: BD-12 Unit Serial Number: HA1234 ID Number: 88801	Calibration Performed at: Name: Clinton Instrument Company Address: 205 East Main Street Clinton, CT 06413 USA

Date of Calibration: 4/16/2014 3:59:24 PM Temperature: 24.3 C Humidity: 32.1%

Calibration Data

As Found Readings				Calibration Data				As Left Readings			
Displayed Voltage (kV)	Actual Voltage (kV)	Result	Nominal Voltage (kV)	On Range	Acceptable Min (kV)	Acceptable Max (kV)	Actual Voltage (kV)	Result	Actual Voltage (kV)	Result	
1.0	0.983	PASS	1.0	15.0	0.980	1.020	1.002	PASS	3.006	PASS	
3.0	2.998	PASS	3.0	15.0	2.940	3.060	3.006	PASS	5.011	PASS	
5.0	5.013	PASS	5.0	15.0	4.960	5.100	5.011	PASS	8.020	PASS	
8.0	8.022	PASS	8.0	15.0	7.840	8.160	8.020	PASS	10.031	PASS	
10.0	10.034	PASS	10.0	15.0	9.800	10.200	10.031	PASS	12.022	PASS	
12.0	12.021	PASS	12.0	15.0	11.760	12.240	12.022	PASS	15.003	PASS	
15.0	14.997	PASS	15.0	15.0	14.700	15.300	15.003	PASS			

Condition as Received: In Calibration Condition as Left: In Calibration

Standards Used

Model No.	Serial No.	Calibration Date	Calibration Due Date	Traceability No.
HFVM	HFVM-5555	03/14/2013	03/14/2014	XXXXXXXXXX

The verifications of the equipment identified have been checked against Measurement Standards (Reference) maintained by The Clinton Instrument Company. The accuracy of these standards is traceable to the national standards at the National Institute of Standards and Technology (NIST) or derived by ratio type measurements.

Calibration Technician: J. Smith

Sample Calibration Certificate

Specifications subject to change without notice. 10/14 EN

