IEC62368 G.5.4 Partial Discharge Tester

Host partial discharge test device

Product Description

CS19010 The series partial discharge tester is suitable for high voltage isolation integrated circuits (such as optocouplers, magnetic couplers, Isolation amplifiers, isolated digital communication chips), semiconductor high voltage switches (such as IGBT, MOSFET), and high voltage insulation Comprehensive measuring equipment for partial discharge and withstand voltage testing of components (such as isolation substrates), low-capacitance high-voltage capacitors, etc. Achievable 0.1kV~10kV Withstand voltage test and partial discharge test within the range.

CS19010 The series of partial discharge testers adopt the test sample series coupling measurement mode, and the test method conforms to the general partial discharge Measurement Standards GB/T 7354-2018 (IEC60270:2000), and also complies with the partial discharge measurement standards of specific devices, such as the safety standard for optical isolators (IEC60747-5-5), the safety standard for digital isolators (IEC 60747-17), the safety standard for low voltage equipment (IEC60664-1), and the standard for semiconductor switch components (IEC 60747-15). It has the functions of customizing high voltage output waveforms and judging the qualification of

various measurement conditions. Users can flexibly combine them according to their needs to achieve

0.01uA~1mA Leakage current measurement and 1pC~10000pC Partial discharge measurement, which can meet the needs of most integrated isolation devices and Product quality testing requirements for high insulation materials.

CS19010 The main application areas of the series of partial discharge testers are: (1) Industrial production, routine partial discharge testing or on-site diagnostic testing in the production process of high-voltage devices (components) according to relevant standards ; (2) Scientific research, Study the partial discharge characteristics or insulation degradation process of high voltage insulation materials.

1. CS 19010 Partial Discharge Tester Technical Parameters

1.1 Components: CS19010A Host, CS19010B Partial discharge test module

CS19010C Partial Discharge Calibrator

1.2 Partial discharge tester technical parameters

model			CS19010A(Host)/ CS19010B (Partial Discharge Measurement Module)
AC output power Pressure	Output Voltage	scope	0.100kV～ 10.00kV
		Accuracy	±(1% setting value +5 words)
		Resolution	1V
	Voltage rise time		0.3s～ 999.9s, 0=voltage rise time off
	Testing time		0.3s～ 999.9s, 0=continuous test
	Voltage drop time		0.3s～ 999.9s, 0=voltage fall time off
	Interval time		0.0s～ 999.9s, 0=interval time off
	Output frequency		50Hz/60Hz ± 0.1%, sine wave
	Output waveform distortion		≤1% (at maximum voltage, no load or pure resistive load)
High voltage voltmeter	scope		0.100kV～ 10.00kV
	Accuracy		±(1% of reading +5 words)
	Resolution		1V
	Display Value		RMS value
Leakage current meter [1]	Measuring range		0.01uA~300uA
	Resolution		10uA Range: 0.01uA, 300uA: 0.1uA
	Measurement accuracy		10uA range: ±(2% of reading +0.5uA) 300uA range: ±(1% of reading +2uA)
Partial discharge meter [2]	scope		10pC Range: 1.0~10pC Resolution: 0.1pC; 50pC Range: 2.0pC~50pC Resolution: 0.1pC; 200pC range: 10pC~200pC resolution: 0.1pC
	Accuracy		10pC block: ±(1% of reading +0.5pC) 50pC block: ±(1% of reading +1pC) 200pC block: ±(1% of reading +1pC)
	PD Detection delay time		0.0s～ 999.9s, 0=delay time off
Timer	scope		0～ 999.9s
	Resolution		0.1s
	Accuracy		±(1%+50ms)
	Specifications corresponding		18℃ ~28℃, ≤70%RH

General specifications	to the environment range Wai	
	Working environment range	0℃ ~40℃， 15%～95%RH @≤ 40 ℃ No condensation
	Storage environment range	-10℃ ~50℃， ≤80%RH
	power supply	220Vac, 50/60Hz
	Power consumption	CS19010A：≤ 500W

		CS19010B：≤ 50W
	quality	CS19010A ：22.5kg CS19010B ：12kg
	Dimensions（W*H*D）	CS19010A ：426mm*136.5mm*527mm CS19010B ：334mm*286mm*296.5mm

Note:

[1] Leakage current measurement accuracy applies to resistive and capacitive loads

[2] Use the The IEC60270:2000 standard partial discharge calibrator verifies the performance of the partial discharge detector. Accuracy specifications are defined as relative error to the partial discharge calibrator.

1.3 Partial Discharge Calibrator Technical Parameters

model	CS19010C
Output voltage	0.2V~20V
polarity	Negative polarity
Calibration of the scale capacitor	5pF
Range	1pC~100pC
Accuracy	±（3%+0.5pC）
Rise time	<50ns
Pulse repetition rate	1~100 Hz，resolution 1Hz
Number of pulses per cycle	1~100
Trigger Mode	Communication trigger
Specifications corresponding to the environmental range	18℃ ~28℃， ≤70%RH
Working environment range	0℃ ~40℃，15%～95% RH @≤ 40 ℃ No condensation
Storage environment range	-10℃ ~50℃， ≤ 80%RH
power supply	3 sections 3.7V lithium battery (Specification: 18650）
quality	0.85 kg
Dimensions（W*H*D）	140mm*62mm*211 mm

2. CS 19011 Partial Discharge Tester Technical Parameters

2.1 Components: CS19011A Host, CS19011B Partial discharge test module

CS19011C Partial Discharge Calibrator

2.2 Partial discharge tester technical parameters

model			CS19011A(Host)/ CS19011B (Partial Discharge Measurement Module)
AC output power Pressure	Output Voltage	scope	0.100kV～ 10.00kV
		Accuracy	±(1% setting value +5 words)
		Resolution	1V
	Voltage rise time		0.3s～ 999.9s, 0=voltage rise time off
	Testing time		0.3s～ 999.9s, 0=continuous test
	Voltage drop time		0.3s～ 999.9s, 0=voltage fall time off
	Interval time		0.0s～ 999.9s, 0=interval time off
	Output frequency		50Hz/60Hz ± 0.1%, sine wave
	Output waveform distortion		≤1% (at maximum voltage, no load or pure resistive load)
High voltage voltmeter	scope		0.100kV～ 10.00kV
	Accuracy		±(1% of reading +5 words)
	Resolution		1V
	Display Value		RMS value
Leakage current meter [1]	Measuring range		0.01uA~1mA
	Resolution		10uA Range: 0.01uA, 1mA: 0.1uA
	Measurement accuracy		10uA range: ±(2% of reading +0.5uA) 1mA Range: ±(1% of reading +5uA)
Partial discharge meter [2]	scope		100pC Range: 1pC~100pC Resolution: 0.1pC; 10000pC range: 100pC~10000pC resolution: 10pC
	Accuracy		100pC block: ±(2% of reading +1pC) 10000pC block: ±(1% of reading +20pC)
	PD Detection delay time		0.0s～ 999.9s, 0=delay time off
Timer	scope		0～ 999.9s
	Resolution		0.1s
	Accuracy		±(1%+50ms)
	Specifications corresponding to the		18℃ ~28℃, ≤70%RH

General specifications	environment range Wai	
	Working environment range	0℃ ~40℃， 15%～95%RH @≤ 40 ℃ No condensation
	Storage environment range	-10℃ ~50℃， ≤80%RH
	power supply	220Vac, 50/60Hz
	Power consumption	CS19011A：≤ 500W CS19011B：≤ 50W
	quality	CS19011A ：22.5kg

		CS19011B ：12kg
	Dimensions（W*H*D）	CS19011A ：426mm*136.5mm*527mm CS19011B ：334mm*286mm*296.5mm

Note:

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2.3 Partial Discharge Calibrator Technical Parameters

model	CS19011C
Output voltage	0.2V~100V
polarity	Negative polarity
Calibration of the scale capacitor	5pF/10pF/100pF
Range	5pF: 1pC~500pC 10pF: 2pC~1000pC 100pF: 20pC~10000pC
Accuracy	5pF:±（3%+0.5pC） 10pF:±（3%+1pC） 100pF:±（3%+10pC）
Rise time	<50ns
Pulse repetition rate	1~100 Hz，resolution 1Hz
Number of pulses per cycle	1~100
Trigger Mode	Local manual trigger ／remote communication trigger
Specifications corresponding to the environmental range	18℃ ~28℃， ≤70%RH
Working environment range	0℃ ~40℃，15%～95% RH @≤ 40 ℃ No condensation
Storage environment range	-10℃ ~50℃， ≤ 80%RH
power supply	3 sections 3.7V lithium battery (Specification: 18650)
quality	0.85 kg
Dimensions（W*H*D）	140mm*62mm*211 mm