



KAL 9520

Advanced Reference Partial Discharge Calibrator

Datasheet



HAEFELY

Current and voltage – our passion

Designed by



General Description

The KAL 9520 has been designed to exceed the standard requirements of a PD calibrator. Its wide range (from 100 fC to 50 nC), its small injection capacitor and its advanced features such as double pulse for power cables, burst mode for DC-PD testing, pulse polarity selection, etc. make the KAL 9520 unique reference calibrator.

The high voltage step generator built in the KAL 9520 allows the use of extremely low injection capacitors (1 pF up to 200 pF) as required in IEC/IEEE standards.

Its fast pulse rise time (< 10 ns) creates a complete flat response of the calibration pulse in the frequency domain long beyond the IEC recommended measuring band.

The PD calibrator is easily controlled from its touch screen and all options are selected by the user-oriented menu.

Features	Advantages
<ul style="list-style-type: none"> ▪ SCS (IEC 17025) calibration certificate (optional) 	<ul style="list-style-type: none"> ☑ Guarantees the reliability of the partial discharge measuring chain due to the included traceable test certificate and the optional SCS (IEC 17025) calibration certificate.
<ul style="list-style-type: none"> ▪ Full compliance with IEC 60270:2000+AMD1:2015 	<ul style="list-style-type: none"> ☑ Reliable, plausible, repeatable results compliant to IEC/IEEE standards.
<ul style="list-style-type: none"> ▪ Double pulse mode designed for power cable testing 	<ul style="list-style-type: none"> ☑ Complies with IEC and ANSI-ICEA standards requiring double pulse performance test.
<ul style="list-style-type: none"> ▪ Burst mode (burst of defined number of pulses generated in the sequence) 	<ul style="list-style-type: none"> ☑ Market unique feature enabling calibration of DC PD measurement according to IEC requirements.
<ul style="list-style-type: none"> ▪ Any PD level can be selected (linear or logarithmic selection) ▪ Ultra-wide range (0.1 pC to 50 000 pC) ▪ Selectable number of pulses ▪ Positive, negative or bipolar pulse polarity ▪ Adjustable pulse phase shift ▪ Internal or external (light) synchronization 	<ul style="list-style-type: none"> ☑ All-in-one PD calibrator: The KAL 9520 provides the versatile functionality of an advanced PD calibrator in addition to all regular PD calibrator needs which makes it a reference tool for PD testing.
<ul style="list-style-type: none"> ▪ Touch screen ▪ Handheld, Rechargeable battery 	<ul style="list-style-type: none"> ☑ Ease of use

Applications

HAEFELY AG is accredited to calibrate and certify PD calibrators from SCS, Switzerland (Swiss equivalent of DKD, Germany). A calibration certificate can be delivered optionally with the KAL 9520.

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| <ul style="list-style-type: none"> ▪ Power and distribution transformers ▪ Instrument transformers ▪ Rotating machines ▪ Switchgears (MV/HV/GIS) ▪ Surge arresters | <ul style="list-style-type: none"> ▪ Bushings ▪ Cables (including Double Pulse) ▪ Power capacitors ▪ Components testing ▪ Research and development |
|---|---|

Scope of Supply

- KAL 9520 PD calibrator with rechargeable battery
- Charger with the spare rechargeable battery
- Banana connection cables
- Test certificate and operating manual

Technical Data

Signal generation	
Full discharge range	100 fC to 50 nC (logarithmic/linear scale)
Double impulse mode	Range: 100 fC to 500 pC Time interval in between pulses: 200 ns to 500 µs Pulse Rise Time (10 % - 90 %): ≤ 20 ns Pulse Duration (10 % - 10 %): ≤ 150 ns
Polarity	positive, negative: Full range bipolar: 100 fC to 500 pC
Discharge tolerance	± 5 % or ± 1 pC whichever is the greater
Rise time ¹⁾	≤ 60 ns
Time to steady state ¹⁾	≤ 200 ns
Step voltage duration ¹⁾	≥ 5 µs
Pulse synchronization	Light synchronization: 50/60 Hz Internal clock
PRF (Light synchronization)	1 to 12 impulses/cycle ²⁾
PRF (Internal synchronization)	0.1 to 600 Hz ²⁾
Phase shift setting with light synchronization	0° to 360°, step 1°

¹⁾ Unipolar step voltage as per IEC 60270:2000+AMD1:2015

²⁾ IEC 60270:2000+AMD1:2015 limitation

Discharge levels		
Injection Capacitance	Discharge level (Single impulse)	Injection Capacitance (Double impulse or bipolar impulse)
1 pF	0.1 pC to 200 pC	0.1 pC to 6 pC
10 pF	201 pC to 2 nC	7 pC to 30 pC
100 pF	2.1 nC to 20 nC	31 pC to 500 pC
200 pF	20.1 nC to 50 nC	-

Environmental	
Operating temperature	0 °C ... +55 °C
Storage temperature	-20 °C ... +70 °C
Humidity	5 ... 90% r.h., non-condensing

Mechanical	
Dimensions (W x D x H)	120 x 200 x 42 mm (4.7 x 7.9 x 1.6 in)
Weight	0.8 kg (1.7 lb) – calibrator itself 2.8 kg (6.2 lb) – calibrator including a case and accessories
Charger	100 - 240 V, 40 - 70 Hz

Applicable Standards	
General	IEC 60270:2000+AMD1:2015, IEC 60885-3:2015, ANSI-ICEA T-24-380:2013
CE conformity	EMC Directive 2014/30/EU and RoHS Directive 2011/65/EU

Global Presence

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