KAL 9520

Advanced Reference Partial Discharge Calibrator

Datasheet



HAEFELY

Current and voltage – our passion

Designed by Tettex

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 advance features (double pulse, polarity pulse selection, internal and external synchronization, linear range selection, pulse phase shift, etc.) make the KAL 9520 unique.

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 recommended in the upcoming standards.

Its fast pulse rise time (< 35 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
▪ SCS (IEC 17025) calibration certificate (optional)	☑ Guarantees the reliability of the partial discharge measuring chain due to the included traceable test certificate and the optional SCS (IEC 17025) calibration certificate.
▪ Full compliance with IEC 60270:2000+AMD1:2015	☑ Results reliability, plausibility, compliance and repeatability.
▪ Any Selectable PD level ▪ Ultra-wide range (0.1 pC to 50000 pC) ▪ Number of pulses is selectable ▪ Selectable pulse polarity ▪ Programmable frequency or light triggered	☑ No need for different PD calibrators: The KAL9520 includes all one needs in a “regular” PD calibrator and adds all one would wish in a “reference” PD calibrator, like double pulse, pulse polarity selection, programmable repetition rate, any selectable PD value and number of pulses and pulse phase shift selection.
▪ Touch screen ▪ Handheld, Rechargeable battery	☑ 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.

- Power and distribution transformers
- Instrument transformers
- Rotating machines
- Switchgears (MV/HV/GIS)
- Surge arresters
- 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: Time interval in between pulses Pulse Rise Time (10 % - 90 %) Pulse Duration (10 % - 10 %)	100 fC to 500 pC 200 ns to 500 µs ≤ 20 ns ≤ 150 ns
Polarity	positive, negative bipolar	Full range 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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