

PSURGE 30.2

Modular 30 kV / 30 kA Surge
Test System

Datasheet



HAEFELY

Current and voltage – our passion

General Description

This test system is used to perform high energy surge tests. Energy surges are generated by atmospheric lightning in power circuits. A surge is characterized by high energy and relative fast front times. Pulse durations are widely variable as are the coupling paths.

The PSURGE 30.2 is designed to generate a broad variety of surge impulses. Impulse modules can be exchanged quickly allowing PSURGE 30.2 to be used for different applications. Impulse module type is detected by the system software.

The built-in microprocessor control unit serves as user interface and control all the internal functions.

When adding the remote control option, it is possible to use the PSURGE 30.2 with the WinPATS control and reporting software.

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The integration in the WinPATS control and reporting software package enhances an efficient set-up and operation of this test system. Most importantly, the test load can be transferred to a computer freeing valuable resources.

An integrated test cabinet provides optimal and safe connections for component testing.

Features	Advantages
<ul style="list-style-type: none"> ▪ Up to 30 kV impulse voltage 	<ul style="list-style-type: none"> ☑ International Application – Specifically designed to meet and exceed the requirements of IEC, EN, ITU and ANSI tests for power line applications.
<ul style="list-style-type: none"> ▪ Up to 30 kA impulse current 	<ul style="list-style-type: none"> ☑ Modular System - The impulse circuit can be changed quickly and easily by the user. Only one generator is needed for up to four impulse shapes.
<ul style="list-style-type: none"> ▪ automatic polarity switching 	<ul style="list-style-type: none"> ☑ Safe and Easy - The interlocked test cabinets allow your operators to test safely and easily. The warning lamp indicates the system status clearly.
<ul style="list-style-type: none"> ▪ Peak voltage and current monitoring 	<ul style="list-style-type: none"> ☑ Mains Superposition – The combination wave impulse can be superimposed onto mains lines with the FP-SURGE 3010 according ANSI C62.45. This allows a surge test on a powered EUT.
<ul style="list-style-type: none"> ▪ Integrated large test cabinet 	<ul style="list-style-type: none"> ☑ Sturdy and Reliable – System components are selected for reliability and high impulse duty cycle.
<ul style="list-style-type: none"> ▪ Remote control option 	

Applications

- Combination wave according IEC 61000-4-5
- Safety tests as defined e.g. in IEC 61010
- Telecom system tests according ITU K series
- Surge tests as described e.g. in IEC 60060-1 and ANSI C62.41
- Component test as described e.g. in IEC 60664 and IEC 61643-1
- Many IEC & EN Product standards

Scope of Supply

- PSURGE 30.2
- PS30-CW
- PS30-8x20
- PS30-10x350
- PS30-10x1000
- FP-SURGE 3010 Single phase CDN
- Mains cable
- Warning lamp
- Emergency stop switch
- User manual

Technical Data

PSURGE 30.2 Mainframe	
Charging Voltage Range	3 ... 33 kV
Capacitors	9 μ F / 36 μ F
Stored energy	5 kJ at max. charging voltage
HV Output	terminals inside the test cabinet
Power mains	208, 230 or 240 V 50 / 60 Hz, 1800 VA
Test cabinet	390 x 290 x 320 mm (15.3 x 11.4 x 12.6 in)
HV Switch	triggered spark gap
Impulse polarity	positive, negative and alternating
Impulse circuit	floating, max. voltage between common and ground 500 V AC
External synchronization	0° ... 360° in 1° steps

Environmental, Mechanical and Power Supply	
Dimensions (W x D x H)	approx. 600 x 1900 x 1000 mm (23.6 x 74.8 x 39.4 in)
Weight	320 kg Net. (705.5 lb)

	Impulse Module PS30-CW	Impulse Module PS30-8x20
Impulse type	Combination wave	Current
Voltage front time	1.2 μ s \pm 30%	not defined
Voltage decay time	50 μ s \pm 20%	not defined
Voltage undershoot	\leq 30%	not defined
Voltage amplitude range	3 ... 30 kV	3 ... 15 kV
Impulse repetition	Up to 6 impulses per minute at max. voltage	Up to 2 impulses per minute at max. current
Output impedanace	2 Ω	0.5 Ω
Current front time	8 μ s \pm 20%	8 μ s \pm 20%
Current decay time	20 μ s \pm 20%	20 μ s \pm 20%
Current undershoot	\leq 30%	\leq 20%
Current amplitude range	1.5 ... 15 kA	6 ... 30 kA

	Impulse Module PS30-10x350	Impulse Module PS30-10x1000
Impulse type	Current	current
Voltage front time	not defined	not defined
Voltage decay time	not defined	not defined
Charging voltage range	3 ... 15 kV	3 ... 15 kV
Impulse repetition	Up to 2 impulses per minute at max. current	Up to 2 impulses per minute at max. current
Output impedanace	12 Ω	37 Ω
Current front time	10 μ s \pm 20%	10 μ s \pm 20%
Current decay time	350 μ s \pm 20%	1000 μ s \pm 20%
Current amplitude range	240 ... 1200 kA	80 ... 400 A

Coupling and Decoupling Network FP-SURGE 3010	
Impulse shape	Combination wave only
EUT Line voltage	480 V AC 110 V DC
EUT current	10 A
Test cabinet	400 x 400 x 800 mm (15.7 x 15.7 x 31.5 in)
Impulse amplitude	30 kV / 15 kA
Coupling modes	Line to neutral Line to neutral to ground Line and neutral to ground
Coupling capacitors	2 x 9 μ F / 1 x 18 μ F
Residual voltage at EUT line input	15% of the applied test voltage, limited to approx.. 1200 V

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HIGH VOLTAGE



INSTRUMENTS



EMC

