



Photovoltaic Impulse Voltage Generator

PVSG 3000

- IEC 60060-1
- IEC 61730-1
- IEC 61730-2
- GB/T 16927.1

Features

- > Test voltage up to 30 kV
- > Suitable for 20 nF-170 nF capacitive load, 11 groups of gears to be selected
- > Built-in surge voltage measurement module, viewing waveform via oscilloscope is available
- > Built-in real-time peak voltage monitor function
- > Ethernet, RJ45 interface for PC remote control and test report printing

Introduction

The PVSG 3000 photovoltaic impulse voltage generator is developed in compliance with IEC 61730-2 (MST14), IEC 61730-1 and IEC 60060-1. It delivers a standard 1.2/50 μ s impulse waveform for photovoltaic panels testing with equivalent capacitance ranging from 20 nF to 170 nF. The unit features 11 adjustable voltage levels, covering a test voltage range of 2 kV to 30 kV.

A capacitive load box is supplied for waveform calibration to replicate the capacitive characteristics of photovoltaic panels. When paired with Corelab software, the PVSG 3000 supports remote control of test sequences and automated test report printing.

Application Areas



Technical Parameters

Test Voltage	2 kV ~ 30 kV $\pm 3\%$
Calibration Voltage	4 or 8 kV ~ 30 kV $\pm 3\%$ Initial voltage depends on the load capacitance
Rise Time	1.2 μs $\pm 30\%$
Duration	50 μs $\pm 20\%$
Polarity	Positive, negative
Waveform Forming Network	Following Load capacitance
Capacitance Range	20 nF to 170 nF, total of 11 gears, manually selected (shorting plug) 20 nF – 25 nF , 22.5 nF $\pm 3\%$ 25 nF – 30 nF , 27.5 nF $\pm 3\%$ 30 nF – 35 nF , 32.5 nF $\pm 3\%$ 35 nF – 40 nF , 37.5 nF $\pm 3\%$ 40 nF – 50 nF , 45 nF $\pm 3\%$ 50 nF – 60 nF , 55 nF $\pm 3\%$ 60 nF – 75 nF , 67.5 nF $\pm 3\%$ 75 nF – 95 nF , 85 nF $\pm 3\%$ 95 nF – 115 nF , 105 nF $\pm 3\%$ 115 nF – 140 nF , 127.5 nF $\pm 3\%$ 140 nF – 170 nF , 155 nF $\pm 3\%$
Repetition Time	8 s ~ 9,999 s (The shortest time depends on test voltage)
Counter	1 ~ 9,999
Trigger Mode	Manual, Auto, External Trigger, Oscilloscope Trigger
Peak Value Acquisition	Monitor via coaxial port on front panel: 10 V@ 30 kV
Low-voltage Protection	When the pulse voltage does not reach the set value, the test process stops
Charging Display	Count-down display

General Parameters

Display Screen	5.7-inch TFT touch screen
Working Power	AC 110/220 V, $\pm 10\%$, 50 Hz/60 Hz
Fuse	6 A
Max. Power Consumption	200 W
Communication Mode	Ethernet LAN, RJ45
External Trigger Input	BNC, 5 V TTL
Run Control Input	BNC, 5 V TTL
Safe Loop	Stop working when the safety circuit is not closed
Failure Detection	Fault indication via front-panel LCD with automatic unit shutdown

General Parameters

Grounding Method	Flat grounding wire
Dimension	PVSG 3000: 8U rack PVSG 3000A: 5U rack PVSG 3000B: 5U rack
Weight	PVSG 3000: 44 kg PVSG 3000A: 29 kg PVSG 3000B: 30 kg
Ambient Temperature	15°C ~ 35°C
Relative Humidity	45% ~ 75%
Atmospheric Pressure	86 kPa ~ 106 kPa

Standard Accessories

Capacitive Load Box (PVCL 3000A & PVCL 3000B), Shorting Plug, Test Box, HV Test Cable, Power Cord, Fuse, Grounding Wire, User Manual

Optional Accessories

1	PC Software	Model: CoreLab > Support Windows 7/8/10 /11 operating systems > Supports Ethernet > Supports scheduling and test sequence, easy for operation > Supports single test and sequence test reports printing, and user-defined templates > Supports emergency stop for safe test	
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