

VSURGE NX20

1.2/50 US SURGE GENERATOR FOR SOLAR PANEL TESTING



FOR TESTS ACCORDING TO ...

- > EN 61730-1
- > EN 61730-2
- > IEC 60060
- > IEC 61730-1
- > IEC 61730-2
- > UL 1703

PV PANEL TESTING - 1.2/50US SURGE GENERATOR AS PER IEC/EN 61730





The surge generator type vsurge NX20 is specifically designed to generate high voltage transients as required by IEC/EN 61730-2: Ed 2.0 (2016) for safety testing of photo voltaic panels.

The specified waveshape of 1.2/50us must be generated and maintained as specified across a broad range of capacitance the PV's do represent. Such generator needs to be based on different pulse shaping networks to cope with the variable capacitive load of the panels depending on their size and design.

HIGHLIGHTS

- > **Surge voltage up to 20kV**
- > **11 different capacitance ranges selectable from 20 nF to 170 nF**
- > **Compliant to IEC/EN 61730-1/2**
- > **Peak voltage and peak current measurement**
- > **Automatic detection of selected load range and polarity**
- > **Interlock and Warning lamp control**

APPLICATION AREAS

-  INDUSTRY
-  COMPONENTS
-  RESIDENTIAL
-  RENEWABLE ENERGY

TECHNICAL DETAILS

VSURGE NX20 - 1.2/50 US SURGE GENERATOR

VOLTAGE PULSE	
Voltage (open circuit)	800 V to 20,000 V +/-10 %
Front time	1.2 μ s +/-30 %
Time to half value	50 μ s +/-20 %
Pulse shaping networks	Depending on load capacitance
Capacitance ranges	20 nF to 170 nF in 11 ranges, manual selectable, 20 nF to 25 nF, 25 nF to 30 nF, 30 nF to 35 nF, 35 nF to 40 nF, 40 nF to 50 nF, 50 nF to 60 nF, 60 nF to 75 nF, 75 nF to 95 nF, 95 nF to 115 nF, 115 nF to 140 nF, 140 nF to 170 nF
Wave Shape	As per IEC 60060-1
Polarity	Positive/negative, manual
Event counter	1 to 99,999, selectable

TRIGGER	
Automatic	Automatic pulse release
Manual	Single pulse release
External	External pulse release
CRO trigger	5V trigger signal for oscilloscope
Pulse repetition rate	2 s to 9,999 s depending on the voltage min. 29 s @ 20 kV

OUTPUT	
Direct	Via coaxial HV connector
	Direct connection to the EUT or via external testbox PCV AD1

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MEASUREMENTS	
CRO \hat{U} -monitor	10 Vp at 20,000 V
CRO \hat{I} -monitor	10 Vp at 5,000 A
Peak voltage	20,000 V, in the touch display
Peak current	5,000 A, in the touch display
Overcurrent protection	Breaks the Surge test when the surge current is over the limit, Range, 0 - 4950 A
Undervoltage protection	Breaks the Surge test when the surge impulse voltage is lower than the limit, Range, 0 - 20,000 V
Charging	Bar display LED 0 - 100 % of settet voltage

TEST ROUTINES	
Quick Start	Immediate start; easy to use and fast
Standard Test Routines	IEC 61730-2 range 20 nF to 170 nF
Extended Test Routines	Change polarity Change voltage

TECHNICAL DETAILS

GENERAL DATA

INTERFACE

Serial interface	2 x USB A / 1 x USB B, Opto - Link
Lan	Ethernet
Sys.link	26 pin high density connector to control an external coupling network
Fail inputs	EUT monitoring via input (one each) EUT Monitor 1 EUT Monitor 2

SAFETY

Safety standard	IEC/EN 61010
Security circuit	Control input (24 VDC)
Warning lamp	Floating contact (max. 60 V/2 A)

GENERAL DATA

Dimensions, weight	19"/9 HU, 448 x 442 x 550 mm, approx. 25 kg
Supply voltage	85 V - 264 VAC
Fuses	115 V: 2 x 4 A slow blow, 230 V: 2 x 2 A slow blow
Power	max. 95 W, 0.42 A, avg. 35 W, 0.15 A

ENVIRONMENT

Temperature	10 °C to 35 °C
Humidity	30 % to 75 %, non condensing
Atmospheric pressure	86 kPa (860 mbar) to 106 kPa (1,060 mbar)

ACCESSORIES AND OPTIONS

ACCESSORIES

Scope of delivery	vsurge NX20 generator, Safety circuit und warning lamp adapter, Mains supply cable (depends on country), Operation manual
PCV KIT 1	Set of test accessories including - Carrying case, - Connection box: PCV AD 1, - 2*1m HV leads, one end open, - Earth cable 2 m - Copper tape, self-adhesive, - Set of banana connectors

OPTIONS

iec.control 1	Remote control and documentation software, including standard test routines and reporting capabilities.
UOC	USB-Optolink Converter, Optical Fibre cable, 5 m
SWL	Warning Lamp, red - green, 0.85 kg

COMPETENCE WHEREVER YOU ARE



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Information about scope of delivery, visual design and technical data correspond with the state of development at time of release. Subject to change without further notice.