

High Energy Pulse Generator NSG 650

- **Surge pulses** $1.2/50 \mu\text{s}$
 $8/20 \mu\text{s}$
 $>6\text{kV}/3 \text{ kAmps}$
- **Ring wave** $0.5 \mu\text{s}/100 \text{ kHz}$
 $>6\text{kV}/500 \text{ Amps}$
- **Floating output**
- **Fully computer controlled**
- **Operating software included**
- **Automatic sequence programming**

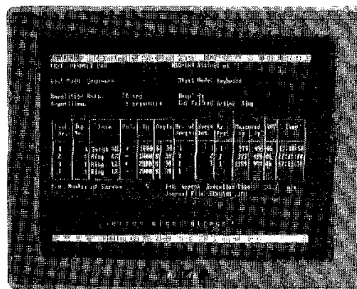
The High Energy Pulse Generator NSG 650 produces hybrid pulses of the shape $1.2/50 \mu\text{s}$ (open circuit) $8/20 \mu\text{s}$ (short circuit) as well as the $0.5/100 \text{ kHz}$ Ring wave pulse.

The unit thus complies with the standards and recommendations IEC 801-5, ANSI-IEEE C62.41, IEEE 587, VDE 0109 etc.

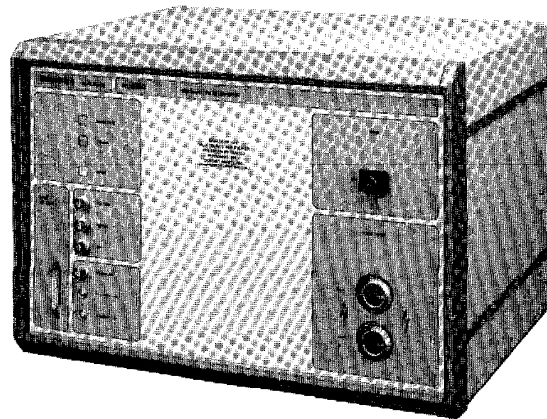
The NSG 650 is operated via a personal computer (IBM XT, AT or compatible). Alternatively the user can integrate the Generator into an existing computer environment.

The operating software supplied provides unique features which are otherwise not possible with front panel controls. This includes freely programmable test sequences which can be stored for further or repetitive use and which can be filed together with the test results.

To ease the operators task, the user-machine interface is designed in a menu structure.



Example of the TEST menu



Test parameters may be defined in 4 different modes:
Single pulse
Incremental voltage sequence
Incremental phase angle sequence
User-defined sequence of test profiles

During the test the actual pulse peak values (V_p and I_p) at the EUT are measured and displayed. All the test parameters, including the status of the EUT are filed and can be printed in a table form.

Optionally, a digital I/O-board can be fitted for the automatic setup of an appropriate coupling network and interaction with other elements in the test setup.

For the coupling of the pulses on ac lines a matching coupling network CDN 110 is available.

In addition, a range of accessories such as test enclosures, warning lamps etc. is available to simplify the test set-up.

Considerable attention has been paid to the matter of personnel protection. Software checks are backed by visual and audible alerts and by hardware interlocking mechanisms.

Technical specifications

Instrument supply 115 V or 230 Vac, +15%/- 20%
50/60 Hz, 115 Watts approx.

Type of pulses:
Surge 1, 2/50 μ s (open circuit)
8/20 μ s (short circuit)
200 V to 6.6 kV \pm 10%
up to 3.3 kAmps at 6.6 kV
dyn. imp: low 2 Ohms
high 12 Ohms

Ring wave 0.5 μ s/100 kHz
200 V to 6.6 kV
up to 500 Amps
dyn. imp: low 12 Ohms
high 30 Ohms

Polarity + / -

Pulse outputs floating

Controls No front panel controls.
All functions controlled via PC with the
NSG 650 operating software

Type of PC IBM compatible with min. 640 KB of
memory

Interface serial, RS 232C (Com 1)

Program menus Diagnostics
Parameter setup
Journal
Test
File handling

Operating modes Single pulse
Increment voltage sequence
Increment phase angle seq.
User-defined sequence of test profiles

Parameters Type of pulse: Surge (high imp.)
Surge (low imp.)
Ring (high imp.)
Ring (low imp.)

Voltage
Voltage step
Polarity
Synchronous / asynchronous
Phase angle (rel. to line)
Phase angle step
Repetition rate
Number of surges
Number of sequences

Start trigger Keyboard and external

Peak detector Vp and Ip measured at output and digitally
reported to result table

EUT failure Stop or continue mode

Optional Aux. I/O 8 input, 16 output, isolated

Monitor outputs V(t), I(t) for oscilloscope

Test reports automatic recording of test setup and test
results with user-definable header

Safety interlock Hardware and software safety provisions

Self diagnostic on power up or on request, reporting statis-
tics

Mechanical Width: 449 mm (17.7")
Height: 310 mm (12.2")
Depth: 500 mm (19.7")

Weight approx. 33.5 kg

Ordering informations

NSG 650 High Energy Pulse Generator
The unit is supplied complete with the
operating software, training software (both
running on a IBM-PC or compatible), fil-
tered monitor cables for an oscilloscope
and is ready to be interconnected with the
optional pulse coupling networks.

Optional accessories

CDN 110 Surge coupling network, single phase
CDN 115 Signal-Line coupling network
INA 110-40 40 Ω resistor to be used with CDN 115
INA 120 Test enclosure
INA 121 Component test box
INA 140 Warning lamps
INA 161 Brackets for mounting in a 19" rack
INA 301 Opto link, 10 m, powered from datalines
INA 303 Opto Link, 10 m, with p. s. 230 Vac
INA 304 Opto Link, 10 m, with p. s. 115 Vac
150-828 HV coaxial connector (to use unit without
CDN 110, e.g. for component testing) 2 off
are needed
402-741 HV coaxial cable, 2m

Subject to change without notice

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