



## General

The problem of malfunction in digital apparatus has been closed up in these years as a control unit has been diversified.

The primary cause of a malfunction is roughly divided into the worse power supply environment and the discharge of static electricity. INS-410 and 420 have been designed to simulate the impulse noise generated at an open end of inductive load, which is considered as one of the worse power supply environment. The impulse noise superimposed on the power supply line is sometimes detected as a noise reaching several thousands volts in the cases when the impedance of the measuring side is taken relatively high.

The INS-410/420 is constructed to be capable of selecting the sudden pulse rising and various kinds of pulse width. It permits superimposing not only on the commercial power supply, but also DC power supply or signal transmission line. Use of the supplied radiation cable permits testing the digital equipment in the electric field by generating a strong electric field, as well as testing by applying the cabinet through a closed circuit comprising a tester, floating capacitor, power supply line, test piece and output cable.

INS-410 and 420 can be used as versatile devices.

## Features

- Two kinds of wave, square and triangular (standard) can be selected.
- Even one-shot pulse can be mounted on the optional phase angle of the power supply line.
- All operation can be made on the front panel, making handling very easy.
- Usable together with the VDS•NDR series.
- If the panel frame is mounted, the simulator can easily be mounted on the standard rack.
- The unit type pulse generator permits easy replacement and requires no readjustment.
- The pulse width is easily variable in a range of 50nsec - 1µsec in steps of 50nsec.

## Specifications

- Impulse width ..... 50nsec, 100nsec, 200nsec, 250nsec, 400nsec and combination of these widths. Max width 1µsec  
Error of each width 10% or less
- Impulse voltage ..... 2000V max. (continuously variable in two ranges of 0 - 200V and 0 - 2000V) at 110V AC input with 50 ohms load
- Impulse rise time ..... 0.4nsec or less at PULSE OUT
- Impulse fall time ..... 0.25µsec or less at PULSE OUT with the pulse width or 1µsec
- Impulse repeat cycle
  - a. MANUAL TRIGGER: One shot to the optional phase of the power supply line with the pushbutton switch
  - b. EXTERNAL TRIGGER: 100Hz max. TTL level, positive logic
  - c. VARIABLE TRIGGER: 28Hz - 100Hz (approx. 35msec - 10msec)  $\pm 10\%$
  - d. Line synchronism: 50Hz or 60Hz
- Impulse injection phase angle :..  $0^\circ - 360^\circ$
- Output impulse polarity ..... + (positive) and - (negative)
- Output impulse rise time ..... 1nsec or less
- Output impedance .....  $50\Omega \pm 5\Omega$
- Triangular pulse width ..... 1µsec - 1.25µsec at 50% of Peak Voltage with  $50\Omega$  load (Injection Out)
- Triangular pulse voltage ..... 2000V max. at 110V AC input (continuously variable in 0 - 200V and 0 - 2000V)
- Triangular wave rise time ..... 40nsec or less
- Power capacity of measured equipment
  - INS-410 ..... 240V AC , 65V DC, 20A max.  
Single -phase
  - INS-420 ..... 240V AC , 65V DC, 20A max.  
Three-phase or Single-phase
- Power consumption ..... 110 , 50/60Hz, 70VA max.
- Dimensions ..... 420 (W) x 210 (H) x 350 (D)
- Weight ..... INS-410 Approx. 19kg  
INS-420 Approx. 20kg