

SE-201 PN-LMS

Shock Exciter Low-Medium-Shock



Applications

- **Secondary calibration** of shock transducers as well as complete measuring instruments (measuring chain) with very high precision and efficiency, according to **ISO 16063-22** (calibration by the comparison method)
- Secondary calibration of **shock accelerometer reference standards**
- **Shock testing** of small assemblies / parts

Range of Use

- **Certified calibration laboratories**
- **Calibration laboratory departments** of industrial firms particular in automotive, aviation or space travel industry
- **Quality assurance** in sensor manufacturing
- **National metrology laboratories** as highest measurement authorities

Features

- **Broad amplitude range** from **5 g_n ... 10,000 g_n**
- Type of excitation: **halfsine shock**
- **Pulse duration** up to 5 ms
- **Good repeatability** of shock
- Position of DUT: **vertical**
- Sensor mass (DUT) up to **80 gram**
- Realization of **all automatic calibrations** according to own test regime (up to 1 shock/s)
- **Upgradeable** to a CS18 shock calibration system
- **Low transverse motion** of DUT
- Automated regulation of amplitudes up to **6000 g_n** is possible

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The SE-201 PN-LMS is a pneumatically driven shock exciter which provides a wide amplitude range. It uses the hammer-anvil principle to generate the shocks. A projectile that is accelerated by pressurized air is used as hammer. While the air pressure is kept constantly, the kinetic energy of the projectile can be controlled by a motor driven mechanical stop that allows a precise adjustment of the projectiles starting position and thus of the distance over which it is accelerated. Thus the SE-201 PN-LMS allows a good and all electric control of the shock amplitude. All mechanical parts are build from wear resistant materials allowing best stability of the shock exciter and providing a good repeatability of shocks.

The SE-201 PN-LMS can be used for calibration purposes (secondary calibration according to ISO 16063-22) as well as for shock testing of small assemblies or parts.

It is optimized for low transverse motion of the DUT. For low shocks ($5 g_n$ to $250 g_n$) an air bearing is used to guide the anvil.

Components

- Pneumatically driven **pulse generator**
- Reference standard **BN-02**
- **Control box** with 5V TTL and serial (RS232) I/O-interface

Performance Specification ¹⁾

| | |
|------------------------------------|--------------------------|
| Max. sensor mass (DUT): | 80 gram |
| Min. shock amplitude: | $5 g_n$ |
| Max. shock amplitude: | $10,000 g_n$ |
| Pulse Duration (typically): | 0.1 ms ... 5 ms |
| Required Air Pressure: | 6 bar (73 PSI) |
| Required Air Quality: | ISO 8573-1:2010, Class 3 |

¹⁾ All data for environmental conditions: temperature 23°C ($\pm 2^\circ\text{C}$) and relative humidity 30 % ... 75 %