

# 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 <sup>1)</sup>

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

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