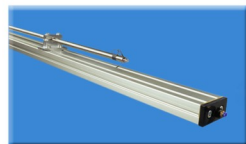


# CS18 MS

## Calibration System Medium-Shock Secondary



Adjustable  
Signal Shape, Amplitude,  
Pulse Width

Patented

### 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**

### Range of Use

- **Accredited 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 (with upgrade to primary system)

### Features

- **Traceable** to Physikalisch Technische Bundesanstalt (PTB) Braunschweig by the accredited SPEKTRA Calibration-Laboratory D-K-15183-01-00
- **Broad amplitude range** from **20 g<sub>n</sub> ... 4.000 g<sub>n</sub>**
- Type of excitation: **sinusoidal shock, adjustable signal shape or burst**
- **Independent control** of amplitude and pulse width (within certain ranges, see table)
- **Excellent repeatability** of shock
- Position of DUT: **horizontal**
- Sensor mass (DUT) up to **30 gram**
- Realization of **fully automatic calibrations** according to own test regime (up to 1 shock/s)
- **Calibration of sensors** with / without measuring amplifier and **measuring systems** (sensor with signal conditioner)
- **Direct connection of piezo-resistive sensors** through integrated **PR signal conditioner**
- Determination of **aptitude for calibration** (bridge resistance, offset, drift) of PR sensors in conjunction with software option **PR measurement**
- **Upgradeable** to a combined calibration system e.g. CS18 MS / HF

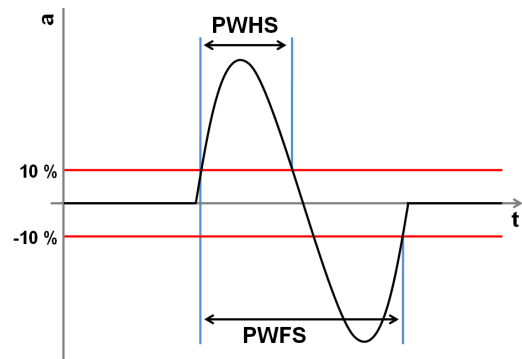
# CS18 MS

## Calibration System Medium-Shock Secondary



### Components

- Vibration control system **SRS-35** by SPEKTRA with integrated PR signal conditioner
- Shock exciter **SE-220 HOP-MS**
- Reference standard **BN-02**
- **PA 14-500** power amplifier



### Performance Specification <sup>1)</sup>

**Max. sensor mass (DUT):** 30 gram

**Min. shock amplitude:** 20  $g_n$

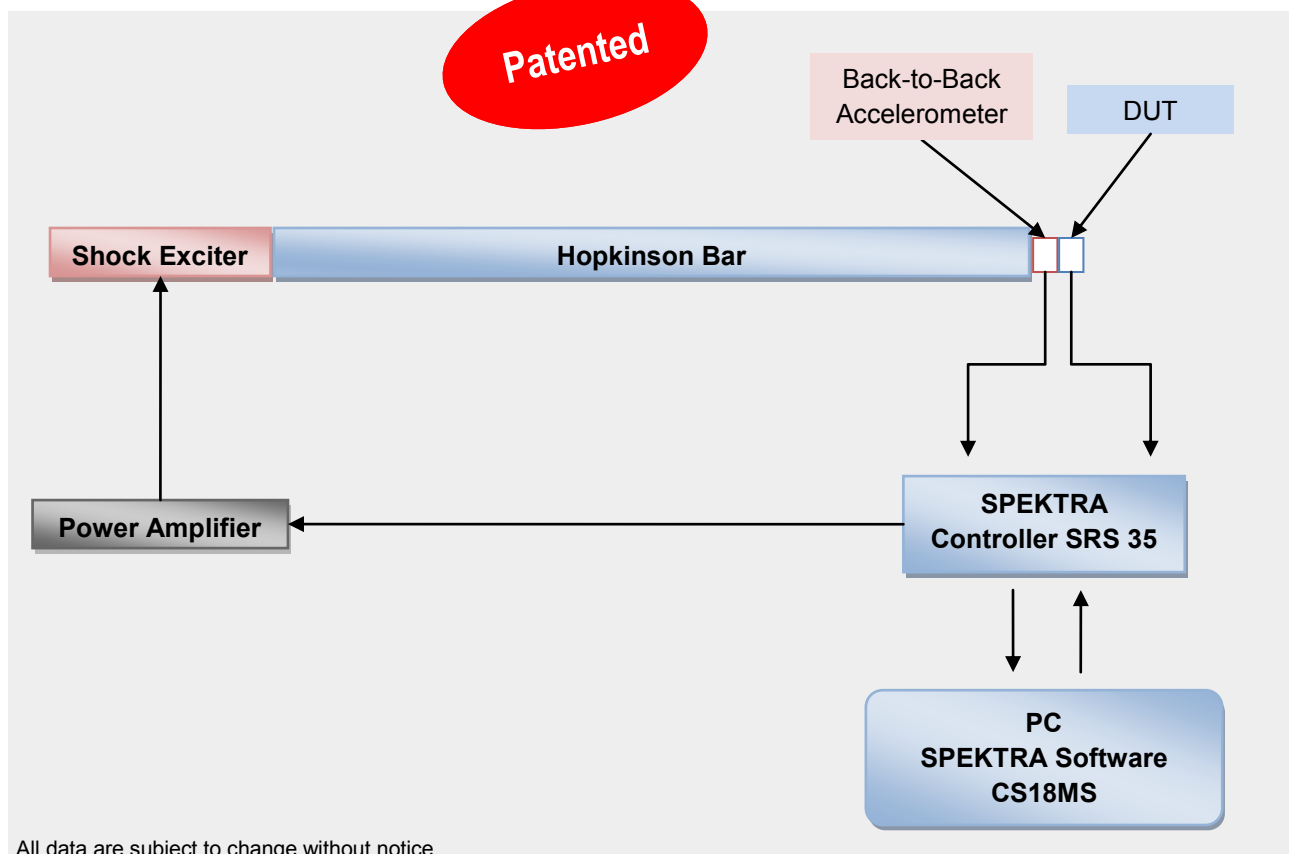
Shock Amplitude	PWHS <sup>2)</sup>	PWFS <sup>2)</sup>	Uncertainty <sup>3)</sup>
20 $g_n$ ... 250 $g_n$	180 $\mu s$	360 $\mu s$	< 2.0 %
20 $g_n$ ... 500 $g_n$	125 $\mu s$	250 $\mu s$	< 2.0 %
20 $g_n$ ... 1,000 $g_n$	70 $\mu s$	140 $\mu s$	< 2.5 %
20 $g_n$ ... 4,000 $g_n$	40 $\mu s$	80 $\mu s$	< 3.0 %

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

<sup>2)</sup> PWHS = max. Pulse Width Half Sine Wave; max. PWFS = Pulse Width Full Sine Wave

<sup>3)</sup> Determined according to GUM (ISO Guide to the expression of uncertainty in measurement, 1995) with  $k = 2$  (coverage factor)

Dimensions Hopkinson Bar	Length	approx. 2.5 m
	Height	approx. 1.3 m
	Width	approx. 0.5 m



All data are subject to change without notice

November 2013