

CS18P HS

Primary Calibration System High-g-Shock



Applications

- **Primary calibration** of shock sensor transducers as well as complete measuring instruments (measuring chain) with very high precision and efficiency, according to **ISO 16063-13**
- Primary calibration of **shock accelerometer reference standards**

Range of Use

- **National metrology laboratories** as highest measurement authorities
- **Accredited calibration laboratories**
- Departments of **measuring instrument verification** in research and development particular in the aviation and space travel
- **Quality assurance** in sensor manufacturing

Features

- **Traceable** to Physikalisch Technische Bundesanstalt (**PTB**) Braunschweig by the accredited SPEKTRA Calibration-Laboratory D-K-15183-01-00
- **Broad amplitude range to 75.000 g_n**, optionally up to **150.000 g_n** with High Speed Vibrometer
- Type of excitation: **sinusoidal shock**
- **Excellent repeatability** of shock
- Sensor mass (DUT) up to **30 gram**
- Realization of **all automatic calibrations** according to own test regime (up to 20 shocks/min)
- **Calibration** of **sensors** with / without measuring amplifier and **measuring systems**
- **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**
- Integration of a **reference standard** for secondary calibration according to ISO 16063-22
- **Upgradeable** to a combined calibration system e.g. CS18P HS / HF

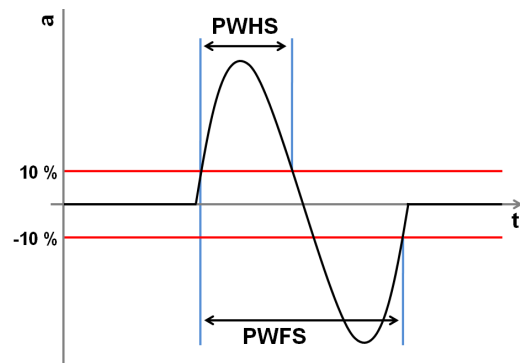
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Components

- Vibration control system **SRS-35** by SPEKTRA with integrated PR signal conditioner
- Shock exciter **SE-221 HOP-HS**
- Reference standard laser vibrometer **PLV-03**
- Reference standard for secondary calibration
- High speed **Data Acquisition System**



Performance Specification Primary ¹⁾

Shock Acceleration		1,000 g_n ... 75,000 g_n
Pulse Width PWFS / PWHS ²⁾		typical 50 μs / 25 μs
Sensor Mass (DUT)		max. 30 gram
Uncertainty ³⁾	1,000 g_n ... 2,000 g_n	< 2,2 %
	2,000 g_n ... 20,000 g_n	< 2,5 %
	20,000 g_n ... 50,000 g_n	< 2,8 %
	50,000 g_n ... 75,000 g_n	< 3,1 %
	75,000 g_n ... 150,000 g_n	< 5 % ⁴⁾

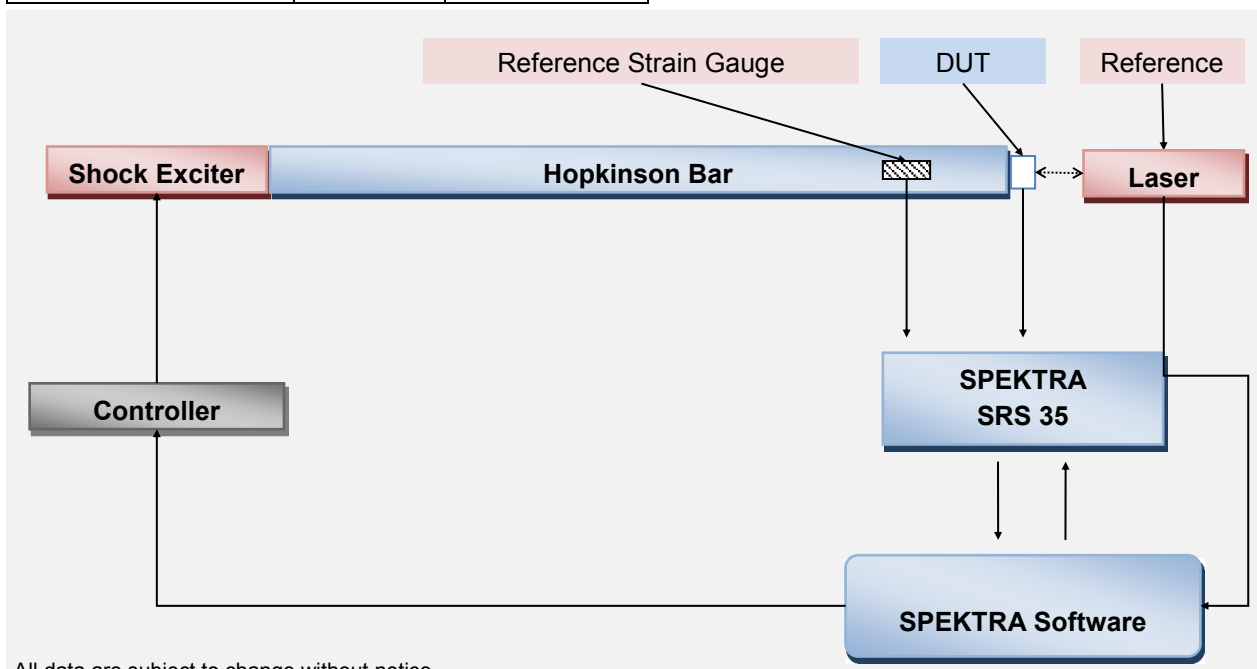
¹⁾ All data for environmental conditions: temperature 23°C ($\pm 2^\circ C$) and relative humidity 30 % ... 75 %

²⁾ PWHS = Pulse Width Half Sine Wave; PWFS = Pulse Width Full Sine Wave

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

⁴⁾ with optional high speed vibrometer

Air Supply		8 bar
Dimensions Hopkinson Bar	Length	approx. 3.5 m
	Height	0.8 m ... 1.2 m
	Width	approx. 1 m



All data are subject to change without notice

June 2015