CS Q-LEAP™ P-SHOCK with SE-201

primary calibration system with shock exciter

	HERO™ vibration controller incl. signal conditioners
	CS Q-LEAP™ software • shock calibration • more on demand
	Shock control unit for control via PC
	SE-201 pneumatic shock exciter to produce monopole shock pulse (half sine) as mechanical input signal for calibration purposes. Contains a digital laser interferometer (mach-zehnder) with positioning unit and damped tripod.

Typical DUT *

- vibration/shock sensors
  - PE transducers
  - IEPE transducers
  - PR transducers
  - Digital transducers (SPI, I2C, DTI, and other interfaces)
- supports TEDS / ID modules according to IEEE 1451.4

* DUT = Device Under Test

Standards

- ISO 16063 - 13: Primary shock calibration using laser interferometry
- ISO 16063 - 22: Shock calibration by comparison to a reference transducer
- ISO 17025: General requirements for the competence of testing and calibration laboratories

Key features

- Broad amplitude range 5 g_n…10 000 g_n (49 m/s²…98 km/s²)
- Traceable to PTB (German National Metrology Laboratory)
- Primary calibration of shock sensors
- Integrated sensor database
- Integrated software for the generation of calibration certificates (print, PDF,…)
  Easy data exchange with applications like ERP systems or measuring equipment databases

Technical data

Broad amplitude range	5 g_n…10 000 g_n (49 m/s²…98 km/s²)
Pulse width[1)]	0.1 ms…5 ms
Automated regulation of amplitudes	up to 6000 g_n (60 km/s²)
DUT weight, max.	80 g (2.82 oz)

Shock peak value			**Expanded measurement uncertainty**[2)] **for primary calibration**
Anvil type	**from**	**to**	**Shock-transfer-coefficient S_{SH}**[3)] **of analogue sensors**
Low shock (LS)	50 m/s² (5 g_n)	100 m/s² (10 g_n)	0.8 %
	100 m/s² (10 g_n)	2 500 m/s² (250 g_n)	0.7 %
Medium shock (MS)	2 km/s² (200 g_n)	40 km/s² (4 000 g_n)	1.0 %
	40 km/s² (4 000 g_n)	100 km/s² (10 000 g_n)	1.5 %

1) The pulse duration depends on the damper material on the anvil and can change due to aging and wear. The values in the table are valid for new standard anvils delivered with the shock exciter.

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

3) Shock-transfer-coefficient S_{SH} is calculated in the time domain by comparing of peak values
In addition to the Shock-transfer-coefficient S_{SH} in the time domain, further results are calculated in the frequency domain Sf(n) at certain frequencies

Accessories (optional)

PR module	to support the calibration of piezoresistive sensors
Data recorder DTI sensors	to support the calibration of DTI sensors with digital interface