CS Q-LEAP™ P-SHOCK with SE-221

Primary calibration system with high shock exciter

	HERO™ data acquistion device incl. signal conditioners
	CS Q-LEAP™ software • shock calibration • more on demand
	Shock control unit for control via PC
	SE-221 high shock exciter with different Hopkinson titanium bars
	All-digital laser vibrometer incl. vibration isolation and positioning device for the laser head (IR-Laser required at amplitudes higher 100 000 g_n)

Typical DUT

- PE accelerometer
- IEPE accelerometer
- PR accelerometer
- digital accelerometer with DTI-interface
- digital accelerometer with SPI, I2C and many other interfaces on request

Standards

- ISO 16063-13 Primary shock calibration using laser interferometry
- ISO 17025: General requirements for the competence of testing and calibration laboratories

Key features

- Shock amplitudes up to 200 000 g_n (1961 km/s²)
- HERO™ traceable to PTB (German National Metrology Laboratory)
- wider impulses with mitigator option
- Fly-Away operating mode
- Integrated software for the generation of calibration certificates (print, PDF,…)
  Easy data exchange with applications like ERP systems or measuring equipment databases

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Get your quote!

Technical data

	High shock bar	Very high shock bar	Measurement uncertainty of shock-transfer-coefficient S_{SH} [2) 3)]
Broad amplitude range	1000 g_n … 100 000 g_n (9.8 km/s² … 981 km/s²)	5000 g_n … 200 000 g_n (49 km/s² … 1961 km/s²)	
Pulse width[1)]	typical 23 µs…19 µs	typical 21 µs…17 µs	
DUT weight, max.	30 g (1.06 oz)	15 g (0.53 oz)	
Shock peak value	1 000 g_n … 20 000 g_n (9.8 km/s² … 196 km/s²)	5 000 g_n … 20 000 g_n (49 km/s² … 196 km/s²)	2.0 %
	20 000 g_n … 50 000 g_n (196 km/s² … 490 km/s²)	20 000 g_n … 50 000 g_n (196 km/s² … 490 km/s²)	3.0 %
	50 000 g_n … 100 000 g_n (490 km/s² … 981 km/s²)	50 000 g_n … 100 000 g_n (490 km/s² … 981 km/s²)	4.0 %
	–	100 000 g_n … 200 000 g_n [4)] (981 km/s² … 1961 km/s²)	8.0 %

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. Wider shock pulses available with mitigator option.
2) Determined according to GUM (JCGM 100 „Evaluation of measurement data – Guide to the expression of uncertainty in measurement") with k = 2 (coverage factor) for the best possible device under test (DUT). Other devices that are not assumed as ideal must be evaluated with individual contributions.
3) Shock-transfer-coefficient is calculated in the time domain by comparing of peak values
4) IR-Laser required at amplitudes higher 100 000 g_n

Air supply	4 bar	air quality according to ISO 8573.1, Class 3
Dimensions Hopkinson bar	Length	approx. 3.5 m (137 in)
	Height	0.8 m…1.2 m (32 in…47 in)
	Width	approx. 1.0 m (39 in)