

BCL

BURST CALIBRATION LOAD SET



Burst Calibration Load set

The relating standards:
ISO 7637-2
ISO 7637-3
OEM standards*

** The Burst Calibration Load set can be used for certain tests within these standards. Additional equipment might be required. For detailed information, please contact sales@spitzenberger.de.*

- ✓ Calibration kit for ISO 7637 -2 / -3
- ✓ Pulse 3a and 3b
- ✓ For peak voltages up to 800 V
- ✓ Type BCL 50 Ω input impedance
- ✓ Type BCL 1 k Ω input impedance
- ✓ Adapters provided for BSG 200
- ✓ Compatible with BSG 200
- ✓ Delivered with calibration certificate

VERSATILE CALIBRATION KIT



Schematic overview and characteristic

The Burst Calibration Load set (BCL) is designed to verify and measure the pulse output voltage of the BSG 200. The set contains two voltage dividers and two adapters. The type BCL 50 Ω divider has a divider ratio of 200 : 1 and the type BCL 1 kΩ divider a ratio of 400 : 1. Based on IEC 61000-4-4 standard the burst generator needs to be verified with a 50 Ω and a 1 kΩ load.

Type BCL 50 Ω (200 : 1)

Using a high bandwidth oscilloscope with a 50 Ω effective input impedance, the resulting attenuation is 400. In case the input impedance of the oscilloscope is $\geq 1 \text{ M}\Omega$ (high impedance), the resulting attenuation is 200.

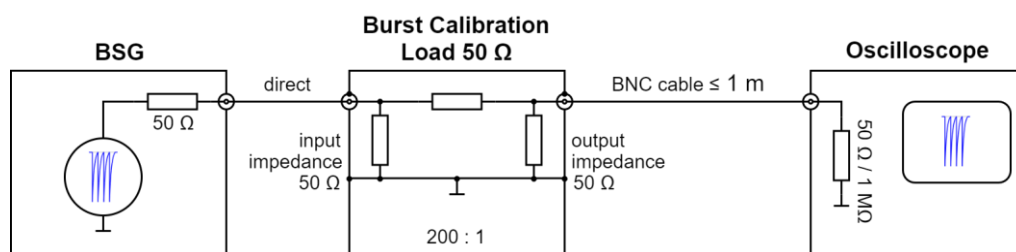


Fig. 1: Schematic overview BCL 50 Ω

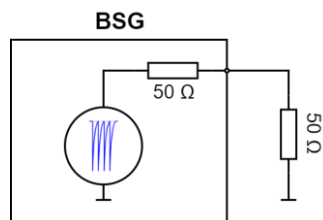


Fig. 2: Principle schematic 50 Ω load

Measuring example

Open circuit voltage at the BSG: 100 V

Resulting voltage @ 50 Ω input impedance: $(50 \Omega / 100 \Omega) * 100 \text{ V} = 50 \text{ V}$

Voltage divider ratio: 200 : 1

Input impedance oscilloscope = 50 Ω

Measured voltage at oscilloscope 50 Ω input impedance: 0.25 V

Resulting attenuation: 400 : 1

Input impedance oscilloscope $\geq 1 \text{ M}\Omega$

Measured voltage at oscilloscope $\geq 1 \text{ M}\Omega$ input impedance: 0.5 V

Resulting attenuation: 200 : 1

Type BCL 1 k Ω (400 : 1)

Using a high bandwidth oscilloscope with a 50 Ω input impedance, the resulting attenuation is theoretical 800. In case the input impedance of the oscilloscope is ≥ 1 M Ω (high impedance), the resulting attenuation is theoretical 400. Due to the “no load” condition with the effective input impedance of 1 k Ω (as per IEC 61000-4-4) the measured values are different, the real attenuation is higher than the theoretical attenuation.

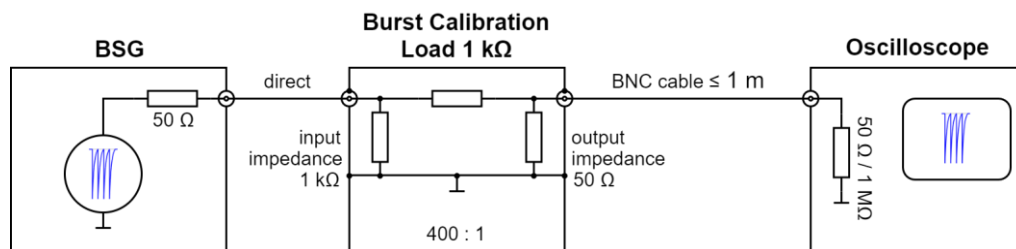


Fig. 3: Schematic overview BCL 1 k Ω

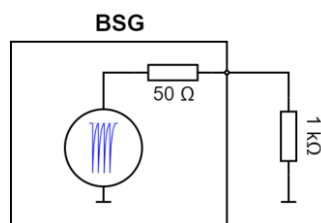


Fig. 4: Principle schematic “no load”

Measuring example

Open circuit voltage at the BSG: 100 V

Resulting voltage @ 1 k Ω input impedance: $(1000 \Omega / 1050 \Omega) * 100 \text{ V} = 95.238 \text{ V}$

Voltage divider ratio: 400 : 1

Input impedance oscilloscope = 50 Ω

Measured voltage at oscilloscope 50 Ω input impedance: 0.119 V

Resulting attenuation: 840 : 1

Input impedance oscilloscope ≥ 1 M Ω

Measured voltage at oscilloscope ≥ 1 M Ω input impedance: 0.238 V

Resulting attenuation: 420 : 1

TECHNICAL DATA – BCL

	BCL	
	Type BCL 50 Ω	Type BCL 1 kΩ
Input impedance	50 Ω ± 2 %	1 kΩ ± 2 %
Output impedance	50 Ω ± 2 %	
Divider ratio	200 : 1 ± 1 %	400 : 1 ± 1 %
Impulse voltage (<i>max.</i>)	800 V	
Input connector	LEMO plug (FAA.1S.250)	
Output connector	BNC socket	
Bandwidth	0 ... 100 MHz ± 1 dB 100 ... 400 MHz ± 3 dB	
Ambient temperature	+10 °C up to +40 °C	
Storage temperature	-25 °C up to +60 °C	
Relative humidity	non condensing, max. 80 % for temperature < 31 °C, decreasing linearly to 50 % at 40 °C	
Ingress protection	IP20	
Housing (<i>BCL</i>)	HF housing, aluminium	
<i>approx. dimensions (H x W x D)</i>	25.6 x 25.8 x 82.5 mm	
Weight (<i>BCL</i>)	70 g	
Housing (<i>carry case</i>)	black, polypropylene	
<i>approx. dimensions (H x W x D)</i>	251 x 220 x 80 mm	
Weight (<i>carry case</i>)	0.56 kg	

ADAPTERS

2 x Output Calibration Adapter	4 mm laboratory plugs – LEMO socket (EHP.1S.250) LEMO plug (ABF.1S.250) – BNC socket
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