

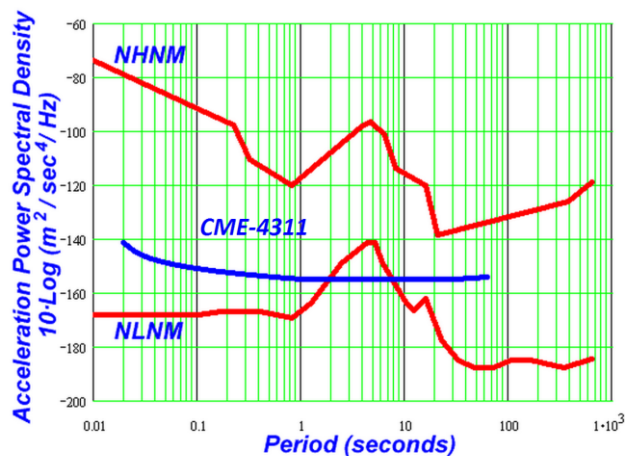
BOREHOLE BROADBAND SEISMOMETER CME-4311-BH150



Configuration	Triaxial, orthogonal – Vertical, North, East
Sensitivity	2000 V/(m/s) or customized
Maximum input signal	5 mm/sec
Frequency bandwidth	0,0167 (60 sec) – 50 Hz
Limiting values	0,0083 (120 sec) - 50 Hz
Maximum output swing	±10 V, differential mode
Output impedance	1000 Ohms
Dynamic range at 1 Hz	123.5 dB
Integral noise in the band	
0,0167 (60 sec) – 50 Hz	35.6 nm/sec (71,2 μV)
0,1 (10 sec) – 20 Hz	9 nm/sec (18 μV)
Self-noise	See plot below
Cross-axis sensitivity	-60 dB
Non-linearity at 1 Hz	0.5%
Temperature range	Standard -12°C - +55°C ( 10.4°F - 131°F) Low-temperature -40°C - +55°C ( -40°F - 131°F)
Supply voltage	Standard 10,5 .. 16 V DC, 12 V DC nominal
Supply current	25mA
Settling time till correct readings after power on	15 - 45 minutes, depending on the low frequency cut-off
Mass Lock , Mass Centering	None required
Self-calibration	Not available
Connector type, cable	Russian PC-10TB type, 10 pin with additional hermetic sealing, geophysical cable of required length with hermetical connector counterpart
Case accessories	Lifting ring, 3 feet for on-surface testing
Weight	7.5 kg (16,53 lbs)
Dimensions including ring, diameter x height	105 x 454 (507) mm 4.13” x 17.87” (19.96”)

The three-component broadband low-noise seismometer **CME-4311-BH150** is designed for permanent or long term installation in boreholes down to 250 meters both dry and flooded.

The sensor is equipped with a hermetic connector and a lifting ring for going in hole and subsequent surfacing. The device is very rugged, does not require any adjustment or mass-centering.



Source: Center for Molecular Electronics, Moscow Institute of Physics and Technology, 2012

Some of presented features and parameters apply to specific versions of a seismometer. Specifications are subject to change without notice.



BOREHOLE BROADBAND SEISMOMETER CME-4211-BH150

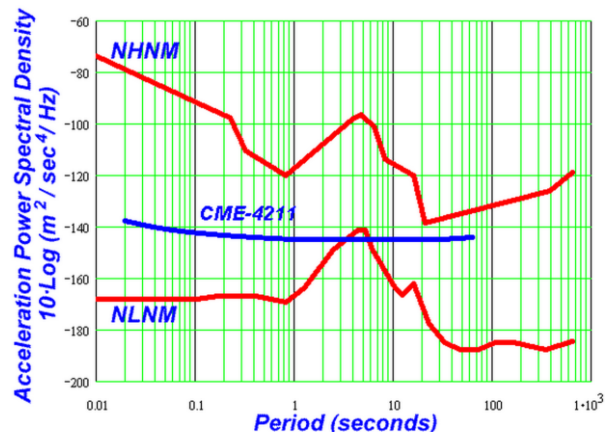


The CME-4211-BH150 is a 3-component inexpensive broadband seismometer designed for use in boreholes down to 250 meters both dry and flooded.

The sensor is equipped with a hermetic connector and a lifting ring for going in hole and subsequent surfacing. The device is very rugged, does not require any adjustment or mass-centering.

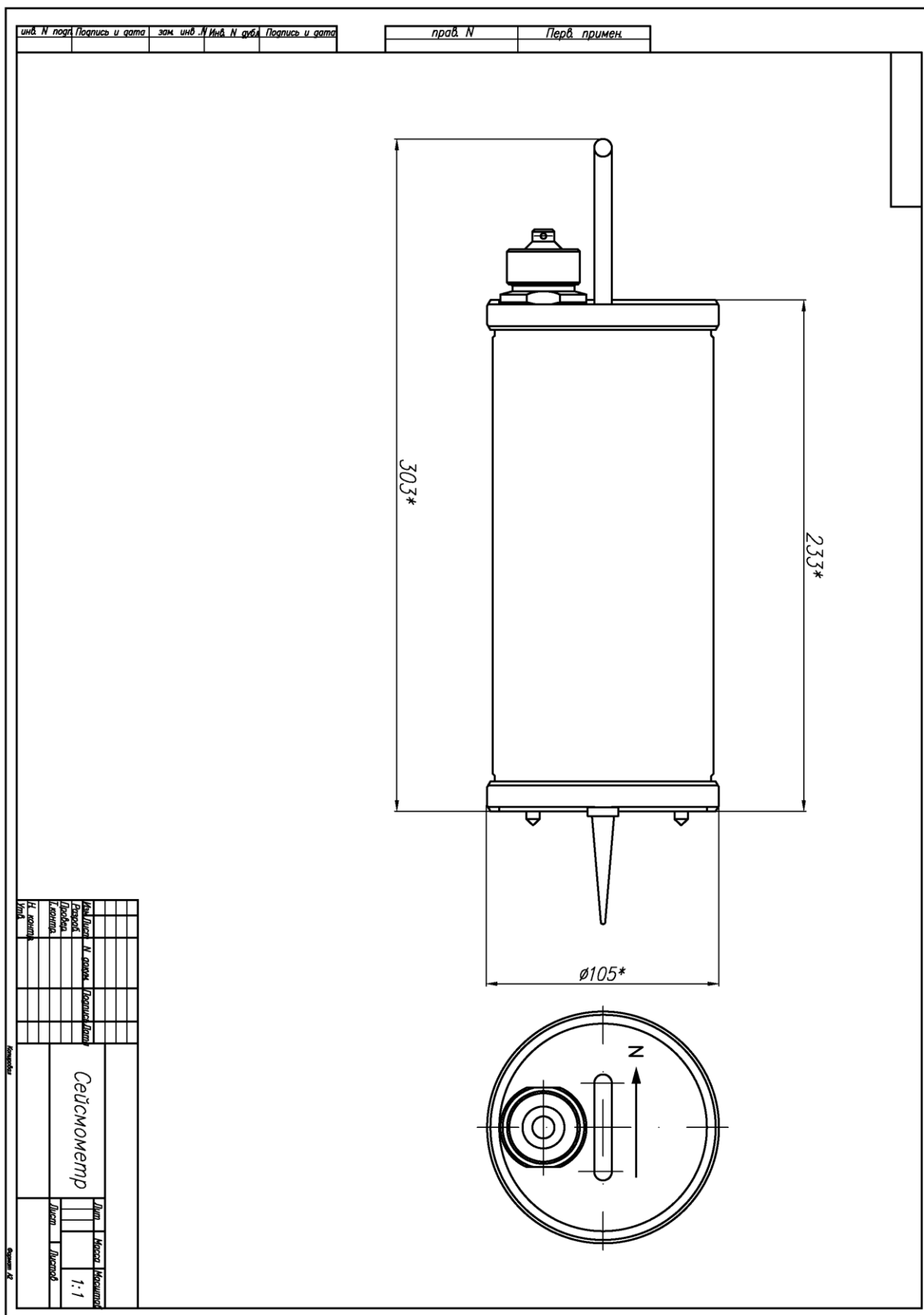


<b>Configuration</b>	Triaxial, orthogonal – Vertical, North, East
<b>Sensitivity</b>	2000 V/(m/s) or customized
<b>Maximum input signal</b>	5 mm/sec
<b>Frequency bandwidth</b>	0,033 (30 sec) – 50 Hz
<b>Limiting values</b>	0,0167 (60 sec) – 100 Hz
<b>Maximum output swing</b>	±10 V, differential mode
<b>Output impedance</b>	1000 Ohms
<b>Dynamic range at 1 Hz</b>	113 dB
<b>Integral noise in the band</b>	
0,033 (30 sec) – 50 Hz	76 nm/sec (152 μV)
0,1 (10 sec) – 20 Hz	28,4 nm/sec (57.8 μV)
<b>Self-noise</b>	See plot below
<b>Cross-axis sensitivity</b>	-60 dB
<b>Temperature range</b>	Standard -12°C - +55°C ( 10.4°F - 131°F) Low-temperature -40°C - +55°C ( -40°F - 131°F)
<b>Supply voltage</b>	Standard 10,5 .. 16 V DC, 12 V DC nominal
<b>Supply current</b>	25mA
<b>Settling time till correct readings after power on</b>	10 - 30 minutes, depending on the low frequency cut-off
<b>Mass Lock , Mass Centering</b>	None required
<b>Self-calibration</b>	Not available
<b>Connector type, cable</b>	Russian PC-10TB type, 10 pin with additional hermetic sealing, geophysical cable of required length with hermetical connector counterpart
<b>Case accessories</b>	Lifting ring, 3 feet for on-surface testing
<b>Weight</b>	4.5 kg (9,92 lbs)
<b>Dimensions including ring, diameter x height</b>	105 x 233 (303) mm 4.13” x 9.17” (11.93”)



Source: Center for Molecular Electronics, Moscow Institute of Physics and Technology, 2012

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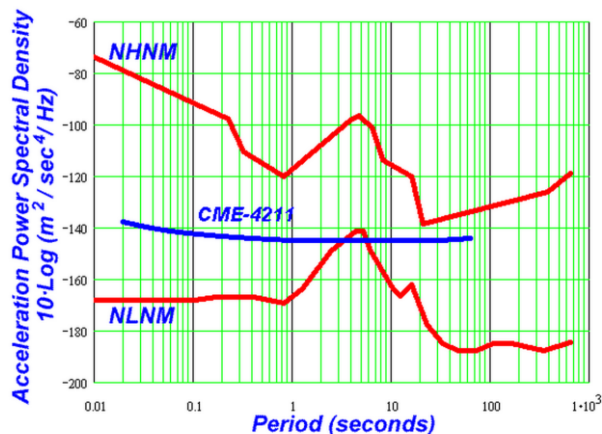
BOREHOLE BROADBAND SEISMOMETER CME-4211-BH15



The **CME-4211-BH15** is a 3-component inexpensive broadband seismometer designed for use in pits or post-holes down to 15 meters depth both dry and flooded.

The sensor is equipped with a hermetic connector and a lifting ring for going in hole and subsequent surfacing. The device is very rugged, does not require any adjustment or mass-centering.

<b>Configuration</b>	Triaxial, orthogonal – Vertical, North, East
<b>Sensitivity</b>	2000 V/(m/s) or customized
<b>Maximum input signal</b>	5 mm/sec
<b>Frequency bandwidth</b>	0,033 (30 sec) – 50 Hz
<i>Limiting values</i>	0,0167 (60 sec) – 100 Hz
<b>Maximum output swing</b>	±10 V, differential mode
<b>Output impedance</b>	1000 Ohms
<b>Dynamic range at 1 Hz</b>	113 dB
<b>Integral noise in the band</b>	
0,033 (30 sec) – 50 Hz	76 nm/sec (152 μV)
0,1 (10 sec) – 20 Hz	28,4 nm/sec (57.8 μV)
<b>Self-noise</b>	See plot below
<b>Cross-axis sensitivity</b>	-60 dB
<b>Temperature range</b>	Standard -12°C - +55°C ( 10.4°F - 131°F) Low-temperature -40°C - +55°C ( -40°F - 131°F)
<b>Supply voltage</b>	Standard 10,5 .. 16 V DC, 12 V DC nominal
<b>Supply current</b>	25mA
<b>Settling time till correct readings after power on</b>	10 - 30 minutes, depending on the low frequency cut-off
<b>Mass Lock , Mass Centering</b>	None required
<b>Self-calibration</b>	Not available
<b>Connector type, cable</b>	Russian PC-10TB type, 10 pin with additional hermetic sealing, geophysical cable of required length with hermetical connector counterpart
<b>Case accessories</b>	Lifting ring, 3 feet for on-surface testing
<b>Weight sensor / 15 meters cable</b>	2.5 kg (5,51 lbs) / 1.5 kg (3,31 lbs)
<b>Dimensions including ring, diameter x height</b>	105 x 250 mm ( 4.13” x 9.84”)



Source: Center for Molecular Electronics, Moscow Institute of Physics and Technology, 2012

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