



# Broadband Seismometer CME-4311

## Features:

High Performance Broadband Seismometer

Low self-noise

Compact size

Light weight

Optimal for field survey

Low power consumption

Easy installation

No mass lock or mass centering needed

Resistant to frequent repositioning

0.0167 (60 sec) – 50 Hz bandwidth

2000 V/(m/s) sensitivity

Low temperature (-40°C) option

15 V peak-to-peak differential output

Installation tilts up to 15 degrees



## The CME-4311 specifications

The CME-4311 seismometers combine the low-noise molecular-electronic sensing element (transducer) and the electrodynamic feedback which results in a very flat response over a wide frequency range, high dynamic range and greatly improved time and temperature stability of the instrument parameters.

Like other molecular-electronic instruments, the 4311 seismometer is very rugged and does not require any special means or procedures for transportation and installation. The only procedure needed prior to start the operation is to place the seismometer on the rigid horizontal surface, turn the power on and wait for several minutes. The seismometer can be used in various areas including permanent stations and field experiments.

The sensing element of a MET transducer consists of two hermetically sealed housings filled with electrolyte connected by a channel with electrodes across it. The electrodes are separated by perforated dielectric spacers. The electrolyte plays the role of the inertial mass, while hydrodynamic impedance of the sensing element acts as the damping mechanism providing a feedback for stabilization of the transfer function.

Find more on Molecular-Electronic Technology (MET) at [www.r-sensors.ru](http://www.r-sensors.ru)

<b>Configuration</b>	<b>Triaxial, orthogonal - Vertical, North, East</b>
<b>Sensitivity</b>	<b>2000 V/(m/s) or customized</b>
<b>Maximum input signal</b>	<b>5 mm/sec</b>
<b>Bandwidth</b> <i>standard</i> <i>extended</i>	<b>0.0167 (60 sec) - 50 Hz</b> <b>0.0083 (120 sec) - 50 Hz</b>
<b>Maximum output swing</b>	<b>±10 V, differential mode</b>
<b>Output impedance</b>	<b>1000 Ohm</b>
<b>Dynamic range at 1 Hz</b>	<b>123.5 dB</b>
<b>Integral noise in the band</b> 0,0167 (60 sec) – 50 Hz 0,1 (10 sec) – 20 Hz	<b>35.6 nm/sec (71.2 µV)</b> <b>9 nm/sec (18 µV)</b>
<b>Cross-axis sensitivity</b>	<b>-60 dB</b>
<b>Non-linearity at 1 Hz</b>	<b>0.5%</b>
<b>Temperature range</b>	<b>Standard range -12°C - +55°C (10.4°F - 131°F)</b> <b>Low-temperature range -40°C - +55°C (-40°F - 131°F)</b>
<b>Nominal supply voltage</b>	<b>10.5 - 30 V dc (12 V nominal)</b> <b>single supply, non isolated</b>
<b>Nominal supply current</b>	<b>27 mA - standard,</b> <b>8 mA - low power (9.5 ... 16 V dc)</b>
<b>Settling time till correct readings after power on</b>	<b>15 - 45 minutes</b>
<b>Mass Lock , Mass Centering</b>	<b>None required</b>
<b>Self-calibration</b>	<b>Not equipped</b>
<b>Connector type, cable</b>	<b>Russian PC-10TB type, 10 pin</b> <b>1.5 meter (4.92 ft) or customized length</b> <b>UTP cable</b>
<b>Case accessories</b>	<b>Bubble level, handle, three feet,</b> <b>2 pointers</b>
<b>Weight</b>	<b>4.6 kg (10.14 lbs)</b>
<b>Dimensions including handle, diameter x height</b>	<b>180 x 140 mm (7.09" x 5.51")</b>

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

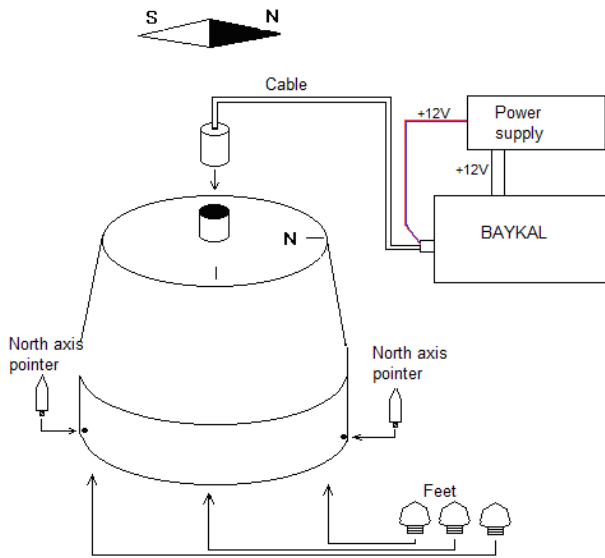
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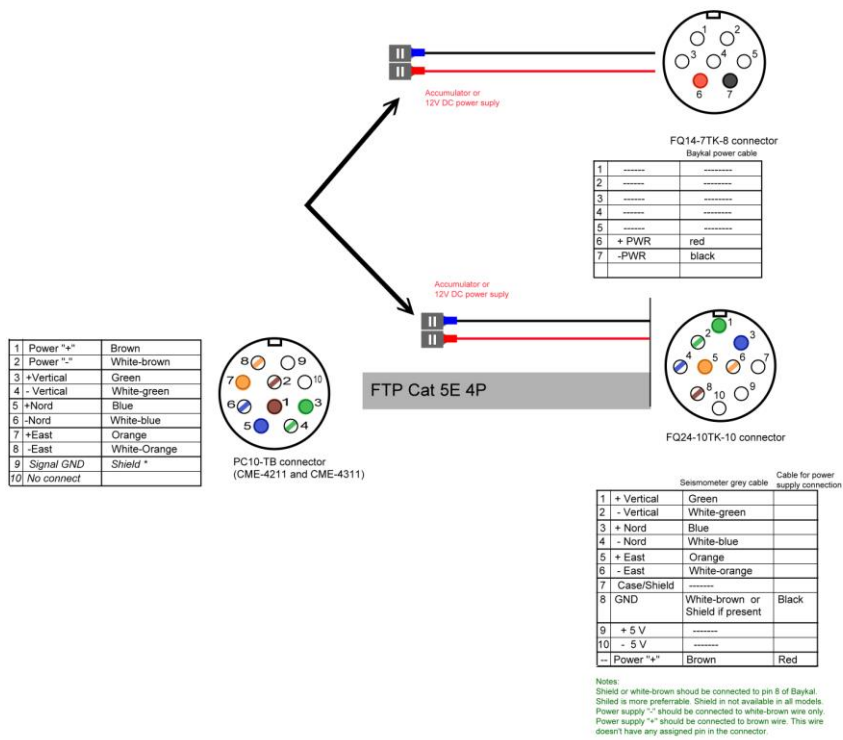
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**Fig. 1. Typical wiring diagram for CME-4311 seismometer in CME-BAYKAL seismic station**

**Cables for Baykal-8**



**Fig. 2. Standard cable pin and colour assignment for CME-BAYKAL seismic station**

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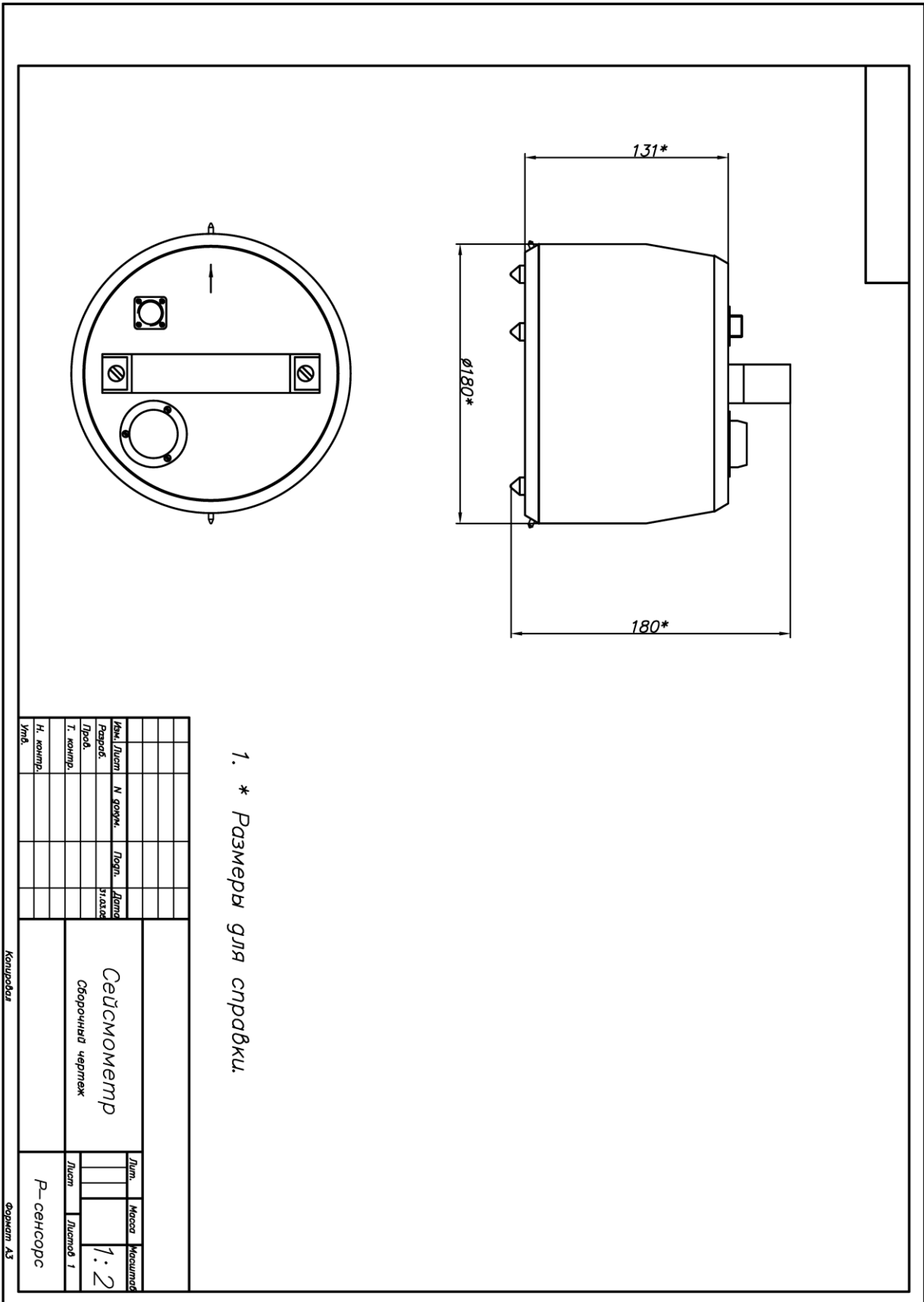


Fig. 3. CME-4311 seismometer outline drawing.

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