



# **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**

**15V 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 very flat response over 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.

More on Molecular-Electron Technology (MET) on [www.r-sensors.ru](http://www.r-sensors.ru) !

Configuration	Triaxial, orthogonal - Vertical, North, East
Sensitivity	2000 V/(m/s) or customized
Maximum input signal	5 mm/sec
Bandwidth standard <i>extended</i>	0.0167 (60 sec) - 50 Hz 0.0083 (120 sec) - 50 Hz
Maximum output swing	±15V, 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 0,1 (10 sec) – 20 Hz	35.6 nm/sec (71.2 μV) 9 nm/sec (18 μV)
Cross-axis sensitivity	-60 dB
Non-linearity at 1 Hz	0.5%
Temperature range	Standard range -12°C - +55°C ( 10.4°F - 131°F) Low-temperature range -40°C - +55°C ( -40°F - 131°F)
Nominal supply voltage	10.5 - 30 Vdc (12V nominal) single supply, non isolated
Nominal supply current	27 mA - standard, 8 mA - low power (9.5 .. 16 Vdc)
Settling time till correct readings after power on	15 - 45 minutes
Mass Lock , Mass Centering	None required
Self-calibration	Not equipped
Connector type, cable	Russian PC-10TB type, 10 pin 1.5 meter (4.92 ft) or customized length UTP cable
Case accessories	Bubble level, handle, three feet, 2 pointers
Weight	4.6 kg (10,14 lbs)
Dimensions including handle, diameter x height	180 x 140 mm ( 7.09" x 5.51")

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



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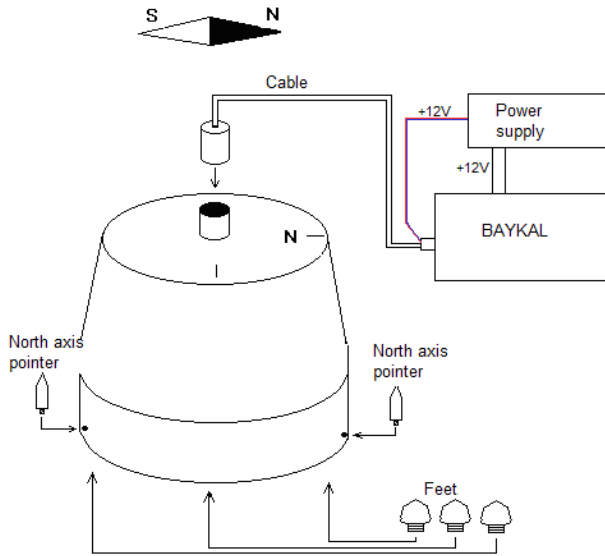


Fig. 1. Typical wiring diagram for CME-4311 seismometer in CME-BAYKAL seismic station

Cables for Baykal-8

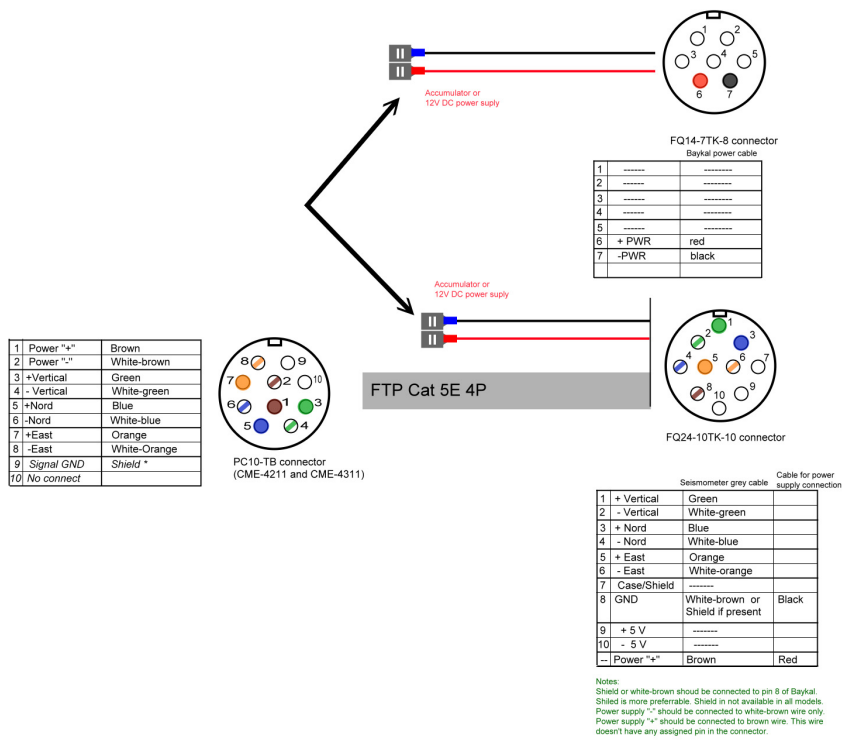


Fig. 2. Standard cable pin and colour assignment for CME-BAYKAL seismic station

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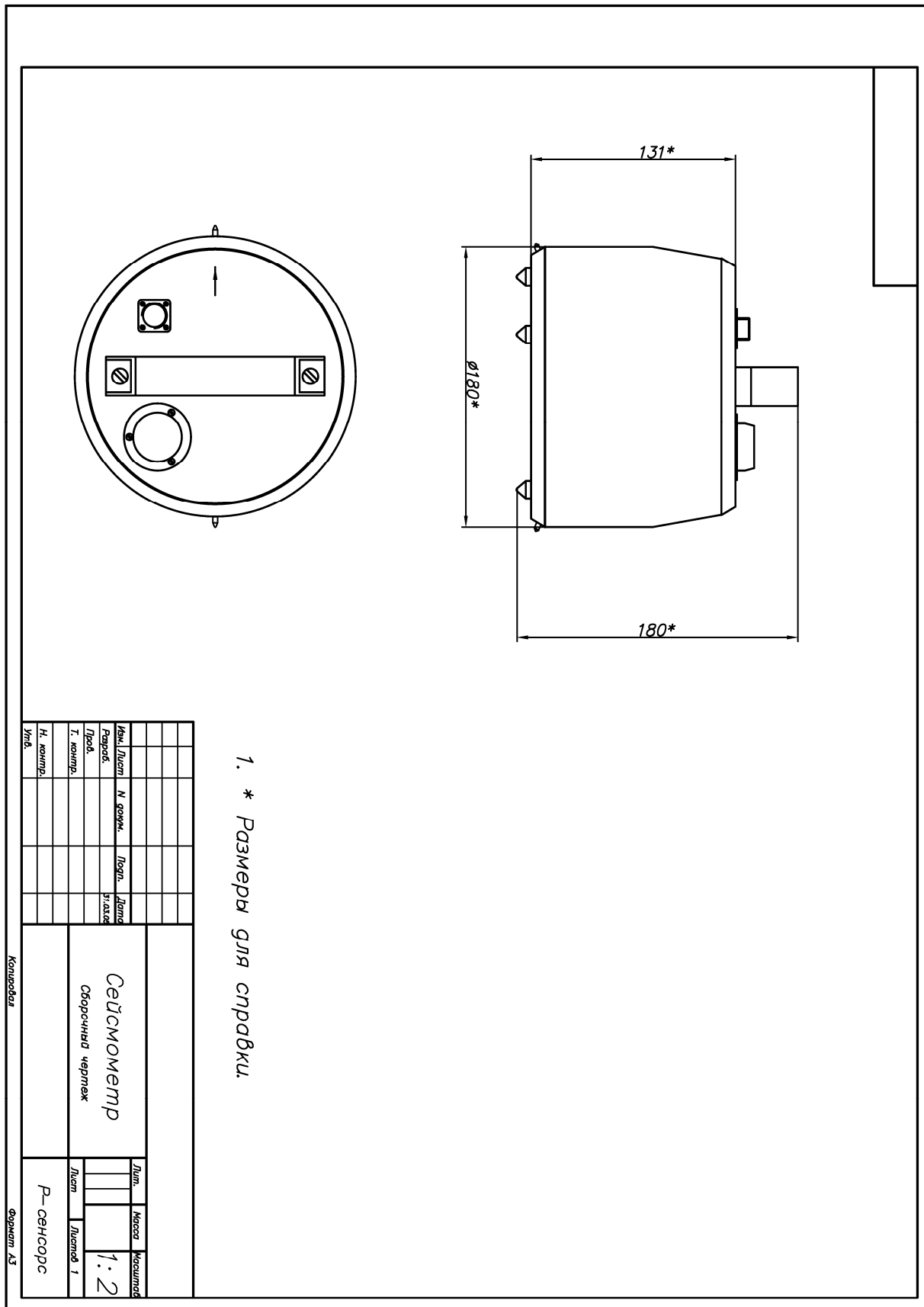


Fig. 3. CME-4311 seismometer outline drawing.

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