



Broadband Seismometer CME-6111

Features:

High Performance Broadband Seismometer

Wide dynamic range

Easy integration with third party equipment

Easy installation

No mass lock or mass centering needed

Resistant to frequent repositioning

Built-in calibration coil

0.0167 (60 sec) – 50 Hz bandwidth

2000 V/(m/s) sensitivity

15V peak-to-peak differential output

Self-noise below NLNM in 10 sec – 5 Hz frequency range

Installation tilts up to 15 degrees



The CME-6111 specifications

The CME-6111 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 6111 seismometer is very rugged and does not require any special means or procedures for transportation and installation. The only procedure 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

Configuration	Triaxial, orthogonal - Vertical, North, East
Sensitivity	2000 V/(m/s) or customized
Maximum input signal	7.5 mm/sec
Bandwidth[*]: standard 1 standard 2	0.0167 (60 sec) - 50 Hz 0,033 (30 sec) – 50 Hz
Maximum output swing	±15 V, differential mode
Output impedance	1000 Ohm
Dynamic range at 1 Hz	137 dB
Integral noise in the band 0,0167 (60 sec) – 50 Hz 0,1 (10 sec) – 20 Hz	28.5 nm/sec (57 μV) 2.84 nm/sec (5,68 μV)
Cross-axis sensitivity	-50 dB
Non-linearity at 1 Hz	0.2%
Temperature range[*]	Standard range -12°C - +55°C (10.4°F - 131°F) Low-temperature range -40°C - +55°C (-40°F - 131°F)
Supply voltage[*] (all possible options)	+9 - +36 V single supply, isolated / +12V single supply / ±12 V dual supply / ± 5V dual supply / +5V single supply
Power consumption	700 mW (58 mA @ +12 V dc) from isolated source / 400 mW from non-isolated source at +12V dc
Settling time till correct readings after power on	5 - 15 minutes
Mass Lock , Mass Centering	None required
Self-calibration	Built-in
Connector type, cable	Hermetical MS-3102E type, 14 pin. 1.5 meter (4.92 ft) UTP cable or customized length
Case packaging arrangement	Bubble level, handle, three leveling feet, two pointers, protective cap for connector
Weight	7.5 kg (16.53 lbs)
Dimensions including handle, diameter x height	204 x 210 mm (8" x 8.27")

* - a sensor can support one option out of the list

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

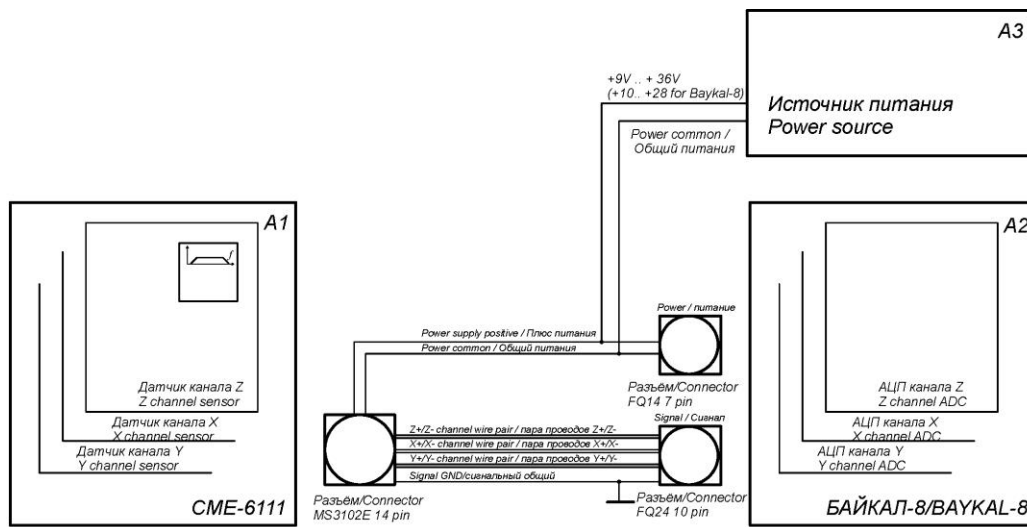
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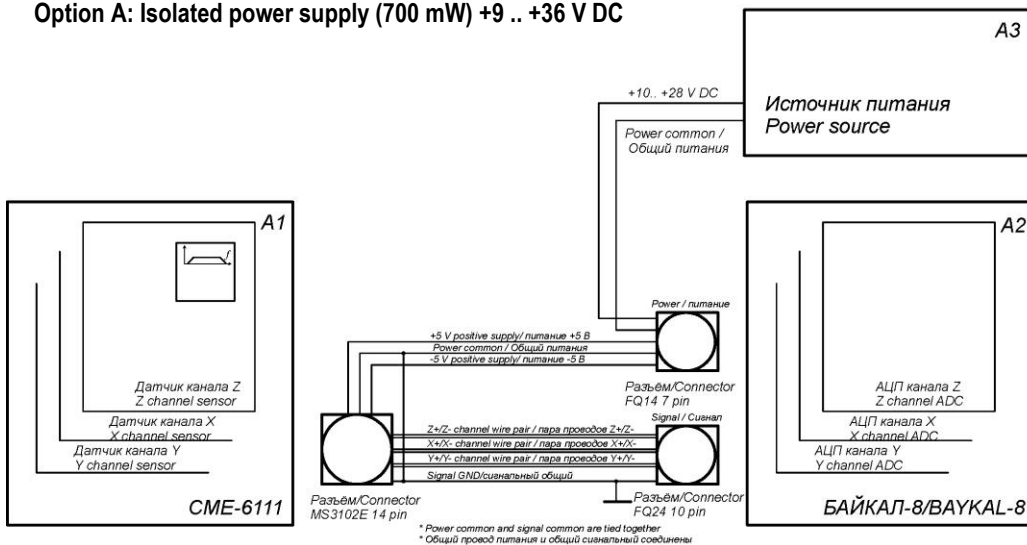
8A Zhukovskogo Street, Dolgoprudny, Moscow Region, 141701, Russia

Tel.: +7 (498) 744-69-95

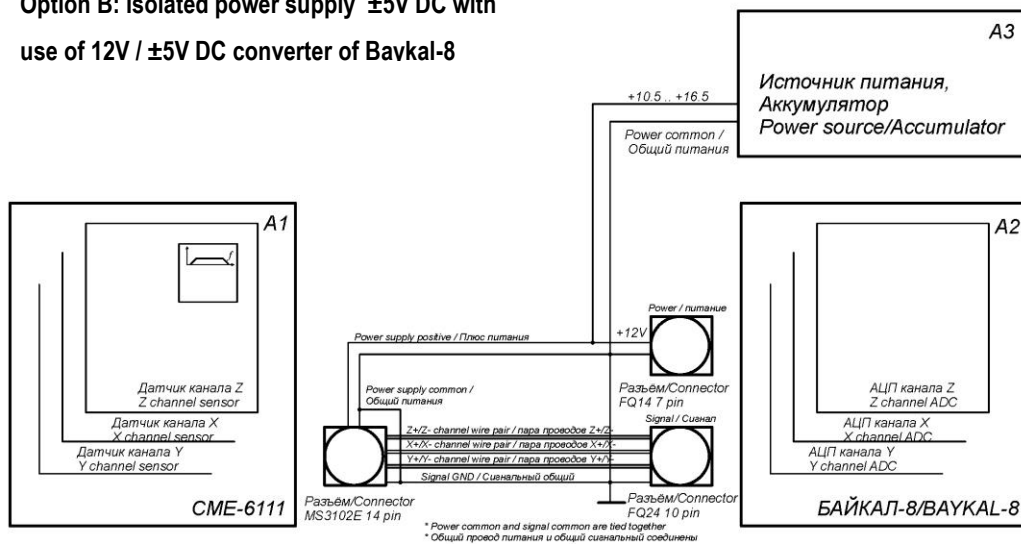
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Option A: Isolated power supply (700 mW) +9 .. +36 V DC



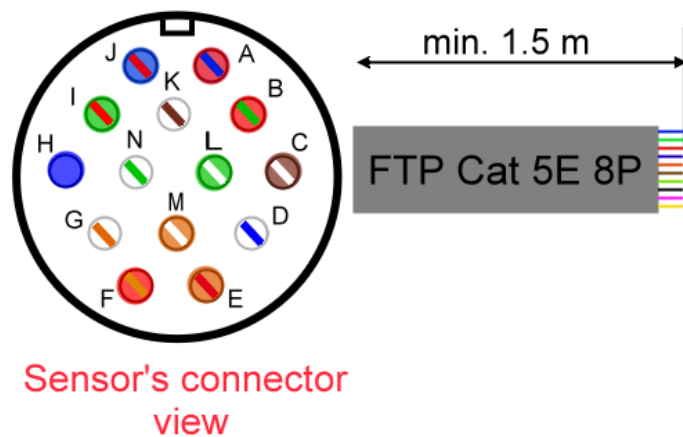
Option B: Isolated power supply $\pm 5V$ DC with use of 12V / $\pm 5V$ DC converter of Bavkal-8



Option C: Non-Isolated power supply (400 mW) 12V DC

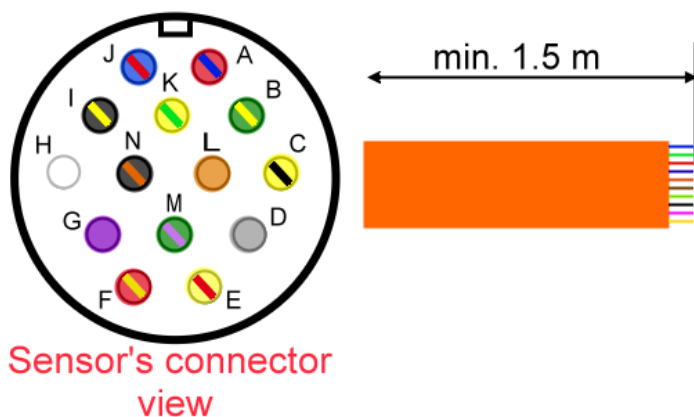
Fig. 1. Typical wiring diagrams for different power supply options
For CME-6111 seismometer in CME-BAYKAL seismic station

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Standard Cable

A	+Uin(Main power)	Red (with blue)
B	+Vin*	Red (with green)
C	GND	Brown (with white)
D	-NORD	White (with blue)
E	Calibr input	Orange (with red)
F	Calibr Enable	Red (with orange)
G	-EAST	Purple
H	+NORD	Blue
I	-Vin*	Green (with red)
J	-Uin(Main power)	Blue (with red)
K	GND	White (with brown)
L	+VERTICAL	Green (with white)
M	+EAST	Orange (with white)
N	-VERTICAL	White (with green)



Field Cable

A	+Uin(Main power)	Red (with blue)
B	+Vin*	Green (with yellow)
C	GND	Yellow (with black)
D	-NORD	Gray
E	Calibr input	Yellow (with red)
F	Calibr Enable	Red (with Yellow)
G	-EAST	Violet
H	+NORD	White
I	-Vin*	Black (with yellow)
J	-Uin(Main power)	Blue (with red)
K	GND	Yellow (with green)
L	+VERTICAL	Orange
M	+EAST	Green (with violet)
N	-VERTICAL	Black (with orange)

**Fig. 2. Output connector pins and cable colours assignment
for CME-6111 seismometer.**

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