Broadband Seismometer CME-6211

Features:

High Performance Broadband Seismometer
Wide dynamic range
Easy Installation
No Mass lock or Mass centering needed
Built-in calibration coil
0.008 (120 sec) – 50 Hz bandwidth
2000 V/(m/s) sensitivity
20V peak-to-peak differential output
Self-noise below NLNM in 10 sec – 5 Hz
Low power consumption
Installation tilts up to 15 degrees

The CME-6211 specifications

The CME-6211 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 6211 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 filled with electrolyte housings connected by a channel with electrodes across. 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	**10 mm/sec**
Bandwidth* **standard 1** ***standard 2***	 **0.008 (120 sec) - 50 Hz** ***0.0167 (60 sec) – 50 Hz***
Maximum output swing	**±20 V, differential mode**
Output impedance	**1000 Ohm**
Dynamic range at 1 Hz	**140 dB**
Integral noise in the band **0,1 – 20 Hz** **0,008 (120 sec) – 20 Hz**	 **2.8 nm/sec (5.6 μV)** **9.8 nm/sec (19.6 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 /** **+12 V single supply / ±12 V dual supply /** **± 5 V dual supply / +5 V single supply**
Power consumption	**700 mW (58 mA @ +12 V dc)** **from isolated source /** **400 mW from non-isolated source at +12 V 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, 10 pin / 14 pin.** **1.5 meter (4.92 ft) UTP cable** **or customized length**
Case type, material	**Double-shielded waterproof,** **stainless steel/aluminum**
Case accessories	**Bubble level, handle, three leveling feet,** **protective cap for connector**
Weight	**12.2 kg (26.9 lbs)**
Dimensions including handle, diameter x height	**254 x 260 mm (10.0” x 8.27”)**

* - One option per sensor

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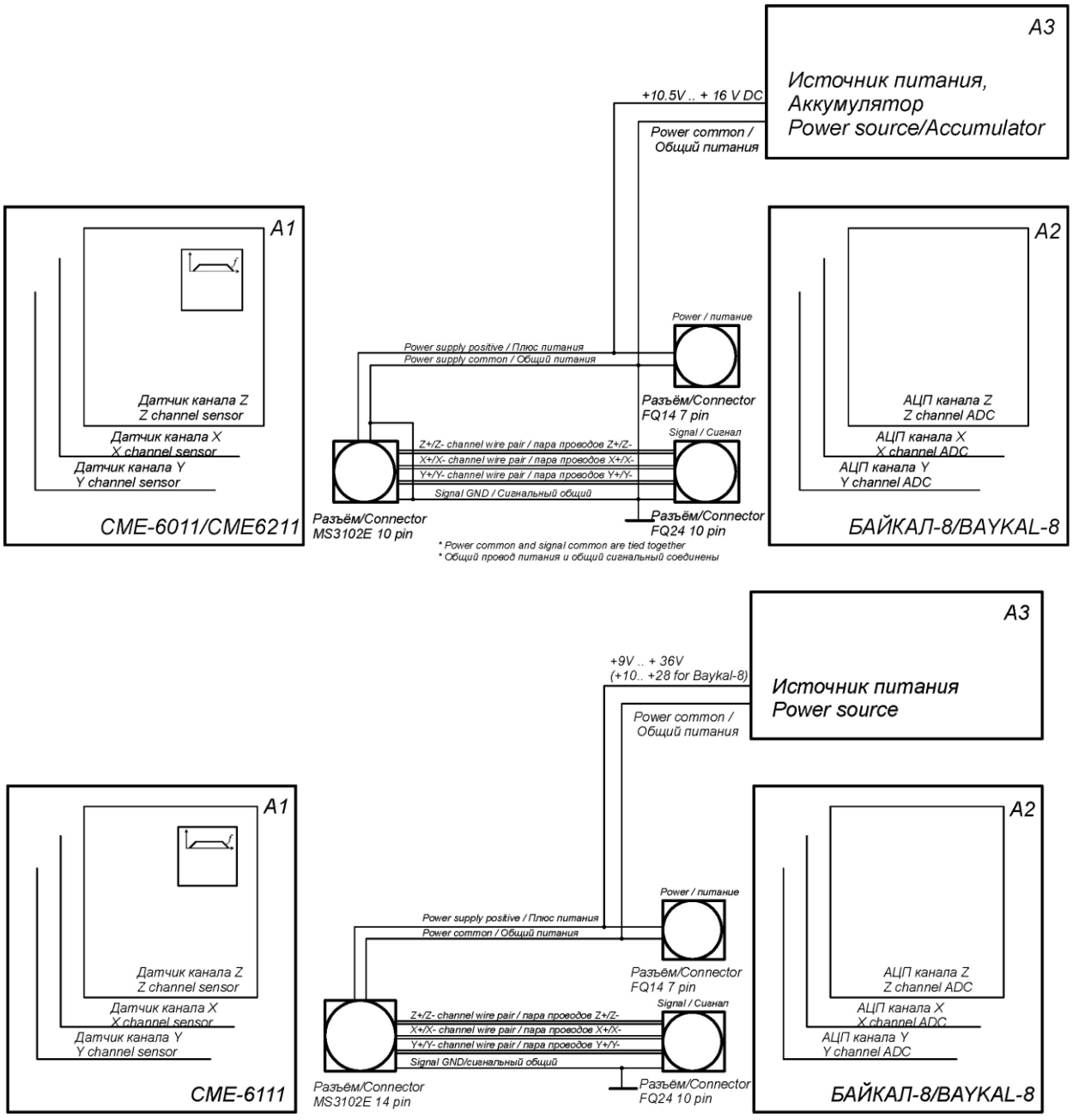


Fig. 1a. Typical wiring diagram for CME-6211 seismometer in CME-BAYKAL seismic station

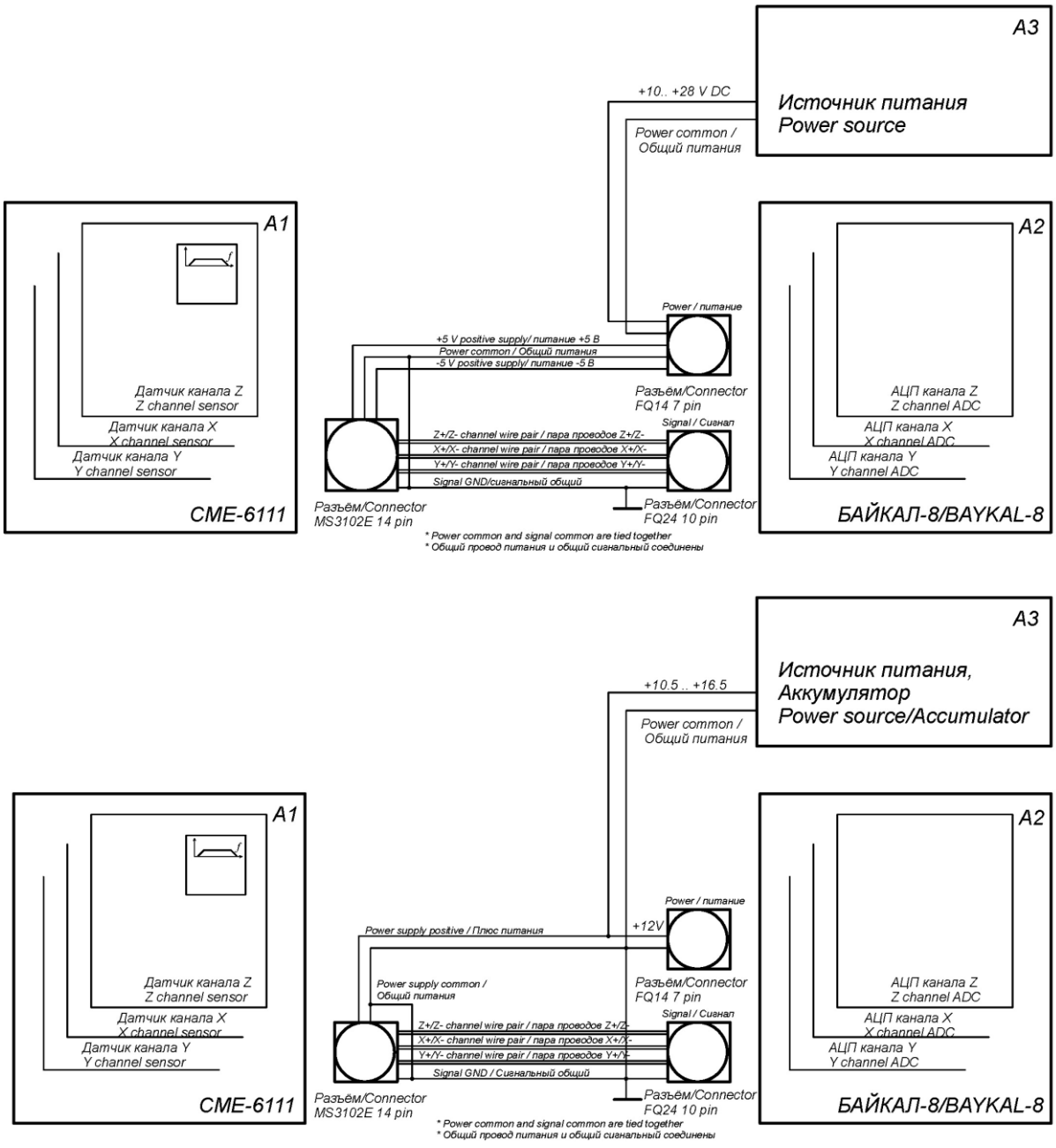
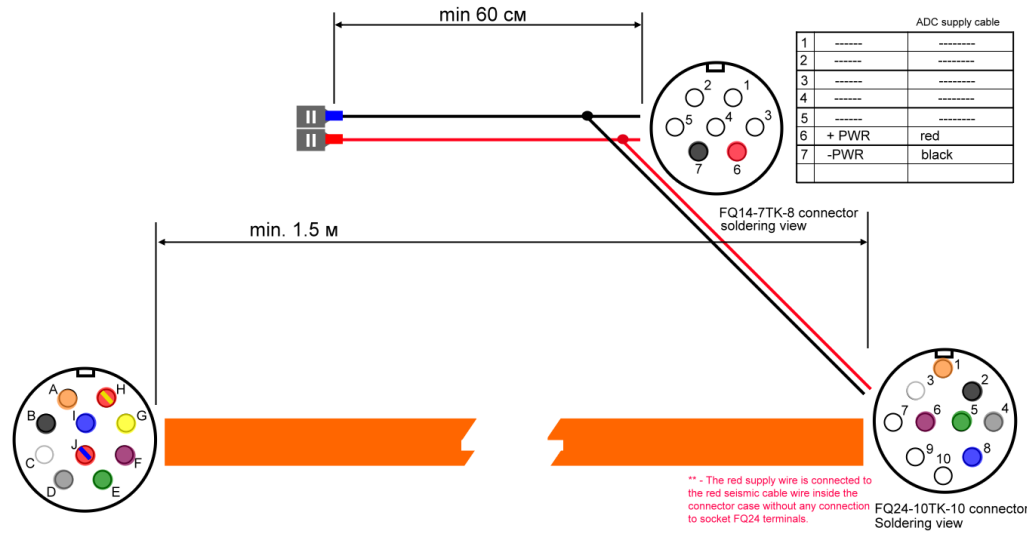


Fig. 1b. Typical wiring diagram for CME-6211 seismometer in CME-BAYKAL seismic station (continuation)

Field cable for Baykal-8



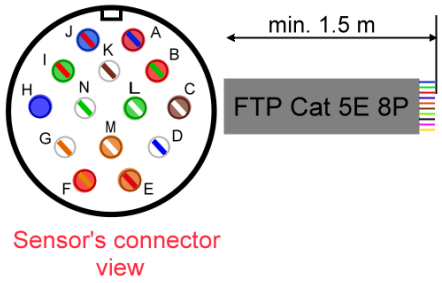
ADC supply cable

1	------	--------
2	------	--------
3	------	--------
4	------	--------
5	------	--------
6	+ PWR	red
7	-PWR	black

Cable connector MS3106E-18-1S

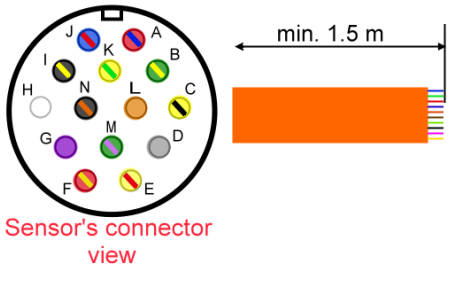
	Field cable	
A	+Vertical	orange
B	- Vertical	black
C	+Nord	white
D	-Nord	gray
E	+East	green
F	-East	violet
G	Calibr. Input	yellow
H	Calibr. Enable	red paired with yellow
I	GND	blue
J	Power "+"	reb paired with blue

	Field cable		Supply cable
1	+Vertical	orange	
2	- Vertical	black	
3	+Nord	white	
4	-Nord	gray	
5	+East	green	
6	-East	violet	
7	Case/Shield	-------	
8	GND	blue	black
9	+ 5 V	-------	
10	- 5 V	-------	
**	Power "+"	red	red



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 oreange)
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. Cable pin assignment for CME-6211 seismometer

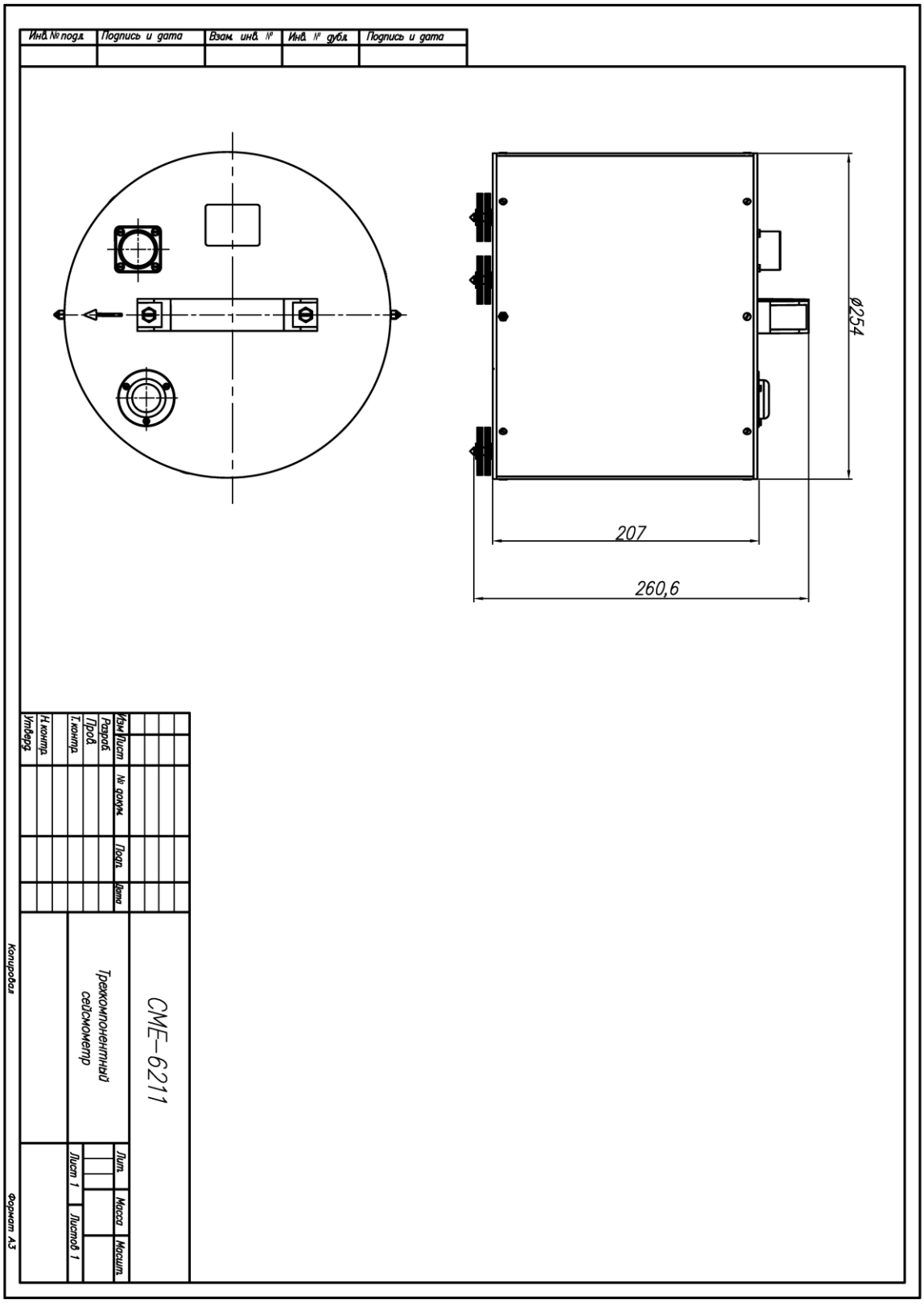


Fig. 3. CME-6211 outline drawing

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