

L-4C 1.0 Hz – Rc 5500 Ohms - Seismometer Specifications

Type	Moving dual coil, humbuch wound
Frequency	1.0 ± 0.05 Hz measured on 200-pound weight at 0.09 inches/second
Frequency change with tilt	Less than 0.05 Hz at 5° from vertical
Frequency change with excitation	Less than 0.05 Hz from 0 to 0.09 inches/second
Suspended mass	1000 grams
Leakage to case	100 megohm minimum at 500 V
Transduction power	0.947 v Rc
Open circuit damping	(bo) = 0.28 critical
Current damping	(bc) = 1.1 Rc / (Rs + Rc)
Coil inductance	Lc = 0.0011 Rc (Lc in Henries)
Case to coil motion	PP 63.5 mm - 0.250 inches
Electric analog of capacity	CC = 73,500 / Rc (microfarads)
Electric analog of inductance	Lm = 0.345Rc (Henries)
Case height	13 cm - 5 ^{1/8} inches
Case diameter	7.6 cm - 3 inches
Total density	3.7 grams/cm ³
Total weight	2.15 kilograms - 4 ^{3/4} pounds -
Operating temperature	Range: - 29° to 60°C - 20° to 140°F
Coil resistance	5500 (ohm)
Transduction,	276.37 V/m/s - 2.7637 V/cm/s - 7.02 V/in/s
Coil inductance	6.05 (Henries)
Analog capacitance	13.4 (microfarads)
Analog inductance	1900 (Henries)
Shunt for 0.70 damping	8905 (ohm)

Open Circuit Damping (bo) = 0.28 Critical
 Coil Current Damping (bc) = 1.1 Rc / (Rc + Rs)
 Total Damping (bt) = bo + bc

Geophone Response Curve

Geophone Type:	Mark L-4C	Shunt (ohm)	R total (ohm)	Damping	Sensitivity V/m/s	
Frequency :	1,00 Hz	Curve 1	5,500,	0,280	276,37	
Moving Mass Weight:	1000,00 g	Curve 2	8,870	3,394,92	0,703	170,59
Nr of geophones in series:	1	Curve 3	6,190	2,912,318	0,800	146,34
Nr of parallel branches:	0	Curve 4	4,320	2,419,552	0,899	121,58

