

Technical Specifications of 3-Channel Seismograph

Technical Specifications I

Requirement: 32 number of independent 3-channel seismographs with inbuilt triaxial geophones (1V, 2H), GPS, internal battery, and spikes. 1 Number of all-in-one portable data download & battery charging equipment. All the associated cables, accessories, and data processing software.

S.no	Specification	Requirement	Complied/not complied	Reference pg.no
A.	For each 3-channel standalone seismograph housing triaxial geophones (1 vertical, 2 horizontal)			
1.	3-channel standalone seismograph with inbuilt triaxial geophone (1 Vertical, 2 Horizontal), GPS, and battery	32 Nos.		
i.	Using only inbuilt memory and internal battery, maximum unattended (on a single charge) recording length for active/passive acquisition using all 3-channels and 500 SPS sampling rate	>1000000000 for each channel (3x1 Billion samples or higher)		
ii	Using only inbuilt memory and inbuilt battery, maximum unattended (on a single charge) recording time duration for passive acquisition using all 3 Channels and 500 SPS sampling rate	30 days or longer		
iii	Weight of each 3 Channel seismograph (including geophones, battery, casing, and spike)	< 2.5 kg		
iv	Inbuilt battery recharge Time	< 6 hours		
v	Maximum sampling rate	4000 SPS or higher		
vi	Inbuilt memory	64 GB or higher		
vii	Total Harmonic Distortion	<0.00025% @ Gain 0dB		
viii	Inbuilt clock synchronization	GPS		
ix	Timing Accuracy	±12µs or better		
x	System Dynamic Range	145 dB or higher		

xi	ADC resolution	32 bits or Higher		
xii	Data format	SEG-Y, SEG-2		
xiii	Working temperature range	- 20 ⁰ C to +70 ⁰ C or better		
xiv	Working humidity range	0-100%		
xv	Option for external power source	YES		
xvi	Waterproof	IP67 or better		
xvii	Mode of operation	Each 3 Channel seismograph should operate independently		

2.Inbuilt Triaxial geophones

i	Natural frequency	5 Hz or less		
ii	Orientation tri-axial geophone	1 vertical, 2 horizontal		
iii	Geophone Sensitivity	> 75 V/m/s		
iv	Spurious Frequency	>125Hz		
v	Tilt Tolerance	10 ⁰ or better		

B.INDIVIDUAL ITEMS

3.	All necessary accessories, connectors, switches, and cables for smooth operation and to extract the data to a PC/Laptop	YES		
4.	All-in-one portable data download & battery charging equipment	1 No		
i	Total Number of Slots	Minimum 4		
ii	Number of Charging Slots,	Minimum 2		
iii	Charging time for fully discharged seismograph	<3hrs 30 min		
iii	Number of Data Harvesting Slots	Minimum 1		
iv	Data download speed	>18 MB/s		
5.	All the software for smooth operations of the instrument, compatible with active source,	YES		

	passive source, 2D and 3D operation.			
Other terms and conditions				
6.	Minimum warranty, including battery	One year		

(Note: It is mandatory for the bidders to provide the compliance statement in tabular column format along with catalogue page number (comply/not comply) for the Above points with document proof as required. Failing which bidders will be technically disqualified)