

REF TEK COLT

BROADBAND SEISMOMETER

EXCEPTIONAL PERFORMANCE

The compact REF TEK® Colt™ broadband seismometer provides high quality data for scientists conducting earth movement studies.

Low Self-Noise

Using a force-balance electronic feedback circuit design, the REF TEK Colt has exceptionally low self-noise allowing it to better measure ground motion even at the quietest sites. Scientists requiring portable or small footprint vault style seismometers now have a high dynamic range instrument available for quick, easy deployment.

Robust

The shock resistant mass locking system protects the instrument during transportation to any field location. And, with an IP68 rating, rain, hail and snow won't interfere with your data collection.

Intelligent Design

Many features make the REF TEK Colt broadband seismometer quick to install, including:

» ALIGNMENT TOOLS

Successful installations depend on precise directional alignment, the REF TEK Colt makes that easy with removable north/south pointers installed in the base of the unit to make orientation to the scribe line effortless.

» BUBBLE LEVEL

Visible on the top of the unit, so eyeballing is easy for perfect leveling.

» THREE POINT LEVELING

Leveling is made easy with 360° access to the leveling feet, just put it on site, then move the wheels until the unit is level.

» MASS UNLOCK

The automatic Mass Unlock simply unlocks the mass when you turn on the unit, no screwdriver required.

» CONNECTOR

With the connector located on the top of the unit, you can be ready for connecting the sensor to the recorder quickly and easily.



BENEFITS

- » Low self-noise, resulting in high quality data for all your analysis requirements
- » Small and lightweight, for convenient carrying to site
- » Shock resistant housing and robust automatic mass locking system makes the unit ready for any field environment
- » Available in two frequency ranges for varying scientific budgets.

RELIABLE PERFORMANCE FOR

- » Permanent and temporary broadband installations including:
 - » Local and regional broadband networks
 - » Aftershock and portable deployments
 - » Earthquake Early Warning Network (EEW)

REF TEK COLT

BROADBAND SEISMOMETER

SPECIFICATIONS	
ELECTRICAL	
Sensor Type	Symmetrical Configuration (3 Component), Orthogonal Output
Feedback	Force balance with capacitive transducer
Bandwidth	0.0083 (120 seconds) – 80 Hz (Flat velocity response: -3dB) 0.0083 (120 seconds) – 100 Hz (Flat velocity response: -5.5dB) Optional 0.0167 (60 seconds) – 80 Hz (Flat velocity response)
Dynamic Range	>140dB (0.01 -0.05Hz); >160 dB (1–10 Hz)
Self-Noise	Below NLNM from 40 seconds to 10 Hz
Clip Level	>10 mm/s (@1 Hz)
Nominal Sensitivity	2000 Vs/m, ±1% (see supplied test sheet for precise value)
Full Scale Output	40 Volts Peak-Peak (Differential Output)
Output Impedance	<100 Ohms
Parasitic Resonances	>160 Hz
Cross Axis Coupling	<1%
Linearity	<-60 dB
Total Harmonic Distortion	<-60 dB
Calibration Constant	10 m/s ² /A (nominal)
Calibration Input	Calibration current on 3 components simultaneously
Calibration Enable Capability	Active Low on Pin L to stay enable
Cal Coil	Single Cal signal input, isolated until cal enable line activated
Mass Position Outputs	±10 V
POWER	
Input Voltage	9–18 VDC
Consumption	<0.7 Watts
Protection	Over-voltage, Reverse-voltage, & surge protection

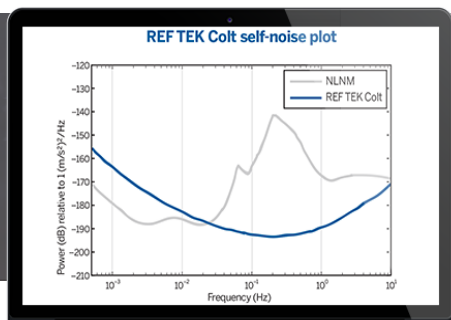
SPECIFICATIONS	
MECHANICAL	
SIZE	
Without Handle & Feet	150 mm (5.9") Diameter x 192 mm (7.6") Height
With Handle & Feet	150 mm (5.9") Diameter x 258 mm (10.2") Height
Weight	5.5 kg (12 lbs)
Leveling	Integrated bubble level and three adjustable leveling feet with locknuts
Leveling Tilt Range	±3.0
Alignment	Handle of top of case parallel to the North-South Axis Removable N/S pins screw into the base for additional alignment guidance
Mass Lock/Unlock	Automatic unlock when sensor powers on (Unlock on Active LOW for more than 6 sec on Pin U) Automatic lock when sensor powers off (Unlock on Active LOW for more than 6 sec on Pin K) Lock/Unlock can also be done via logic level commands from digitizer
Mass Centering	Automatic when sensor powers on (Start after unlock, Active LOW pulse on Pin M) Manual upon logic level command from Digitizer
Mass Centering Range	± 2.0° (Auto-centering by motors)
ENVIRONMENTAL	
Case Material	Anodized Aluminum
Operating Temp.	-25 °C to +60 °C
Storage Temp.	-55 °C to +80 °C
Watertight Integrity	IP68* *1 meter underwater for 1 hr
CERTIFICATIONS	
Compliance	CE, RoHS

ORDERING INFORMATION	
PART NO.	DESCRIPTION
117400-120	REF TEK Colt broadband seismometer, 120 seconds to 80 Hz
117400-60	REF TEK Colt broadband seismometer, 60 seconds to 80 Hz

CUSTOMER SUPPORT

REF TEK products are installed in locations around the world, from urban settings to rainforests to deserts. The environments are often challenging for electronics and REF TEK Systems is committed to providing reliable, practical support. Our team includes seismologists and seismic installation experts as well as engineers and technicians.

Contact support@reftek.com.



NORTH AMERICA

75 MacDonald Ave Unit 1
Dartmouth, Nova Scotia
B3B 1T8 Canada

sales@reftek.com

Contact your local dealer today

©2020–2021, Reftek Systems Inc. All rights reserved. REF TEK is the trademark of Reftek Systems Inc., registered in the United State of America and in other countries.