

STS-5A

World-standard, Field-proven
145dB dynamic range
3 Mutually-aligned components
Broadband Seismometer

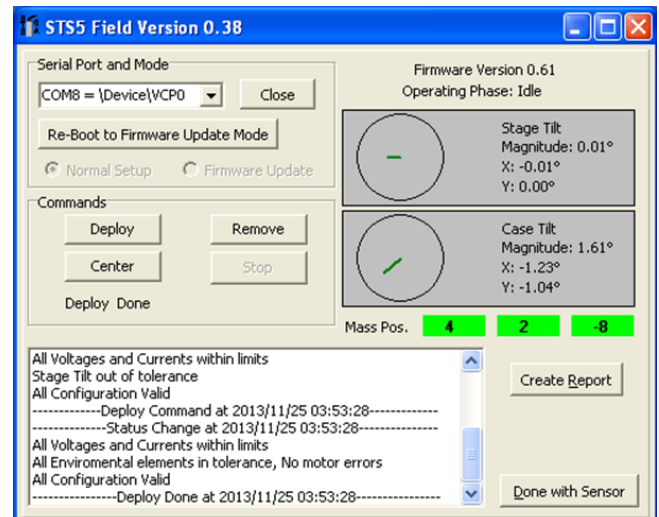
Around 1985 researchers Streckeisen, Steim and Wielandt established standards for digital very broadband seismic recording and the Streckeisen STS-1/VBB family of products was introduced to our community. The Streckeisen STS-2 and STS-2.5 have set the world standard for broad-band sensors that have delivered the BEST seismic data in the world for over 20 years. The growing family of Streckeisen products now includes a borehole sensor that will revolutionize the way seismologists deploy instruments and collect seismic data. The STS-5A Borehole Sensor system comprises Streckeisen's field proven sensor technology and a motorized gimbal system for in situ leveling, integrated within a cylindrical 5.75" downhole package. The sensor provides a direct interface to the Quanterra Q330 family of recording systems for control of both the sensor and gimbal systems.

No intervening "host box" is required. Remote control of advanced functions is supported through a bi-directional RS-422 serial interface. The serial interface is not required for typical operation. The standard STS-5A comes with a 40 meter long downhole cable. The sensor package and cabling has been designed to tolerate continuous immersion at depths of 500 meters.

The gimbal system is powered only during sensor deployment, removal or periodic re-leveling in situ. When not in use, the gimbal and internal controller is automatically de-powered completely. The STS-5A performance and electrical characteristics are equivalent or better to the STS-2.5, which is designed for in-vault surface installations. The STS-5A brings extraordinary field-proven Streckeisen sensor reliability and performance to the downhole environment.



FEATURES



Motorized Gimbal Leveling



SPECIFICATIONS

Generator constant:	2x750 vs/m $\pm 1\%$
Response:	Flat to ground velocity from 8.33mHz (120s) to 50Hz; a 360s version called STS-5A-360 is also available
Clip level:	$\leq 20\text{Hz}$: ± 13 mm/s ground velocity $> 20\text{Hz}$: linearly derating from ± 13 mm/s to ± 5.3 mm/s ground velocity
Normalized to frequency:	20.50Hz 0.34g / 10Hz 0.17 / 1Hz 0.017g / 0.1Hz 0.0017g / 0.03Hz 0.00055g
Case tilt range limit:	$\pm 5^\circ$ in any direction where a centering is successful
Operating temperature:	-20°C to 70°C (guaranteed), -40°C to 70°C (functional)
Humidity:	0-100% RH
Power supply voltage:	10...30VDC, galvanically isolated
Power consumption:	Average: 0.45W
Seismic signals output:	max. $\pm 20\text{V}$ differential, 220 Ω serial resistance per line
Boom position output:	max. $\pm 10\text{V}$ single-ended, 1k Ω serial resistance
Humidity:	0-100% RH
Calibration input:	max. $\pm 10\text{VDC}$
Control inputs:	3...30VDC, 0.5mA, galvanically isolated
Communication:	RS485, galvanically isolated
Enclosure rating:	Exceeds IP69
Various:	RoHS and CE Compliant
Size:	Diameter 5.75" (146 mm) . Length 18.5" (470mm)
Weight:	20kg

Specifications subject to change without notice