



SMARTSOLO

World's First Smart Seismic Sensor
Makes Cost-effective High Density Seismic Possible

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www.smartsolo.com




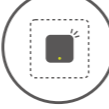






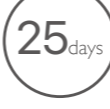



SmartSolo® World's First Smart Seismic Sensor

The seismic industry continues to demand that exploration is carried out at ever-greater scale and receiver density, while somehow attempting to balance the requirement to keep project costs under control. To provide the industry with a solution to this challenge, DTCC has developed the SmartSolo intelligent seismic sensor.

SmartSolo is based on DT-SOLO, the high-sensitivity geophone and focuses on the principal of seismic exploration which is known as 3W(Wave = high fidelity signal; When = accurate timing; and Where = the location), incorporated with electronics and software technologies in mobile internet era. This smart sensor provides adequate info for highest-quality seismic data acquisition while keeping its functions and structure as simple as possible. Electronics and software technologies are super reliable, mature and cost-effective in mobile internet era. These technologies are used for SmartSolo at maximum possible scale. The result: the geophone is something smart, reliable, user-friendly, cost-effective and could run in any harsh environment.



-  New Generation of Intelligent external seismic sensor
-  Built-in 16GB Non-volatile Flash Memory could be Expanded to 32 GB
-  Support for Bluetooth QC and Find Funtion
-  Light Body Small Foot-print
-  Expandable to Million Channel System
-  Compatible with Vibroseis and Impulsive Energy Sources
-  Built-in DT-SOLO High-Sensitivity Sensor 5Hz&10Hz Optional External Geophone String & Marsh Geophone & Hydrophone(Piezoelectric Geophone)
-  Sensor Self-test and GPS Positioning
-  Highest Cost-effective System in Industry
-  Integrated Modular Design Greatly Improve Efficiency Low Repair Cost Easy Disassembly and Battery Change
-  25_{days} Up to 25 days of continuous recording (see Technical Specs for details)
-  Dual LED for Status QC Indicate Bluetooth, Battery level and working status

DT-SOLO® The Heart of SmartSolo

High-quality seismic data derives from high-quality seismic sensors. DT-SOLO is a high-sensitivity geophone specially designed for point receiver applications. It is well-known in the seismic industry as the top-quality high-sensitivity geophone which is widely used by contractors and equipment manufacturers.



- High Quality
- High Sensitivity
- Super Reliable
- Greater Savings
- Low Distortion
- Single Point Receiver
- Industry Leader
- Available in 10 Hz & 5 Hz
- Applicable to water areas

DMC, DCC, DHR The Peripherals of SmartSolo®

Fast Data Harvesting Speed
3000CHs@20days@2ms in<3.25hrs
Highly Flexible System Configuration
Complete Software Suite





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Physical Specs

Physical Size	95mm(W) × 139.6mm(L) × 131.7mm (H) (w/o spike)
Weight	1.3kg (Including internal battery and spike)
Waterproof	IP67
Recharge Time	< 3.25 hours
Charging Temperature Range	+3°C ~ +45°C
Operating temperature	-40°C ~ 70°C
Operating Life@25°C	25 days @1ms Continuous 50 days Segmented (12hours ON/12hours SLEEP)

Sensor Specs DT-SOLO 5Hz

(All parameters are specified at +22°C in the vertical position unless otherwise stated.)

Natural Frequency (Fn)	5Hz
Coil Resistance	1850 Ω
Damping	Open Circuit Damping 0.60 Closed Circuit Damping 0.70
Sensitivity	Open Circuit Intrinsic Voltage Sensitivity 80 V/m/s (2.03 V/in/s)
Distortion	< 0.1%

Sensor Specs DT-SOLO 10Hz

(All parameters are specified at +25°C in the vertical position unless otherwise stated.)

Natural Frequency (Fn)	10Hz
Coil Resistance	1800 Ω
Damping	Open Circuit Damping 0.51 Closed Circuit Damping 0.70
Sensitivity	Open Circuit Intrinsic Voltage Sensitivity 85.8 V/m/s (2.18 V/in/s)
Distortion	< 0.1%

Electronics Specs

(@ 2ms sample interval, 31.25 Hz, 25°C, unless otherwise indicated)

ADC resolution	24 bits
Sample intervals	0.25, 0.5, 1, 2, 4 ms
Preamplifier gain	0dB to 36dB, in 6dB steps
Anti-alias filter	206.5 Hz @ 2ms(82.6% of Nyquist) Selectable-Linear phase or Minimum Phase
DC blocking filter	1Hz to 10Hz. 1Hz increments or DC Removed
GPS Time Standard	1ppm
GNSS mode	Support GPS, Beidou, Glonass, Single-mode or dual-mode operation
timing Accuracy	± 10µs, GPS Disciplined
Maximum Input signa	± 2.5 Vpeak @ Gain 0 dB
Instantaneous dynamic Range	125 dB @ 2ms Gain 0 dB
Equivalent Input Noise	0.18µV @ 2 ms Gain 18dB
Total Harmonic Distortion	< 0.0002% @ Gain 0dB
Common Mode Rejection	> 100 dB
Gain Accuracy	< 0.5%
System Dynamic Range	145dB
Frequency Response	0~1652Hz @ 0.25ms
Wireless Communication	Bluetooth
Input Resistance	20 KΩ

Specifications are subject to change without prior notice.

SmartSolo® The Future of the Seismic Industry

Smaller crew size, less man power and simpler equipment

- Lower operational cost
- Less environmental impact
- Improved HSE

Million channels capability

- High channel density
- Better image at lower cost

Super reliable, lower power consumption,

longer operating time

- High productivity
- Lower operational cost

Highly efficient data harvesting and management

- Lower operational cost
- Better user experience

