



SMARTSOLO[®]



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



IGU-16HR

www.SmartSolo.com

SMARTSOLO
S C I E N T I F I C

The leading manufacturer in serving geoscience

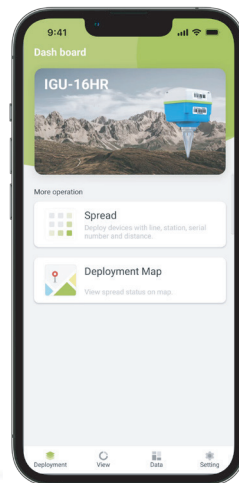
SmartSolo® World's First Smart Seismic Sensor

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, SmartSolo Inc. 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.

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Patent Pending Number 201610905491.3



Lowest per Channel Cost
in the Seismic Industry



Small Footprint
95mm X 103mm



Mobile App
Scanning & Technical Support



No Exposed Connector
in the Field



70 Days Operating Life
@25°C 1ms 12h ON/12h OFF



Stake-less Operation
for Max Flexibility



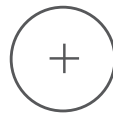
Light Weight
1.1 kg (including battery and spike)



Built-in 8 GB Non-volatile
Flash Memory
could be Expanded to 32 GB



DT-SOLO
High-sensitivity Sensor
ology (10Hz & 5Hz optional)



Optional External
Battery and Sensor



Automatic Sensor Testing
and GPS Logging



Auto Scan Mode
for Fast Deployment

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



DMC, DCC, DHR

The Peripherals of SmartSolo®

Fast Data Harvesting Speed
3000 CHs @ 20 days @ 2ms in < 3.25 hrs

Highly Flexible System Configuration
Complete Software Suite



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

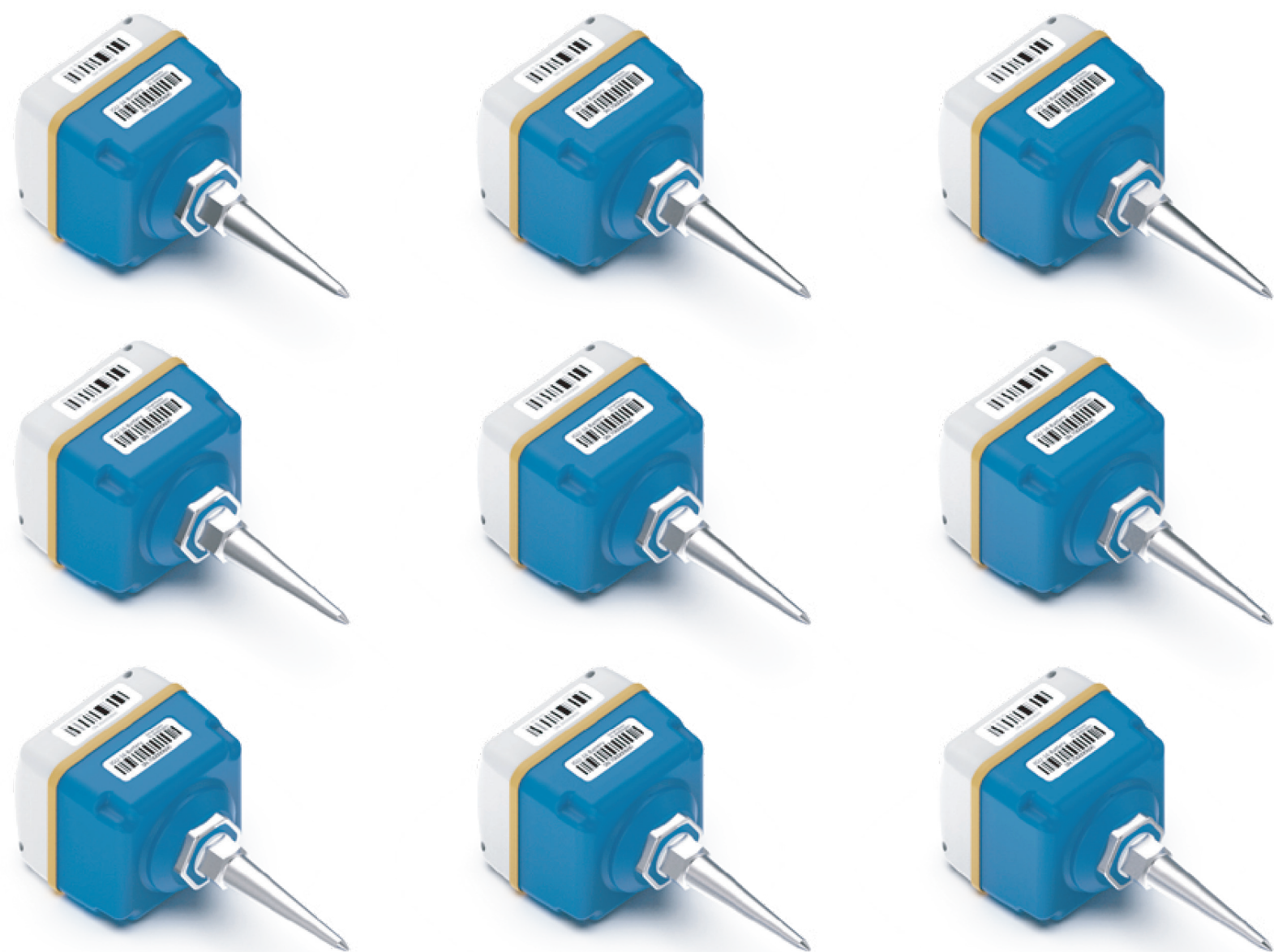
- High channel density
- Better image at lower cost

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



Physical Specs

Size	103mm(L)×95mm(W)×118mm(H) (w/o spike)
Weight	1.1kg(Including internal battery and spike)
Waterproof	IP68
Recharge Time	<3.25 hours
Charging Temperature Range	+3°C~+45°C
Operating temperature	-40°C~+70°C
Operating Life@25°C	35 days @1ms continuous 70 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		1800Ω
Damping	Open Circuit Damping	0.6
	Damping with 43kΩ	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		1800Ω
Damping	Open Circuit Damping	0.51
	Damping with 20kΩ	0.70
Sensitivity	Open Circuit Intrinsic Voltage Sensitivity	85.8 V/m/s (2.18 V/in/s)
Distortion		< 0.1%

Smart Electronics Specs

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

ADC resolution	32bits
Sample intervals	0.25,0.5,1,2,4ms
Preamplifier gain	0dB to 24 dB in 6 dB steps
Anti-alias filter	206.5Hz@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
Timing Accuracy	±10us, GPS disciplined
Maximum Input Signal	±2.5Vpeak @Gain 0dB
Instantaneous Dynamic Range	125dB @ 2ms Gain 0dB
Equivalent Input Noise	0.18uV @ 2ms Gain 18 dB
Total Harmonic Distortion	<0.0002% @ Gain 0dB
Common Mode Rejection	>100dB
Gain Accuracy	<5%
Frequency Response	0~1652Hz



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