



# SMARTSOLO

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

## IGU-16WQ

www.SmartSolo.com

**SMARTSOLO**  
SCIENTIFIC  
The leading manufacturer in serving geoscience

## SmartSolo® World's First Smart Seismic Sensor

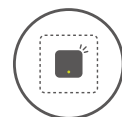
The seismic industry continues to demand that exploration is carried out at ever-greater scale and receiver density, while somehow attempting to balance the requirement to keep project costs under control. To provide the industry with a solution to this challenge, SmartSolo Inc. has developed the SmartSolo 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 3**W**(**W**ave = high fidelity signal; **W**hen = accurate timing; and **W**here = 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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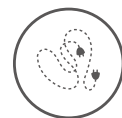
Lowest per Channel Cost  
in the Seismic Industry



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



QC can choose drones  
or tablets



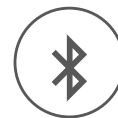
Light Weight  
1.1 kg (including battery and spike)



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



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



Built-in Bluetooth module  
to achieve wireless QC and search  
function



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

3000CHs@20days@2ms in<3.25hrs

Highly Flexible System Configuration  
Complete Software Suite





The leading manufacturer in serving geoscience

### International Sales

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Calgary, AB T3J 3W5  
Canada  
Tel: +1-403-264 1070  
Toll Free: +1-888-604 SOLO (7656)  
Email: sales@smartsolo.com

### Business Development Centre

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BDA, Beijing, 100176, China  
Tel: +86-4000-868-158  
Fax: +86-10-87220112  
Email: marketing@smartsolo.com  
support@smartsolo.com

### Physical Specs

Physical Size	103mm (L) × 95mm (W) × 118mm (H) (w/o spike)
Weight	1.1kg (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	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	1850 Ω
Damping	Open Circuit Damping 0.6 Damping with 43 kΩ 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 Damping with 20 kΩ 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	32 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
Timing Accuracy	± 10μs, GPS Disciplined
Maximum Input Signal	± 2.5Vpeak @ Gain 0dB
Instantaneous Dynamic Range	125 dB @ 2ms Gain 0 dB
Equivalent Input Noise	0.18μV @ 2ms Gain 18 dB
Total Harmonic Distortion	< 0.0002% @ Gain 0dB
Common Mode Rejection	> 100 dB
Gain Accuracy	< 0.5%
System Dynamic Range	145dB
Frequency Response	0~1652Hz

## 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

