



SMARTSOLO®

World's First Smart Seismic Sensor













IGU-16HR 3C



www.smartsolo.com

IGU-16HR 3C Features



-  New Generation Smart 3 Components Seismic Sensor
-  High resolution data with up to 0.25ms sampling and 24-bit delta-sigma ADC
-  Built-in GPS receiver and disciplined high precision clock
-  Based on the most highly regarded DT-SOLO HS geophone with 10Hz and 5Hz options
-  Most cost effective system on the market
-  2.4kg Light weight and compact size
-  Share the same peripherals as IGU-16, IGU-16HR, Greater equipment investments savings
-  All-In-One Modular design provides maximum productivity, maintenance free operation and easy battery replacement
-  Suitable for one station to million station operations
-  30 days Up to 30 days of continuous recording (see Technical specs for details)
-  Compatible with vibroseis and impulsive energy sources
-  Simple LED State Indicator. Green for "good to go" and Red for "no good"

TECHNICAL SPECIFICATIONS

General Specifications

Parameters	Specification
Seismic data channel(s)	3
ADC resolution	24 bits
Sample intervals	0.25, 0.5, 1, 2, 4, 8, 10, 20 milliseconds
Preamplifier gain	0dB to 36 dB in 6 dB steps
Anti-alias filter	206.5 Hz @ 2ms (82.6% of Nyquist)
DC blocking filter	Selectable - Linear Phase or Minimum Phase
Operating temperature	1Hz to 10Hz, 1Hz increments or DC Removed
Waterproof	-40°C ~ +70°C
Physical Size	IP67
Weight	103mm (L) × 95mm (W) × 187mm (H) (w/o spike)
Data Storage	2.4kg (Including internal battery and spike)
Operating Life@25°C	64 GB
Recharge Time	30 days Continuous @ 2ms
Charging Temperature Range	60 days Segmented (12hours ON/12hours SLEEP) @ 2ms
	< 6 hours
	+3°C ~ +45°C





TECHNICAL SPECIFICATIONS

Channel Performance

Parameters	Specification
(@ 2ms sample interval, 31.25 Hz, 25°C, unless otherwise indicated)	
Maximum Input Signal	±2.5V _{peak} @ Gain 0dB
Dynamic Range	125dB @ 2ms Gain 0dB
Equivalent Input Noise	0.18µV @ 2ms Gain 18dB
Total Harmonic Distortion	<0.0002% @ Gain 0dB
Common Mode Rejection	>100dB
Gain Accuracy	<1%
GPS Time Standard	1ppm
Timing Accuracy	±10µs, GPS Disciplined
Cross Feed	< -110dB
System Dynamic Range	145dB
Frequency Response	0 ~ 1652Hz

Acquisition Performance

Parameters	Specification	
Natural Frequency	5Hz	10Hz
Spurious Frequency	>170Hz (>150Hz in horizontal sensor)	>240Hz
Distortion	<0.1% @ 12Hz, (0° ~ 10°) vertical tilt, (0° ~ 3°) horizontal tilt	<0.1% @ 12Hz, (0° ~ 10°) vertical tilt, (0° ~ 3°) horizontal tilt
Damping	0.7	0.7
Sensitivity	76.7V/m/s (1.95 V/in/s)	78.7V/m/s (2.0 V/in/s)
Remark	All parameters are specified at +22°C in the vertical position for vertical geophone and horizontal position for horizontal geophone unless otherwise stated.	All parameters are specified at +25°C in the vertical position for vertical geophone and horizontal position for horizontal geophone unless otherwise stated.

DT-SOLO The Heart of SmartSolo

- High Quality
- High Sensitivity
- Super Reliable
- Greater Savings
- Low Distortion
- Single Point Receiver
- Industry Leader



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



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