

**SMARTSOLO®**

World's First Smart Seismic Sensor



**IMU-3C**



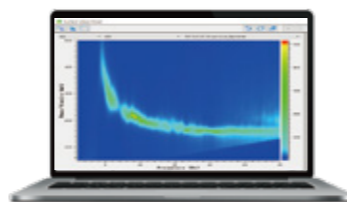
www.SmartSolo.com

## IMU-3C Features

IMU-3C is a three-channel intelligent monitoring unit, which can carry out three-Component data acquisition. Based on the mobile communication technology, equipped with WIFI, Ethernet and 4G data transmission interfaces, IMU-3C is able to fulfil remote parameter configuration, real time data transmission, real-time data monitoring and real-time quality control.

Equipped with external sensor connector it is compatible with most multi-channel sensors used in the seismic industry.

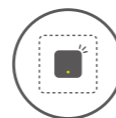
Equipped with external power supply connector, IMU-3C can be customized for long term data acquisition. The integrate GNSS module utilizes an internal antenna or can also be connected to an external GNSS antenna. A surface wave processing software developed by DTCC is now available for real-time dispersion, surface wave velocity analysis, inversion and imagining.



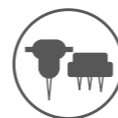
New 3rd Generation Components intelligent monitoring unit



High resolution data with up to 0.25ms sampling and 32-bit delta-sigma ADC



Built-in high precision DAC signal generator



Externally connected with various sensors



Built-in GNSS module, support internal and external GNSS antenna



Support internal and external power supply



Built-in 4G module (support SIM card replacement), achieve real-time data transmission, parameter configuring



Built-in WiFi module, data download and parameter configuration at close range



External 4G antenna, internal WiFi antenna



Dual-LED indicator, indicates the acquisition and data transmission status of device

## IMU-3C Peripherals

### Single-port adapter charging

Single-port charging equipment  
Low cost quick charging solution



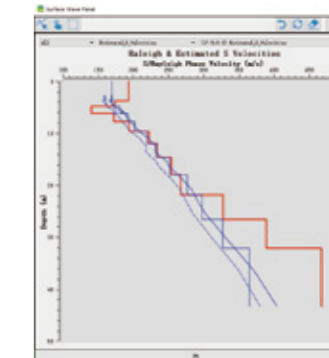
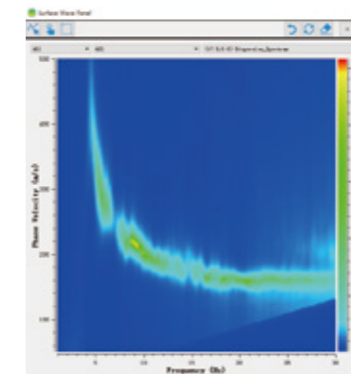
### Single-port USB data download cable

Achieve 20mb/s high speed data download



### SoloSW surface wave processing software

- Data transmission and dispersion analysis
- 1D/2D active surface wave analysis (MASW)
- 1D/2D passive surface wave SPAC and ESPAC method analysis





## General Specification

Analog channel	3
ADC resolution	32 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) - Linear Phase
DC blocking filter	DC Removed
GNSS mode	Support GPS, BEIDOU, Glonass, single or double mode operation
Operating temperature	-40°C ~ +70°C
Waterproof	IP68
Physical Size	136mm*120.7mm*88mm (w/o external 4G antenna)
Weight	1.4Kg
Data Storage	Internal 64GB memory Can be expanded to 128GB
Operating Life@25°C	60h in 4G real-time transmission@2ms; 25 days working offline@2ms;
Data transmission mode	4G mode (4G, USB, WiFi)or Ethernet mode (Ethernet, USB, WiFi)
External power supply	7~ 15V DC (single supply)
Charging Temperature Range	+3°C ~ +45°C
Recharge Time	≤7 h

## Channel Performance

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

Maximum Input Signal	±2.5Vpeak @ Gain 0dB
Equivalent Input Noise	0.18uV@2ms 18dB
Total Harmonic Distortion	≤0.0002% @0dB
Instantaneous dynamic range	128dB
Common Mode Rejection	>100dB
Gain Accuracy	≤0.5%
GNSS Time Standard	1ppm
Timing Accuracy	±10μs, GPS Disciplined
Cross Feed	< -110dB
System Dynamic Range	145dB
Frequency Response	0~1652Hz

## SmartSolo® IMU-3C Applications

- Urban underground space investigation
- Disaster and adverse geological investigation
- Geological structure investigation
- Geothermal and water resources survey
- Energy and mineral exploration
- Geological survey of rail transit
- Railway real-time monitoring
- Observation of short-period array
- Microseismic fracturing monitoring
- Vibration monitoring

### International Sales

Unit145,3901-54Ave,NE  
Calgary,Ab T3J 3W5  
Canada  
Tel:+1-403-264 1070  
Toll Free:+1-888-604 SOLO(7656)  
Email:sales@smartsolo.com

### Business Development Centre

301, Building B, No.15 South of Ronghua Road,  
BDA, Beijing, 100176, China  
Tel:+86-4000-868-158  
Fax:+86-10-87220112  
Email: marketing@smartsolo.com  
support@smartsolo.com

