Blast-Cloud

Blast-Cloud Blast Vibration Measuring Meter

（International Edition）

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1. Company profile

Founded in 2010, Chengdu Tytest Technology Co., Ltd. has been serving the blasting, explosion testing industry. As a professional test equipment supplier, our products keep up with the market demand. We take the convenient, practical and easy use for customer as the starting point, constantly upgrade and innovate. Our products are highly praised by customers, have a good market reputation, and are highly recommended.

At present, the company has in-depth cooperation with the national blasting safety regulations writing units, such as Beijing General Research Institute of mining and metallurgy, Yangtze River Academy of Sciences of Water Resources and other units; Be mutually the school enterprise cooperation units with the explosion and blasting laboratory of School of environment and resources of Southwest University of Science and Technology；At the same time, the company has a strong technology development team, including one doctor, five masters and many bachelors. Relying on the advantages of scientific research institutes and universities in technical theory and on-site verification, combined with the completely independent development ability, the company has made continuous application breakthroughs in the blasting and explosion testing industry, and has always been the industry benchmark of blasting vibration tester, explosion impact tester and blasting noise tester.

Over the years, the company has been leading the development of industry technology from the initial blast-i blasting vibration meter (the first domestic 24bit platform, fully automated blasting vibration meter) to the subsequent Blast-UM, Blast-NET and the latest international version of Blast-Cloud blasting vibration meter.

"A workman must sharpen his tools if he is to do his work well." The saying is always be our belief. To provide customers with simple, practical, stable and reliable equipment, to think in the place of customers, to solve customers' urgent problems, which makes our company gain a lot of loyal customers. Customers who have cooperated with our company will definitely buy the equipment of our company again and also recommend our products to others.

Good faith and friendship, mutual benefit, win-win cooperation, Tytest technology is willing to work with you to make progress, to a new level!

2. Product advantages

1. Fully independent intellectual property rights, new three-core technology (more efficient performance)

2. High precision 32 bit measurement (higher precision)

3. Available: cloud management, authority management, automatic reporting and multiple early warning

4. Up to 110 dB dynamic range, no need for range switching, no need for signal amplitude estimation

5. 32GB large data storage space (mass storage)

6. Free upgrade of lifelong software (no more worries)

7. USB interface, WINXP / win7 / win8 / win10, online without installing any driver, system automatic identification

8. Pioneering creation remote control trigger and remote control for instrument trigger

9. Realize international standard, measure vibration and noise at the same

time

10. Switch and test of different vibration speed and acceleration sensors are optional

11. In any country, as long as plug in the local flow card, the cloud platform operation can be achieved

12. Pioneered feature value browsing and data warning through cloud database

13. Built-In GPS timing and positioning

3.Product parameters

Blast-Cloud Blast Vibration Measuring Meter

Function	Parameters
Acquisition Way	Full parallel synchronous acquisition
Acquisition Mode	**Whole Automatic acquisition**：no need for any setting. If there is a vibration signal, the data will be recorded. If there is no vibration signal, the data will be stopped and saved; **Manual mode**：Set trigger level and acquisition time; **Remote mode**：Remote control switch, parameter setting
Trigger Mode	**Internal trigger:** after reaching the preset threshold, the instrument starts to collect data **External trigger:** after the external command is given, the instrument starts to collect data, such as external detonator, etc **Remote trigger:** configure the remote control, and the remote control instrument starts to collect data Timed trigger
Work Temperature	-20℃~70℃; field special battery optional (suitable for - 20 ℃)
Input Impedance	1MΩ/20pF；
A / D	32Bit High Precision；
Sampling Rate	32KHz Multi gear adjustable ；
Dynamic Range	110dB；
Measuring Range	±10V；
Power Supply Mode	Built in lithium battery, working time standard version ≥ 24 hours (external battery optional, working time ≥ 360 hours), with power indicator；

Sizes and Weight	150×100×52mm；1.2KG（Small size, light weight, standard equipped with special instrument box, easy to carry and keep）；
Protection Grade	IP57（Prevent large particle dust from entering and waterproof splash）；
Measuring Range	vibration velocity 0.0005～35cm/s；
Frequency Response (Standard Sensor)	5～500Hz（speed sensor）；1Hz-1KHz（Acceleration sensor）
Noise Sensor	Frequency Response 20-20KHz　Measuring range：80-160dB　Measuring accuracy 0.1dB
Display Screen	1024×600 High resolution，7 inches LED display screen，Full color screen，High lumens，Suitable for field use，Multi-Language available
Built-In Clock	GPS timing correction
Communication Interface	Standard USB interface、wi-fi、2G\3G\4G
Reading Accuracy	1 in 100000
Acquisition Data	USB Acquisition Data、U-Disk Acquisition Data、Wife Acquisition Data、Cloud Acquisition Data
Device Online	All platform drive free, automatic identification after online；
Record Length	Multi gear adjustable, trigger negative default is 0.5 seconds, multi gear adjustable；
Trigger Level	The trigger level is adjustable
Recording method	Cycle record (data record enters waiting record again after one completion)；
Data File Name	Named after the actual time, the folder is automatically produced, and the folder is named after the date，such as 20150818 folder means August 18, 2015；The file 181858.BST under the folder indicates that the vibration event occurred at 18:18:58
Storage Capacity	The standard 32GB solid-state storage can store tens of thousands of blasting events

4、 Cloud platform services
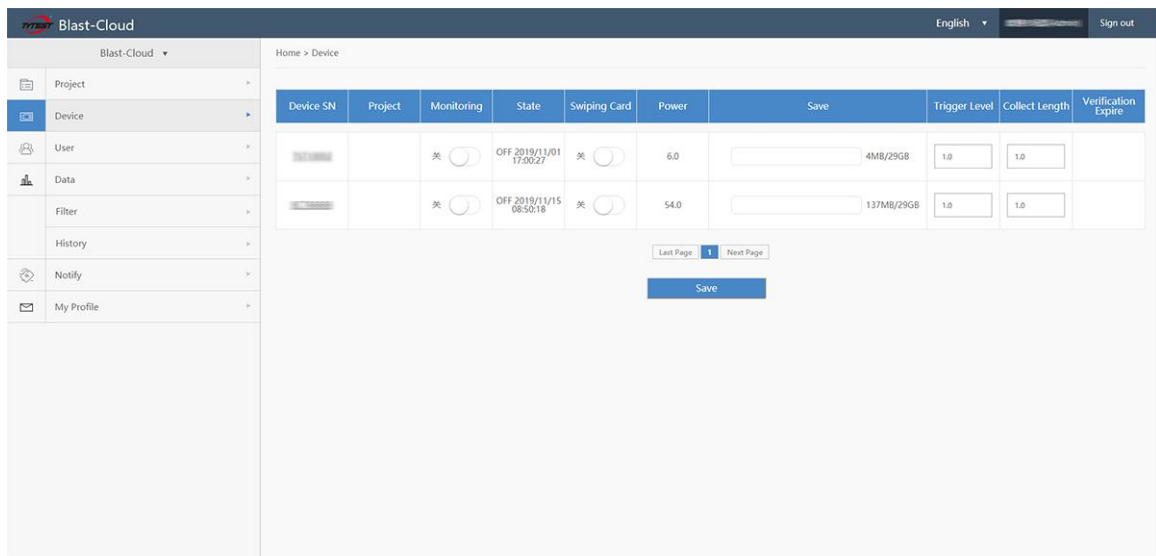
Functions of cloud platform:

1. Cloud data management

2. Blasting events, main frequency, maximum value cloud browsing

3. Eigenvalue information and overrun information can be opened: WeChat, SMS and email push

4. Online monitoring of instrument working state

5. Equipment location map positioning

6. Provide data reporting of third party interface

7. Cloud download of blasting data

5. Product configuration

Items	Quantity	Remarks
Blasting vibration meter (measuring terminal)	1Set	Standard
Three dimensional vibration velocity sensor	1 Piece	Standard
Three dimensional acceleration sensor	1 Piece	Standard
Noise sensor	1 Piece	Standard
Sensor connecting cable	1 Piece	Standard
Online cable	1 Piece	Standard
Special analysis software	1 Set	Standard
Side wall and mud ground tooling	1 Set	Optional
Remote trigger	1 Set	Optional
Sensor short connector	1 Piece	Standard
U-Disk	1 Piece	Standard
User manual / warranty card	1 Set	Standard
Special instrument box	1 Piece	Standard

6. Development history of product explosion blasting testing equipment

Time	Product name	Product model	Development history
2010	Blast Vibration Measuring Meter	Blast-I	1.The first 24bit platform vibration meter in China; 2. The first fully automatic vibration meter in China;
2010	Three-way speed sensor	TT-3	The first three-dimensional integrated vibration velocity sensor, and supply to other manufacturers in the industry
2011	Three-way speed sensor	TT-3	1. The precision level bubble is introduced to make the horizontal installation error of the sensor within plus or minus two degrees, so as to improve the test preciseness; 2. Development of mud, side wall, vault a variety of installation work, convenient for users to use
2012	Explosion impact tester	Blast-II	1. The first portable shock tester in China; 2. The first high-precision 24bit shock wave tester in China; 3. The first generation

			shock tester with full automatic mode acquisition in China;
2012	Blasting noise tester	ZS-30R	The blasting noise value can be measured on site, and the data can be saved on the computer
2013	Blast Vibration Measuring Meter	Blast-UM	The new replacement generation of blast - I blasting vibration meter: 1. The first on-site U-disk data acquisition; 2. The size and weight is half of that of blast - I; 3. The standby time is twice that of blast - I; 4. The display screen is larger; 5. Adopting the second generation automatic algorithm mode, the on-site automatic mode is more accurate and reliable; 6. The first software in China is implanted with the standard value of GB6722 blasting safety regulations, so that users do not need to read the regulations after collecting the data, and the software immediately analyzes whether the buildings corresponding to the collected data exceed the standard; 7. The first device

			connected to the computer without any driver, plug and play; 8. The speed of on-line and data acquisition is greatly improved, which is about 100 times of that of type I access。
2013	Three-way speed sensor	TT-3	Each sensor is equipped with a standard short-connect protection head to increase the sensor damping, solve the aging problem in transportation, and effectively extend the service life of the sensor
2013	Blast Vibration Measuring Meter	Blast-UM	The algorithms of FFT main frequency, half wave main frequency and area spectrum are given for academic research
2014	Blast Vibration Measuring Meter	Blast-NET	1. It is the first fully automatic and high-precision 24bit remote blasting vibration meter in China; 2. It supports U-disk data acquisition, online data acquisition, LAN WiFi data acquisition, optical migration network data

			acquisition and WAN remote data acquisition; 3. It supports mobile, Unicom, telecom 2, 3, 4G five mode and 17 frequency
2015	Explosion impact tester	Blast-PRO	1. The first special shock wave tester has a acquisition speed up to 4MHz; 2. Built in IEPE module, users do not need external IEPE power supply module when using IEPE sensor
2016	Blasting noise tester	ZS-40R	The noise measurement range is increased to 160db, which can operate independently and save data on the basis of ZS-30R
2016	Cable connector	Customized	All the cables are high-quality low impedance flexible shielded cables customized by our company. All the connectors are made of metal aviation connectors, which are injection molded, waterproof, dustproof and durable
2016	Blast Vibration Measuring Meter	Blast-Cloud	It is officially under research and development, and is expected to be in mass production in 2017

2017	Blast Vibration Measuring Meter	Blast-Cloud	Export sales officially started in December

7. Industry contribution

Time	Research direction	Experiment conclusion
2010	Three-dimensional integrated speed sensor	The three-dimensional vibration measurement of single point was initiated, which is recorded in the blasting safety regulation and became the standard in 2014
2010	First application of 24bit high precision acquisition platform	High precision and large dynamic range are used to solve the problem that the vibration of traditional blasting test instrument needs to be predicted in advance, and the reliability of signal acquisition is improved
2011	Optimize sensor installation	Precision level bubble is introduced to make the horizontal installation error of the sensor within plus or minus 2 degrees and improve the test preciseness
2013	Unite with Changjiang Academy of Sciences of Water Resources, Xi'an University of Technology, Southwest University of Science and Technology to optimize the calculation method of blasting dominant frequency	The algorithms of FFT main frequency, half wave main frequency and area spectrum are given for academic research

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