唯试科技
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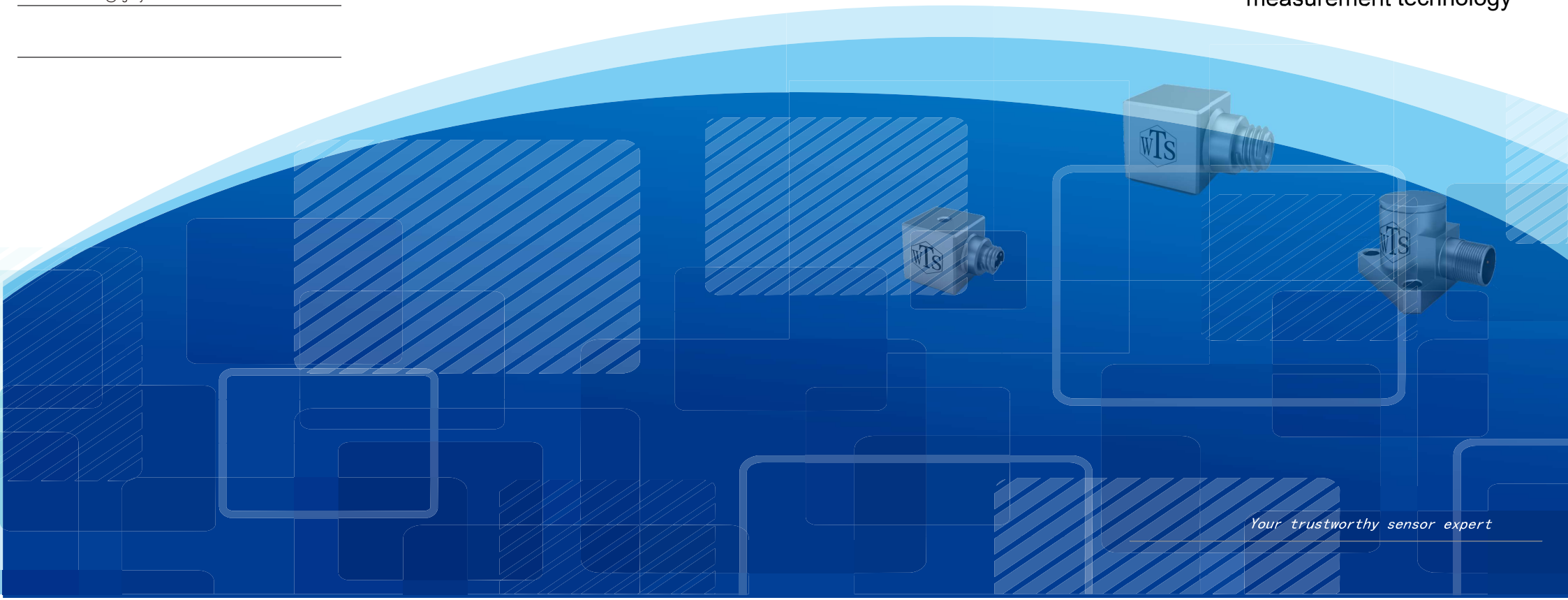
Accelerometer application solution

——Vibration test and measurement technology

Beijing Weish technology Co.Ltd

Contact: Christophe Marcadet

E-mail: cmarcadet@hgl-dynamics.com



Your trustworthy sensor expert

CONTENT

Quality Control

WTS HAS PASSED THE ISO9001 QUALITY STANDARD. STRICT ADHERENCE TO PRODUCTION QUALITY STANDARDS IS NOT ONLY A LEGAL OBLIGATION OF US, BUT ALSO AN INDISPENSABLE PART OF THE PRODUCT PRODUCTION PROCESS. THROUGHOUT THE RESEARCH AND DEVELOPMENT PROCESS, WTS STRICTLY ADHERES TO QUALITY STANDARDS AND PRODUCTION PROCEDURES, ENSURING THE RELIABILITY AND STABILITY OF PRODUCT QUALITY. WTS SENSORS HAVE GAINED THE TRUST OF A WIDE RANGE OF CUSTOMERS.

Further cooperation

WTS IS FOCUSED ON TECHNOLOGICAL BREAKTHROUGHS, AND HAS ESTABLISHED LONG-TERM COOPERATIVE RELATIONSHIPS WITH RENOWNED RESEARCH AND DEVELOPMENT INSTITUTIONS IN THE AEROSPACE, SHIPBUILDING, AUTOMOBILE, AND OTHER INDUSTRIES. NOT ONLY HAS IT GARNERED A GOOD REPUTATION AND WIDESPREAD RECOGNITION IN CHINA'S MILITARY INDUSTRIAL AND AUTOMOTIVE SECTORS, OUR PRODUCTS ARE ALSO EXPORTED TO DOZENS OF COUNTRIES INCLUDING THE UNITED STATES, EUROPE, AUSTRALIA ETC. THE HIGH-TECH NATURE OF OUR OPERATIONS NOT ONLY ADDS TO THE VIBRANCY OF CHINESE MANUFACTURING BUT ALSO EARNS US A LOYAL CUSTOMER BASE AND COOPERATIVE PARTNERS.

High quality service

HIGH-QUALITY PRODUCTS AND EXCELLENT SERVICE ARE THE PRIMARY PURPOSE OF WTS . WITH A WEALTH OF ENGINEERING EXPERIENCE AND PROFESSIONAL TECHNOLOGY, WTS ASSISTS CUSTOMERS IN SOLVING TESTING DIFFICULTIES AND MEETING DIFFERENT NEEDS. WE ALSO PROVIDE TRAINING IN SENSOR TECHNOLOGY, SELECTION AND USAGE KNOWLEDGE. WE CONSTANTLY IMPROVE AND PERFECT OUR SERVICE QUALITY, SO CUSTOMERS CAN CHOOSE WTS WITHOUT ANY WORRIES.

Reliable

WTS ACCELEROMETERS ARE HIGHLY ADAPTABLE AND WIDELY USED IN INDUSTRIAL TESTING FIELDS AND SCIENTIFIC RESEARCH INSTITUTIONS. OUR CUSTOMERS SPAN INDUSTRIES INCLUDING AUTOMOTIVE, SHIPBUILDING, AEROSPACE, MILITARY INDUSTRY, ELECTRONICS, AND OTHER RELATED INDUSTRIES. WE CONSTANTLY TRACK MARKET CHANGES AND INNOVATE AND DEVELOP NEW PRODUCTS TO MEET VARIOUS TESTING REQUIREMENTS, EARNING THE TRUST OF A WIDE RANGE OF CUSTOMERS.

ABOUT US

WTS IS A HIGH-TECH ENTERPRISE FOCUSING ON THE DEVELOPMENT OF ADVANCED SENSORS AND INDUSTRIAL INSTRUMENTS, AND COMMITTED TO PROVIDING INTEGRATED SOLUTIONS OF SENSING SYSTEM. WITH MORE THAN 10 YEARS' HISTORY OF SENSOR RESEARCH AND DEVELOPMENT, THE COMPANY HAS FULLY ABSORBED THE CORE TECHNOLOGIES OF SENSORS FROM EUROPE AND THE UNITED STATES, FORMED A STANDARDIZED RESEARCH AND DEVELOPMENT SYSTEM, AND FULLY INTEGRATED CHINA'S EFFICIENT TECHNOLOGY ITERATION AND INNOVATIVE TECHNOLOGY APPLICATION, RAPIDLY BECOMING A LEADER IN THE FIELD OF SENSORS.

IN WTS, MORE THAN 50% STAFF HAVE MASTER DEGREE OR ABOVE AND WE MAINTAINS TECHNICAL EXCHANGE AND TALENTS TRANSFER RELATIONSHIP WITH TSINGHUA UNIVERSITY, BEIJING UNIVERSITY AND OTHER DOMESTIC FIRST-CLASS UNIVERSITIES. RELYING ON FORWARD-LOOKING STRATEGIC THINKING AND ADVANCED INSTRUMENTS AND EQUIPMENT, RESEARCHERS FOCUS ON THE RESEARCH OF NEW SENSOR TECHNOLOGY, MODERN INSTRUMENTATION, MICRO NANOMETER TECHNOLOGY AND OTHER ASPECTS, TO CREATE ACCURATE AND PERFECT INTELLIGENT TECHNOLOGY INDUSTRY SERVICE SYSTEM.

A new age and a new journey

THE FUTURE HAS ARRIVED, THE COMPANY WILL DEEPLY CONNECT WITH THE PULSE OF CHINA'S INDUSTRIAL DEVELOPMENT, CLOSELY FOLLOWING THE DEVELOPMENT PACE OF CHINA'S INTELLIGENT MANUFACTURING RISE.
WTS IS DETERMINED TO BECOME A WORLD-CLASE LEADER AND INNOVATOR IN INDUSTRIAL INSTRUMENTATION AND SENSOR TECHNOLOGY PRODUCTS.

HIGH SHOCK ACCELEROMETERS

The high shock accelerometer is specifically engineered for testing extreme high-amplitude, short-duration instantaneous acceleration. These accelerometers are designed to withstand exceptionally high G-value impacts and can effectively respond to accelerations reaching 100,000g or even higher within an extremely brief time frame.

Product features

High strength;

Quick response;

Lightweight titanium alloy structure;

Sealed, suitable for harsh environment.

Application scenarios:

Cutting and separation; simulated explosion;

Impact and penetration resistance; stamping press testing;

Explosive research; vibration table impact testing;

Bulletproof clothing, metal collision, helmet testing.

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HIGH SHOCK ACCELEROMETERS

- To ensure the reliability of the testing process in shocks exceeding 10,000g, it is recommended to either use an integrated cable or reinforce the connector.
- When operating at high temperatures, please consider using a high-temperature integrated cable.

High shock monoaxial accelerometer (PE)

					
Model		**S112C**	**S117C.5**	**S117C.2**	**S117C.1**
Sensitivity		0.05pC/g	0.25pC/g	0.30pC/g	0.30pC/g
Range		±100,000gpk	±50,000gpk	±20,000gpk	±10,000gpk
Resolution		-	-	-	-
Frequency Response	±5%	10kHz	10kHz	10kHz	10kHz
	±10%	12kHz	12kHz	12kHz	12kHz
Resonant Frequency		＞45kHz	＞30kHz	＞30kHz	＞25kHz
Linearity		≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%
Temperature range		-40~+85℃	-40~+85℃	-40~+85℃	-40~+85℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		Integrated cable	Integrated cable	Integrated cable	Integrated cable
Electrical isolation		Isolation	Isolation	Isolation	Isolation
Case material		Titanium	Titanium	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding	Laser welding
Weight		4.3g	8.3g	9g	10g
Size		Φ10.2X25	Φ12.5 X25.5	Φ12.5 X25.5	Φ12.5 X 25.5
Mounting		M6X0.75 Bolt	M6X0.75 Bolt	M6X0.75 Bolt	M6X0.75 Bolt

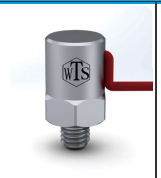
Note: [1] Charged acclerometer output impedance≥1X10^{11}Ω,
[2] Low-frequency response depends on the decision of external conditioning equipment

Size Unit: mm

HIGH SHOCK ACCELEROMETERS

- To ensure the reliability of the testing process in shocks exceeding 10,000g, it is recommended to either use an integrated cable or reinforce the connector.
- When operating at high temperatures, please consider using a high-temperature integrated cable.

High shock monoaxial accelerometer（IEPE）

						
Model		**S112E**	**S112E.1**	**S117E.2**	**S117E.5**	**S117E**
Sensitivity		1mV/g	0.5mV/g	0.25mV/g	0.10mV/g	0.05mV/g
Range		±5,000gpk	±10,000gpk	±20,000gpk	±50,000gpk	±100,000gpk
Resolution		-	-	-	-	-
Frequency Response	±5%	2-8kHz	2-10kHz	2-10kHz	2-10kHz	2-10kHz
	±10%	1-10kHz	1-12kHz	1-12kHz	1-12kHz	1-12kHz
Resonant Frequency		＞25kHz	＞30kHz	＞30kHz	＞30kHz	＞30kHz
Linearity		≤1%	≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%	≤5%
Temperature range		-40~+85℃	-40~+85℃	-40~+85℃	-40~+85℃	-40~+85℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		10-32 top	10-32 top	Integrated cable	Integrated cable	Integrated cable
Electrical isolation		-	-	Isolation	Isolation	Isolation
Case material		Titanium	Titanium	Titanium	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding	Laser welding	Laser welding
Weight		6g	6g	6g	6g	6g
Size		Φ12.5X22	Φ12.5X22	Φ10.8 X21.8	Φ10.8 X21.8	Φ10.8 X21.8
Mounting		10-32 Threaded hole	10-32 Threaded hole	M6X0.75 bolt	M6X0.75 bolt	M6X0.75 bolt

Note： [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA
bias voltage 11±1.5V

Size Unit: mm

GENERAL-PURPOSE ACCELEROMETERS

General-purpose accelerometers employ the principle of piezoelectriceffect, offering mono-axial, tri-axial, and high resistance charge output (PE) as well as low resistance voltage output (IEPE) to cater to a wide range of testing requirements. Triaxial accelerometers are capable of simultaneously measuring in three orthogonal directions, enabling comprehensive analysis of all vibrations experienced by the structure. Each unit comprises three distinct sensing elements positioned at right angles to each other.

Product features:

High reliability and stability;

Ease of operation;

Variable sensitivity;

Wide frequency range; high signal-to-noise ratio;

Suitable for diverse vibration testing applications;

Features an IEPE internal resistance converter.

Application scenarios：

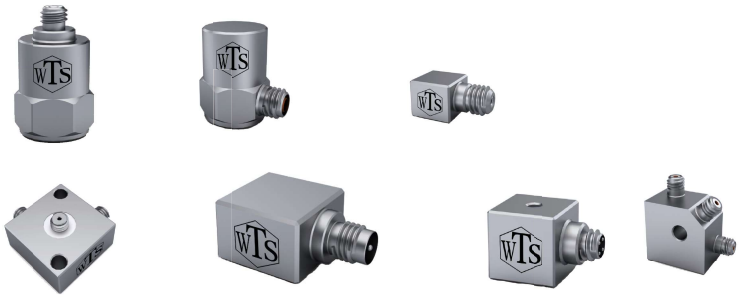
Vibration reliability testing;

Structural testing;

Product quality analysis;

Vibration control;

Mechanical equipment studies



GENERAL-PURPOSE ACCELEROMETER

The charged output accelerometer needs to connect the low noise cable, and then connect to the charge amplifier, impedance converter or signal analysis instrument supporting the charge input type.

General-purpose monoaxial accelerometer(PE)

Model		U112C	U112C.3	U112C.5	U122C	U122C.3	U122C.5
Sensitivity		10pC/g	30pC/g	50pC/g	10pC/g	30pC/g	50pC/g
Range		±2,000gpk	±1,500gpk	±1,000gpk	±2,000gpk	±1,500gpk	±1,000gpk
Resolution		-	-	-	-	-	-
Frequency Response	±5%	10kHz	7kHz	5kHz	10kHz	7kHz	5kHz
	±10%	11kHz	9kHz	6kHz	11kHz	9kHz	6kHz
Resonant Frequency		＞42kHz	＞27kHz	＞20kHz	＞42kHz	＞27kHz	＞20kHz
Linearity		≤1%	≤1%	≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%	≤5%	≤5%
Temperature range		-50~+160℃	-50~+160℃	-50~+160℃	-50~+160℃	-50~+160℃	-50~+160℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		10-32 top	10-32 top	10-32 top	10-32 side	10-32 side	10-32 side
Electrical isolation		-	-	-	-	-	-
Case material		Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Sealing		Laser welding	Laser welding	Laser welding	Laser welding	Laser welding	Laser welding
Weight		15g	25g	37g	15g	25g	37g
Size		13X26	13X26	18X31	13X18	13X18	18X27
Mounting		10-32	10-32	10-32	10-32	10-32	10-32

Note: [1] Charged acclerometer output impedance≥1X10^{11}Ω,
[2] Low-frequency response depends on the decision of external conditioning equipment

Size Unit: mm

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GENERAL-PURPOSE ACCELEROMETER

The IEPE accelerometer integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

General-purpose monoaxial accelerometer（IEPE)

Model		U112E	U112E.2	U112E.5	U112E.6	U112E.7
Sensitivity		10mV/g	20mV/g	50mV/g	100mV/g	200mV/g
Range		±500gpk	±250gpk	±100gpk	±50gpk	±25gpk
Resolution		0.001grms	0.0005grms	0.0002grms	0.0001grms	0.00005grms
Frequency Response	±5%	1-10kHz	1-10kHz	1-10kHz	1-10kHz	1-7kHz
	±10%	0.5-12kHz	0.5-12kHz	0.5-11kHz	0.5-11kHz	0.5-8kHz
Resonant Frequency		＞56kHz	＞54kHz	＞46kHz	＞36kHz	＞27kHz
Linearity		≤1%	≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%	≤5%
Temperature range		-40~+125℃	-40~+125℃	-50~+120℃	-50~+120℃	-50~+120℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		10-32 top	10-32 top	10-32 top	10-32 top	10-32 top
Electrical isolation		–	–	–	–	–
Case material		Titanium	Titanium	Titanium	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding	Laser welding	Laser welding
Weight		5.1g	5.4g	8.2g	8.9g	14.8g
Size		11X22mm	11X23mm	11X19mm	11X19mm	13X21mm
Mounting		10-32	10-32	10-32	10-32	10-32

Note: [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA
bias voltage 11±1.5V

Size Unit: mm

GENERAL-PURPOSE ACCELEROMETER

The IEPE accelerometer integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

General-purpose monoxial accelerometer（IEPE）

						
Model		**U112E.8**	**U122E**	**U122E.2**	**U122E.5**	**U122E.6**
Sensitivity		500mV/g	10mV/g	20mV/g	50mV/g	100mV/g
Range		±10gpk	±500gpk	±250gpk	±100gpk	±50gpk
Resolution		0.00002grms	0.001grms	0.0005grms	0.0002grms	0.0001grms
Frequency Response	±5%	1-6kHz	1-10kHz	1-10kHz	1-10kHz	1-10kHz
	±10%	0.5-7kHz	0.5-12kHz	0.5-12kHz	0.5-11kHz	0.5-11kHz
Resonant Frequency		＞23kHz	＞56kHz	＞54kHz	＞46kHz	＞36kHz
Linearity		≤1%	≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%	≤5%
Temperature range		-50~+120℃	-40~+125℃	-40~+125℃	-50~+120℃	-50~+120℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		10-32 top	10-32 side	10-32 side	10-32 side	10-32 side
Electrical isolation		–	–	–	–	–
Case material		Titanium	Titanium	Titanium	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding	Laser welding	Laser welding
Weight		30g	5.3g	5.7g	8.2g	8.9g
Size		16X26	11X15	11 X16	11 X15	11 X 15
Mounting		10-32	10-32	10-32	10-32	10-32

Note: [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA
bias voltage 11±1.5V

Size Unit: mm

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GENERAL-PURPOSE ACCELEROMETER

The IEPE accelerometer integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

General-purpose monoxial accelerometer（IEPE）

					
Model		**U122E.7**	**U122E.8**	**U126E.5**	**U126E.6**
Sensitivity		200mV/g	500mV/g	50mV/g	100mV/g
Range		±25gpk	±10gpk	±100gpk	±50gpk
Resolution		0.00005grms	0.00002grms	0.0002grms	0.0001grms
Frequency Response	±5%	1-7kHz	1-6kHz	1-12kHz	1-10kHz
	±10%	0.5-8kHz	0.5-7kHz	0.5-14kHz	0.5-12kHz
Resonant Frequency		＞27kHz	＞23kHz	＞38kHz	＞38kHz
Linearity		≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%
Temperature range		-50~+120℃	-50~+120℃	-50~+120℃	-50~+120℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		10-32 side	10-32 side	10-32 side	10-32 side
Electrical isolation		–	–	–	–
Case material		Titanium	Titanium	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding	Laser welding
Weight		14.8g	30g	2.1g	2.5g
Size		13 X 16	16X21	8.5X8.5 X6.6	8.5X8.5 X6.6
Mounting		10-32	10-32	Adhesive	Adhesive

Note: [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA
bias voltage 11±1.5V

Size Unit: mm

GENERAL-PURPOSE ACCELEROMETERS

The charged output accelerometer needs to connect the low noise cable, and then connect to the charge amplifier, impedance converter or signal analysis instrument supporting the charge input type.

General-purpose triaxial accelerometer(PE)

Model		U311C.2	U311C.5	U313C	U313C.2	U318C
Sensitivity		2pC/g	5pC/g	10pC/g	20pC/g	10pC/g
Range		±2,000gpk	±2,000gpk	±1,000gpk	±1,000gpk	±2,000gpk
Resolution		–	–	–	–	–
Frequency Response	±5%	8kHz	8kHz	7kHz	6kHz	6kHz
	±10%	10kHz	10kHz	9kHz	8kHz	8kHz
Resonant Frequency		＞25kHz	＞25kHz	＞20kHz	＞20kHz	＞15kHz
Linearity		≤1%	≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%	≤5%
Temperature range		-54~+150℃	-54~+150℃	-54~+150℃	-54~+150℃	-54~+150℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		3*10-32	3*10-32	3*10-32	3*10-32	3*10-32
Electrical isolation		–	–	–	–	–
Case material		Aluminum alloy	Aluminum alloy	Titanium	Titanium	Titanium
Sealing		Epoxy resin	Epoxy resin	Laser welding	Laser welding	Laser welding
Weight		15g	15g	22g	29g	19g
Size		22X22 X10	22X22 X10	25.4X20 X13	26X21 X12.7	18X18X12.7
Mounting		2-Φ4through hole	2-Φ4through hole	2-Φ4through hole	2-Φ4through hole	Φ4.1through hole

Note: [1] Charged acclerometer output impedance≥1X10^{11}Ω,
[2] Low-frequency response depends on the decision of external conditioning equipment

Size Unit: mm

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GENERAL-PURPOSE ACCELEROMETERS

The IEPE accelerometer integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

General-purpose triaxial accelerometer(IEPE)

Model		U318C.2	U323E	U323E.5	U323E.6	U328E
Sensitivity		20pC/g	10mV/g	50mV/g	100mV/g	10mV/g
Range		±1,000gpk	±500gpk	±100gpk	±50gpk	±500gpk
Resolution		–	0.001grms	0.0002grms	0.0001grms	0.001grms
Frequency Response	±5%	5kHz	1-8kHz	1-8kHz	1-8kHz	1-10kHz
	±10%	6kHz	0.5-9kHz	0.5-9kHz	0.5-9kHz	0.5-12kHz
Resonant Frequency		＞15kHz	＞37kHz	＞37kHz	＞37kHz	＞70kHz
Linearity		≤1%	≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%	≤5%
Temperature range		-54~+150℃	-50~+120℃	-50~+120℃	-50~+120℃	-50~+120℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		3*10-32	1/4-28 4pin	1/4-28 4pin	1/4-28 4pin	1/4-28 4pin
Electrical isolation		–	–	–	–	–
Case material		Titanium	Titanium	Titanium	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding	Laser welding	Laser welding
Weight		30g	12.2g	12.2g	12.2g	5.8g
Size		25.4X25.4X14	15X15X10.5	15X15X10.5	15X15X10.5	14X14 X8.5
Mounting		Φ5.1 through hole	Adhesive/ 10-32 through hole	Adhesive/ 10-32 through hole	Adhesive/ 10-32 through hole	Φ3through hole

Note: [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA
bias voltage 11±1.5V

Size Unit: mm

GENERAL-PURPOSE ACCELEROMETERS

- The IEPE accelerometer integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

General-purpose triaxial accelerometer(IEPE)

						
Model		**U328E.2**	**U328E.5**	**U328E.6**	**U321E.1**	**U321E**
Sensitivity		20mV/g	50mV/g	100mV/g	5mV/g	10mV/g
Range		±250gpk	±100gpk	±50gpk	±1000gpk	±500gpk
Resolution		0.0005grms	0.0002grms	0.0001grms	0.002grms	0.001grms
Frequency Response	±5%	1-10kHz	1-9kHz	1-9kHz	1-10kHz	1-8kHz
	±10%	0.5-12kHz	0.5-11kHz	0.5-11kHz	0.5-11kHz	0.5-10kHz
Resonant Frequency		＞60kHz	＞40kHz	＞37kHz	＞70kHz	＞70kHz
Linearity		≤1%	≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%	≤5%
Temperature range		-50~+120℃	-50~+120℃	-50~+120℃	-40~+120℃	-40~+120℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		1/4-28 4pin	1/4-28 4pin	1/4-28 4pin	1/4-28 4pin	1/4-28 4pin
Electrical isolation		–	–	–	–	–
Case material		Titanium	Titanium	Titanium	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding	Laser welding	Laser welding
Weight		6g	9g	12.2g	4.2g	4.5g
Size		14 X 14 X 8.5	15 X 15 X 10	16 X 16 X 11	10.8 Cube	10.8 Cube
Mounting		Φ3 through hole	Φ4 through hole	Φ4 through hole	M2.5 through hole	M2.5 through hole

Note: [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA
bias voltage 11±1.5V

Size Unit: mm

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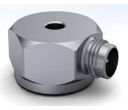
GENERAL-PURPOSE ACCELEROMETERS

- The IEPE accelerometer integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

General-purpose triaxial accelerometer(IEPE)

							
Model		**U321E.2**	**U321E.5**	**U321E.6**	**U324E**	**U324E.6**	**U318E**
Sensitivity		20mV/g	50mV/g	100mV/g	10mV/g	100mV/g	10mV/g
Range		±250gpk	±100gpk	±50gpk	±500gpk	±50gpk	±500gpk
Resolution		0.0005grms	0.0002grms	0.0001grms	0.001grms	0.0001grms	0.001grms
Frequency Response	±5%	1-6kHz	1-7kHz	1-5kHz	1-3kHz	1-3kHz	1-4kHz
	±10%	0.5-7kHz	0.5-9kHz	0.5-6kHz	0.5-4kHz	0.5-4kHz	0.5-6kHz
Resonant Frequency		＞70kHz	＞38kHz	＞25kHz	＞20kHz	＞20kHz	＞25kHz
Linearity		≤1%	≤1%	≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%	≤5%	≤5%
Temperature range		-40~+120℃	-40~+120℃	-40~+120℃	-50~+120℃	-50~+120℃	-50~+120℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		1/4-28 4pin	1/4-28 4pin	1/4-28 4pin	1/4-28 4pin	1/4-28 4pin	3*10–32
Electrical isolation		–	–	–	–	–	–
Case material		Titanium	Titanium	Titanium	Titanium	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding	Laser welding	Laser welding	Laser welding
Weight		4.5g	8.8g	12.5g	8g	12g	19g
Size		10.8 Cube	12.7 Cube	14 Cube	18 X 13	18 X 13	18 X 18 X 12.7
Mounting		M2.5screw hole	M2.5screw hole	M2.5screw hole	Φ5 through hole	Φ5 through hole	Φ5 through hole

Note: [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA
bias voltage 11±1.5V

Size Unit: mm

HIGH SENSITIVITY ACCELEROMETERS

High sensitive accelerometers are specifically engineered to detect earthquakes, as well as vibrations in large buildings and bridges. They are characterized by high sensitivity and low vibration levels.Through monitoring and analyzing buildings, timely preventive or corrective actions can be taken. WTS offers users the choice of mono-axial and tri-axial high sensitivity acceleration sensors.

Product features:

High strength, reliability, and stability;

Exceptional sensitivity;

Features an IEPE internal resistance converter.

Application scenarios：

Monitoring of bridge structures,

Building vibration monitoring,

Earthquake monitoring and early warning,

Foundation vibration monitoring,

Geological structure research.

HIGH SENSITIVITY ACCELEROMETERS

The IEPE accelerometer integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

High sensitivity monoaxial accelerometer（IEPE）

					
Model		**V112E**	**V142E**	**V114E**	**V112E.6**
Sensitivity		1V/g	1V/g	1V/g	100mV/g
Range		±5gpk	±5gpk	±5gpk	±50gpk
Resolution		0.00001grms	0.00001grms	0.00001grms	0.0001grms
Frequency Response	±5%	0.06-1kHz	0.06-1kHz	0.1-2.5kHz	0.15-6kHz
	±10%	0.04-1.5kHz	0.04-1.5kHz	0.07-4kHz	0.1-7kHz
Resonant Frequency		＞8kHz	＞7kHz	＞13kHz	＞25kHz
Linearity		≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%
Temperature range		-40~+120℃	-40~+120℃	-40~+120℃	-40~+120℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		10-32 top	Integrated cable	10-32 top	10-32 top
Electrical isolation		–	–	-	-
Case material		Stainless steel	Stainless steel	Stainless steel	Stainless steel
Sealing		Laser welding	Laser welding	Laser welding	Laser welding
Weight		160g	160g	68g	25g
Size		27 X43	27 X40	19X35	16X28
Mounting		10-32 screw hole	10-32 screw hole	10-32 screw hole	10-32 screw hole

Note: [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA bias voltage 11±1.5V

Size Unit: mm

HIGH SENSITIVITY ACCELEROMETERS

The IEPE accelerometer integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

High sensitivity accelerometer（IEPE）

				
Model		**V122E.6**	**V311E.5**	**V311E**
Sensitivity		100mV/g	500mV/g	1V/g
Range		±50gpk	±10gpk	±5gpk
Resolution		0.0001grms	0.00002grms	0.00001grms
Frequency Response	±5%	0.15-6kHz	1-2kHz	1-2kHz
	±10%	0.1-7kHz	0.07-3kHz	0.07-3kHz
Resonant Frequency		＞25kHz	＞13kHz	＞15kHz
Linearity		≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%
Temperature range		-40~+120℃	-50~+120℃	-50~+120℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		10-32 side	1/4-28 4 pin	1/4-28 4 pin
Electrical isolation		-	-	-
Case material		Stainless steel	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding
Weight		25g	73g	73g
Size		16 X21	23cube	23cube
Mounting		10-32 screw hole	10-32 screw hole	10-32 screw hole

Note: [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA bias voltage 11±1.5V

Size Unit: mm

MINIATURE ACCELEROMETERS

The miniature accelerometer boasts a small, lightweight design. All shear accelerometer components are housed in a high-strength, lightweight, laser-welded titanium alloy shell, effectively minimizing the impact of added mass on the test structure and preventing any alteration to the dynamic behavior of the object due to inertial force. In small structure vibration tests, the sensor's mass significantly influences the test results. The sensor's added mass may alter the natural response of the structure or the damping of the test sample.

Product features:

Compact and lightweight design;

Minimizes additional mass;

Offers multiple sensitivity options.

Application scenarios：

Circuit board testing;

Small structure testing;

Component testing, modal testing;

Component validation.

MINIATURE ACCELEROMETERS

The charged output accelerometer needs to connect the low noise cable, and then connect to the charge amplifier, impedance converter or signal analysis instrument supporting the charge input type.

Mimiature monoaxial accelerometer(PE)

				
Model		**X111C**	**X112C**	**X122C**
Sensitivity		5pC/g	3pC/g	3pC/g
Range		±2,000gpk	±3,000gpk	±3,000gpk
Resolution		-	-	-
Frequency Response	±5%	10kHz	10kHz	10kHz
	±10%	13kHz	12kHz	12kHz
Resonant Frequency		＞45kHz	＞45kHz	＞45kHz
Linearity		≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%
Temperature range		-54~+150℃	-54~+150℃	-54~+150℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		M5 side	6-40 top	6-40 top
Electrical isolation		-	-	-
Case material		Titanium	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding
Weight		5g	3g	3g
Size		10.2cube	Φ9.5 X15.8	Φ9.5 X11
Mounting		5-40 threaded hole	M3 threaded hole	M3 threaded hole

Note: [1] Charged acclerometer output impedance≥1X10^{11}Ω,
[2] Low-frequency response depends on the decision of external conditioning equipment

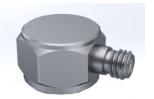
Size Unit: mm

WEISHITECH

MINIATURE ACCELEROMETERS

The IEPE sensor integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

Mimiature monoaxial accelerometer(IEPE)

				
Model		**D123E**	**D123E.5**	**D123E.6**
Sensitivity		10mV/g	50mV/g	100mV/g
Range		±500gpk	±100gpk	±50gpk
Resolution		0.001grms	0.0002grms	0.0001grms
Frequency Response	±5%	1-11kHz	1-11kHz	1-10kHz
	±10%	0.5-12kHz	0.5-12kHz	0.5-11kHz
Resonant Frequency		＞40kHz	＞37kHz	＞35kHz
Linearity		≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%
Temperature range		-50~+120℃	-50~+120℃	-50~+120℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		5-44 side	5-44 side	5-44 side
Electrical isolation		-	-	-
Case material		Titanium	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding
Weight		0.9g	1.5g	1.9g
Size		8.5 X5.1	8.5 X5.1	8.5 X5.1
Mounting		Adhesive	Adhesive	Adhesive

Note: [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA
bias voltage 11±1.5V

Size Unit: mm

MINIATURE ACCELEROMETERS

The IEPE sensor integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

Mimiature monoaxial accelerometer(IEPE)

Model		X112E	X112E.2	X122E	X122E.2
Sensitivity		10mV/g	20mV/g	10mV/g	20mV/g
Range		±500gpk	±250gpk	±500gpk	±250gpk
Resolution		0.001grms	0.0005grms	0.001grms	0.0005grms
Frequency Response	±5%	1-10kHz	1-10kHz	1-10kHz	1-10kHz
	±10%	0.5-12kHz	0.5-12kHz	0.5-12kHz	0.5-12kHz
Resonant Frequency		＞65kHz	＞35kHz	＞65kHz	＞35kHz
Linearity		≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%
Temperature range		-50~+120℃	-50~+120℃	-50~+120℃	-50~+120℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		10-32 side	10-32 side	5-44 side	5-44 side
Electrical isolation		-	-	-	-
Case material		Titanium	Titanium	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding	Laser welding
Weight		4.2g	4.5g	4.2g	4.5g
Size		9.5 X18	9.5 X18	9.5 X11	9.5 X11
Mounting		M3 threaded hole	M3 threaded hole	M3 threaded hole	M3 threaded hole

Note: [1] Charged acclerometer output impedance≥1X10^{11}Ω,
[2] Low-frequency response depends on the decision of external conditioning equipment

Size Unit: mm

WEISHITECH

MINIATURE ACCELEROMETERS

The IEPE sensor integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

Mimiature triaxial accelerometer(IEPE)

Model		X311E	X331E.5	X331E.6	X341E
Sensitivity		10mV/g	50mV/g	100mV/g	10mV/g
Range		±500gpk	±100gpk	±50gpk	±500gpk
Resolution		0.001grms	0.0002grms	0.0001grms	0.001grms
Frequency Response	±5%	1-8kHz	1-6kHz	1-6kHz	1-7kHz
	±10%	0.5-10kHz	0.5-8kHz	0.5-8kHz	0.5-8kHz
Resonant Frequency		＞78kHz	＞38kHz	＞38kHz	＞70kHz
Linearity		≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%
Temperature range		-40~+120℃	-50~+120℃	-50~+120℃	-50~+120℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		1/4-28 4 pin	1/4-28 4 pin	1/4-28 4 pin	1/4-28 4 pin
Electrical isolation		-	-	-	-
Case material		Titanium	Titanium	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding	Laser welding
Weight		4.3g	6g	8.4g	3.6g
Size		10.2Cube	11.5Cube	12Cube	9.5Cube
Mounting		4-40 threaded hole	M2.5 threaded hole	M3 threaded hole	M2.5 threaded hole

Note: [1] Charged acclerometer output impedance≥1X10^{11}Ω,
[2] Low-frequency response depends on the decision of external conditioning equipment

Size Unit: mm

INDUSTRIAL ACCELEROMETERS

Industrial accelerometers are constructed from stainless steel with double shielding (isolation) and sealed via laser welding, rendering them waterproof and resistant to oil. This design ensures long-term reliability and stability in harsh industrial environments

Product features:

Waterproof and resistant to oil ingress

Low noise and high resistance to electromagnetic interference

Suitable for remote measurement and data transmission

Capable of utilizing integral or armored cabling

Designed for prolonged online monitoring

Application scenarios：

Monitoring and protectivemeasures for rotating machinery such as water pumps, fans, compressors, as well as related applications in power plants, cement factories, and glass manufacturing facilities.

INDUSTRIAL ACCELEROMETERS

The IEPE sensor integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

Industrial accelerometer(IEPE)

				
Model		**G112E**	**G112E.3**	**G114E**
Sensitivity		100mV/g	300mV/g	100mV/g
Range		±50gpk	±16.7gpk	±50gpk
Resolution		0.0001grms	0.00004grms	0.0001grms
Frequency Response	±5%	1-12kHz	1-4kHz	-
	±10%	-	0.5-5kHz	1-9kHz
	±3dB	0.4-16kHz	-	0.4-12kHz
Resonant Frequency		＞30kHz	＞16kHz	＞18kHz
Linearity		≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%
Temperature range		-40~+120℃	-40~+120℃	-40~+120℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		MIL-C-5015 2 pin	MIL-C-5015 2 pin	MIL-C-5015 2 pin
Electrical isolation		Isolation	Isolation	Isolation
Case material		Stainless steel	Stainless steel	Stainless steel
Sealing		Laser welding	Laser welding	Laser welding
Weight		60g	90g	80g
Size		18X46.5	27X47	22 X52.5
Mounting		1/4-28UNF threaded hole	M5 threaded hole	1/4-28UNF threaded hole

Note： [1] Charged acclerometer output impedance≥1X10^{11}Ω,
[2] Low-frequency response depends on the decision of external conditioning equipment

Size Unit: mm

INDUSTRIAL ACCELEROMETERS

- The IEPE sensor integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

Industrial accelerometer(IEPE)

				
Model		**G115E**	**G121E**	**G124E**
Sensitivity		100mV/g	100mV/g	100mV/g
Range		±50gpk	±50gpk	±50gpk
Resolution		0.0001grms	0.0001grms	0.0001grms
Frequency Response	±5%	1-8kHz	-	-
	±10%	0.5-10kHz	1.5-7kHz	-
	±3dB	-	0.5-10kHz	0.5-10kHz
Resonant Frequency		＞25kHz	＞18kHz	＞25kHz
Linearity		≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%
Temperature range		-50~+120℃	-40~+120℃	-40~+120℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		MIL-C-5015 2 pin	MIL-C-5015 2 pin	MIL-C-5015 2 pin
Electrical isolation		Isolation	Isolation	Isolation
Case material		Stainless steel	Stainless steel	Stainless steel
Sealing		Laser welding	Laser welding	Laser welding
Weight		62g	75g	56g
Size		20 X47	43.5 X18 X21	45.8 X20 X25
Mounting		10-32 threaded hole	Φ6.4 through hole	Φ6.1 through hole

Note: [1] Charged acclerometer output impedance≥1X10^{11}Ω,
[2] Low-frequency response depends on the decision of external conditioning equipment

Size Unit: mm

HIGH TEMPERATURE ACCELEROMETERS

High-temperature accelerometers utilize a piezoelectric ceramic element known for its exceptional temperature characteristics as the sensitive component. This type of sensor boasts a wide frequency band, high sensitivity, simple yet robust structure, reliable operation, and lightweight design. Specifically designed for aeroengine applications, the high-temperature piezoelectric acceleration sensor is utilized for vibration measurement, meeting the stringent requirements posed by complex vibration and the harsh operational conditions encountered in aeroengine environments.

Product features:

Operating temperature can reach 482℃;

Defined structural design;

Reliable and lightweight.

Application scenarios:

High temperature vibration test,
Steam turbine test,
Aeroengine structure research,
Exhaust component vibration test,
Engine vibration analysis and other high temperature occasions.

HIGH TEMPERATURE ACCELEROMETERS

The charged output accelerometer needs to connect the low noise cable, and then connect to the charge amplifier, impedance converter or signal analysis instrument supporting the charge input type.

High temperature accelerometer (PE)

				
Model		**H112C**	**H112C.3**	**H122C**
Sensitivity		10pC/g	30pC/g	10pC/g
Range		±1,500gpk	±1,000gpk	±1,500gpk
Resolution		-	-	-
Frequency Response	±5%	9kHz	8kHz	9kHz
	±10%	10Hz	9kHz	10kHz
Resonant Frequency		＞32kHz	＞27kHz	＞32kHz
Linearity		≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%
Temperature range		-50~+250℃	-50~+250℃	-50~+250℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		10-32 top	10-32 top	10-32 top
Electrical isolation		-	-	-
Case material		Titanium	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding
Weight		6.5g	12.5g	6.5g
Size		11 X22	14 X23	11 X16
Mounting		10-32 threaded hole	10-32 threaded hole	10-32 threaded hole

Note: [1] Charged acclerometer output impedance≥1X10^{11}Ω,
[2] Low-frequency response depends on the decision of external conditioning equipment

Size Unit: mm

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HIGH TEMPERATURE ACCELEROMETERS

The charged output accelerometer needs to connect the low noise cable, and then connect to the charge amplifier, impedance converter or signal analysis instrument supporting the charge input type.

High temperature accelerometer (PE)

				
Model		**H122C.3**	**H114C.5**	**H127C**
Sensitivity		30pC/g	5pC/g	10pC/g
Range		±1,000gpk	±600gpk	±2,000gpk
Resolution		-	-	-
Frequency Response	±5%	8kHz	15kHz	4kHz
	±10%	9kHz	16kHz	5kHz
Resonant Frequency		＞27kHz	＞48kHz	＞25kHz
Linearity		≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%
Temperature range		-50~+250℃	-65~+200℃	-70~+482℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		M5 side	M5 top	Differential 2 pin
Electrical isolation		-	-	-
Case material		Titanium	Stainless steel	Titanium
Sealing		Laser welding	Laser welding	Laser welding
Weight		12.5g	12g	65g
Size		14 X18	13X26	43X26
Mounting		10-32 threaded hole	10-32 threaded hole	3-Φ4.8 through hole

Note: [1] Charged acclerometer output impedance≥1X10^{11}Ω,
[2] Low-frequency response depends on the decision of external conditioning equipment

Size Unit: mm

MEMS ACCELEROMETER

Micro-capacitive MEMS accelerometers utilize the micro-capacitive acceleration sensing core of MEMS technology. The perceived acceleration signal is converted into a voltage output signal. These accelerometers are designed with a floating ground, and the mounting surface is insulated from the signal ground.

Product features:

Capable of a wide range of dynamic measurements

Long-lasting operational capability

Wide frequency range,

High signal-to-noise ratio.

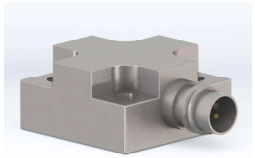
Application scenarios:

Low-frequency dynamic testing

Steady linear acceleration flight testing

Transportation environment simulation for road load

Measurement of inclination



MEMS ACCELEROMETER

MEMS Monoaxial accelerometer

				
Model	**M122E**	**M122E.2**	**M122E.4**	**M122E.8**
Sensitivity	10mV/g	20mV/g	40mV/g	80mV/g
Range	±400gpk	±200gpk	±100gpk	±50gpk
Frequency Response(±3dB)	0-2000Hz	0-1750Hz	0-1400Hz	0-1200Hz
Nosie(μg/√Hz)	400	200	100	50
Linearity	≤0.1%	≤0.1%	≤0.1%	≤0.1%
Horizontal Sensitivity	≤3%	≤3%	≤3%	≤3%
Temperature range	-55~+125℃	-55~+125℃	-55~+125℃	-55~+125℃
Sensing element	MEMS	MEMS	MEMS	MEMS
Bias voltage	6-12VDC	6-12VDC	6-12VDC	6-12VDC
Supply current	≤6mA	≤6mA	≤6mA	≤6mA
connector	1/4-28 4 pin	1/4-28 4 pin	1/4-28 4 pin	1/4-28 4 pin
Insulation resistance	$\geq 1\times10^8$	$\geq 1\times10^8$	$\geq 1\times10^8$	$\geq 1\times10^8$
Case material	Titanium	Titanium	Titanium	Titanium
Sealing	Laser welding	Laser welding	Laser welding	Laser welding
Weight	12g	12g	12g	12g
Size	16X20	16X20	16X20	16X20
Mounting	10-32 Threaded hole	10-32 Threaded hole	10-32 Threaded hole	10-32 Threaded hole

Note: The default mono -axis MEMS accelerometer output is differential output, and single -end output optional.

Size:mm

MEMS ACCELEROMETERS

MEMS Monoaxial accelerometer

				
Model	**M122E.16**	**M122E.40**	**M122E.80**	**M122E.200**
Sensitivity	160mV/g	400mV/g	800mV/g	2000mV/g
Range	±25gpk	±10gpk	±5gpk	±2gpk
Frequency Response(±3dB)	0-900Hz	0-600Hz	0-400Hz	0-300Hz
Nosie(μg/√Hz)	25	18	12	7
Linearity	≤0.1%	≤0.1%	≤0.1%	≤0.1%
Horizontal Sensitivity	≤3%	≤3%	≤3%	≤3%
Temperature range	-55~+125℃	-55~+125℃	-55~+125℃	-55~+125℃
Sensing element	MEMS	MEMS	MEMS	MEMS
Bias voltage	6-12VDC	6-12VDC	6-12VDC	6-12VDC
Supply current	≤6mA	≤6mA	≤6mA	≤6mA
connector	1/4-28 4pin	1/4-28 4pin	1/4-28 4pin	1/4-28 4pin
Insulation resistance	$\geq 1\times10^8$	$\geq 1\times10^8$	$\geq 1\times10^8$	$\geq 1\times10^8$
Case material	Titanium	Titanium	Titanium	Titanium
Sealing	Laser welding	Laser welding	Laser welding	Laser welding
Weight	12g	12g	12g	12g
Size	16X20	16X20	16X20	16X20
Mounting	10-32 Threaded hole	10-32 Threaded hole	10-32 Threaded hole	10-32 Threaded hole

Note: The default mono -axis MEMS accelerometer output is differential output, and single -end output optional.

Size:mm

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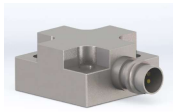
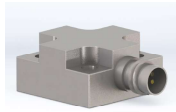
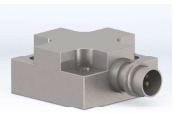
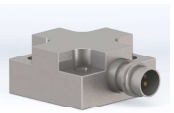
MEMS ACCELEROMETERS

MEMS Monoaxial accelerometer

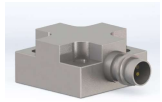
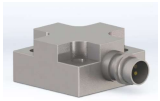
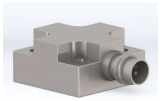
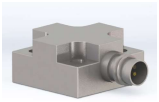
				
Model	**M112E**	**M112E.2**	**M112E.4**	**M112E.8**
Sensitivity	10mV/g	20mV/g	40mV/g	80mV/g
Range	±400gpk	±200gpk	±100gpk	±50gpk
Frequency Response(±3dB)	0-2000Hz	0-1750Hz	0-1400Hz	0-1200Hz
Nosie(μg/√Hz)	400	200	100	50
Linearity	≤0.1%	≤0.1%	≤0.1%	≤0.1%
Horizontal Sensitivity	≤3%	≤3%	≤3%	≤3%
Temperature range	-55~+125℃	-55~+125℃	-55~+125℃	-55~+125℃
Sensing element	MEMS	MEMS	MEMS	MEMS
Bias voltage	6-12VDC	6-12VDC	6-12VDC	6-12VDC
Supply current	≤6mA	≤6mA	≤6mA	≤6mA
connector	1/4-28 4pin	1/4-28 4pin	1/4-28 4pin	1/4-28 pin
Insulation resistance	$\geq 1\times10^8$	$\geq 1\times10^8$	$\geq 1\times10^8$	$\geq 1\times10^8$
Case material	Titanium	Titanium	Titanium	Titanium
Sealing	Laser welding	Laser welding	Laser welding	Laser welding
Weight	8. 4g	8. 4g	8. 4g	8. 4g
Size	19X19X10	19X19X10	19X19X10	19X19X10
Mounting	4-M3 Threaded hole	4-M3 Threaded hole	4-M3 Threaded hole	4-M3 Threaded hole

Note: The default mono -axis MEMS accelerometer output is differential output, and single -end output optional.

Size:mm

MEMS ACCELEROMETERS

MEMS Monoaxial accelerometer

Model	M112E.16	M112E.40	M112E.80	M112E.200
Sensitivity	160mV/g	400mV/g	800mV/g	2000mV/g
Range	±25gpk	±10gpk	±5gpk	±2gpk
Frequency Response(±3dB)	0-900Hz	0-600Hz	0-400Hz	0-300Hz
Nosie(μg/√Hz)	25	18	12	7
Linearity	≤0.1%	≤0.1%	≤0.1%	≤0.1%
Horizontal Sensitivity	≤3%	≤3%	≤3%	≤3%
Temperature range	-55~+125℃	-55~+125℃	-55~+125℃	-55~+125℃
Sensing element	MEMS	MEMS	MEMS	MEMS
Bias voltage	6-12VDC	6-12VDC	6-12VDC	6-12VDC
Supply current	≤6mA	≤6mA	≤6mA	≤6mA
connector	1/4-28 4pin	1/4-28 4pin	1/4-28 4pin	1/4-28 4pin
Insulation resistance	$\geq 1\times10^8$	$\geq 1\times10^8$	$\geq 1\times10^8$	$\geq 1\times10^8$
Case material	Titanium	Titanium	Titanium	Titanium
Sealing	Laser welding	Laser welding	Laser welding	Laser welding
Weight	8.4g	8.4g	8.4g	8.4g
Size	19X19X10	19X19X10	19X19X10	19X19X10
Mounting	4-M3 Threaded hole	4-M3 Threaded hole	4-M3 Threaded hole	4-M3 Threaded hole

Note: The default mono -axis MEMS accelerometer output is differential output, and single -end output optional.

Size:mm

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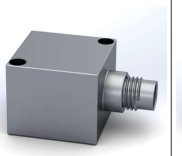
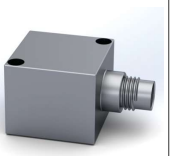
MEMS ACCELEROMETERS

MEMS Triaxial accelerometer



Model	M323E	M323E.2	M323E.5	M323E.6
Sensitivity	10mV/g	20mV/g	50mV/g	100mV/g
Range	±400gpk	±200gpk	±80gpk	±40gpk
Frequency Response(±3dB)	0-1200Hz	0-1200Hz	0-1000Hz	0-600Hz
Nosie(μg/√Hz)	400	200	100	50
Linearity	≤0.1%	≤0.1%	≤0.1%	≤0.1%
Horizontal Sensitivity	≤3%	≤3%	≤3%	≤3%
Temperature range	-55~+125℃	-55~+125℃	-55~+125℃	-55~+125℃
Sensing element	MEMS	MEMS	MEMS	MEMS
Bias voltage	6-12VDC	6-12VDC	6-12VDC	6-12VDC
Supply current	≤6mA	≤6mA	≤6mA	≤6mA
connector	1/4-28 4pin	1/4-28 4pin	1/4-28 4pin	1/4-28 4pin
Insulation resistance	-	-	-	-
Case material	Titanium	Titanium	Titanium	Titanium
Sealing	Laser welding	Laser welding	Laser welding	Laser welding
Weight	22.4g	22.4g	22.4g	22.4g
Size	23X23X20	23X23X20	23X23X20	23X23X20
Mounting	2-M4Threaded hole	2-M4Threaded hole	2-M4Threaded hole	2-M4Threaded hole

Note: The default tri -axis MEMS accelerometer output is differential output, and single -end output optional.

Size:mm

MEMS ACCELEROMETERS

MEMS Triaxial accelerometer			
			
Model	**M323E.25**	**M323E.50**	**M323E.100**
Sensitivity	250mV/g	500mV/g	1000mV/g
Range	±16gpk	±8gpk	±4gpk
Frequency Response(±3dB)	0-400Hz	0-300Hz	0-200Hz
Nosie(μg/√Hz)	25	18	12
Linearity	≤0.1%	≤0.1%	≤0.1%
Horizontal Sensitivity	≤3%	≤3%	≤3%
Temperature range	-55~+125℃	-55~+125℃	-55~+125℃
Sensing element	MEMS	MEMS	MEMS
Bias voltage	6-12VDC	6-12VDC	6-12VDC
Supply current	≤6mA	≤6mA	≤6mA
connector	1/4-28 4pin	1/4-28 4pin	1/4-28 4pin
Insulation resistance	-	-	-
Case material	Titanium	Titanium	Titanium
Sealing	Laser welding	Laser welding	Laser welding
Weight	22.4g	22.4g	22.4g
Size	23X23X20	23X23X20	23X23X20
Mounting	2-M4 Threaded hole	2-M4 Threaded hole	2-M4 Threaded hole

Note: The default tri -axis MEMS accelerometer output is differential output, and single -end output optional.

Size:mm

MODAL TESTING ACCELEROMETERS

In structural dynamic characteristics measurement, the excitation is applied to the test object, and the response of the structure to the excitation is measured. The excitation and response data are then processed to obtain the dynamic characteristics of the structure. In practical use, the relative phase error between different measurement point sensors is more important than the actual phase differences of each sensor. Typically, engineering modal experiments require the relative phase error of sensors to be within ±3°-5°.

Product features:

Low relative phase error

Lightweight

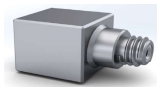
High resolution

Application scenarios：

Low-frequency structural dynamic testing

Structural dynamic characteristics testing

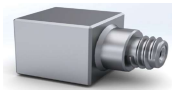
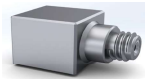
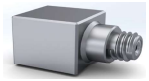
Modal analysis



MODAL TESTING ACCELEROMETERS

The IEPE sensor integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

Model monoaxail accelerometer(IEPE)


Model		MT113E.5	MT113E.5A	MT113E.6	MT114E.6
Sensitivity		50mV/g	50mV/g	100mV/g	100mV/g
Range		±100gpk	±100gpk	±50gpk	±50gpk
Resolution		0.0002grms	0.0002grms	0.0001grms	0.0001grms
Frequency Response	±5%	1-9kHz	1-12kHz	1-10kHz	1-8kHz
	±10%	0.5-11kHz	0.5-14kHz	0.5-12kHz	0.5-10kHz
Resonant Frequency		＞30kHz	＞40kHz	＞38kHz	＞25kHz
Linearity		≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%
Temperature range		-40~+120℃	-50~+120℃	-50~+120℃	-40~+120℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		10-32 side	10-32 side	10-32 side	10-32 side
Electrical isolation		-	-	-	-
Case material		Titanium	Titanium	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding	Laser welding
Weight		7g	2.1g	2.5g	9g
Size		11X11X8.5	8.5X8.5X6.6	8.5X8.5X6.6	14X10
Mounting		Adhesive	Adhesive	Adhesive	10-32 bolt or adhesive

Note: [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA
bias voltage 11±1.5V

Size:mm

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MODAL TESTING ACCELEROMETERS

The IEPE sensor integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

Model triaxail accelerometer(IEPE)




Model		MT331E.4	MT331E.6	MT325E.4	MT325E.6
Sensitivity		40mV/g	100mV/g	40mV/g	100mV/g
Range		±125gpk	±50gpk	±125gpk	±50gpk
Resolution		0.0025grms	0.0001grms	0.0025grms	0.0001grms
Frequency Response	±5%	1-6kHz	0.1-4kHz	1-6kHz	1-5kHz
	±10%	0.5-8kHz	0.07-6kHz	0.5-8kHz	0.5-6kHz
Resonant Frequency		＞39kHz	＞28kHz	＞39kHz	＞22kHz
Linearity		≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%
Temperature range		-40~+120℃	-50~+120℃	-40~+120℃	-40~+120℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		1/4-28 4pin	1/4-28 4pin	1/4-28 4pin	1/4-28 4pin
Electrical isolation		-	-	-	-
Case material		Titanium	Titanium	Titanium	Titanium
Sealing		Laser welding	Laser welding	Laser welding	Laser welding
Weight		14g	17g	14g	18g
Size		15Cube	16Cube	16Cube	16.5Cube
Mounting		M5Threaded hole	M5Threaded hole	M5Threaded hole	M5Threaded hole

Note: [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA
bias voltage 11±1.5V

Size:mm

STAINLESS STEEL SERIES ACCELEROMETERS

The stainless steel series accelerometers are cost-effective sensors designed based on the piezoelectric effect principle. They are available in various output configurations and mounting options, including high-impedance charge output (PE) and low-impedance voltage output (IEPE).

Product features:

cost-effective

High reliability and stability,

Suitable for long-term operation, easy to use

Suitable for various vibration tests.

Application scenarios：

Vibration reliability testing

Product quality research

Vibration control

Mechanical equipment research

STAINLESS STEEL SERIES ACCELEROMETERS

- The IEPE sensor integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

Stainless steel accelerometer(IEPE)

						
Model		**US12E**	**US12E.2**	**US12E.5**	**US12E.6**	**US12E.7**
Sensitivity		10mV/g	20mV/g	50mV/g	100mV/g	200mV/g
Range		±500gpk	±250gpk	±100gpk	±50gpk	±25gpk
Resolution		0.001grms	0.0005grms	0.0002grms	0.0001grms	0.00005grms
Frequency Response	±5%	1-12kHz	1-12kHz	1-10kHz	1-10kHz	1-7kHz
	±10%	0.5-13kHz	0.5-13kHz	0.5-11kHz	0.5-11kHz	0.5-8kHz
Resonant Frequency		＞56kHz	＞54kHz	＞46kHz	＞36kHz	＞24kHz
Linearity		≤1%	≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%	≤5%
Temperature range		-40~+125℃	-40~+125℃	-40~+125℃	-40~+125℃	-40~+125℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		M5 top	M5 top	M5 top	M5 top	M5 top
Electrical isolation		-	-	-	-	-
Case material		Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Sealing		Laser welding	Laser welding	Laser welding	Laser welding	Laser welding
Weight		8.1g	8.5g	9g	9.7g	15g
Size		11 X 22mm	11 X 23mm	11 X 23mm	11 X 23mm	13 X 23mm
Mounting		M5 Threaded hole	M5 Threaded hole	M5 Threaded hole	M5 Threaded hole	M5 Threaded hole

Note: [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA bias voltage 11±1.5V

Size:mm

STAINLESS STEEL SERIES ACCELEROMETERS

The IEPE sensor integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

Stainless steel accelerometer(IEPE)

						
Model		**US22E**	**US22E.2**	**US22E.5**	**US22E.6**	**US22E.7**
Sensitivity		10mV/g	20mV/g	50mV/g	100mV/g	200mV/g
Range		±500gpk	±250gpk	±100gpk	±50gpk	±25gpk
Resolution		0.001grms	0.0005grms	0.0002grms	0.0001grms	0.00005grms
Frequency Response	±5%	1-12kHz	1-12kHz	1-10kHz	1-10kHz	1-7kHz
	±10%	0.5-13kHz	0.5-13kHz	0.5-11kHz	0.5-11kHz	0.5-8kHz
Resonant Frequency		＞56kHz	＞54kHz	＞46kHz	＞36kHz	＞24kHz
Linearity		≤1%	≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%	≤5%
Temperature range		-40~+125℃	-40~+125℃	-50~+125℃	-50~+125℃	-40~+125℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		M5 side	M5 side	M5 side	M5 side	M5 side
Electrical isolation		-	-	-	-	-
Case material		Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Sealing		Laser welding	Laser welding	Laser welding	Laser welding	Laser welding
Weight		8.1g	8.5g	9g	9.7g	15g
Size		11X15	11 X16	11 X16	11 X 16	13 X 16
Mounting		M5 Threaded hole	M5 Threaded hole	M5 Threaded hole	M5 Threaded hole	M5 Threaded hole

Note: [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA
bias voltage 11±1.5V

Size:mm

WATERPROOF ACCELEROMETERS

Waterproof accelerometers utilize an integrated cable design for effective sealing, enabling measurements up to 50 meters underwater. They are available in single-axis and multi-axis voltage output types (IEPE).

Product features:

High reliability and stability,

Wide range of sensitivity options,

High signal-to-noise ratio,

Suitable for high humidity or underwater measurements.

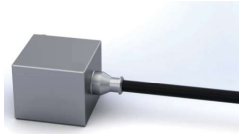
Application scenarios：

Vibration reliability testing

Structural testing,Product quality research,

vibration control,

Mechanical equipment research.



WATERPROOF ACCELEROMETERS

- The IEPE sensor integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

Waterproof Monoaxail accelerometer(IEPE)





Model		U112EM	U112E.2M	U112E.5M	U112E.6M	U112E.7M
Sensitivity		10mV/g	20mV/g	50mV/g	100mV/g	200mV/g
Range		±500gpk	±250gpk	±100gpk	±50gpk	±25gpk
Resolution		0.001grms	0.0005grms	0.0002grms	0.0001grms	0.00005grms
Frequency Response	±5%	1-12kHz	1-12kHz	1-10kHz	1-10kHz	1-7kHz
	±10%	0.5-13kHz	0.5-13kHz	0.5-11kHz	0.5-11kHz	0.5-8kHz
Resonant Frequency		＞56kHz	＞54kHz	＞46kHz	＞36kHz	＞27kHz
Linearity		≤1%	≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%	≤5%
Temperature range		-40~+125℃	-40~+125℃	-40~+125℃	-40~+125℃	-40~+125℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		Integrated cable	Integrated cable	Integrated cable	Integrated cable	Integrated cable
Electrical isolation		-	-	-	-	-
Case material		Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Sealing		Laser welding	Laser welding	Laser welding	Laser welding	Laser welding
Weight		8.1g	8.5g	9g	9.7g	15g
Size		11X35	11X36	11X36	11X36	13X36
Mounting		M5 Threaded hole	M5 Threaded hole	M5 Threaded hole	M5 Threaded hole	M5 Threaded hole

Note: [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA
bias voltage 11±1.5V

Size:mm

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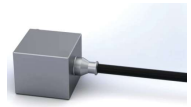
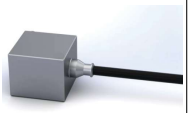
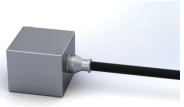
WATERPROOF ACCELEROMETERS

- The IEPE sensor integrated the impedance converter and Sensing Element, so that the Acceleometer output is a low impedance voltage, and the signal can be read directly.DC power supply and signal use the same cable

Waterproof triaxail accelerometer(IEPE)



Model		X311EM	X311E.2M	X311E.5M	X311E.6M
Sensitivity		10mV/g	20mV/g	50mV/g	100mV/g
Range		±500gpk	±250gpk	±100gpk	±50gpk
Resolution		0.001grms	0.0005grms	0.0002grms	0.0001grms
Frequency Response	±5%	1-9kHz	1-8kHz	1-7kHz	1-5kHz
	±10%	0.5-10kHz	0.5-10kHz	0.5-9kHz	0.5-6kHz
Resonant Frequency		＞61kHz	＞50kHz	＞38kHz	＞25kHz
Linearity		≤1%	≤1%	≤1%	≤1%
Horizontal Sensitivity		≤5%	≤5%	≤5%	≤5%
Temperature range		-40~+125℃	-40~+125℃	-40~+125℃	-40~+125℃
Sensing element		Ceramic/Shear	Ceramic/Shear	Ceramic/Shear	Ceramic/Shear
Connector		Integrated cable	Integrated cable	Integrated cable	Integrated cable
Electrical isolation		-	-	-	-
Case material		Stainless steel	Stainless steel	Stainless steel	Stainless steel
Sealing		Laser welding	Laser welding	Laser welding	Laser welding
Weight		6.2g	8.3g	8.8g	12.5g
Size		12Cube	12.7Cube	12.7Cube	14Cube
Mounting		M2.5 Threaded hole	M2.5 Threaded hole	M2.5 Threaded hole	M2.5 Threaded hole

Note: [1] IEPE accelerometer excitation voltage 18-28VDC, excitation current 2-10mA
bias voltage 11±1.5V

Size:mm

CHARGE AMPLIFIER

The online charge amplifier converts the charge signal from the charge sensor into a voltage signal for input into the acquisition or control instrument. It is characterized by a wide band, low noise, and user-friendly operation.

Charge amplifier

Mode	G1E01	G1E1	G1E10
Sensitivity	0.1mV/pC	1mV/pC	10mV/pC
Frequency range	0.5-20kHz	0.5-20kHz	0.5-20kHz
Max charge	40,000pC	4,000pC	400pC
Noise	0.1mVrms	0.1mVrms	0.1mVrms
Connector	10-23 to 10-32	10-23 to 10-32	10-23 to 10-32
Weight	3.6g	3.6g	3.6g
Size	Φ6 X 37	Φ6 X 37	Φ6 X 37

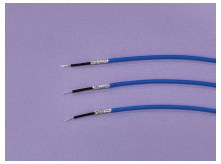
Mode	C1E01	C1E1	C1E10
Sensitivity	0.1mV/pC	1mV/pC	10mV/pC
Frequency range	0.5-20kHz	0.5-20kHz	0.5-20kHz
Max charge	40,000pC	4,000pC	400pC
Noise	0.1mVrms	0.1mVrms	0.1mVrms
Connector	BNC-BNC	BNC-BNC	BNC-BNC
Weight	3.6g	3.6g	3.6g
Size	Φ11.8 X 50	Φ11.8 X 50	Φ11.8 X 50

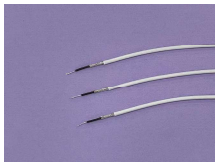
Size unit:mm

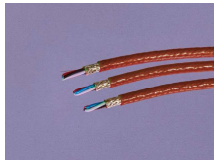
Cables and Accessories

Cables

Model	Cabel Type	Diameter	Max Temp.	Materail
LC08	Low noise coaxial cable	0.8mm	260℃	PTFE
LC10	Low noise coaxial cable	1.0mm	260℃	PTFE
LC18	Low noise coaxial cable	1.8mm	260℃	PTFE
SC11	standard coaxial cable	1.1mm	200℃	PTFE
SC18	standard coaxial cable	1.8mm	200℃	PTFE
ES25	four core standard coaxial cable	2.5mm	200℃	FEP







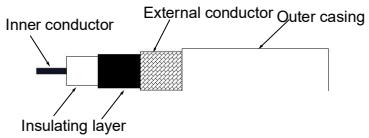
Configuration cable type：

Configuring cables need confirm the sensor connector, cable type, cable length, and terminal connector.

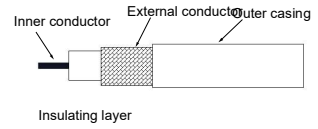
M5-BNC 5m mono-axial low noise coaxial calbe=M5/LC18/5/BC

1/4-28-3BNC 5m tri-axial four core standard cable=1/4-28/ES25/5/3BC

Sensor connector	Cable type	Cable length(m)	Terminal connector
M5	LC18	5	BC



a) Low noise cable structure



b) Standard cable construction

Accessories

Bolt and Mounting bases

Model	Product Name	Description	
S13 S15 S19	Isolated Mounting Base Isolated Mounting Base Isolated Mounting Base	13mm A/F， M5Stud height3.2mm，thickness5mm 15mm A/F， M5Stud height3.2mm，thickness5mm 19mm A/F， M5Stud height3.2mm，thickness5mm	
T13 T15 T19	Isolated Mounting Base Isolated Mounting Base Isolated Mounting Base	13mm A/F， M5Screw hole，thickness5mm 15mm A/F， M5Screw hole，thickness5mm 19mm A/F， M5Screw hole，thickness5mm	
SS13 SS15 SS19	Isolated Mounting Base Isolated Mounting Base Isolated Mounting Base	13mm A/F， Double end M5Stud，thickness5mm 15mm A/F， Double end M5Stud，thickness5mm 19mm A/F， Double end M5Stud，thickness5mm	
SM21	Isolated Mounting Magnet	21mm A/F， M5Stud height3.2mm，thickness5mm	
TM21	Isolated Mounting Magnet	21mm A/F， M5screw hole，thickness5mm	

Signal Isolators

Model	Product Name	Description	
ESI-01	signal isolator	Frequency：1-7kHz (-0.3dB) Max input Voltage: 10VAC Max input Current：10mA	

In addition to general purpose products, WTS can produce customized products according to customer requirements to meet the requirements of customers in various industries. Look forward to your cooperation!

Impulse Hammer

Modle	C02	C20	C50	C200
Sensitivity	25mV/N	2.5mV/N	1mV/N	0.5mV/N
Max.shock force	200N	2,000N	5,000N	20,000N
Head diameter	Φ7mm	Φ25mm	Φ30mm	Φ30mm
Handle length	111mm	240mm	240mm	280mm
Head weight	40g	65g	65g	350g
Additional head weight	-	24g	24g	24g

Introduction of sensor technology

Types of accelerometers for testing, measuring, and equipment monitoring：

Charge mode-Utilizes the piezoelectric effect discovered by the Curie brothers in 1880, which is the initial design principle of accelerometers. The all-mechanical design that converts mechanical energy into charge, in order to analyze with external instruments, the charge output signal usually must be converted into a voltage signal. This design does not require power supply (passive type).

IEPE mode(Integrated Electronics Piezo-Electric)- Use the same basic principle as the charge-type accelerometers, with the same mechanical piezoelectric characteristics, use a tiny internal amplification circuit to convert the charge signal into a voltage signal output ; this circuit ispowered by external voltage that provides DC voltage and constant current.(active type).

MEMS Mode(Micro-Electro-Mechanical System）- There are mainly two types of MEMS accelerometers: piezoresistive type and variable capacitance type，both are rely heavily on electronic circuits and provide measurements starting from real DC frequencies, used for both low frequency and regular measurements.

Work and design principle：

Piezoelectric type-All piezoelectric accelerometers work in the same way. A mass applies a force to a piezoelectric material (crystal or ceramic) and then outputs an electric charge directly proportional to that force on the surface of the material. The stress is affected by the weight of the mass and the acceleration (F=ma), and the charge output is also affected by the piezoelectric material.

Piezoresistive type-The construction of piezoresistive accelerometer is equipped with a mass block at the end of the armature. When the armature is stressed, the sensor output resistance measured by a varistor or strain gauge.

Capacitive type-The capacitive accelerometer is equipped with a plate in the mass block and armature and realize the output of capacitance signal by measuring the distance between the plates.

Accelerometer Selection

Weight -The mass load of the sensor will increase the mass of the specimen been tested and then affects the dynamic characteristics of the test. During the test, users focus on the natural response of the test structure vibration, so ii's necessary to minimize the mass load, thereby the accelerometer weight is an important consideration.

Range (sensitivity)-The required measurement range. IEPE type accelerometers are limited by their output voltage, (nominal voltage of 5,000mVAC),The relationship between range and sensitivity is："Range=5000mV/Sensitivity"，for example：sensitivity 100mV/g,the sensor range is 50gpk，The selected sensor range must cover the entire measurement range.If the IEPE type sensor exceeds its measurenment range, it will overload and there will be no signal outptu for a period of time Long term overload will damage internal circuit.

Temperature range-The temperature range of each type of sensor is different. the hight-temp charge accelerometer can be used under 250℃, while the standard IEPE accelerometer can only be used under 120℃. Please make sure the temperature range meets the requirements before selection.

Frequency range-All accelerometers have a flat frequency response range, within this range, the sensitivity error will not exceed +-5%, please ensure this range matches with the test range.

Cable Selection

It is crucial to choose between low noise and non-low noise cables when using acceleration sensors.

Charge accelerometers

Charge output type accelerometer must be used with low noise cables.“Low noise” refers to the ability of the cable to reduce friction noise, achieved by wrapping a graphite layer on the outer surface of the internal dielectric layer; if the charge type sensor is used with non-low noise cables, the movement or swinging of the cable will add extra charge signals to the data, causing an increase in data analysis error.

IEPE accelerometers-An IEPE accelerometer is much more adaptable and can be used with almost any type of cable. These sensors usually use traditional coaxial cables.

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