KEMO®

www.kemo.com

Product Guide

Kemo is a member of the ESIG group

Company Introduction

Kemo Limited was originally established in 1965 by mathematicians and electronic engineers in the Southeast of England. The company quickly established a global reputation as specialists in high quality electronic analogue filters, an area where sophisticated mathematical techniques and state-of-the-art circuit design converge. Over the years the company has developed a wider range of signal conditioning instruments which have continued to evolve whilst always maintaining the Kemo ethos of quality first.

Further developments of the company followed as ownership changed just before the start of the new millennium, product development and modernisation of manufacturing led to new generations of many of the Company's most popular electronic filters. During this time Kemo continued to expand its product offering to include many of the consumable products that were in high demand from its customers including cable assemblies and sensor accessories.

In 2022 Kemo Limited became part of the Engineering & Scientific Instrumentation Group who invested in a new chapter for the company. New product introductions including a range of both piezoelectric and IEPE accelerometers were supported by new test and measurement sensors and support products.

The new chapter also brought an investment in overseas growth and the formation of Kemo USA LLC based in Michigan USA and Kemo India based in Bangalore. The new offices provide expansion opportunities for sales and local manufacturing to support these key regions.

Throughout the 58 year history of Kemo it has always maintained a focus on the control of noise in measurement systems. The knowledge that has been gained in electronic design, cable manufacture and sensor selection is a fundamental tool the company now offers to support its customers in improving engineering development.

Kemo's Mission statement

Our mission is to promote and support high quality signal capture to ensure engineering quality is at the forefront of product design, production and operation for all our customers.

Kemo's Vision statement

Our vision is to ensure the future of engineering knowledge and understanding remains at the highest level.

Technical advisory service

Kemo offers a free advisory service for its customers to aid in the selection of everything from sensors to cable, through to signal conditioning and filters. The most common issues in the measurement chain can be traced to incorrect equipment use or specification. This is something Kemo is dedicated to reducing through customer support, training and knowledge transfer.

All Kemo global offices are run by hugely experienced staff with decades of genuine industry experience, not just in sales but hands on engineering. We use this applications knowledge to visualise our customers requirements and problem solve.

If you would like to discuss some technical support please get in touch today at any of our office locations.

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Contents

Accelerometer selection

Model	Sensitivity	Range	Weight	Temp Range
Monoaxial IEPE Accelerometers				
GV10T-T	10mV/g	±500g	5.8grams	-55 to +125°C
GV10S-T	10mV/g	±500g	5.8grams	-55 to +125°C
GV20T-T	20mv/g	±250g	6grams	-55 to +125°C
GV20S-T	20mv/g	±250g	6grams	-55 to +125°C
GV50T-T	50mv/g	±100g	6.5grams	-55 to +125°C
GV50S-T	50mv/g	±100g	6.5grams	-55 to +125°C
GV100T-T	100mv/g	±50g	7grams	-55 to +125°C
GV100S-T	100mv/g	±50g	7grams	-55 to +125°C
GV200T-T	200mv/g	±25g	10grams	-55 to +125°C
GV200S-T	200mv/g	±25g	10grams	-55 to +125°C
GV500T-T	500mv/g	±10g	15grams	-55 to +125°C
GV500S-T	500mv/g	±10g	15grams	-55 to +125°C
UV5S-A	5mV/g	±1000g	0.5grams	-55 to +125°C
UV10S-A	10mV/g	±500g	1.2grams	-55 to +125°C
UV100S-A	100mv/g	±50g	1.2grams	-55 to +125°C
SV10S-T	10mv/g	±500g	2.7grams	-55 to +125°C
SV10T-T	10mv/g	±500g	2.7grams	-55 to +125°C
SV10S-A	10mv/g	±500g	2.6grams	-55 to +125°C
SV100S-T	100mv/g	±50g	2.7grams	-55 to +125°C
SV100T-T	100mv/g	±50g	2.7grams	-55 to +125°C
SV100S-A	100mv/g	±50g	2.6grams	-55 to +125°C
SV200S-T	200mv/g	±25g	4.2grams	-55 to +125°C
MV10S-C	10mv/g	±500g	5grams	-55 to +125°C
MV10S-T	10mV/g	±500g	3.9grams	-55 to +125°C
MV100S-T	100mV/g	±50g	3.9grams	-55 to +125°C
MV10S-A	10mV/g	±500g	3.8grams	-55 to +125°C
MV100S-A	100mV/g	±50g	3.8grams	-55 to +125°C
MV10T-T	10mV/g	±500g	4grams	-55 to +125°C
HV1KT-T	1000mV/g	±5g	150grams	-55 to +125°C
HV2KT-T	2000mV/g	±2.5g	160grams	-55 to +125°C
HV5KT-T	5000mV/g	±1g	180grams	-55 to +125°C
HV10KT-T	10000mV/g	±0.5g	200grams	-55 to +125°C
Triaxial IEPE Accelerometers				
GVT10S-T	10mV/g	±500g	13grams	-55 to +125°C
GVT100S-TL	100mV/g	±50g	13grams	-55 to +125°C
GVT100S-T	100mV/g	±50g	11grams	-55 to +125°C
GVT10S-H	10mV/g	±500g	8grams	-55 to +125°C
GVT20S-H	20mV/g	±250g	8grams	-55 to +125°C
GVT50S-H	50mV/g	±100g	12grams	-55 to +125°C
GVT100S-H	100mV/g	±50g	12grams	-55 to +125°C
GVT200S-H	200mV/g	±25g	12grams	-55 to +125°C
SVT5I-A	5mV/g	±1000g	1gram	-55 to +125°C
MVT10S-T	10mV/g	±500g	4.2grams	-55 to +125°C
MVT100S-T	100mV/g	±50g	6grams	-55 to +125°C
MVT200S-T	200mV/g	±25g	10grams	-55 to +125°C
HVT1KS-T	1000mV/g	±5g	40grams	-55 to +125°C
HVT1KS-H	1000mV/g	±5g	250grams	-55 to +125°C



Size (mm)	Frequency Range ±10%	Connector	Mounting	Page No.
11 x 21	1 to 8kHz	10/32UNF top entry	10/32UNF Tapped base	8
11 x 16	1 to 8kHz	10/32UNF side entry	10/32UNF Tapped base	8
11 x 21	1 to 8kHz	10/32UNF top entry	10/32UNF Tapped base	8
11 x 16	1 to 8kHz	10/32UNF side entry	10/32UNF Tapped base	8
11 x 21	1 to 8kHz	10/32UNF top entry	10/32UNF Tapped base	8
11 x 16	1 to 8kHz	10/32UNF side entry	10/32UNF Tapped base	8
11 x 21	1 to 8kHz	10/32UNF top entry	10/32UNF Tapped base	9
11 x 16	1 to 8kHz	10/32UNF side entry	10/32UNF Tapped base	9
16 x 28	1 to 6kHz	10/32UNF top entry	10/32UNF Tapped base	9
16 x 23	1 to 6kHz	10/32UNF side entry	10/32UNF Tapped base	9
18 x 25	1 to 4kHz	10/32UNF top entry	10/32UNF Tapped base	9
18 x 20	1 to 4kHz	10/32UNF side entry	10/32UNF Tapped base	9
6 x 4.1 x 2.6	1 to 10kHz	Integral cable side entry	Adhesive	10
10.95 x 6.95 x 5.55	1 to 10kHz	6-40 side entry	Adhesive	10
10.95 x 6.95 x 5.55	1 to 10kHz	6-40 side entry	Adhesive	10
8.5 x 11	1 to 10kHz	6-40 side entry	5-40UNC Tapped Base	10
8.5 x 15.5	1 to 10kHz	6-40 top entry	5-40UNC Tapped Base	10
8.5 x 11	1 to 10kHz	6-40 side entry	Adhesive	10
8.5 x 11	1 to 10kHz	6-40 side entry	5-40UNC Tapped Base	11
8.5 x 15.5	1 to 10kHz	6-40 top entry	5-40UNC Tapped Base	11
8.5 x 11	1 to 10kHz	6-40 side entry	Adhesive	11
8.5 x 11	1 to 10kHz	6-40 side entry	5-40UNC Tapped Base	11
10 x 10 x 10	1 to 9kHz	10/32UNF side entry	5-40UNC Tapped Base	11
11 x 12	1 to 10kHz	10/32UNF side entry	5-40UNC Tapped Base	11
11 x 13	1 to 10kHz	10/32UNF side entry	5-40UNC Tapped Base	12
11 x 11	1 to 10kHz	10/32UNF side entry	Adhesive	12
11 x 12	1 to 10kHz	10/32UNF side entry	Adhesive	12
11 x 13	1 to 9kHz	10/32UNF top entry	5-40UNC Tapped Base	12
33 x 58	0.3 to 2kHz	2 pole MIL-C-5015	M6 Tapped base	12
33 x 58	0.3 to 800Hz	2 pole MIL-C-5015	M6 Tapped base	12
33 x 58	0.3 to 800Hz	2 pole MIL-C-5015	M6 Tapped base	13
33 x 58	0.3 to 600Hz	2 pole MIL-C-5015	M6 Tapped base	13
15 x 15 x 10	1 to 9kHz - Y,Z : 1 to 7.5kHz - X	¼-28UNF 4 pin side	10/32UNF Tapped base	13
15 x 15 x 10	1 to 9kHz - Y,Z : 1 to 8kHz - X	¼-28UNF 4 pin side	10/32UNF Tapped base	13
14 x 14 x 14	1 to 8kHz - Y,Z : 1 to 7kHz - X	¼-28UNF 4 pin side	10/32UNF Tapped base	14
15 x 15 x 10	1 to 10kHz - Z : 1 to 8kHz - X,Y	¼-28UNF 4 pin side	Ø4.1mm Through Hole	14
15 x 15 x 10	1 to 10kHz - Z : 1 to 8kHz - X,Y	¼-28UNF 4 pin side	Ø4.1mm Through Hole	14
16 x 16 x 11	1 to 10kHz - Z : 1 to 8kHz - X,Y	¼-28UNF 4 pin side	Ø4.1mm Through Hole	14
16 x 16 x 11	1 to 10kHz - Z : 1 to 8kHz - X,Y	¼-28UNF 4 pin side	Ø4.1mm Through Hole	14
16 x 16 x 11	1 to 9kHz - Z : 1 to 7kHz - X,Y	¼-28UNF 4 pin side	Ø4.1mm Through Hole	14
6.35mm cube	1 to 10kHz - Y,Z : 1 to 8kHz - X	Integral cable	Adhesive	15
10mm cube	1 to 8.5kHz - Y,Z : 1 to 7kHz - X	8/36-UNF 4 pin side	5-40UNC Tapped Base	15
11mm cube	1 to 8kHz - Y,Z : 2 to 7kHz - X	8/36-UNF 4 pin side	5-40UNC Tapped Base	15
11mm cube	2 to 7kHz - Y,Z : 2 to 6kHz - X	8/36-UNF 4 pin side	5-40UNC Tapped Base	15
20mm cube	1 to 4kHz	¼-28UNF 4 pin side	10/32UNF Tapped base	15
45 x 45 x 21	0.5 to 500Hz - Z : 0.8 to 400Hz - X,Y	¼-28UNF 4 pin side	Ø6mm Through Hole	15

Accelerometer selection

Model	Sensitivity	Range	Weight	Temp Range
Shock Piezoelectric Accelerometers				
CS-100K	0.05pC/g	±100000g	4.3grams	-40 to +85°C
CS-50K	0.20pC/g	±50000g	9grams	-40 to +85°C
CS-30K	0.30pC/g	±30000g	9grams	-40 to +85°C
CS-10K	0.50pC/g	±10000g	9grams	-40 to +85°C
Shock IEPE Accelerometers				
VS-5K	1.0mV/g	±5000g	6grams	-40 to +85°C
VS-10K	0.5mV/g	±10000g	6grams	-40 to +85°C
VS-20K	0.25mV/g	±20000g	5.5grams	-40 to +85°C
VS-50K	0.1mv/g	±50000g	5.5grams	-40 to +85°C
VS-100K	0.05mV/g	±100000g	5.5grams	-40 to +85°C
Triaxial Shock Accelerometers				
VST-5K	1mV/g	±5000g	22grams	-55 to +85°C
VST-10K	0.5mV/g	±10000g	22grams	-55 to +85°C
VST-20K	0.25mV/g	±20000g	22grams	-55 to +85°C
Piezoelectric Charge Output Accelerometers				
GC10T-T	10pC/g	±5000g	5.8grams	-55 to +150°C
GC20T-T	20pC/g	±2500g	11grams	-55 to +150°C
GC50T-T	50pC/g	±1000g	22grams	-55 to +150°C
GC100T-T	100pC/g	±800g	26grams	-55 to +150°C
GC200T-T	200pC/g	±500g	30grams	-55 to +150°C
GC300T-T	300pC/g	±150g	40grams	-55 to +150°C
GC10S-T	10pC/g	±5000g	5.8grams	-55 to +150°C
GC20S-T	20pC/g	±2500g	11grams	-55 to +150°C
GC50S-T	50pC/g	±1000g	22grams	-55 to +150°C
GC100S-T	100pC/g	±800g	26grams	-55 to +150°C
GC200S-T	200pC/g	±500g	30grams	-55 to +150°C
GC300S-T	300pC/g	±150g	40grams	-55 to +150°C
UC2S-A	2pC/g	±2000g	0.6grams	-55 to +150°C
UC2I-A	2pC/g	±2000g	0.6grams	-55 to +150°C
MC5S-T	5pC/g	±2000g	5grams	-55 to +150°C
MC3T-T	3pC/g	±3000g	6grams	-55 to +150°C
MC3S-T	3pC/g	±3000g	grams	-55 to +150°C
High Temperature Piezoelectric Charge Output Accelerometers				
HGC30S-T	30pC/g	±1000g	12.5grams	-55 to +260°C
HGC30T-T	30pC/g	±1000g	12.5grams	-55 to +260°C
Piezoelectric Charge Output Triaxial Accelerometers				
GCT2-T	2pC/g	±2000g	15grams	-55 to +150°C
GCT5-T	5pC/g	±2000g	15grams	-55 to +150°C
GCT10-H	10pC/g	±1000g	22grams	-55 to +150°C
GCT10-TH	10pC/g	±1000g	25grams	-55 to +150°C
GCT20-H	20pC/g	±1000g	22grams	-55 to +150°C
GCT20-TH	20pC/g	±1000g	28grams	-55 to +150°C

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Size (mm)	Frequency Range ±10%	Connector	Mounting	Page No.
10 x 19	11kHz	Integral Cable	Integral M6x0.75 stud	16
12.5 x 19.5	11kHz	Integral Cable	Integral M6x0.75 stud	16
12.5 x 19.5	11kHz	Integral Cable	Integral M6x0.75 stud	16
12.5 x 19.5	11kHz	Integral Cable	Integral M6x0.75 stud	16
12.7 x 16	1 to 9kHz	10/32UNF top entry	10/32UNF tapped	17
12.7 x 16	1 to 9kHz	10/32UNF top entry	10/32UNF tapped	17
10.8 x 16.7	1 to 10kHz	Integral Cable	Integral M6x0.75 stud	17
10.8 x 16.7	1 to 10kHz	Integral Cable	Integral M6x0.75 stud	17
10.8 x 16.7	1 to 10kHz	Integral Cable	Integral M6x0.75 stud	17
25x25x25	1 to 10kHz	Integral Cable	1 x Ø6mm through hole	18
25x25x25	1 to 10kHz	Integral Cable	1 x Ø6mm through hole	18
25x25x25	1 to 10kHz	Integral Cable	1 x Ø6mm through hole	18
11 x 21	11kHz	10/32UNF top entry	10/32UNF Tapped base	19
13 x 22.5	10kHz	10/32UNF top entry	10/32UNF Tapped base	19
16 x 25	6kHz	10/32UNF top entry	10/32UNF Tapped base	19
16 x 25	6kHz	10/32UNF top entry	10/32UNF Tapped base	19
16 x 28	5kHz	10/32UNF top entry	10/32UNF Tapped base	19
18 x 25	5khz	10/32UNF top entry	10/32UNF Tapped base	19
11 x 16	11kHz	10/32UNF side entry	10/32UNF Tapped base	20
13 x 17.5	10kHz	10/32UNF side entry	10/32UNF Tapped base	20
16 x 20	6kHz	10/32UNF side entry	10/32UNF Tapped base	20
16 x 20	6kHz	10/32UNF side entry	10/32UNF Tapped base	20
16 x 23	5kHz	10/32UNF side entry	10/32UNF Tapped base	20
18 x 20	5khz	10/32UNF side entry	10/32UNF Tapped base	20
6.4×9.2×3.8	11kHz	6-40 side entry	Adhesive	21
6.4×9.2×3.8	12kHz	Integral cable	Adhesive	21
10mm cube	13KHz	10/32UNF side entry	5-40UNC Tapped Base	21
8.5 x 13	12kHz	10/32UNF top entry	5-40UNC Tapped Base	21
8.5 x 13	12kHz	10/32UNF side entry	5-40UNC Tapped Base	21
14 x 18	9khz	10/32UNF side entry	10/32UNF Tapped base	18
14 x 23	9khz	10/32UNF top entry	10/32UNF Tapped base	18
22x22x10	10kHz	3 x 10/32UNF mdot	2 x Ø4mm through holes	22
22x22x10	10kHz	3 x 10/32UNF mdot	2 x Ø4mm through holes	22
27.4x23.5x13	9kHz	3 x 10/32UNF mdot	2 x Ø4mm through holes	22
25.4x25.4x14	8kHz	3 x 10/32UNF mdot	1 x Ø5mm through hole	22
27.4x23.5x13	8kHz	3 x 10/32UNF mdot	2 x Ø4mm through holes	22
25.4x25.4x14	7kHz	3 x 10/32UNF mdot	1 x Ø5mm through hole	22

Accelerometers

Kemo's range of IEPE (Integrated Electronic Piezoelectric) and Piezoelectric accelerometers are focused on the test and measurement industry sector. Our technology is a continuation of the Kemo ethos of 'low noise experts' we have developed our accelerometers to deliver the key factors for effective use and selection:

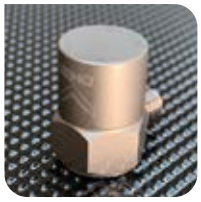
- **Low mass**
- **Compact size**
- **Reliability**
- **Wide frequency band**
- **Low noise**

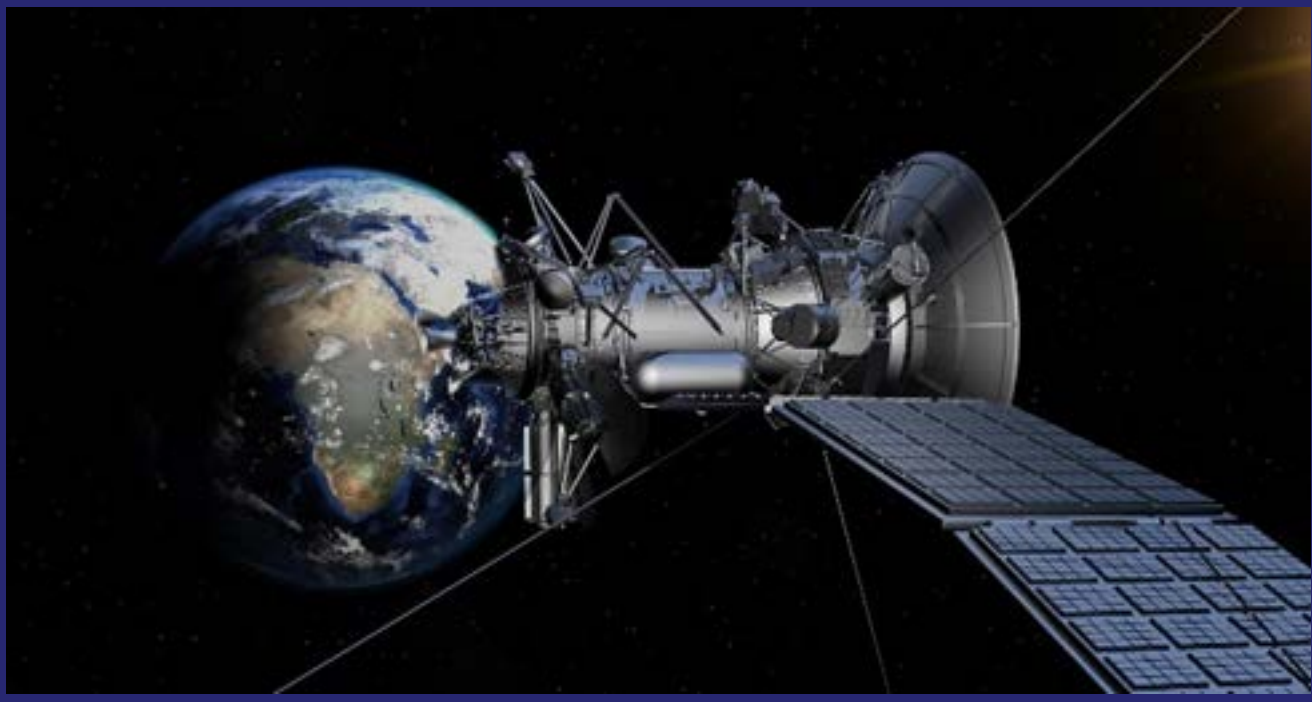
Featuring titanium bodies for low mass, fully welded construction across a majority of designs, industry standard connectors and variable mounting methods our accelerometers offer a cost effective solution backed up by decades of industry and application knowledge to assist our customers during the selection process.

All our accelerometers use a shear plate design to minimise base strain which can cause significant errors during broad band vibration measurement, this design also reduces other issues of cross axis error.

If you use accelerometers call us today and speak to the experts who can support your engineering development.







Application

Our website features a wide range of application notes which can be seen here

One application which has seen huge growth over the last few years and one that has introduced an interesting array of associated technical challenges is the space industry in particular the satellite sector. Kemo has worked with a number of customers in this arena in different countries, this has provided a variety of different approaches.

From launch vehicle development in emerging markets that are looking for low cost launch capability particularly for smaller satellites through to large heavy satellite and launch vehicles for trips to the sun and other solar bodies.

Typical requirements other than the obvious structural analysis is the need for ground testing of satellites through a pre-determined vibration programme. This requires accelerometers to be built into the satellite during assembly, they will be used during ground vibration and remain on the craft into space. The challenges of the vacuum of space require all accelerometers, connectors and cable to meet low outgassing requirements, something Kemo is well versed in supplying.

The materials used in Kemo's cable assemblies meet the minimal mass loss requirements of low outgassing as standard, however the normal silicone strain relief used on the BNC and microdots are changed to a low outgassing heat shrink to reduce strain on the connectors.

Typical values for the cable materials are as follows:

	PTFE	PFA	FEP
TML	00.06%	0.01%	0.02%
CVCM	0.02%	0.00%	0.00%

If you would like more information about this, please get in touch with your local office.

Monoaxial IEPE Accelerometers

GV10T-T

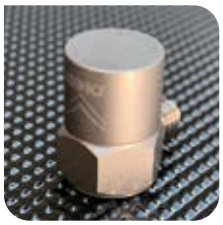
Sensitivity	10mV/g
Range	±500g
Weight	5.8grams
Temp Range	-55 to +125°C
Size (mm)	11 x 21
Frequency Range	1 to 8kHz
Connector	10/32UNF top entry
Mounting	10/32UNF Tapped base

GV10S-T

Sensitivity	10mV/g
Range	±500g
Weight	5.8grams
Temp Range	-55 to +125°C
Size (mm)	11 x 16
Frequency Range	1 to 8kHz
Connector	10/32UNF side entry
Mounting	10/32UNF Tapped base

GV20T-T

Sensitivity	20mV/g
Range	±250g
Weight	6grams
Temp Range	-55 to +125°C
Size (mm)	11 x 21
Frequency Range	1 to 8kHz
Connector	10/32UNF top entry
Mounting	10/32UNF Tapped base

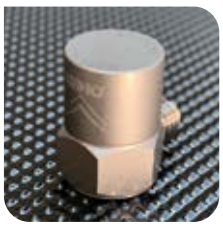


GV20S-T

Sensitivity	20mV/g
Range	±250g
Weight	6grams
Temp Range	-55 to +125°C
Size (mm)	11 x 16
Frequency Range	1 to 8kHz
Connector	10/32UNF side entry
Mounting	10/32UNF Tapped base

GV50T-T

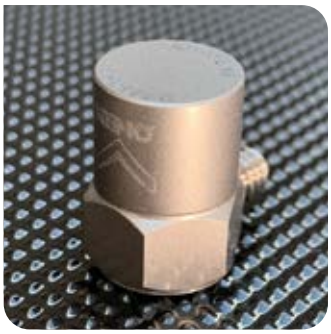
Sensitivity	50mV/g
Range	±100g
Weight	6.5grams
Temp Range	-55 to +125°C
Size (mm)	11 x 21
Frequency Range	1 to 8kHz
Connector	10/32UNF top entry
Mounting	10/32UNF Tapped base



GV50S-T

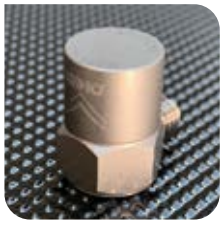
Sensitivity	50mV/g
Range	±100g
Weight	6.5grams
Temp Range	-55 to +125°C
Size (mm)	11 x 16
Frequency Range	1 to 8kHz
Connector	10/32UNF side entry
Mounting	10/32UNF Tapped base

Monoaxial IEPE Accelerometers



GV100T-T

Sensitivity	100mV/g
Range	±50g
Weight	7grams
Temp Range	-55 to +125°C
Size (mm)	11 x 21
Frequency Range	1 to 8kHz
Connector	10/32UNF top entry
Mounting	10/32UNF Tapped base

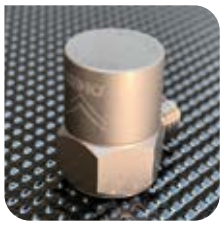


GV100S-T

Sensitivity	100mV/g
Range	±50g
Weight	7grams
Temp Range	-55 to +125°C
Size (mm)	11 x 16
Frequency Range	1 to 8kHz
Connector	10/32UNF side entry
Mounting	10/32UNF Tapped base

GV200T-T

Sensitivity	200mV/g
Range	±25g
Weight	10grams
Temp Range	-55 to +125°C
Size (mm)	16 x 28
Frequency Range	1 to 6kHz
Connector	10/32UNF top entry
Mounting	10/32UNF Tapped base



GV200S-T

Sensitivity	200mV/g
Range	±25g
Weight	10grams
Temp Range	-55 to +125°C
Size (mm)	16 x 23
Frequency Range	1 to 6kHz
Connector	10/32UNF side entry
Mounting	10/32UNF Tapped base

GV500T-T

Sensitivity	500mV/g
Range	±10g
Weight	15grams
Temp Range	-55 to +125°C
Size (mm)	18 x 25
Frequency Range	1 to 4kHz
Connector	10/32UNF top entry
Mounting	10/32UNF Tapped base

GV500S-T

Sensitivity	500mV/g
Range	±10g
Weight	15grams
Temp Range	-55 to +125°C
Size (mm)	18 x 20
Frequency Range	1 to 4kHz
Connector	10/32UNF side entry
Mounting	10/32UNF Tapped base

Monoaxial IEPE Accelerometers

UV5S-A

Sensitivity	5mV/g	**Size (mm)**	6 x 4.1 x 2.6
Range	±1000g	**Frequency Range**	1 to 12kHz
Weight	0.5grams	**Connector**	Integral cable side entry
Temp Range	-55 to +125°C	**Mounting**	Adhesive

UV10S-A

Sensitivity	10mV/g	**Size (mm)**	10.95 x 6.95 x 5.55
Range	±500g	**Frequency Range**	1 to 10kHz
Weight	1.2grams	**Connector**	6-40 side entry
Temp Range	-55 to +125°C	**Mounting**	Adhesive

UV100S-A

Sensitivity	100mV/g	**Size (mm)**	10.95 x 6.95 x 5.55
Range	±50g	**Frequency Range**	1 to 10kHz
Weight	1.2grams	**Connector**	6-40 side entry
Temp Range	-55 to +125°C	**Mounting**	Adhesive

SV10S-T

Sensitivity	10mV/g	**Size (mm)**	8.5 x 11
Range	±500g	**Frequency Range**	1 to 10kHz
Weight	2.7grams	**Connector**	6-40 side entry
Temp Range	-55 to +125°C	**Mounting**	5-40UNC Tapped base

SV10T-T

Sensitivity	10mV/g	**Size (mm)**	8.5 x 15.5
Range	±500g	**Frequency Range**	1 to 10kHz
Weight	2.7grams	**Connector**	6-40 top entry
Temp Range	-55 to +125°C	**Mounting**	5-40UNC Tapped base

SV10S-A

Sensitivity	10mV/g	**Size (mm)**	8.5 x 11
Range	±500g	**Frequency Range**	1 to 10kHz
Weight	2.6grams	**Connector**	6-40 side entry
Temp Range	-55 to +125°C	**Mounting**	Adhesive

Monoaxial IEPE Accelerometers

SV100S-T

Sensitivity	100mV/g
Range	±50g
Weight	2.7grams
Temp Range	-55 to +125°C
Size (mm)	8.5 x 11
Frequency Range	1 to 10kHz
Connector	6-40 side entry
Mounting	5-40UNC Tapped base

SV100T-T

Sensitivity	100mV/g
Range	±50g
Weight	2.7grams
Temp Range	-55 to +125°C
Size (mm)	8.5 x 15.5
Frequency Range	1 to 10kHz
Connector	6-40 top entry
Mounting	5-40UNC Tapped base

SV100S-A

Sensitivity	100mV/g
Range	±50g
Weight	2.6grams
Temp Range	-55 to +125°C
Size (mm)	8.5 x 11
Frequency Range	1 to 10kHz
Connector	6-40 side entry
Mounting	Adhesive

SV200S-T

Sensitivity	200mV/g
Range	±25g
Weight	4.2grams
Temp Range	-55 to +125°C
Size (mm)	8.5 x 11
Frequency Range	1 to 10kHz
Connector	6-40 side entry
Mounting	5-40UNC Tapped base

MV10S-C

Sensitivity	10mV/g
Range	±500g
Weight	5grams
Temp Range	-55 to +125°C
Size (mm)	10 x 10 x 10
Frequency Range	1 to 10kHz
Connector	10/32UNF side entry
Mounting	5-40UNC Tapped base

MV10S-T

Sensitivity	10mV/g
Range	±500g
Weight	3.9grams
Temp Range	-55 to +125°C
Size (mm)	11 x 13
Frequency Range	1 to 10kHz
Connector	10/32UNF side entry
Mounting	5-40UNC Tapped base

Monoaxial IEPE Accelerometers

MV100S-T

Sensitivity	100mV/g
Range	±50g
Weight	3.9grams
Temp Range	-55 to +125°C
Size (mm)	11 x 13
Frequency Range	1 to 10kHz
Connector	10/32UNF side entry
Mounting	5-40UNC Tapped base

MV10S-A

Sensitivity	10mV/g
Range	±500g
Weight	3.8grams
Temp Range	-55 to +125°C
Size (mm)	11 x 13
Frequency Range	1 to 10kHz
Connector	10/32UNF side entry
Mounting	Adhesive

MV100S-A

Sensitivity	100mV/g
Range	±50g
Weight	3.8grams
Temp Range	-55 to +125°C
Size (mm)	11 x 13
Frequency Range	1 to 10kHz
Connector	10/32UNF side entry
Mounting	Adhesive

MV10T-T

Sensitivity	10mV/g
Range	±500g
Weight	4grams
Temp Range	-55 to +125°C
Size (mm)	11 x 13
Frequency Range	1 to 9kHz
Connector	10/32UNF top entry
Mounting	5-40UNC Tapped base

HV1KT-T

Sensitivity	1000mV/g
Range	±5g
Weight	150grams
Temp Range	-55 to +125°C
Size (mm)	33 x 58
Frequency Range	0.3 to 2kHz
Connector	22 pole MIL-C-5015
Mounting	M6 Tapped base

HV2KT-T

Sensitivity	2000mV/g
Range	±2.5g
Weight	160grams
Temp Range	-55 to +125°C
Size (mm)	33 x 58
Frequency Range	0.3 to 800kHz
Connector	22 pole MIL-C-5015
Mounting	M6 Tapped base

Monoaxial IEPE Accelerometers

HV5KT-T

Sensitivity	5000mV/g
Range	±1g
Weight	180grams
Temp Range	-55 to +125°C

Size (mm)	33 x 58
Frequency Range	0.3 to 800kHz
Connector	22 pole MIL-C-5015
Mounting	M6 Tapped base

HV10KT-T

Sensitivity	10000mV/g
Range	±0.5g
Weight	200grams
Temp Range	-55 to +125°C

Size (mm)	33 x 58
Frequency Range	0.3 to 600kHz
Connector	22 pole MIL-C-5015
Mounting	M6 Tapped base

Triaxial IEPE Accelerometers

GVT10S-T

Sensitivity	10mV/g
Range	±500g
Weight	13grams
Temp Range	-55 to +125°C

Size (mm)	15 x 15 x 10
Frequency Range	(Y,Z)1 to 9kHz (X) 1 to 7.5kHz
Connector	¼-28UNF 4 pin side
Mounting	10/32UNF Tapped base

GVT100S-TL

Sensitivity	100mV/g
Range	±50g
Weight	13grams
Temp Range	-55 to +125°C

Size (mm)	15 x 15 x 10
Frequency Range	(Y,Z)1 to 9kHz (X)1 to 8kHz
Connector	¼-28UNF 4 pin side
Mounting	10/32UNF Tapped base

Triaxial IEPE Accelerometers

GVT100S-T

Sensitivity	100mV/g
Range	±50g
Weight	11grams
Temp Range	-55 to +125°C
Size (mm)	14 x 14 x 14
Frequency Range	(Y,Z)1 to 8kHz (X)1 to 7kHz
Connector	¼-28UNF 4 pin side
Mounting	10/32UNF Tapped base

GVT10S-H

Sensitivity	10mV/g
Range	±500g
Weight	8grams
Temp Range	-55 to +125°C
Size (mm)	15 x 15 x 10
Frequency Range	(Z)1 to 10kHz (X,Y) 1 to 8kHz
Connector	¼-28UNF 4 pin side
Mounting	Ø4.1mm Through Hole

GVT20S-H

Sensitivity	210mV/g
Range	±250g
Weight	8grams
Temp Range	-55 to +125°C
Size (mm)	15 x 15 x 10
Frequency Range	(Z)1 to 10kHz (X,Y) 1 to 8kHz
Connector	¼-28UNF 4 pin side
Mounting	Ø4.1mm Through Hole

GVT50S-H

Sensitivity	50mV/g
Range	±100g
Weight	12grams
Temp Range	-55 to +125°C
Size (mm)	16 x 16 x 11
Frequency Range	(Z)1 to 10kHz (X,Y) 1 to 8kHz
Connector	¼-28UNF 4 pin side
Mounting	Ø4.1mm Through Hole

GVT100S-H

Sensitivity	100mV/g
Range	±50g
Weight	12grams
Temp Range	-55 to +125°C
Size (mm)	16 x 16 x 11
Frequency Range	(Z)1 to 10kHz (X,Y) 1 to 8kHz
Connector	¼-28UNF 4 pin side
Mounting	Ø4.1mm Through Hole

GVT200S-H

Sensitivity	200mV/g
Range	±25g
Weight	12grams
Temp Range	-55 to +125°C
Size (mm)	16 x 16 x 11
Frequency Range	(Z)1 to 8kHz (X,Y) 1 to 7kHz
Connector	¼-28UNF 4 pin side
Mounting	Ø4.1mm Through Hole

Triaxial IEPE Accelerometers

SVT5I-A

Sensitivity	5mV/g
Range	±1000g
Weight	1grams
Temp Range	-55 to +125°C
Size (mm)	6.35mm Cube
Frequency Range	1to10KHz - Y,Z:1-8kHz-X
Connector	Integral Cable
Mounting	Adhesive

MVT10S-T

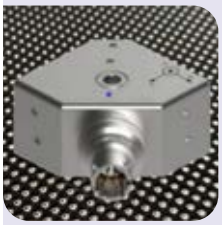
Sensitivity	10mV/g
Range	±500g
Weight	4.2grams
Temp Range	-55 to +125°C
Size (mm)	10mm Cube
Frequency Range	(Y,Z)1 to 8.5kHz (X)1 to 7kHz
Connector	8/36-28UNF 4 pin side
Mounting	5/40UNC Tapped base

MVT100S-T

Sensitivity	100mV/g
Range	±50g
Weight	6grams
Temp Range	-55 to +125°C
Size (mm)	11mm Cube
Frequency Range	(Y,Z)1 to 8kHz (X)1 to 7kHz
Connector	8/36-28UNF 4 pin side
Mounting	5/40UNC Tapped base

MVT200S-T

Sensitivity	200mV/g
Range	±25g
Weight	10grams
Temp Range	-55 to +125°C
Size (mm)	11mm Cube
Frequency Range	(Y,Z)2 to 7kHz (X)2 to 6kHz
Connector	8/36-28UNF 4 pin side
Mounting	5/40UNC Tapped base



HVT1KS-H

Sensitivity	1000mV/g
Range	±5g
Weight	250grams
Temp Range	-55 to +125°C
Size (mm)	45 x 45 x 21
Frequency Range	(Z)0.4 to 500Hz (X,Y) 0.8 to 400Hz
Connector	¼-28UNF 4 pin side
Mounting	Ø6mm Through hole

HVT1KS-T

Sensitivity	1000mV/g
Range	±5g
Weight	40grams
Temp Range	-55 to +125°C
Size (mm)	20mm Cube
Frequency Range	1 to 4kHz
Connector	¼-28UNF 4 pin side
Mounting	10/32UNF Tapped Base

Shock Piezoelectric Charge Output Accelerometers

CS-100K

Sensitivity	0.05pC/g
Range	±100000g
Weight	4.3grams
Temp Range	-40 to +85°C

Size (mm)	10 x 19
Frequency Range	11kHz
Connector	Integral cable
Mounting	Integral M6x0.75 stud

CS-50K

Sensitivity	0.20pC/g
Range	±50000g
Weight	9grams
Temp Range	-40 to +85°C

Size (mm)	12.5 x 19.5
Frequency Range	11kHz
Connector	Integral cable
Mounting	Integral M6x0.75 stud

CS-30K

Sensitivity	0.30pC/g
Range	±30000g
Weight	9grams
Temp Range	-40 to +85°C

Size (mm)	12.5 x 19.5
Frequency Range	11kHz
Connector	Integral cable
Mounting	Integral M6x0.75 stud

CS-10K

Sensitivity	0.50pC/g
Range	±10000g
Weight	9grams
Temp Range	-40 to +85°C

Size (mm)	12.5 x 19.5
Frequency Range	11kHz
Connector	Integral cable
Mounting	Integral M6x0.75 stud

Shock IEPE Accelerometers

VS-5K

Sensitivity	1.0mV/g
Range	±5000g
Weight	6grams
Temp Range	-40 to +85°C

Size (mm)	12.7 x 16
Frequency Range	1to9kHz
Connector	10/32UNF tapped
Mounting	M5 tapped base

VS-10K

Sensitivity	0.5mV/g
Range	±10000g
Weight	6grams
Temp Range	-40 to +85°C

Size (mm)	12.7 x 16
Frequency Range	1to9kHz
Connector	10/32UNF tapped
Mounting	M5 tapped base

VS-20K

Sensitivity	0.25mV/g
Range	±20000g
Weight	5.5grams
Temp Range	-40 to +85°C

Size (mm)	10.8 x 16.7
Frequency Range	1to10kHz
Connector	Integral cable
Mounting	Integral M6x0.75 stud

VS-50K

Sensitivity	0.1mV/g
Range	±50000g
Weight	5.5grams
Temp Range	-40 to +85°C

Size (mm)	10.8 x 16.7
Frequency Range	1to10kHz
Connector	Integral cable
Mounting	Integral M6x0.75 stud

VS-100K

Sensitivity	0.05mV/g
Range	±100000g
Weight	5.5grams
Temp Range	-40 to +85°C

Size (mm)	10.8 x 16.7
Frequency Range	1to10kHz
Connector	Integral cable
Mounting	Integral M6x0.75 stud

Triaxial Shock IEPE Accelerometers

VST-5K

Sensitivity	1mV/g
Range	±5000g
Weight	22grams
Temp Range	-55 to +85°C
Size (mm)	25 x 25 x 25
Frequency Range	1to10kHz
Connector	Integral cable
Mounting	1xØ6mm Through Hole

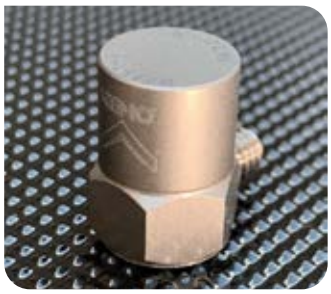
VST-10K

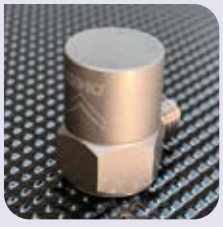
Sensitivity	0.5mV/g
Range	±10000g
Weight	22grams
Temp Range	-55 to +85°C
Size (mm)	25 x 25 x 25
Frequency Range	1to10kHz
Connector	Integral cable
Mounting	1xØ6mm Through Hole

VST-20K

Sensitivity	0.25mV/g
Range	±20000g
Weight	22grams
Temp Range	-55 to +85°C
Size (mm)	25 x 25 x 25
Frequency Range	1to10kHz
Connector	Integral cable
Mounting	1xØ6mm Through Hole

High Temperature Piezoelectric Charge Output Accelerometers





HGC30S-T

Sensitivity	30pC/g
Range	±1000g
Weight	12.5grams
Temp Range	-55°C to +260°C
Size (mm)	14 x 18
Frequency Range	9kHz
Connector	10/32UNF side entry
Mounting	10/32UNF tapped base

HGC30T-T

Sensitivity	30pC/g
Range	±1000g
Weight	12.5grams
Temp Range	-55°C to +260°C
Size (mm)	14 x 23
Frequency Range	9kHz
Connector	10/32UNF top entry
Mounting	10/32UNF tapped base

Piezoelectric Charge Output Accelerometers

GC10T-T

Sensitivity	10pC/g
Range	±5000g
Weight	5.8grams
Temp Range	-55 to +150°C

Size (mm)	11 x 21
Frequency Range	11kHz
Connector	10/32UNF top entry
Mounting	10/32UNF tapped base

GC20T-T

Sensitivity	20pC/g
Range	±2500g
Weight	11grams
Temp Range	-55 to +150°C

Size (mm)	13 x 22.5
Frequency Range	10kHz
Connector	10/32UNF top entry
Mounting	10/32UNF tapped base

GC50T-T

Sensitivity	50pC/g
Range	±1000g
Weight	22grams
Temp Range	-55 to +150°C

Size (mm)	16 x 25
Frequency Range	6kHz
Connector	10/32UNF top entry
Mounting	10/32UNF tapped base

GC100T-T

Sensitivity	100pC/g
Range	±800g
Weight	26grams
Temp Range	-55 to +150°C

Size (mm)	16 x 25
Frequency Range	6kHz
Connector	10/32UNF top entry
Mounting	10/32UNF tapped base

GC200T-T

Sensitivity	200pC/g
Range	±500g
Weight	30grams
Temp Range	-55 to +150°C

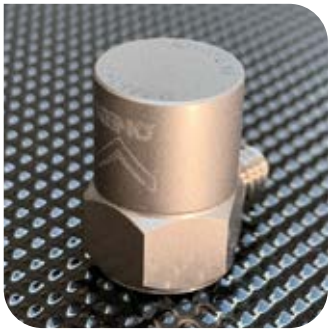
Size (mm)	16 x 28
Frequency Range	5kHz
Connector	10/32UNF top entry
Mounting	10/32UNF tapped base

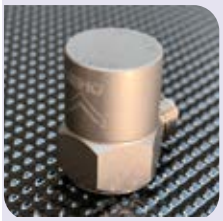
GC300T-T

Sensitivity	300pC/g
Range	±150g
Weight	40grams
Temp Range	-55 to +150°C

Size (mm)	18 x 25
Frequency Range	5kHz
Connector	10/32UNF top entry
Mounting	10/32UNF tapped base

Piezoelectric Charge Output Accelerometers

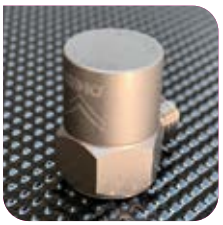




GC10S-T

Sensitivity	10pC/g
Range	±5000g
Weight	5.8grams
Temp Range	-55 to +150°C

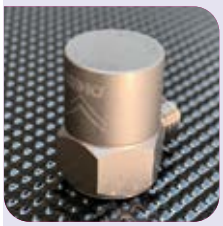
Size (mm)	11 x 16
Frequency Range	11kHz
Connector	10/32UNF side entry
Mounting	10/32UNF tapped base



GC20S-T

Sensitivity	20pC/g
Range	±2500g
Weight	11grams
Temp Range	-55 to +150°C

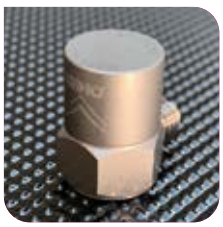
Size (mm)	13 x 17.5
Frequency Range	10kHz
Connector	10/32UNF side entry
Mounting	10/32UNF tapped base



GC50S-T

Sensitivity	50pC/g
Range	±1000g
Weight	22grams
Temp Range	-55 to +150°C

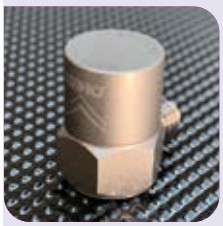
Size (mm)	16 x 20
Frequency Range	6kHz
Connector	10/32UNF side entry
Mounting	10/32UNF tapped base



GC100S-T

Sensitivity	100pC/g
Range	±800g
Weight	26grams
Temp Range	-55 to +150°C

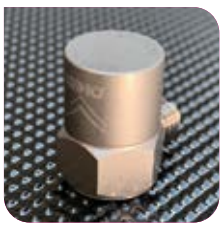
Size (mm)	16 x 20
Frequency Range	6kHz
Connector	10/32UNF side entry
Mounting	10/32UNF tapped base



GC200S-T

Sensitivity	200pC/g
Range	±500g
Weight	30grams
Temp Range	-55 to +150°C

Size (mm)	16 x 23
Frequency Range	5kHz
Connector	10/32UNF side entry
Mounting	10/32UNF tapped base



GC300S-T

Sensitivity	300pC/g
Range	±150g
Weight	40grams
Temp Range	-55 to +150°C

Size (mm)	18 x 20
Frequency Range	5kHz
Connector	10/32UNF side entry
Mounting	10/32UNF tapped base

Piezoelectric Charge Output Accelerometers

UC2I-A

Sensitivity	2pC/g
Range	±2000g
Weight	0.6grams
Temp Range	-55 to +150°C
Size (mm)	6.4 x 9.2 x 3.8
Frequency Range	12kHz
Connector	Integral cable
Mounting	Adhesive

UC2S-A

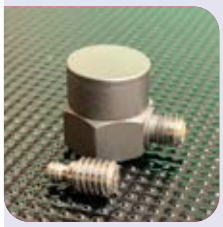
Sensitivity	2pC/g
Range	±2000g
Weight	0.6grams
Temp Range	-55 to +150°C
Size (mm)	6.4 x 9.2 x 3.8
Frequency Range	11kHz
Connector	6-40 side entry
Mounting	Adhesive

MC5S-T

Sensitivity	5pC/g
Range	±2000g
Weight	5grams
Temp Range	-55 to +150°C
Size (mm)	10mm Cube
Frequency Range	13kHz
Connector	10/32UNF side entry
Mounting	5-40UNC tapped base

MC3T-T

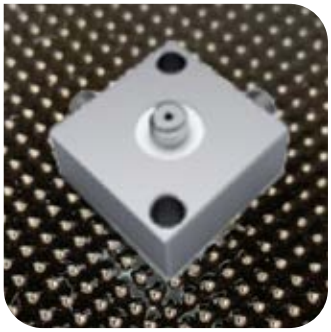
Sensitivity	3pC/g
Range	±3000g
Weight	6grams
Temp Range	-55 to +150°C
Size (mm)	8.5 x 13
Frequency Range	12kHz
Connector	10/32UNF top entry
Mounting	5-40UNC tapped base

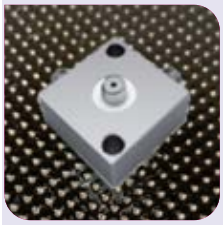


MC3S-T

Sensitivity	3pC/g
Range	±3000g
Weight	6grams
Temp Range	-55 to +150°C
Size (mm)	8.5 x 13
Frequency Range	12kHz
Connector	10/32UNF side entry
Mounting	5-40UNC tapped base

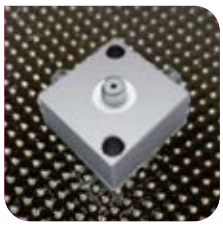
Piezoelectric Charge Output Triaxial Accelerometers





GCT2-T

Sensitivity	2pC/g	**Size (mm)**	22 x 22 x 10
Range	±2000g	**Frequency Range**	10kHz
Weight	15grams	**Connector**	3x10/32UNF mdot
Temp Range	-55 to +150°C	**Mounting**	2xØ4mm Through Hole



GCT5-T

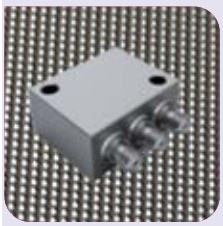
Sensitivity	5pC/g	**Size (mm)**	22 x 22 x 10
Range	±2000g	**Frequency Range**	10kHz
Weight	15grams	**Connector**	3x10/32UNF mdot
Temp Range	-55 to +150°C	**Mounting**	2xØ4mm Through Hole

GCT10-H

Sensitivity	10pC/g	**Size (mm)**	27.4 x 23.5 x 13
Range	±1000g	**Frequency Range**	9kHz
Weight	22grams	**Connector**	3x10/32UNF mdot
Temp Range	-55 to +150°C	**Mounting**	2xØ4mm Through Hole

GCT10-TH

Sensitivity	10pC/g	**Size (mm)**	25.4 x 25.4 x 14
Range	±1000g	**Frequency Range**	9kHz
Weight	25grams	**Connector**	3x10/32UNF mdot
Temp Range	-55 to +150°C	**Mounting**	1xØ5mm Through Hole



GCT20-H

Sensitivity	20pC/g	**Size (mm)**	27.4 x 23.5 x 13
Range	±1000g	**Frequency Range**	8kHz
Weight	22grams	**Connector**	3x10/32UNF mdot
Temp Range	-55 to +150°C	**Mounting**	2xØ4mm Through Hole

GCT20-TH

Sensitivity	20pC/g	**Size (mm)**	25.4 x 25.4 x 14
Range	±1000g	**Frequency Range**	7kHz
Weight	28grams	**Connector**	3x10/32UNF mdot
Temp Range	-55 to +150°C	**Mounting**	1xØ5mm Through Hole

Submersible Accelerometers

Kemo offer a special service to waterproof a wide range of their monoaxial and triaxial accelerometers for use in underwater monitoring. Typical depths have been tested up to 50m. The same method is used to waterproof our range of IEPE impact hammers for submersible structural testing.

Select a suitable accelerometer and specify the cable length required to suit the application and we can quote for the waterproofing of this combination. We use a proven combination of a two part epoxy and sealing heatshrink to provide a robust and fully sealed connection to IP68. All our cables are extruded material to ensure no water ingress, unlike wrapped cables which are unsuitable for submersible applications.

Submersible Impact Hammers

If you have a requirement for underwater structural testing we can also offer waterproof IEPE impact hammers. As with our accelerometer we will need to know the cable length required when ordering as this will be sealed to the hammer.

See page 34 for details of our IEPE impact hammer range.

Electronic Filters & Signal Conditioning

The Kemo name is synonymous with the world's highest quality electronic filters, a reputation the company continues to uphold today and one it is very proud of. This level of quality, low noise and channel matching is achieved through strict component control, selection and an ongoing commitment to investing our time to hand build units.

Our current filter product range offers solutions to suit applications from industrial through education all the way to underwater acoustics. Our filters are trusted by key Defence and Aerospace clients all over the world as well as many of the worlds Navy's.

As part of our product range we have always supplied signal conditioning solutions without filters for customers that require some form of sensor conditioning, whether this is IEPE, PE charge, 4-20mA or even PRT (platinum resistance thermometers). We have developed this part of our range over the more recent times as demand has grown for us to supply a more complete solution including sensors, cables and signal conditioning. Our current solutions suit low cost low channel count as well as multi channel rack based systems.

Application

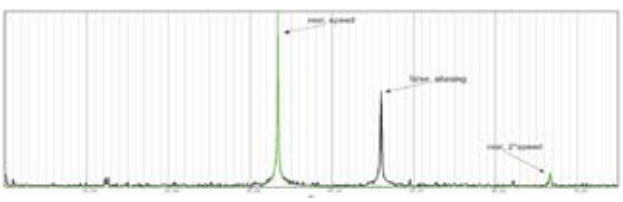
Our website features a wide range of application notes which can be seen here

Our application database is full of many fascinating real world examples of how electronic filters are essential in the measurement chain, unfortunately many of the most interesting are restricted. That said it should be noted that signal filtering is often seen as a problem solving process and the filters themselves are not necessarily designed into a product or process.

One such situation is a common problem within many industrial and testing applications and relates to a phenomenon called aliasing. This occurs when a sampled signal is reconstructed from digitised data in a way which is different to the original data, causing incorrect analysed results. This is usually caused by insufficient sample rates but can be caused by other sources.

One of our customers had just such an issue, when analysed it appeared the rotating machinery was running with frequencies of 33.3Hz, 46Hz and 66.6Hz. Based on experience and common sense the engineer recognised the 46Hz frequency peak as being anomalous and required a filter to remove it to ensure in process analysis was not in error. We supplied one of our Din Rail mount DR 1200/1kHz/01 LP which was a 1kHz low pass filter with an anti-aliasing elliptic type response, 94 dB/ Octave, - 90 dB stopband.

In the diagram below the black line shows the 3 original peaks and the green line shows the analysis with the filter installed before the analysis takes place. If you would like more information about this, please get in touch with your local office.



DR1200 Din Rail Mounted Fixed Frequency Filters

- Cut off filter frequencies from 0.1 Hz to > 500 kHz fixed when ordering
- Universal DIN Rail mounting
- Power on indication
- AC/DC coupling
- Low pass / Highpass / Notch filter responses fixed when ordering
- Adjustable gain 1,2,5 steps to x1000 (+60dB)
- Screw terminal connections
- Independent signal and power earth
- 9–30 VDC power input – ideal for +24 V DC
- IEPE Signal Conditioning (24VDC, 4mA – adjustable to 10mA)
- Standard Inputs: AC/DC, Single ended/differential, IEPE

Optional features

- +/- 50% DC voltage output offset
- 4-20mA output, current sink, and source.
- Charge amplifier via 10/32UNF connector
- 10/32UNF microdot input connector optional

DR1600 Din Rail Mounted Variable Frequency Filters

- 255 filter steps, set by DIP switch, range covering 0.2 Hz to 127 500Hz
- Base frequency step to be specified when ordering
- Universal DIN Rail mounting
- Power on indication
- AC/DC coupling
- Low pass / Highpass fixed when ordering
- Adjustable gain 1,2,5 steps to x1000 (+60dB)
- Screw terminal connections
- IEPE signal conditioning (24VDC, 4mA – adjustable to 10mA)
- 9–30 VDC power input – ideal for +24 V DC
- Standard Inputs: AC/DC, Single ended/differential, IEPE

Typical applications for the DR range of filters

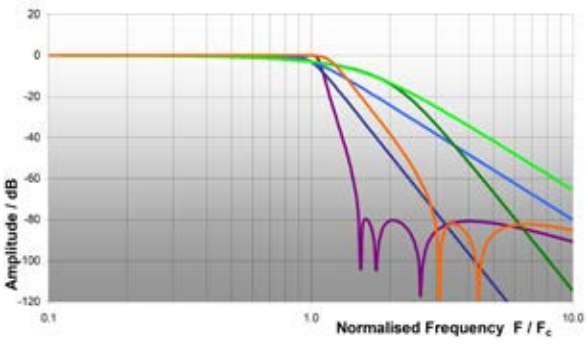
- Anti-aliasing filters
- Sound and Vibration testing
- Noise reduction in industrial measurements
- Band limiting
- Signal reconstruction
- Communications systems
- Data acquisition systems
- Signal optimization
- 4-20mA systems
- Charge Amplifier for industrial accelerometers

Optional features

- +/- 50% DC voltage output offset
- 4-20mA output, current sink, and source.
- Charge amplifier via 10/32UNF connector
- 10/32UNF microdot input connector optional

Both DR1200 and DR1600 products are available with a range of filter responses that can be specified when ordering.

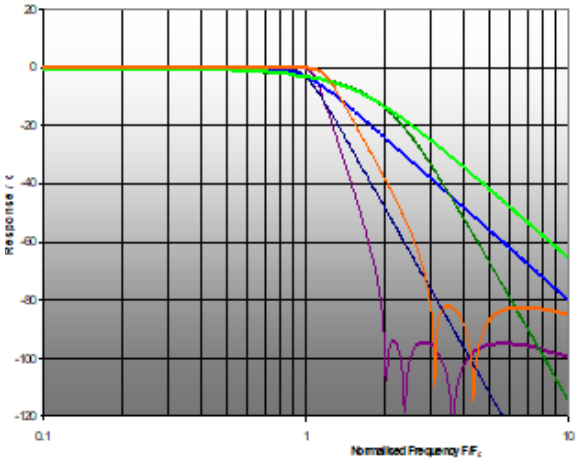
05 4 pole Butterworth, 24 dB/Octave, monotonic stopband.
03 8 pole Butterworth, 48 dB/Octave, monotonic stopband.
09 4 pole Bessel, 24 dB/Octave, monotonic stopband.
07 8 pole Bessel, 48 dB/Octave, monotonic stopband.
01 Anti Aliasing Elliptic type response, 94 dB/Octave, - 90 dB stopband.
41 General Purpose Flat, linear phase, 52 dB/Octave, - 80 dB stopband



BenchMaster 8

The BenchMaster 8 dual channel filter with gain, is considered by many to be the 'standard classic' benchtop laboratory analogue filter. Now in its 6th generation, it has been in continuous production since 1975, with 1000's in use worldwide.

- 2 Independent Channels
- Switchable High/Low pass
- 0.01 Hz – 99.9 kHz filter range
- Input gain to x 500 (+54 dB)
- 6 models, 6 filter responses
- 3 digit frequency setting
- Differential/Single ended input
- 'Pulse' and 'Flat' Modes
- Range of filter types
- IEPE 24VDC, 4 mA transducer supply
- 4 stage signal level indication
- Optional DC powered versions



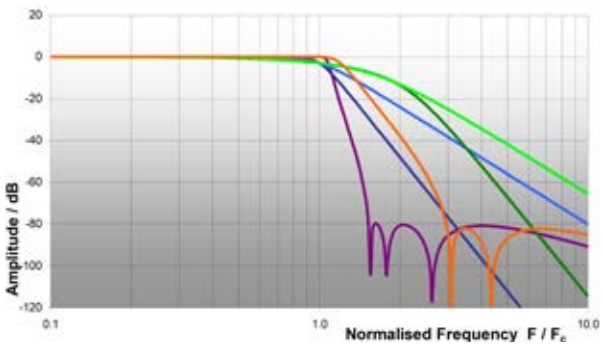
The BenchMaster 8 can be ordered with a range of filter responses Each channel can be fitted with a different response.

8.05 4 pole Butterworth, 24 dB/Octave, monotonic stopband.
8.03 8 pole Butterworth, 48 dB/Octave, monotonic stopband.
8.09 4 pole Bessel, 24 dB/Octave, monotonic stopband.
8.07 8 pole Bessel, 48 dB/Octave, monotonic stopband.
8.13 Elliptic type response, 94 dB/Octave, - 90 dB stopband.
8.41 Flat, linear phase response, 52 dB/Octave, - 80 dB stopband.

CardMaster 21.2

The CardMaster 21.2 filter is the first step on the rack based modular filter instruments. It features a two channel carrier card that uses the 1200 or 1600 filter modules also used on the DR range of Din Rail mounted filters. This makes it perfect for high channel applications that require limited changes to filter settings.

- Input Gain to 60dB
- AC / DC input coupling
- 2 Independent Channels per card
- IEPE transducer power
- Fits in Kemo 21 Series Racks
- Single ended / differential Input
- 3 manually selectable frequencies with 1200 filter modules
- 255 manually selectable frequencies with 1600 filter modules
- Up to 21 cards per rack (maximum 42 channels
- Colour coded BNC inputs matched to cables



The CardMaster 21.2 is available with the same filter responses as the DR range of products.

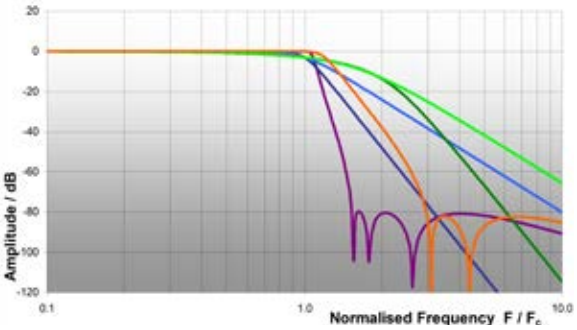
05 4 pole Butterworth, 24 dB/Octave, monotonic stopband.
03 8 pole Butterworth, 48 dB/Octave, monotonic stopband.
09 4 pole Bessel, 24 dB/Octave, monotonic stopband.
07 8 pole Bessel, 48 dB/Octave, monotonic stopband.
01 Anti Aliasing Elliptic type response, 94 dB/Octave, - 90 dB stopband.
41 General Purpose Flat, linear phase, 52 dB/Octave, - 80 dB stopband.

CardMaster 21.255G

The CardMaster 21.255G is a powerful and flexible solution based on a single channel signal conditioning filter/amplifier card with font panel control of filter frequency and gain, this provides improved ease of use and flexibility to the user avoiding factory fixed frequency settings or internal dip switch settings.

- Frequencies from 0.2 Hz to 127 500 Hz
- 254 manually selectable frequencies
- 9 gain steps to x500 (+54dB)
- Fits in Kemo 21 Series Racks
- Single/Multi Channel options
- Signal level indication
- Single ended / differential Input
- IEPE transducer power
- Filter Bypass setting
- Optional Ethernet interfaces
- Colour coded BNC inputs matched to cables

The CardMaster 21.255G is ideal for applications where occasional changes are necessary for frequency settings and gain via front panel knobs.



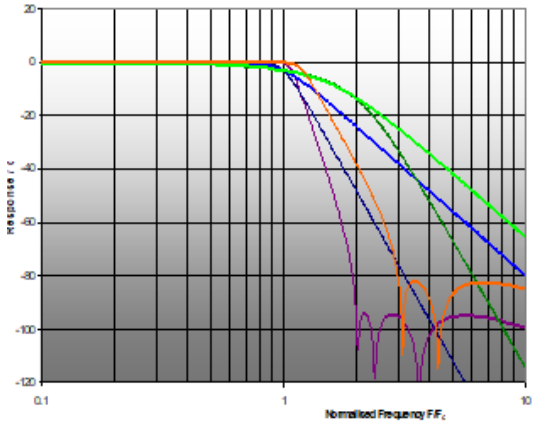
Filter response options are available for the CardMaster 21.255G

05 4 pole Butterworth, 24 dB/Octave, monotonic stopband.
03 8 pole Butterworth, 48 dB/Octave, monotonic stopband.
09 4 pole Bessel, 24 dB/Octave, monotonic stopband.
07 8 pole Bessel, 48 dB/Octave, monotonic stopband.
01 Anti Aliasing Elliptic type response, 94 dB/Octave, - 90 dB stopband.
41 General Purpose Flat, linear phase, 52 dB/Octave, - 80 dB stopband.

BenchMaster 21M

The BenchMaster 21M, is an easy to use, versatile manual filter system. Available in a single channel DC powered case, or up to 9 channels in AC or DC powered racks. The simple easy to use front panel make this system ideal for general purpose filtering, and on- site work. Frequency can be set via the front panel mounted thumbwheel switches or via the optional ethernet connection.

- Easy to Use
- BNC connectors
- 9800 : 1 cutoff span
- Input overload indication
- Switchable High / Low pass
- 6 Gain steps to x50 (+34dB)
- AC / DC / IEPE(ICP®) inputs
- Switchable 'pulse' response
- 3 operating modes, normal filter response, bypass, and a minimum overshoot mode for impulsive signals
- Full range of filter responses
- Single ended / differential input
- 2 Rugged racks, AC or DC power
- Colour coded BNC inputs matched to cables



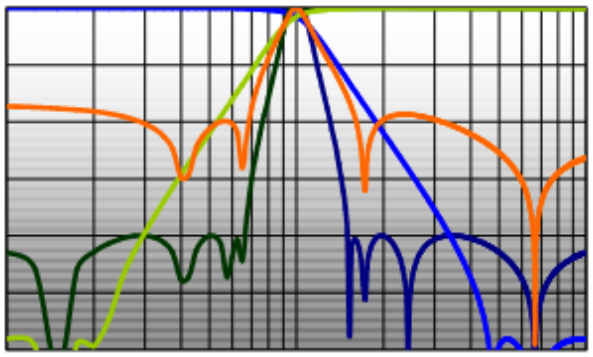
Filter responses for the BenchMaster 21M

05 4 pole Butterworth, 24 dB/Octave, monotonic stopband.
03 8 pole Butterworth, 48 dB/Octave, monotonic stopband.
09 4 pole Bessel, 24 dB/Octave, monotonic stopband.
07 8 pole Bessel, 48 dB/Octave, monotonic stopband.
13 Elliptic type response, 94 dB/Octave, - 90 dB stopband.
41 Flat, linear phase response, 52 dB/Octave, - 80 dB stopband.

VBF44 – 4 Channel fully programmable filter instrument

The VBF44 is a 4 channel unit which uses Kemo's top of the range fully programmable filter cards. This gives the user full control of frequency, gain, filter response type, high/low pass and other settings via the built in ethernet connection or the front panel screen and buttons.

- Highly versatile, easy to use
- 4 Channels from one system
- 1 Hz – 255 kHz filter range
- x 1000 (+60dB) gain
- 5 filter responses, 135 dB/Octave
- Non volatile memory
- BNC Input and Output connectors
- Signal level indication
- Built in Ethernet interface
- High Quality rugged chassis
- Stainless steel front panel
- Illuminated stainless steel buttons
- IEPE Transducer source



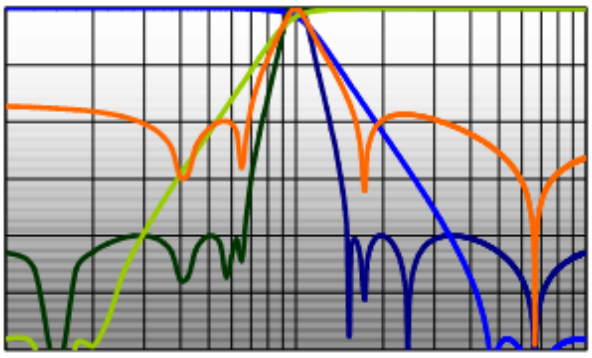
The built in filter responses for the VBF44

Lowpass L1 Flat to Fc –80 dB at 1.5 Fc Stopband –80 dB.
Lowpass L2 Flat to 0.6 Fc –96 dB at 4 Fc Stopband –96 dB.
Highpass H1 Inverse of L1.
Highpass H2 Inverse of L2.
Bandpass B1 0 dB at Fc –35 dB at 0.67Fc and 1.5 Fc, Stopbands –35 dB

VBF40 – Multichannel fully programmable filter instrument

The VBF40 is Kemo's most powerful filter instrument, offering up to 64 channels of matched and highly programmable filtering with incredible dynamic range and channel matching. Control is via a built in ethernet connection or via the front panel screen and buttons.

- Very versatile, easy to use
- 1 – 16 Channels per rack (up to 64 channels daisy chained)
- 1 Hz – 255 kHz filter range
- +60dB gain
- IEPE transducer source
- Differential Input
- BNC Input and Output connectors
- 5 filter responses, 135 dB/Octave
- Series / Parallel connection
- Signal level indication
- Built in Ethernet type interface
- Colour coded BNC inputs matched to cables



VBF40 built in filter responses

Lowpass L1 Flat to Fc –80 dB at 1.5 Fc Stopband –80 dB.
Lowpass L2 Flat to 0.6 Fc –96 dB at 4 Fc Stopband –96 dB.
Highpass H1 Inverse of L1.
Highpass H2 Inverse of L2.
Bandpass B1 0 dB at Fc –35 dB at 0.67Fc and 1.5 Fc, Stopbands –35 dB.

Signal Conditioning only

Kemo also offers a range of pure signal conditioning solutions without filtering for applications where sensor excitation or conditioning is required without the need for signal filtering.

Our solutions start from basic 1 channel options through to 9 channel rack based units, all of which offer the maximum level of conditioning within one unit.

DR1000 – Din Rail mounted signal conditioning

All models include adjustable gain, Single ended/Differential input.
The base model of the DR range of products offers a variety of signal conditioning solutions either individually or in combination, these include:

- DR1000/V - IEPE (Integrated Electronic Piezoelectric) 24V, 4mA, adjustable to 10mA.
- DR1000/C – IEPE and PE charge signal conditioning
- DR1000/I - 4-20mA output (can also be ordered with IEPE and/or PE charge
- Optional DC offset

3X Range of 3 channel signal conditioning

The 3X range is available in three options, each one offering:

- Compact & Lightweight chassis
- Individual channel gain selection x1, x10, x100
- Power on indication
- Signal level indicator per channel
- ±10VAC output
- DC powered, Mains adaptor supplied
- Huge flexibility in a low cost per channel unit.

3X-C – 3 channel PE charge signal conditioning
3X-I – 3 channel IEPE signal conditioning
3X-CI – 3 channel IEPE and PE charge signal conditioning (channel selectable)

9X Range of 9 channel signal conditioning

The X range is available in three options, each one offering:

- 19inch rack mount chassis
- Individual channel gain selection x1, x10, x100
- Power on indication
- Signal level indicator per channel
- ±10VAC output
- DC powered, Mains adaptor supplied
- Huge flexibility in a low cost per channel unit.

9X-C – 9 channel PE charge signal conditioning
9X-I – 9 channel IEPE signal conditioning
9X-CI – 9 channel IEPE and PE charge signal conditioning (channel selectable)

Inline Charge Signal Conditioning Converters

Perfectly suited to simplification of your instrumentation set up when using piezoelectric charge output sensors. Each converter uses IEPE power often available directly from the data acquisition hardware and converts this to power PE sensors.

Model	Sensitvity	Gain
C2V-0.1	0.1mV/pC	x0.1
C2V-1	1mV/pC	x1
C2V-10	10mV/pC	x10

Dimensions for each model are the same

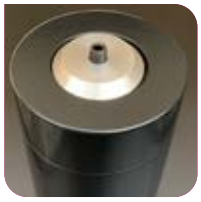
Impact Hammers, Calibrators & Other Equipment

As you would expect from a company that has been working in the signal analysis, noise, vibration and industrial sectors for nearly 60 years Kemo offers a range of associated equipment to support our customers in the wide variety of applications we find ourselves supporting. This part of our business is continually expanding as we continue our drive to provide a more complete solution to our customers.

Our current range of associated equipment includes products such as:

- General purpose IEPE impact hammers for structural testing
- Battery powered handheld accelerometer calibrator
- Impedance heads

This type of equipment works perfectly alongside our sensors, signal conditioning and low noise electronic filter solutions, see the relevant section for further details or contact us to discuss your system solution requirement.



Application

Our website features a wide range of application notes which can be seen here

Due to Kemo's long association with underwater acoustics we have a global customer base in the Naval, Research and associated submersible sector, this led to a new testing requirement for submarines.

The testing of structures using instrumented impact hammers is a well known method for evaluating how structures respond to forced excitation and the associated frequencies and mode shapes. However what is less well established is the application of this testing method for submerged structures which are subject to very different responses due to the surrounding water.

When approached by a defence industry customer to supply an IEPE impact hammer capable of being used under water at depths up to 40m, Kemo was pleased to meet the challenge.

Other than the obvious challenge of making the hammer waterproof without effecting its operational calibration performance, there was an additional problem created by the need to attach a minimum 40m length cable which would need to be permanently attached to the hammer making it fairly difficult to handle in normal conditions.

Using techniques previously proven in cable and connector sealing, Kemo has now supplied submersible IEPE impact hammers to overseas and UK customers who have successfully used the hammers at depths of 50m for over an hour of testing.

Supplied with sealed cables up to 100m in length the hammers offer an interesting insight to structure response when subject to significant external force on all body areas, a very different response than that seen in normal atmospheric conditions above sea level.

IEPE General Purpose Impact Hammers

The Kemo range of IEPE impact hammers are perfect for carrying out Modal testing and other structural surveys. Using the latest IEPE technology they are available in a range of sizes to suit different test items. Each hammer is supplied in a carry case with 2m cable and a range of different impact heads.

VTH50N

Sensitivity (±10%) 100mV/N | **Measuring Range** 50N | **Resonant Frequency** ≥70kHz
Output Connector M5 microdot | **Excitation voltage** +18 to +28V
Constant Current 2-10mA | **Bias Voltage** 10-14VDC | **Output Impedance** ≤100Ω
Tips Supplied Rubber, nylon, aluminium, steel

VTH200N

Sensitivity (±10%) 25mV/N | **Measuring Range** 200N | **Resonant Frequency** ≥60kHz
Output Connector BNC Socket | **Excitation voltage** +18 to +28V
Constant Current 2-10mA | **Bias Voltage** 10-14VDC | **Output Impedance** ≤100Ω
Tips Supplied Rubber, nylon, aluminium, steel

VTH2KN

Sensitivity (±10%) 2.5mV/N | **Measuring Range** 2000N | **Resonant Frequency** ≥55kHz
Output Connector BNC Socket | **Excitation voltage** +18 to +28V
Constant Current 2-10mA | **Bias Voltage** 10-14VDC | **Output Impedance** ≤100Ω
Tips Supplied Rubber, nylon, aluminium, steel

VTH5KN

Sensitivity (±10%) 1mV/N | **Measuring Range** 5000N | **Resonant Frequency** ≥55kHz
Output Connector BNC Socket | **Excitation voltage** +18 to +28V
Constant Current 2-10mA | **Bias Voltage** 10-14VDC | **Output Impedance** ≤100Ω
Tips Supplied Rubber, nylon, aluminium, steel

VTH10KN

Sensitivity (±10%) 0.5mV/N | **Measuring Range** 10000N | **Resonant Frequency** ≥45kHz
Output Connector BNC Socket | **Excitation voltage** +18 to +28V
Constant Current 2-10mA | **Bias Voltage** 10-14VDC | **Output Impedance** ≤100Ω
Tips Supplied Rubber, PTFE, nylon

VTH20KN

Sensitivity (±10%) 0.25mV/N | **Measuring Range** 20000N | **Resonant Frequency** ≥45kHz
Output Connector BNC Socket | **Excitation voltage** +18 to +28V
Constant Current 2-10mA | **Bias Voltage** 10-14VDC | **Output Impedance** ≤100Ω
Tips Supplied Rubber, PTFE, nylon

VTH50KN

Sensitivity (±10%) 0.1mV/N | **Measuring Range** 50000N | **Resonant Frequency** ≥45kHz
Output Connector BNC Socket | **Excitation voltage** +18 to +28V
Constant Current 2-10mA | **Bias Voltage** 10-14VDC | **Output Impedance** ≤100Ω
Tips Supplied Rubber, PTFE, nylon

VTCAL1 – Battery Powered Handheld Calibrator

The regular calibration of accelerometers is a critical part of their use, it is recommended that each sensor should undergo a full traceable back to back calibration against a known reference device every 12 months, Kemo offers this calibration service, visit our Calibration pages for details.

However, depending on their use and the applications applied it can also be beneficial to have a more regular verification of correct operation, the VTCAL1 is perfect for these verifications. Operating at a fixed frequency and a fixed amplitude it provides a known excitation which can be checked via the connected instrumentation.

VTCAL1	Metric	Imperial
Acceleration Amplitude (RMS)	9.81m/s2 ±3%	1g ±3%
Vibration Frequency	159.2Hz ±0.5%	
Output Waveform	Sine	
Waveform distortion	≤5%	
Maximum Load	120gm	4.23oz
Working Temperature	0 to +55°C	32 to 131°F
Storage Temperature	-45 to +85°C	-49 to 185°F
Maximum Humidity %RH	95	
Weight approx.	500gm	17.64oz
Mounting	M5 tapped hole (variety of studs available)	
Case Material	Aluminium	
Dimensions	Ø52mm x 148mm (H)	Ø2.05in x 5.83in (H)
Auto Shutdown	50 seconds	
Power indicator	Normal: Green Low Battery: Orange	

Impedance Heads

When carrying out structural surveys using shakers it is usually necessary to measure the applied force and acceleration the Kemo range of impedance heads are perfect for these applications and are available with two different sensitivities.

VTIH5 IEPE Impedance Head 50/5
Sensitivity Force 5mV/N | **Range** ±1000N | **Sensitivity Acceleration** 50mV/g | **Range** ±100g
Typical Frequency Range Acceleration (±10%) 0.5Hz – 5kHz | **Output Connector** 2 x M5 microdot
Resolution (Acceleration) 1mg | **Resolution (Force)** 5mN

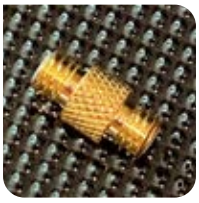
VTIH10 IEPE Impedance Head 100/10
Sensitivity Force 10mV/N | **Range** ±500N | **Sensitivity Acceleration** 100mV/g | **Range** ±50g
Typical Frequency Range Acceleration (±10%) 0.5Hz – 5kHz | **Output Connector** 2 x M5 microdot
Resolution (Acceleration) 0.5mg | **Resolution (Force)** 2.5mN

Cables & Connectors

Every one of Kemo's instrument and sensor products requires cabling to connect the measurement sensor to the filter, signal conditioner or directly to the data acquisition system (DAQ). To support our global customer base Kemo offers a wide range of quality connectors and cable assemblies. These have all been proven to provide high quality, low noise signals and to be a reliable part of an engineers toolkit.

We also recognise that some customers don't really know what length their cables need to be in specific installations, this can cause unnecessary cable use and increase the risk of noise due to poorly positioned cables and loops in signal cables. To combat this Kemo has introduced the EasyFIT range of connectors that make it easy for customers to build their own cables in situ to suit their application. We have a wide variety of connectors in the EasyFIT range, all supplied with fitting instructions. Of course raw cable stock is also available from Kemo.

Our stock of finished cable assemblies is extensive and provides quick delivery for urgent requirements, in addition we have localised cable assembly from our offices in the UK, USA and India to provide fast delivery in other local markets.



Application

Our website features a wide range of application notes which can be seen here

One of the fastest growing requirements for cables is the need to easily visualise channel identification. This has become more critical due to the advent of ever increasing channel counts when carrying out measurement programmes. When you are faced with 200+ cables one of the most effective visual aids is colours, backed up by numbers.

Kemo introduced its unique COLOURS Make it easy cable range to provide engineers with a quick reference guide, when used alongside numbering fitted to each cable we can offer a wide range of easy to see identification.

If you would like more information about this, please get in touch with your local office.

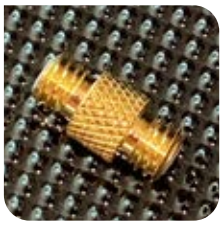
Regardless of the connector you require on each end of the cable we can offer matched colour coding through our own customised range of silicone strain relief boots in association with heat shrink and numbered labels. In addition to coloured cables we also offer a coloured channel matching with Kemo manufactured instruments and filters. We can add the same colour coding on each of the BNC connectors on our multi channel solutions, this combination provides a high level of visual aid to system configuration which can save considerable amounts of time when setting up.

Cables and Cable Assemblies

Low Noise Cable		Temp. Range	Diameter	Jacket
KLNCAB2	Low Noise 2mm Dia coax cable	-90°C to +260°C	2mm ±0.2	PFA
KLNCAB1	Low Noise 1mm Dia coax cable	-90°C to +230°C	1mm ±0.08	PFA
IEPE Coaxial Cable				
KNCAB2	Non low noise 2mm coax cable	-40°C to +200°C	1.9mm±0.15	FEP
KNCAB1	Non low noise 1mm coax cable	-55°C to +200°C	1.1mm±0.08	FEP
4 core cable				
KN4CAB2	4 Core Non Low Noise cable	-90°C to +200°C	2.2mm±0.2	FEP
Coaxial Extension Cable				
KNCAB5	Non low noise 5mm coax cable	-40°C to +60°C	nom.4.95mm	PVC
KNCAB3	Non low noise 2.8mm coax cable	-40°C to +85°C	2.8mm±0.13	PVC

Our most common cable assemblies are usually available from stock

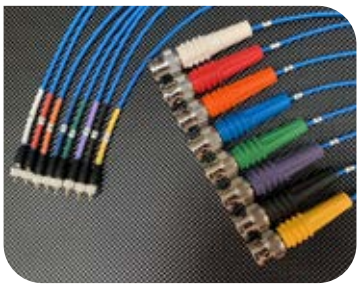
Cable Part Number	Description	Length	Connector 1	Connector 2	Cable Type
1A2-30	Low noise cable assembly	3 metre	10/32UNF Microdot plug	BNC plug	KLNCAB2
1A2-50	Low noise cable assembly	5 metre	10/32UNF Microdot plug	BNC plug	KLNCAB2
1A1-30	Low noise cable assembly	3 metre	10/32UNF Microdot plug	10/32UNF Microdot plug	KLNCAB2
1A1-50	Low noise cable assembly	5 metre	10/32UNF Microdot plug	10/32UNF Microdot plug	KLNCAB2
1B2-30	IEPE Coaxial Cable assembly	3 metre	10/32UNF Microdot plug	BNC plug	KNCAB2
1B2-50	IEPE Coaxial Cable assembly	5 metre	10/32UNF Microdot plug	BNC plug	KNCAB2
1B1-30	IEPE Coaxial Cable assembly	3 metre	10/32UNF Microdot plug	10/32UNF Microdot plug	KNCAB2
1B1-50	IEPE Coaxial Cable assembly	5 metre	10/32UNF Microdot plug	10/32UNF Microdot plug	KNCAB2
2A2-50	Low noise cable assembly	5 metre	BNC plug	BNC plug	KLNCAB2
2B2-50	IEPE Coaxial Cable assembly	5 metre	BNC plug	BNC plug	KNCAB2
7F82-30	Triaxial IEPE Cable assembly	3 metre	¼-28UNF 4 pin socket	3 x BNC plugs	KN4CAB2
7F82-50	Triaxial IEPE Cable assembly	5 metre	¼-28UNF 4 pin socket	3 x BNC plugs	KN4CAB2


Colour Coded Cable Assemblies

Kemo also offers a range of colour coded cable assemblies which provide the perfect solution to identify cable connections in high channel count installations, these cables can be supplied to suit your applications, contact us for more details.

Kemo has developed its own range of silicone strain relief boots which ensures the rainbow of potential colours is endless. In addition to colour coded cables we can also extend this to our multi-channel signal conditioning and filter products with colour coded BNC input connectors to match cables.



Specialist Cable Assemblies

In addition to standard cable assemblies we also provide a range of specialist cable assemblies which are used by particular DAQ hardware systems to connect to sensors, these typically use off the shelf higher cost connectors such as Lemo® An example of one such assembly:

7FL9-50
5 metre long cable assembly, ¼-28UNF 4pin
Connector to a Lemo 9 pin FGG.0B.309 connector including Strain relief
Any length of cable can be supplied

Connectors and Adaptors

Connector	Description
KMP-E	EasyFIT 10/32 UNF connector male plug - Nickel Plated
KM5P-E	EasyFIT M5 connector male plug - Gold plated
KSMA-E	EasyFIT SMA male connector for RG178
KSMB-E	EasyFIT SMB female connector RG174
KM3P-E	EasyFIT M3 connector for RG178 cable - Gold plated
KMS-E	EasyFIT 10/32 UNF female connector for RG174 cable, gold plated
KM-1	10/32UNF Microdot plug
KMR-1	Right angle 10/32UNF microdot plug
KMS-1	10/32UNF microdot socket
KBNC-P	Cable mount BNC Plug
KBNC-S	Cable mount BNC Socket
KTNC-P	Cable mount TNC plug
KBP58	RG58 Cable mount BNC Plug
KS4-28	1/4-28 UNF 4 pin socket for cable mount
K5015-2S	MIL-C-5015 2 pin cable mount socket - Metal
KSMA-P	SMA male plug
KSMB-S	SMB Female socket

Adaptors	Description
KMM-A	10/32UNF Mdot to 10/32UNF Mdot in line adaptor - Gold plated
KMM5-A	M5 Mdot to M5 Mdot in line adaptor - Gold plated
KBM-A	10/32UNF Mdot socket to BNC in line adaptor
KBSM-A	10/32UNF Mdot socket to BNC socket in line adaptor
KBM5-A	M5 Mdot to BNC in line adaptor
KMM-B	10/32UNF Mdot to 10/32UNF Mdot bulkhead adaptor
KMBBI	Isolated BNC Socket to BNC Socket bulkhead adaptor (feedthrough)
KBB-A	BNC socket to BNC socket in line

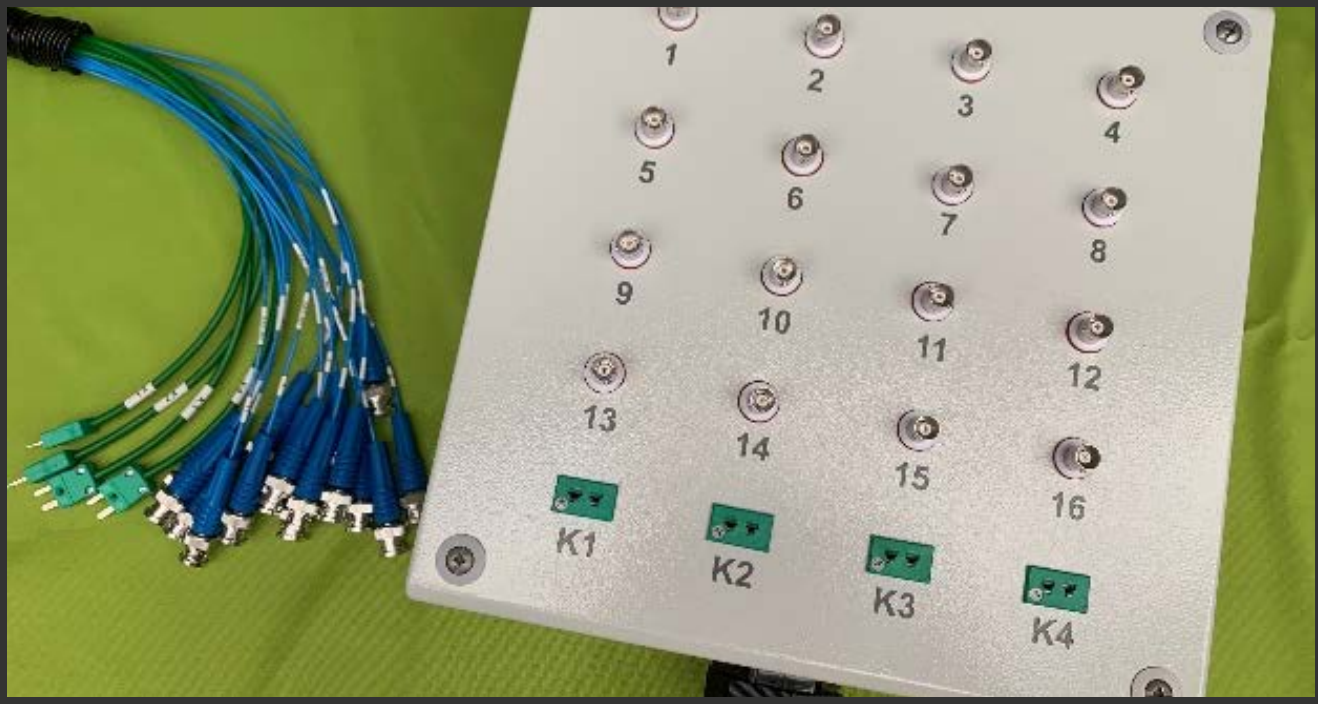
Accessories

All industrial and test applications require a mix of equipment, much of the focus is often on the higher value instrumentation and sensors, however there is a wide range of accessories that often get forgotten about. Whether its sensor mounting, connector adaptors, junction boxes or the many other finishing touches that are required, Kemo offers solutions to ensure you have everything you need.

We recognise the urgency that is often associated with accessories, whether this is because the planning part of the project missed the smaller detailed items or because some of the consumable items are unsuitable due to wear and tear. To compensate for this issue Kemo holds stock of a wide range of accessories for fast delivery in all of its global locations.

Our commitment to fast delivery means we will also redirect stock from an overseas office if we can ensure a faster delivery at no extra cost to the customer.

For technical support in selection of the right sensor mounting option or to discuss custom requirements for junction boxes to use in your vibration test facility please get in touch and discuss with our technical support team.



Application

Our website features a wide range of application notes which can be seen here

After many decades of working in the signal acquisition and analysis fields, Kemo recognises the importance of paying attention to the entire signal measurement chain. This 'big picture' viewpoint is one that is often overlooked by test engineers and this can leads to significant issues of noise and ultimately can cost time and money.

Whilst it is a natural approach to focus on the high value elements of a system install, such as the DAQ, software or the sensors, it is easy to overlook the cabling and connections made between these elements.

Kemo's range of patch panels (also called junction boxes) are widely used in vibration shaker testing installations as well as NVH test facilities and they provide the data link between the test room and the control room which are often separated for health and safety reasons.

Every patch panel from Kemo is supplied with fully isolated connections to avoid earth loops, high performance low noise cables to eliminate 95% of triboelectric noise as well as featuring screening to a minimum of 96% coverage to reduce RFI and other external noise influences. All cables are easily removed for repair and maintenance purposes making every box a great investment.

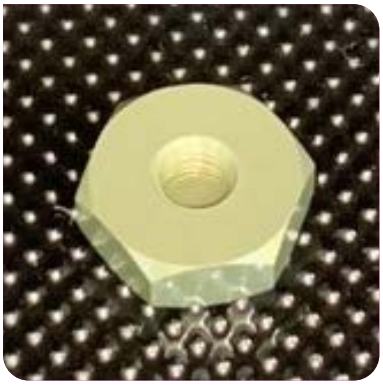
We have a range of box types for different applications, although our most popular type is a high quality polyester powder coated box which is supplied with fully laser marked numbering and if required the customers own logo for that perfect high quality finish to make their installation unique.

A recent customer from the UK also required thermocouple ports which we were happy to include, we can customise all boxes to suit your requirement.

With patch panels now installed in over 10 different countries we are proud of the difference we are making to our customer's data quality and reliability.

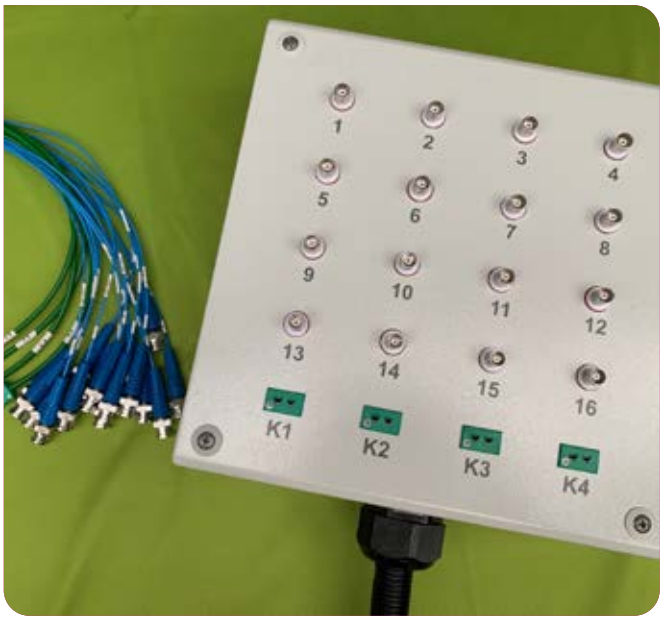
Mounting Accessories

Part Number	Description
KMPWAX	Petrowax 25mm x 25mm box
Isolated Mounting Bases	
KMISO-ADH	Hard anodised aluminium isolated adhesive base, includes stud
KMISO-S1	13mm A/F - 10/32UNF to 10/32UNF isolated mounting stud
KMISO-S2	13mm A/F - 10/32UNF to M5 isolated mounting stud
KMISO-S3	13mm A/F - 5/40UNC to 10/32UNF isolated mounting stud
KMISO-S4	13mm A/F - 5/40UNC to M5 isolated mounting stud
Isolated Mounting Magnets	
KMMAG-21	Magnet mount 21mm A/F, 10/32UNF tapped hole (includes stud)
KMMAG-21S	Magnet mount 21mm A/F, 10/32UNF integral stud
KMMAG-14	Magnet mount 14mm A/F, 10/32UNF tapped hole (includes stud)
Mounting Studs	
KMS-1010L	Stud mount 10/32UNF to 10/32UNF - Accel mount long
KMS-1010S	Stud mount 10/32UNF to 10/32UNF - use with magnets and Iso adhesive base
KMS-10M5	10/32UNF to M5 mounting stud for accels and mag/ISO mounts
KMS-10M6	10/32UNF to M6 mounting stud for accels and mag/ISO mounts
KMS-1054	10/32UNF to 5/40UNC mounting stud for accels and mag/ISO mounts
KMS-1028	10/32UNF to 1/4-28UNF mounting stud for accels and mag/ISO mounts
KMS-ADH1	14.3mmA/F Non-isolated mounting stud with integral 10/32 UNF stud
KMS-ADH2	9.5mm A/F Non-isolated mounting stud with integral 5/40UNC stud

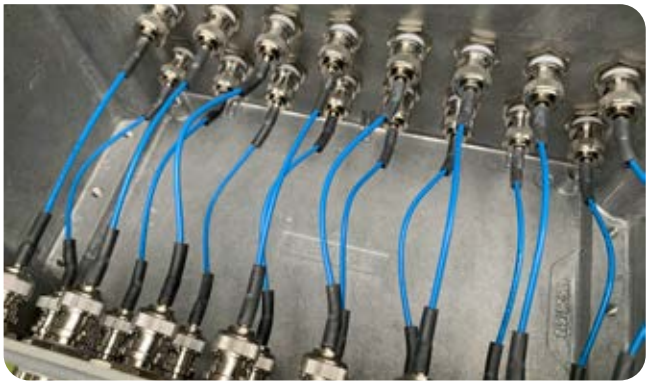


Patch Panels and Junction Boxes

One of the most common issues with instrumentation installations is poor cable installation and a lack of attention paid to the connections between sensors and the associated data acquisition or vibration control system. Kemo utilise their decades of experience in low noise instrumentation to build and supply low noise patch panels or junction boxes to provide a reliable interface between sensors and instrumentation.



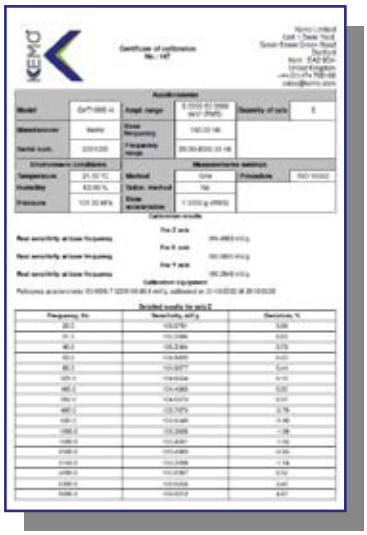
- Up to 36 channels per panel
- Range of boxes available, polyester powder coated, cast aluminium and others
- BNC isolated connectors are recommended (10/32UNF microdots available)
- Other connectors including thermocouples available
- Low noise cables
- Customer logo can be laser engraved onto the panel
- All connections numbered
- Cables protected by conduit
- Integral cable gland
- Cables easily removed for repair and maintenance
- Cables scree coverage minimum 96%



Calibration Services

We offer a range of calibration services for both Kemo equipment and that supplied by other manufacturers, this includes instrumentation hardware, accelerometers, impact hammers and impedance heads.

All test equipment used is calibrated to a traceable National ISO17025 standard.



Instrumentation and Filters

When calibrating analog electronic filters it is important to check filter response shape as well as the correct operation of the input/output at each gain. Our procedures ensure both elements are thoroughly calibrated and ensure they meet the original specification.

We also offer calibration for Kemo's range of Octave calibrators which are used by a number of key acoustic facilities around the world.

Our website features a wide range of application notes which can be seen here

Accelerometers

Kemo uses a state of the art fully automated calibration system which uses a back to back stepped sign calibration method which offers the most accurate way of calibrating accelerometers. Each test frequency can be selected and the system will dwell at each frequency step to enable sufficient data averages to be taken. The output of the reference accelerometer and test item can then be used to calculate the sensitivity automatically. Base calibration frequency is specified at 160 Hz although other sensitivities can be requested.

To minimise errors the data acquisition hardware includes IEPE and Charge amplification to allow direct connection of accelerometers of either type thus reducing the need for additional hardware and cables, this has a direct reduction in noise.

Impact hammers

Using a calibrated reference mass and suspension system impact hammers are calibrated dynamically as per their intended impact use. Using the same method it is also possible to calibrate the force output of an impedance head, whist the accelerometer output can be calibrated using Kemo's dedicated accelerometer calibration system.

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