## SHORT FORM CATALOG



INDUSTRIAL MONITORING VIBRATION SOLUTIONS





#### Who We Are

At CTC, we are a family-owned and operated business passionate about providing the best quality products backed by excellent customer service. We are the industry leader in quick delivery for stock and built-to-order products. All CTC products are proudly made or assembled in the U.S.A. We always honor our best-in-class warranties, and our customer service seeks to provide the best customer experience in the world.

#### What We Do

CTC is the world leader in the design and manufacture of industrial accelerometers, piezo velocity transducers, 4-20 mA vibration sensors, and proximity probes as well as all related mounting hardware, cabling, and junction boxes. Our products enable efficient vibration monitoring for predictive maintenance in a wide variety of industries. Industries served include cement, mining, petrochemical, food & beverage, auto, steel, wind, paper, power generation, water & wastewater treatment, pharmaceutical, hospitals, bottling, and more. Our mission is to offer the most extensive collection of accelerometers and vibration hardware products, as well as the tools for installation. Our products are compatible with multiple third-party data collectors and online monitoring systems.



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## **Product Offerings**

At CTC, we have two comprehensive product lines to meet your industrial vibration monitoring needs. Our products reflect the input from customers and distributors around the world and are designed and tested to meet the real-world demands of plant environments. We believe our products are the highest quality on the market, which is why we back each product line with our best-in-class warranties.



The CTC product line features vibration analysis hardware for heavy industry.

All CTC products are backed by our unconditional lifetime warranty. If any CTC product should ever fail, we will repair or replace it at no charge.



The PRO line offers 4-20 mA vibration monitoring solutions and proximity probes.

All PRO products are backed by a lifetime warranty on materials and workmanship. PRO will repair or replace any of our products as long as the product was not subjected to misuse, neglect, natural disasters, improper installation, or modification.

## **Refund Policy**

All stock products qualify for a full refund if returned in new condition within 90 days of shipment. Built-to-order products qualify for a 50% refund if returned in original condition within 90 days of delivery. Custom products are quoted and built specifically to the requirements of the customer, which may include completely custom product designs or private-labeled versions of standard products for OEM customers. Custom products ordered are non-cancellable, non-returnable, and non-refundable.

CTC offers a complete line of industrial accelerometers that withstand temperatures in the range of -58 to 325 °F (-50 to 162 °C). Our ruggedized industrial accelerometers are available in both top or side exit configurations for single axis, biaxial, and triaxial designs. Side exit configurations allow for installations in areas where height is an issue. CTC's variety of industrial accelerometers supports a diverse set of applications with sensitivity values ranging from 10 mV/g to 1000 mV/g. Dual output configurations allow for vibration and temperature outputs.

## Multi-Purpose Accelerometer, Top Exit







## Multi-Purpose Accelerometer, Side Exit







#### **ACCELEROMETERS**

## Multi-Purpose Accelerometer, Integral Cable Options





#### **ULTRASOUND**

## **Ultrasound Sensor**



Sensitivity: 100 mV/g Resonant Peak: 44 kHz

#### **UEB330**

High frequency ultrasound sensor with high amplitude resonance peak for stress wave measurement techniques and IEPE amplifier technology.

#### **HIGH-TEMPERATURE**

## **High-Temperature Accelerometers**



100 mV/g Max Temp: 325° F (162° C)



AC208 100 mV/g Max Temp: 325° F (162° C)



CM362-7A 50, 100 mV/g 100 mV/in/sec Max Temp: 650° F (343° C)



Backed by our Unconditional Lifetime Warranty!

#### WIND TECHNOLOGY

Power generation is a critical need in today's world. Uptime is the primary concern, and to maintain power generation, the machines need to be running. CTC's goal is to improve reliability with permanently mounted accelerometers to monitor wind turbine vibration and provide early detection for potential failure. CTC has multiple options to fit your specific application. Low-frequency accelerometers are ideal for main bearing and other slow-speed applications. Our multipurpose accelerometers are best suited for gearboxes and generators. All products shown below are rated for 5 kVAC protection.

## **Accelerometers for Wind Turbine Applications**



WT202
General purpose wind turbine accelerometer 100 mV/g



Low & high frequency wind turbine accelerometer 100 mV/g



Low & high frequency wind turbine accelerometer 500 mV/g

## **Molded Accelerometer**



# MEB212 Lightweight molded accelerometer 5 kVAC protection 100 mV/g 10 ft integral cable



#### **Hazardous Rated Accelerometers**

CTC offers a variety of single axis, biaxial, triaxial, and low capacitance sensors certified for Class I Division 2 (ATEX Zone 2), as well as intrinsically safe protection methods under Class I Division 0, Class 1 Division 1, and IECEx.



#### **TEMPERATURE & VIBRATION**

## **Dual Output Temperature and Vibration Sensors** Includes embedded RTD.



#### **TA102** 100 mV/g 10 mV/°C

Temp Range: -40 °F to 250 °F



#### **TA104** 100 mV/g

10 mV/°C Temp Range:

-40 °F to 250 °F



#### TR102-M12A

100 mV/g PT100 RTD

Temp Range: -40 °F to 250 °F



#### TR104-M12A

100 mV/g/axis PT100 RTD

Temp Range:

-40 °F to 250 °F



## TREA330 Triaxial Accelerometers



SIDE EXIT

100 mV/g



INTEGRAL

100 mV/g



ARMORED INTEGRAL 100 mV/g

## Other Popular Triaxial Accelerometers



AC115-M12D

Low cost 4 pin 100 mV/g



AC119

Biaxial with X & Z axis 100 mV/g



AC155

Low cost 4 pin 100 mV/g



**AC230** 

Premium 4 pin 100 mV/g



**AC360** 

Modal/ODS 100 mV/g



AC365

Modal/ODS 100 mV/g

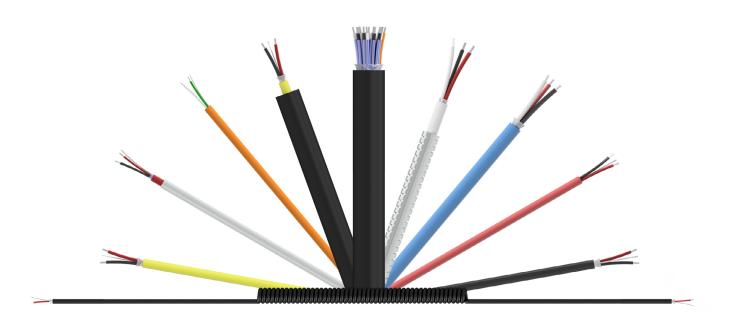


TRCA330

Compact 4 pin 10 mV/g



## CTC Offers a Variety of Cable Options for All Application and Environmental Criteria



#### **JACKET TYPES**

- Fluorinated ethylene propylene (FEP)
- Polyurethane
- Lightweight Polyurethane
- PVC
- Thermoplastic Elastomer (TPE)
- Low Smoke Zero Halogen

#### **ARMOR OPTIONS**

- Stainless Steel Braided Sheathing
- Stainless Steel Armor
- Hydraulic Hose Armor

#### **CONDUCTOR OPTIONS**

- 2 Conductor
- 3 Conductor
- 4 Conductor
- 6 Conductor
- 8 Pair Multi Conductor
- 12 Pair Multi Conductor
- 16 Pair Multi Conductor
- 12 Triad Multi Conductor

#### **HAZARDOUS ZONE OPTIONS**

Class 1 Division 2 approved cables



## CTC Offers a Variety of Standard and Specialty Connectors for Every Possible Application

CTC sensor connectors support temperatures ranging from -58 ° F to 325 ° F. A wide selection of connectors supporting IP (Ingress Protection) ranging from IP66 to IP68 is available.

#### A SERIES: 2 OR 3 SOCKET MIL STYLE (C-5015) COMPATIBLE CONNECTOR





Connector options

- Standard
- Right angle
- Hydraulic hose

#### Material options

- Polycarbonate
- Polyurethane
- Nylon
- · Polyphenylene sulfide (PPS)

#### D SERIES: 2 OR 3 SOCKET MIL STYLE (C-5015) COMPATIBLE CONNECTOR



Connector options

- Standard
- · Grounded to sensor case
- Right angle
- Backshell
- Backshell for Class 1, Division 2
- Molded strain relief
- · Bending strain relief

#### Material options

Polyurethane





Connector options

- Standard
- Strain relief
- · Class 1, Division 2 rated

#### Material options

- Polycarbonate
- Nylon
- Polyurethane

#### M SERIES: 5 SOCKET M12 MOLDED CONNECTOR

J Series: 2 or 4 Socket mini-MIL Connector



Connector options

 Available in 2, 3, 4, and 5 live pin configurations

#### Material options

- Nylon
- Polycarbonate
- Polyurethane

## V Series: Viton Boot



Connector options

Available in 2 or 3 live pin configurations

#### Material options

- Viton seal with
  - Nylon insert option
  - PPS insert option

Many other connector options are available. Please visit our website for more details.



#### **Data Collector Cord Sets**

CTC offers a variety of OEM replacement data collector cables and portable cable options for all major vibration analyzer manufacturers. Data collector cables are available in both coiled and straight cable options. Replacement cable assembly and adapters are available for every major data collector including:

ACOEM, ADASH Ltd, GE/Commtest, Azima/DLI, Emerson/CSI, Erbessd, GE/Bently Nevada, Pruftechnik, Rockwell/Entek, Schenck Trebel, SDT, SEMAPI, SKF, and SPM.

## Popular Data Collector Connectors







EMERSON/CSI C555

Channel A acceleration input to CSI 2130 & 2140

SKF C66

Channel A input for CMXA50, 70, 75 & 80

#### ACOEM C494

Single channel input for Falcon data collectors







#### PRUFTECHNIK C618

Single channel input to VIBXpert II

#### ROCKWELL/ENTEK C22

Single channel input for dataPAC & enPAC

#### GE/COMMTEST C416

Triaxial input X, Y and Z for vb6 & vb8



## **Popular Adapters**



**CB901-1A**2 pin MIL to 2 pin MIL

in-line feed thru



CB903-1A
2 pin MIL to 2 pin MIL
bulk head feed thru,
0.5 in. NPT



CB908-1A
2 pin MIL to BNC plug
adapter with molded
reinforcement



CB910-1A In-line BNC jack adapter



**CB911-1A**BNC tee adapter



CB911-3A
In-line BNC plug
adapter



2 socket MIL to BNC plug adapter

CB912-1A



CB917-1A
BNC feed-thru
connector with
mounting bracket

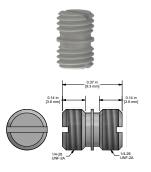


EMPP
BNC jack
measurement point
with protective cover



#### **ADAPTERS & ACCESSORIES**

## **Specialty Mounting Adapters & Studs**



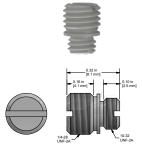
#### MH108-1B

1/4-28 to 1/4-28 mounting stud stainless steel



#### MH108-5B

1/4-28 to M6x1 adapter stud stainless steel



#### MH108-3B

1/4-28 to 10-32 adapter stud stainless steel



1/4-28 to M8 adapter stud stainless steel



#### MH108-4B

1/4-28 set screw ½ in. length stainless steel



1/4-28 to M10 adapter stud stainless steel

## **Junction Box Accessories**



#### JB903-1A

Cord grip for use with cable diameter 0.118 in. - 0.256 in.



#### JB938-1A

1 in. rigid body conduit fitting



#### JB938-2A

1/4 in. rigid body conduit fitting



At CTC, we offer the widest variety of junction boxes in the world. Our junction box solutions allow for the monitoring of remotely mounted vibration sensors, which would be otherwise restricted to human access due to safety considerations. Also offered is a selection of low-cost cable termination boxes that allow multiple measurement points to be routed to a cost-effective location to gather data. Many CTC junction boxes offer continuous output options for direct interface to online monitoring systems.

#### iBox Series

Fully featured vibration junction box with IEPE sensor condition indicator lights and convenient interface with fold-forward panel for easy wiring. NEMA 4X (IP66) rating.



JB100/JB200

Available with single axis, biaxial, and

triaxial outputs



JB100 - 24-48 Channel Available in 24, 36, or 48 channels



JB300 SLOPE TOP Available in 4, 6, 8, 10, or 12 channels

#### **Switch Boxes**



SB102/SB202

Fiberglass or stainless steel switch boxes available in 4, 6, 8, 10, or 12 channels



SB142/SB242

Fiberglass or stainless steel switch boxes for dual output available in 4, 6, or 8 channels



**SSB-MODX** 

12 channel DIN rail mountable switch module subassembly



## **Cable Termination and MAXX Boxes**



CT101
Cable termination boxes for 1, 2, 3, and 4 channels



MMX-MOD3

DIN rail mountable module



MX102/MX202
Fiberglass or stainless steel MAXX
boxes available in
1-12 channels



MX502
Aluminum Mini-MAXX
boxes available in 1,
2, 3, and 4 channels

## **Cable Reduction Boxes**



#### CR102/CR202

Fiberglass or stainless steel cable reduction boxes for 8, 12, and 16 channels



#### **CRHT102/CRHT202**

Fiberglass or stainless steel high temperature (-40 °F to 212 °F/-40 °C to 100 °C) cable reduction boxes for 12 and 16 channels

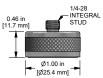


CTC offers a variety of adhesive and stud mounted sensor mounting pads. These are available with magnet pad options for portable field applications, which include both the flat and two rail mounting options. CTC offers vibration pads to ensure very repeatable targets for route-based vibration measurement needs. Specialty mounting accessories for fin-cooled motors are available, as well as a variety of extension adapters are also available to allow access to bearing locations not typically permitted due to restricted access. Visit our website for a complete list of our mounting hardware solutions.

## Rare Earth Magnetic Bases

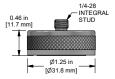
made from Neodymium Iron Boron





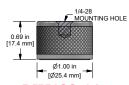
MH103-1B Flat surface pull strength: 40lbs/18kg





MH104-1B Flat surface pull strength: 60lbs/27kg





MH122-1A
Flat surface
pull strength:
40lbs/18kg





MH136-1A Flat surface pull strength: 25lbs/11kq





Multipurpose pull strength: 30lbs/14kg





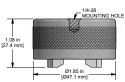
Multipurpose pull strength: 50lbs/23kg





Multipurpose pull strength: 50lbs/23kg





MH115-2A Multipurpose pull strength: 95lbs/43kg



## **Accelerometer Quick Disconnects**

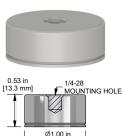




## **Mounting Pads/Magnet Targets**











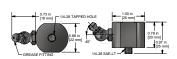




MH133-1A

## **Zerk and Specialty Mounting Adapters**



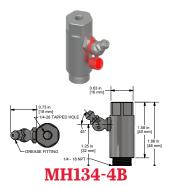


#### **MH134**

Zerk Adapter

See website for additional details

1/4 NPT, 1/8 NPT



Zerk Adapter

See website for additional details

Available mounting threads: Available mounting threads: 1/4 NPT



Hex head mounting stud for Accelerometers

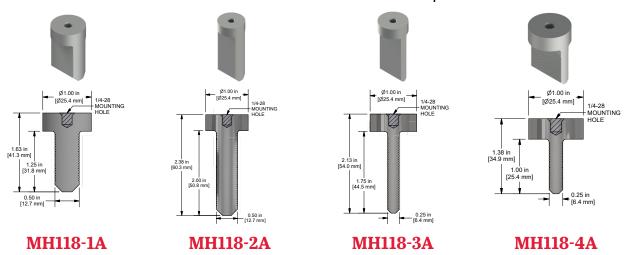
SPM Compatible



Backed by our Unconditional Lifetime Warranty!

#### **Motor Fin Probe Pads**

Take measurements from hard-to-reach places.



Our fin mount probes are perfect for narrow measurement points in motors, turbines, and other machinery. Fin mounts can be used with portable route measurements or permanently mounted accelerometers.

## **Accelerometer Installation Tool Kit**



#### **MH117 SERIES**

Spot face and pilot hole drill in one operation.

Option for taps and ratcheting tap handle included.

#### High speed steel end mill tool kits

Available thread sizes Available end mill diameters  $\frac{1}{4}$ -28  $\frac{5}{8}$  in.  $\frac{10-32}{1}$  1 in.  $\frac{11}{4}$  in.  $\frac{11}{4}$  in.  $\frac{11}{4}$  in.

#### Carbide tipped end mill tool kits

Available thread sizes Available end mill diameters 1/4-28 5% in.

M8x1.25 1 in.

11/4 in.



CTC offers a wide array of 4-20 mA output solutions for industrial applications. CTC's standard 4-20 mA loop-powered vibration sensors are available with velocity as well as acceleration output measurement options. CTC's loop-powered sensor line also includes a dual output option, with both 4-20 mA output and dynamic output configurations in one sensor. Other options include 24 VDC powered transmitters that power standard IEPE accelerometers and convert the vibration to a powered 4-20 mA signal. These transmitters also offer a 4-20 mA output for temperature when coupled with CTC dual output vibration and temperature sensors.

## **Velocity & Acceleration**

LP200 Series sensors for velocity and LP300 Series sensors for acceleration come in top or side exit connector, integral cable, and armored integral cable options. LP400 Series sensors for dual output come in top, integral, and armored integral exit options.













(PRLI))

CE

TOP EXIT

((PRII))

LP402-XXX-2C SN: 1000

(PRLI))

LP402-XXX-3C SN: 1000



SIDE EXIT

LP200 Velocity output

LP300 Acceleration output





## SIGNAL CONDITIONERS

CTC's Signal Conditioner Enclosures are turnkey solutions, which come fully populated with signal conditioners, power supply, and terminal blocks for sensor terminations. The signal conditioners are available pre-configured based on customer-specific requirements. Terminal blocks are provided for easy sensor terminations. These terminal blocks are pre-wired to the signal conditioners, and the outputs from the signal conditioners are wired to terminal blocks for integration into PLC/DCS systems.



SC200 SERIES

Field configurable vibration and temperature signal conditioners



SC300 SERIES

USB configurable, dual channel vibration plus temperature



SC900 SERIES

Hazardous location approved, 4-20 mA vibration transmitters

## **Signal Conditioner Enclosures**



**XE150** 

1-8 channel enclosure



**MVR1000** 

1-4 channel enclosure



**XE550 SERIES** 

1-8 channel enclosure with up to 16 total IP based outputs



#### PROXIMITY PROBES

CTC offers a complete line of proximity probes systems designed and built to endure the harshest industrial environments. Proximity probes systems are available with probe tip sizes in 8mm, 11mm, 25mm, and FFV 5mm diameters with Bently compatible options. The variety of probe sizes offered allows accurate and precise machinery measurements for applications involving radial dynamic, axial rotor position, and thermal case expansion measurements.

#### PROBE TIP OPTIONS



FFV 5mm, 8mm, 11mm, 25mm Standard and armor cable options available PRO line & Bently compatible offerings

## **Complete Your Prox Probe Assembly**







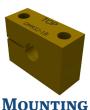
**EXTENTSION CABLES** 

## **Proximity Probe Accessories**



**ENCLOSURES** Fiberglass and stainless

steel enclosures 1-6 channels



**BLOCKS** 



REVERSE MOUNT Housing



## **Wireless Vibration Transmitter**



#### **WA100-BT**

Bluetooth® Low Energy 5.0

Compatible with AC312/AC314 low power accelerometers

Captures a dynamic signal at a user specified sampling rate for a user specified sample time

Estimated 5+ years of battery life when taking 2 or fewer scheduled measurements daily

User configurable 1 - 40ks/sec, F-max = 15,652 Hz ((40ks/s) / 2.56)

Completely customizable monitoring software — No subscription required

#### MOLDED ACCELEROMETERS

## **Lightweight Molded Accelerometer**



MCB211 High frequency 10 mV/g



MDB211 High frequency 50 mV/g



MEB210 General purpose 100 mV/g



MEB211
High frequency
100 mV/g



10.32 in [6.4 mm]

#### SUGGESTED MOUNTING HARDWARE

MH154-1B Flat surface pull strength: 15lbs/7kg











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WHEN RELIABILITY MATTERS CONNECT