



CATÁLOGO DEL SENSOR SERIE CMCP700



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Condition Monitoring Custom Products

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CMCP700 Series Sensor Brochure



Industrial Accelerometers for Vibration Monitoring

STI's accelerometer offering has been extended and streamlined on both sides of the spectrum. On the low end, economical sensors with good specifications are added and on the high end are our precision, premium sensors with extended temperature range.

All of our CMCP700 Sensor Series and CMCP1100 Accelerometers come with a Lifetime Warranty and Sensors with standard options are in stock ready for quick delivery.

This Brochure provides an overview of the new accelerometer selection.

For more information and the complete sensor data sheets, please visit us online, <https://www.stiweb.com>

Accelerometer Selection

For Standard Accelerometers there are three categories: Economical, General and Premium Sensors. Each accelerometer is fully enclosed in a 316 Stainless Steel case with the same dimensions regardless of the category. However, the sensors differ by its specifications, approvals, and connector options.



Shown above: CMCP700 Series of Economical, General and Premium Sensors

Economical Sensors

➤ When the application does not require hazardous approvals, the new Economical Sensors can be considered, -and money saved.

General Application Sensors

➤ The General-Purpose Accelerometers are for widespread applications and feature different connector options, -at no additional cost.

Premium Sensors

➤ The Premium Sensors with the extended temperature to 150 deg C (302 ° F) and a very competitive price, -an outstanding offer.



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Common Specifications

Please refer to the individual sensor data sheets for specific information.

Technical Performance

Mounted Base Resonance: 22 kHz (nominal) top exit and 27 kHz for side exit

Sensitivity: 100 mV/g Standard, optional 10, 30, 50, 250 or 500 mV/g

Isolation: Base Isolated

Transverse Sensitivity: Less than 5%

Electrical

Electrical Noise: 0.1 mg max

Current Range: 0.5 mA to 8 mA

Bias Voltage: 10-12 Vdc

Output Impedance: 200 Ohms max.

Case Isolation: >108 Ohms at 500 Volt

Environmental

Sealing: IP68 and IP65 for sensors with Integral Overbraided Cable

Maximum Shock: 5000 g

Approvals: CE Approved

Mechanical

Case Material: Stainless Steel

Sensing Element: PZT/Compression

Mounting Torque: 5.9 lbs-ft (8 Nm)

Weight: 4.9 oz (139 gram)

Mounting, top exit: 1/4-28 UNF and M8x1.25 Mounting Studs Provided

Mounting, side exit: 1/4-28 UNF or M8x1.25 Captive Mounting Bolt



Hazardous Location Ratings for General and Premium Sensors

Class I, II, III, Division 1 and 2, Groups A-G, T4, -55°C to + 110°C IP65

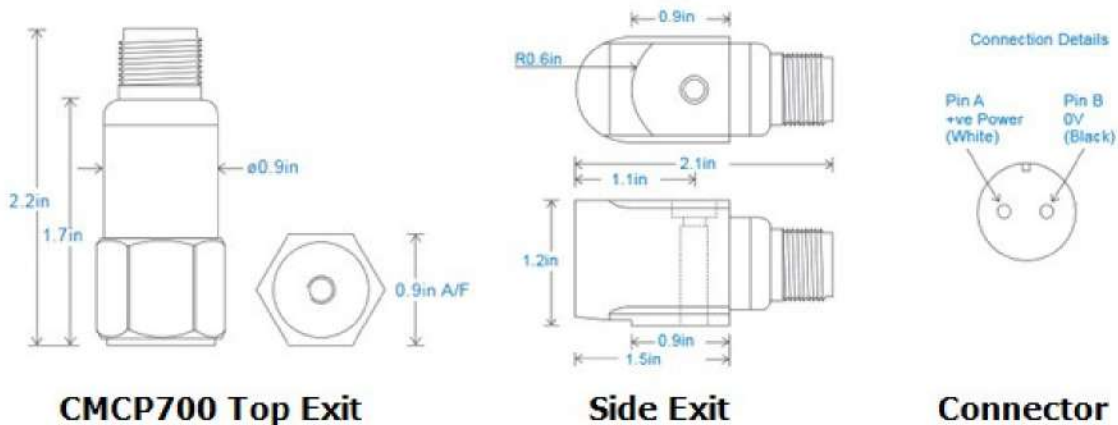
Class I, Zone 0, AEx, ia, IIC, T4, Ga, -55°C to + 110°C

Zone 20, AEx, ia, IIC, T130°C, IP65, Da, -55°C to + 110°C

Class I, II, III, Division 1, 2, Groups A-G, T6, -55°C to + 110°C

Zone 20, AEx, ia, IIIX, T80°C, IP65, DA, -55°C to + 110°C

Dimensions





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The CMCP700 sensor series is designed so that cross wiring will not harm the internal components and provides protection against ground loops. The sensors are waterproof and can be hosed down or submersed when using the proper extension cable such as the CMCP602 series. However, for constant submersion we recommend the sensor with thermoplastic (PUR) integral cables, like the CMCP785A-IP/786A-IP.

Additional sensitivities such as 10 mV/g, 30 mV/g, 50 mV/g, 250 mV/g and 500 mV/g are also available in the same sensor package and can be ordered by adding the sensitivity after the base part number.

Economical Sensors

The CMCP782A Top Exit and the CMCP783A Side Exit Economical Accelerometer are the ideal accelerometers for rotating equipment where hazardous approvals are not required. The sensors are lightweight and can be used for route based or permanent mount applications.



Shown above: CMCP782A Top and CMCP783A Side Exit Economical Accelerometer

Standard Sensitivity and Precision: 100 mV/g +/-10%

Connector: 2 PIN MS Connector (Military Standard)

Frequency Response at +/-3 dB: 1.5 Hz to 10 kHz (90 cpm to 600 kcpm)

Settling Time: 2 s (2 Seconds)

Operating Temperature: -55 to +130 °C (-67 to +266 °F)

Lifetime Warranty

Top Exit Mounting: 1/4"-28 UNF and M8x1.25 Studs (both provided)

Side Exit Mounting: 1/4"x28 UNF or M8x1.25 Captive Mounting Bolt



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General Application Sensors

The CMCP786A Top Exit and the CMCP785A Side Exit General Purpose Accelerometers are the most common choice when it comes to monitoring different types of rotating equipment. The CMCP785A's side exit requires less clearance and accommodates a flush installation. Weighing less than five ounces (139 gram), the sensors can be used for walk-around programs (PdM) or permanently installed on-line systems.



CMCP786A CMCP786A-M12 CMCP785A CMCP785A-M12

Shown above: CMCP700 Series of General Accelerometers

Top Features

- Sensitivity (Precision): 100 mV/g (+/-10%)
- Connector: 2-PIN MS or 4-PIN M12 Connector (or integral cable)
- Frequency Response: 0.8 Hz to 12 kHz (48 cpm to 720 kcpm) at +/-3 dB
- Settling Time: 1.5 s (1.5 Seconds)
- Operating Temperature: -55 to +140 °C (-67 to +284 °F)
- Approvals: Class 1 Division II
- Lifetime Warranty
- Top Exit Mounting: 1/4"-28 UNF and M8x1.25 Studs (both provided)
- Side Exit Mounting: 1/4"x28 UNF or M8x1.25 Captive Mounting Bolt

Premium Sensors

The CMCP787A Premium Side Exit and the CMCP788A Top Exit Accelerometers are supreme accelerometers for rotating equipment in adverse environment. The high limit of the operating Temperature was extended to 150 deg C (302 deg F). The CMCP787A/CMCP788A are very precise and are used for route based or permanent mount applications.



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Quick Comparison Table

| Category | NEW: General Economical | | Premium |
|-------------------------------|-------------------------------|---|---|
| Part ID Top | CMCP782A | CMCP786A | CMCP788A |
| Part ID Side | CMCP783A | CMCP785A | CMCP787A |
| Specifications | Good | Precision and All-Purpose | High Temperature |
| Sensitivity | 10% | 10% | 5% |
| Precision | | | |
| Temperature High Limit | 130 °C (266 °F) | 140 °C (284 °F) 150 °C (302 °F)! | |
| Measurement Range | 60 g Peak | 80 g Peak | 80 g Peak |
| Frequency Range at 10% | 1.5 Hz to 10 kHz | 1.0 Hz to 10 kHz | 1.0 Hz to 13 kHz |
| Connector Options | 2-Pin MIL | 2-Pin MIL, M12 or Integral cable with or without armor | 2-Pin MS, M12 or Integral cable with or without armor |
| Hazardous | | | |
| Approvals | No | CL1 Div2 | CL1 Div2 |
| | | Class 1 Division 1 approved with IS Barrier or Isolator | |
| MSRP for top exit starting at | \$ 115.00 | \$ 175.00 | \$ 202.00 |

Accelerometers with Integral Cable

The General and Premium Sensor Series features Accelerometers with overbraided integral cable or polyurethane (PUR) cable jacket.







General: CMCP786A-I CMCP786A-IP CMCP785A-I CMCP785A-IP
Premium: CMCP788A-I CMCP788A-IP CMCP787A-I CMCP787A-IP



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Cable Options for General and Premium Sensors

| Category Part ID | | | | | |
|----------------------------------|---|---|--|---|------------|
| General: | CMCP786A-I | CMCP785A-I | CMCP786A-IP | CMCP785A-IP | CMCP788A-I |
| Premium: | CMCP787A-I | CMCP788A-IP | CMCP787A-IP | | |
| Specifications | Mechanical Protection Submersible | | | | |
| Sensitivity | 100 mV/g standard. Option of 10, 30, 50, 250 or 500 mV/g | | | | |
| Ingress Protection | Ingress Protection IP65 | | Ingress Protection IP68 | | |
| Case Material Stainless Steel |  |  |  |  | |
| Cable | Includes 5 meter of overbraided, integral cable or specify length | | Includes 5 meter of Polyurethane (PUR) integral cable or specify length | | |
| Hazardous Approvals | Class 1 Division 2, CL1 Div1 approved with IS Barrier or Isolator | | | | |
| MSRP for General | \$ 175.00 \$ | \$ 189.00 \$ | \$ 175.00 \$ | \$ 189.00 \$ | |
| MSRP for Premium | 202.00 | 215.00 | 202.00 | 215.00 | |

Conclusion:

- Standard Sensors with a sensitivity of 100 mV/g are stocked items. Other sensitivities are available at no additional cost with slightly longer delivery time.
- Connector options are offered at the same price, as are the Sensors with integral cable. Sensors with 5 m, 10 m, 20-meter integral cable are stocked items. The cost for 5-meter integral cable (Overbraided or PTE jacketed cable) remain the same as for sensors with connectors.
- The Premium Sensors with 5% sensitivity precision feature the same options regarding sensitivity and connectors (or integral cable).
- Top exit and side exit sensors follow the same principle and the CMCP785A General Accelerometer with side exit starts at \$ 189.00.



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Compact Sensors

STI's Compact Accelerometers have very similar features as standard Accelerometers except that they are smaller and lighter. They are designed to fit in tight locations and have the added benefit of having improved frequency response due to their smaller size.



CMCP1100C M8 Connector CMCP770A 2-Pin MIL Top CMCP780A 2-Pin MIL Side Exit
Shown above: Compact Accelerometers

Compact Sensor Specifications Table

Category Low Cost Compact

| General | CMCP1100C | CMCP770A | CMCP780A |
|-------------------------------|-------------------------------------|----------|----------------------------------|
| Part ID Top | CMCP1100C | CMCP770A | |
| Part ID Side | | | CMCP780A |
| Specifications | Good | | Superior |
| Sensitivity Precision | 10% | | 10% |
| Temperature High Limit | 85° C (185° F) | | 130° C (266° F) |
| Measurement Range | 50 g Peak | | 80 g Peak |
| Frequency Range at 10% | 1.5 Hz to 7 kHz | | 1.5 Hz to 16 kHz |
| Connector Options | 3 Pin Male Gold Plated M8 Connector | | 2-Pin MIL |
| Hazardous Approvals | No | | CLT Div2 (CL1 Div1 with barrier) |
| MSRP for top exit starting at | \$ 99.00 | | \$ 215.00 |

Conclusion:

- The Compact Accelerometers have a sensitivity of 100 mV/g and are ideal for use in small spaces.
- The General Compact sensors are waterproof and can be hosed down or submersed when using the proper extension cable such as the CMCP602 series.
- Compact Sensors are available with connectors only.



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Dual Output Sensors

STI's Dual Output Accelerometers divide into the Low Cost, General Dual Output and Premium Dual Output category. All of them provide both a standard 100 mV/g vibration and a 10 mV/°C temperature signal using a 3-pin Connector.

The Low-Cost category is represented by the CMCP1100T series.

General Purpose Dual Output Sensors, like the CMCP786T Accelerometer with Temperature Top Exit and the CMCP785T Side Exit Sensor, feature a temperature range from 0 to 100 deg C and various connector options.

https://www.stiweb.com/Accelerometers_with_Temperature_s/89.htm

Premium Dual Output Sensors, for example the CMCP788T Accelerometer with Temperature Top Exit or the CMCP787T Side Exit Sensor, feature a temperature range from 0 to 150 deg C and various connector options.

General and Premium Dual Output Sensors are Class 1, Division 2 Hazardous Area rated and come with a Lifetime Quality Warranty.

Other Subcategories, as Low Frequency Accelerometers, Biaxial/Triaxial Sensors, Piezo Velocity Transducers, or 4-20 mA Output Sensors, can be found on our Accelerometer Home page:

https://www.stiweb.com/Industrial_Accelerometers_s/37.htm

