

Dynamic Output

Both the CMCP420VT-01 and CMCP420VT-02 are supplied with a 100mV/g Dynamic Output, available on the D+ and D- terminals. Vibration analyzers should be set to not provide constant current power when used.

Calibration

The CMCP420VT/Ex is factory calibrated prior to shipment to meet the specifications published in the datasheet. Calibration certificates are available upon request.

Maintenance

The CMCP420VT/Ex is non-serviceable as all electronics are epoxy encapsulated. General routine maintenance should be done as required to verify the sensor is firmly mounted and all connections to the sensor are secure. The cover of the housing must remain closed during normal operation. A set screw is provided to secure the cover to prevent unauthorized access.



Tighten to Secure Cover

****Installation Note****

The equipment is not covered by the ATEX and IECEx certificates if the sensor is not correctly installed in the flameproof enclosure provided with the sensor.

Downloaded CMCP420VT/Ex Certificates

<https://www.stiweb.com/v/vspfiles/certificates/CMCP420/Ex>



CMCP420VT/Ex Series ATEX/IECEx Approved 4-20mA Vibration Sensors

User's Guide

Release: January 2020



Manufactured By
STI Vibration Monitoring Inc.
1010 East Main Street
League City, Texas 77573 USA
Toll Free: 888.777.7213
Direct: +1 281 334 0766
www.stiweb.com

Introduction

The CMCP420VT/Ex Series Sensors are ATEX/IECEx approved 4-20mA output sensors designed to monitor machinery health and provide reliable real-time data to improve machine reliability. The series is available in two primary type, either Vibration only or Vibration and Temperature. Both sensors provide a 4-20mA output for each parameter though the Vibration only model also includes a buffered 100mV/g dynamic signal output on the terminal block. The CMCP420VT Series are typically installed on a bearing housing, or machine frame, and connect back to the user’s PLC, DCS, SCADA or other control system where the 4-20mA signals can be recorded, trended or displayed. Each CMCP420VT/Ex sensor is provided with an approved flameproof housing.

Items Included



Certificate Details

IECEX BAS20.0003X
Baseefa20ATEX0011X
Ex II 2G
Ex db IIC T6 (-20°C ≤ Ta ≤ +79°C)
Specific Conditions of Use:

- 1. The temperature at the flameproof enclosure shall not exceed 85°C.

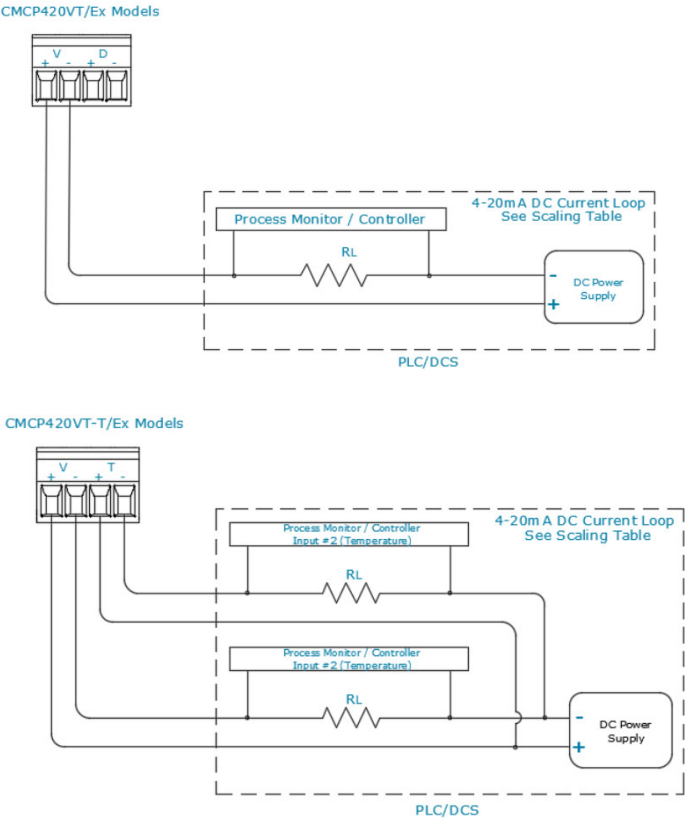
Typical Installation (Stud Mount)

- 1. Prepare mounting surface using a spot facing kit, such as the CMCP270L, to create a 1.0” (25.4mm) flat surface.
- 2. Drill and tap the center hole for the correct mounting thread. The sensor is supplied with both ¼-28 and M8x1.25 thread adapters. Mounting pads may be used with an extended length mounting screw or mounting pads can be glued to the mounting surface using a suitable adhesive.
- 3. Clean surface with a degreasing agent.
- 4. Apply a thin film of silicone dielectric grease to achieve a higher degree of surface contact between the sensor and mounting surface (if necessary).
- 5. Screw the sensor onto the mounting stud and torque to 9Nm.
- 6. Attach the flameproof housing to the sensor.
- 7. Torque the housing to 30Nm.
- 8. Install conduit or flameproof cable gland per IEC/EN 60079-1.
- 9. Using twisted/shielded cable, connect the sensor to the control system per the diagram shown in the wiring details below. All connections are to be made inside the housing and must use cable rated for a minimum of 85°C.
- 10. Refer to CMCP420VT/Ex installation drawings for more detail.

Installation Note:

Various mounting adapters, pads and adhesives are available for alternate mounting techniques. Contact STI for more information.

Wiring Details



4-20mA Scaling

Model	Vibration Output		Temperature Output	
	Imperial	Metric	Imperial	Metric
CMCP420VT-01	0 to 1.00 in/s	0 to 25.4 mm/s	N/A	N/A
CMCP420VT-02	0 to 2.00 in/s	0 to 50.8 mm/s	N/A	N/A
CMCP420VT-T1	0 to 1.00 in/s	0 to 25.4 mm/s	-32 to 212°F	0-100°C
CMCP420VT-T2	0 to 2.00 in/s	0 to 50.8 mm/s	-32 to 212°F	0-100°C