STI Vibration Monitoring Inc.

Vibration Monitoring and Machine Protection Systems

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Condition Monitoring Custom Products

Tech Note 110
Troubleshooting CMCP420VT Series

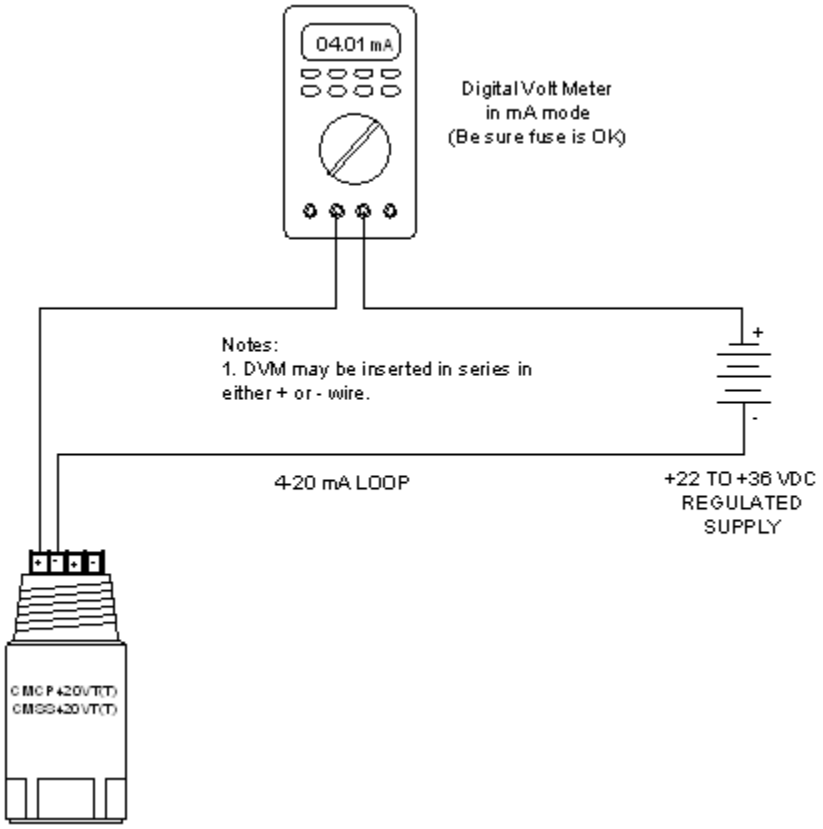
Bench testing a CMCP420VT(T) is quite easy and can be accomplished using a 24 VDC power supply and a DVM (Digital Volt Meter) in mA (Amp) mode. Be sure that the fuse in the mA input of your DVM is good. Most quality DVM's have a 1 and 10 Amp selection. Select the lowest as you will only be measuring to about 30 mA or 0.030 Amp. Be sure the power supply is wired plus to plus and minus to minus to the CMCP420VT. The DVM can be inserted in series in either leg.

******* Important *******

The CMCP420VT requires a minimum voltage dependant on resistance in the loop. If units locks at >21 mA voltage needs to be increased by using an external +24 VDC power supply.

In the case of the CMCP420VT-T with Temperature the loop mA is checked the same way, just move the wires to the temperature side of the terminal. Heat the unit gently with a heat gun or your hand and mA output will increase. Allow time for unit to heat soak and do not overheat.

The CMCP420VT will begin operation as soon as 24 VDC power is supplied. Start up time is short but give the unit about 30 seconds for the integrator to settle. At rest on a table or desk top the unit should read about 4.0 mA (0.004 Amp) depending on floor and table vibration. Tap the unit gently against the table at a rate of a couple times per second. Increasing the force of the taps will cause the unit to read over 20 mA (0.020 Amps).



Problem	**Solution**
No Output	Verify Wiring Verify Supply Voltage at V+ Terminal (18 to 36 VDC) Verify Loop with DVM in Series (mA Mode) Verify PLC/DCS Scaling (4 mA = 0, 20 mA =1.00) Verify External Power Supply Common is Established (If Used) Replace with Spare
Output Locked at >21 mA	Inadequate Supply Voltage Verify Supply Voltage at V+ Terminal (18 to 36 VDC) Increase Supply Voltage as Required
Low Vibration Reading	Verify with Portable Meter Verify PLC/DCS Scaling (4 mA = 0, mA =1.00) Verify Sensor is Correctly Positioned on Bearing
High Vibration Reading	Verify with Portable Meter Verify PLC/DCS Scaling (4 mA = 0,20 mA =1.00) Repair Machine or Adjust Process
Erratic Measurement	Verify with Portable Meter Verify Unit is Mounted Securely Verify Wiring and Intermediate Terminals