

CMCP7504M

Machine Condition Monitoring System



Features

- Continuous Monitoring for Machine Protection
- Accepts IEPE Accelerometer Inputs
- Acceleration, Velocity and Demodulation for Bearing Condition
- Speed and Temperature Inputs
- Local Display with Bar Graphs
- Local Alarm Indicators
- 4-20mA, Relay and Modbus Outputs
- Raw Signal Saver for FFT/Waveform Viewing
- Multistage Alarming
- BNC Buffered Outputs
- Compact Din-Rail Mountable Housing

Typical Industries

Process Industries, Machine Tooling, Marine, Wind Energy, Food and Beverage, Pharmaceuticals

Product Overview

The CMCP7504M is a powerful compact four channel continuous machine protection system for early fault detection and prevention. The CMCP7504M continuously monitors up to four inputs from IEPE accelerometers and provides a local display with bar graphs and alarm limits, in addition to 4-20mA, relay and Modbus outputs. Each input can be programmed to monitor in either acceleration, velocity or demodulation for bearing condition, also known as Enveloped Acceleration. All three parameters are displayed on a sub-menu on the display. The CMCP7504M is also capable of accepting a temperature signal and speed signal from external sensors. Speed and temperature alarms can be tied to a specific channel, allowing you to alarm in the event of alarm condition. Upon alarm, the CMCP7504 will record the sensors raw signal and store the data on a removable micro-SD card which can then be imported to a software program to look at the FFT and time waveform. The overall value from each channel is also stored on the micro-SD card with a timestamp for trending. The CMCP7504M can be programmed using a Windows based PC and STI's CMCP7504M Configuration Utility.

Input Specifications

Number of Vibration Inputs: Four (4) 100mV/g or 500mV/g IEPE Accelerometers
 Temperature Input: One (1) PT100 or 10mV/°C From Dual Output Sensor
 Speed Input: One (1) Voltage Pulse (12V) or 4-20mA
 Power: 24VDC
 Consumption: 30W

Signal Processing

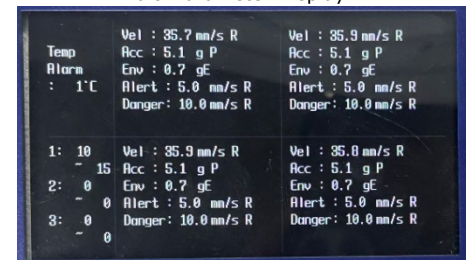
Measurements Per Channel: Acceleration, Velocity and Demodulation (Enveloped Acceleration)
 Acceleration Frequency Range: 1Hz to 20kHz

Velocity Frequency Range: 5Hz to 1kHz
 Enveloped Acceleration: 500 to 10kHz
 Units: English or Metric Selectable
 Storage: 1GB Micro-SD Card (Included)
 Overall Values Saved as .txt file
 Raw Data Signal Saved as .wav file

Output Signals

Analog Outputs: One (1) Isolated 4-20mA Per Channel
 Alarm Relays: One (1) Alert and One (1) Danger Per Channel (8 Total)
 System OK Relay: One (1) Bias Voltage and System Status Relay
 Relay Type: SPDT, 1A @ 30VDC/250VAC
 Relay Reset: Push Button (Front Panel)
 Modbus Output: Modbus RS485 and TCP (Ethernet)
 Buffered Output: One (1) BNC Buffered Output Per Channel (4 Total)
 One (1) Screw Terminal Buffered Output Per Channel (4 Total)

Multi-Parameter Display



Environmental

Operating Temperature: -20 to +80°C (-4 to 176°F)
Storage Temperature: -55 to 125°C (-67 to 257°F)
Humidity: 0-95% Non-Condensing
IP Rating: IP64 (Additional IP66 Enclosures Available)

Mechanical

Weight: 1.2 Lbs
Material: Powder Coated Aluminum
Color: Black with Blue Front Label
Dimensions: 9.125" x 4.2" x 2.4" (231 x 106 x 61mm)
Mounting: Din Rail (TS35)

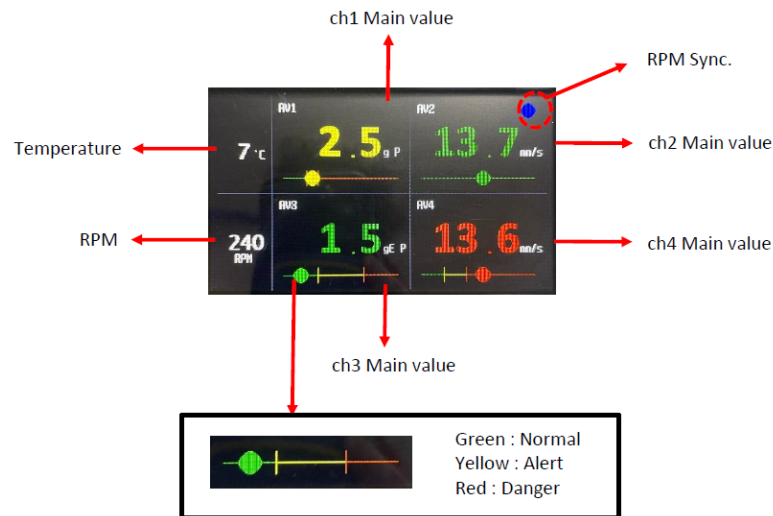
Software

Configuration Software: Included
Compatibility: Windows 10, 11 or Later

Warranty:

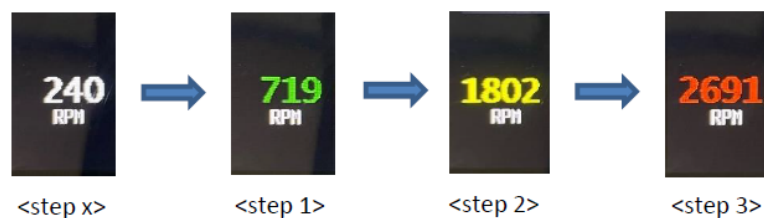
3 Years

Display Overview



Speed Sync

The CMCP7504M allows the user to set up to 3 different speed ranges where alarms can apply. Alarms are only active when the speed measured is within the specified speed range, allowing the user to set various alarms limits based on running speed.

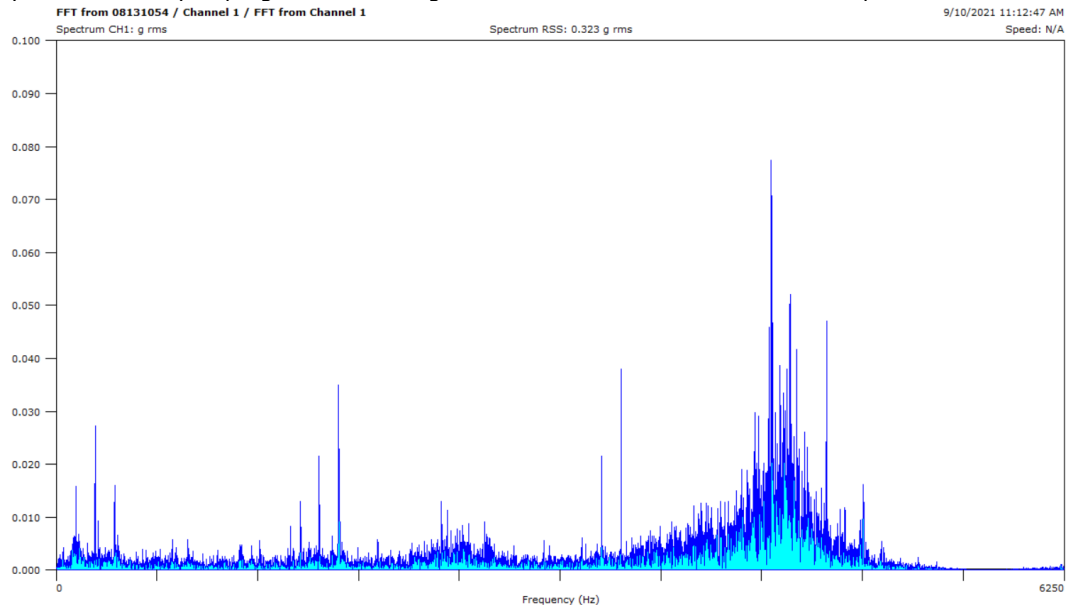


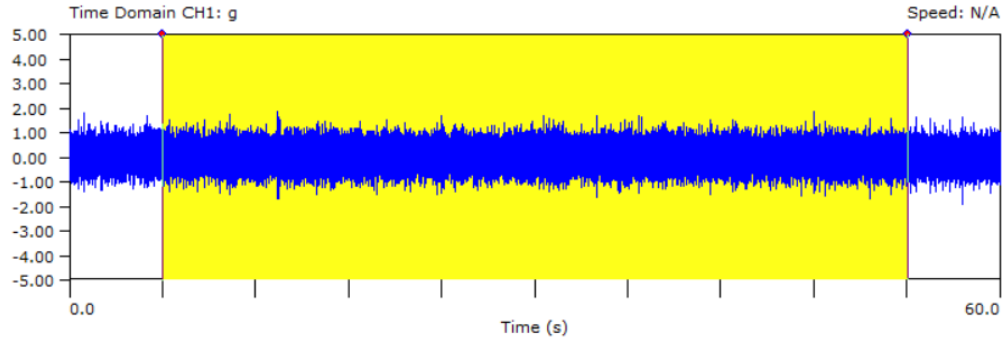
Configuration Program

Point Name Used/Not Used Input Type Speed Sync Temp Sync Engineering Unit Voltage Check Alarm Setting Danger Alarm Setting Alert Alarm Setting Danger Alarm Setting Alert Alarm Setting Danger Alarm Setting Alert Relay Type(NE/NDE) Alarm Operating Type Alarm Delay Time(Sec) Alert Operating Type Alert Delay Time(Sec) Sensor Sensitivity(v/g) Out Full Scale Max View Scale Max View Scale Min Scale(4~20mA)Max Scale(4~20mA)Min Ver 3.41	CH1 Test ch1 Used Accelerome <input type="checkbox"/> Speed Sync <input type="checkbox"/> Temp Sync mm/s R Check T1 8.0 T1 5.0 T2 8.0 T2 5.0 T3 8.0 T3 5.0 NE NonLatch 0.0 NonLatch 0.0 0.1 25.0 15.0 0.0 20.0 4.0 Send Set Ch1	CH2 Test ch2 Used Accelerome <input type="checkbox"/> Speed Sync <input type="checkbox"/> Temp Sync mm/s R Check T1 8.0 T1 5.0 T2 8.0 T2 5.0 T3 8.0 T3 5.0 NE NonLatch 0.0 NonLatch 0.0 0.1 25.0 15.0 0.0 20.0 4.0 Send Set Ch2	CH3 Test ch3 Used Accelerome <input type="checkbox"/> Speed Sync <input type="checkbox"/> Temp Sync mm/s R Check T1 8.0 T1 5.0 T2 8.0 T2 5.0 T3 8.0 T3 5.0 NE NonLatch 0.0 NonLatch 0.0 0.1 25.0 15.0 0.0 20.0 4.0 Send Set Ch3	CH4 Test ch4 Used Accelerome <input type="checkbox"/> Speed Sync <input type="checkbox"/> Temp Sync mm/s R Check T1 8.0 T1 5.0 T2 8.0 T2 5.0 T3 8.0 T3 5.0 NE NonLatch 0.0 NonLatch 0.0 0.1 25.0 15.0 0.0 20.0 4.0 Send Set Ch4	AUX: Temperature Used <input type="checkbox"/> 10mV/C H 100 Speed Used 1 <input type="checkbox"/> 4~20mA Input H1 10.0 L1 5.0 H2 10.0 L2 5.0 H3 10.0 L3 5.0 Ev.Cnt 1 Send Set Aux SYSTEM ModBus Slave No. 1 Baud b9600 Data d8 Stop s1 Parity NON SN: 20200601 Send Set Data	Net Config IP : 192 168 0 40 Set Load MAC Address (HEX) A1 A2 A3 A4 A5 A6 00 00 00 00 00 EE Set Load Time All Time Syn Send Load Com Port Connect Dis Con Setup File Save Open
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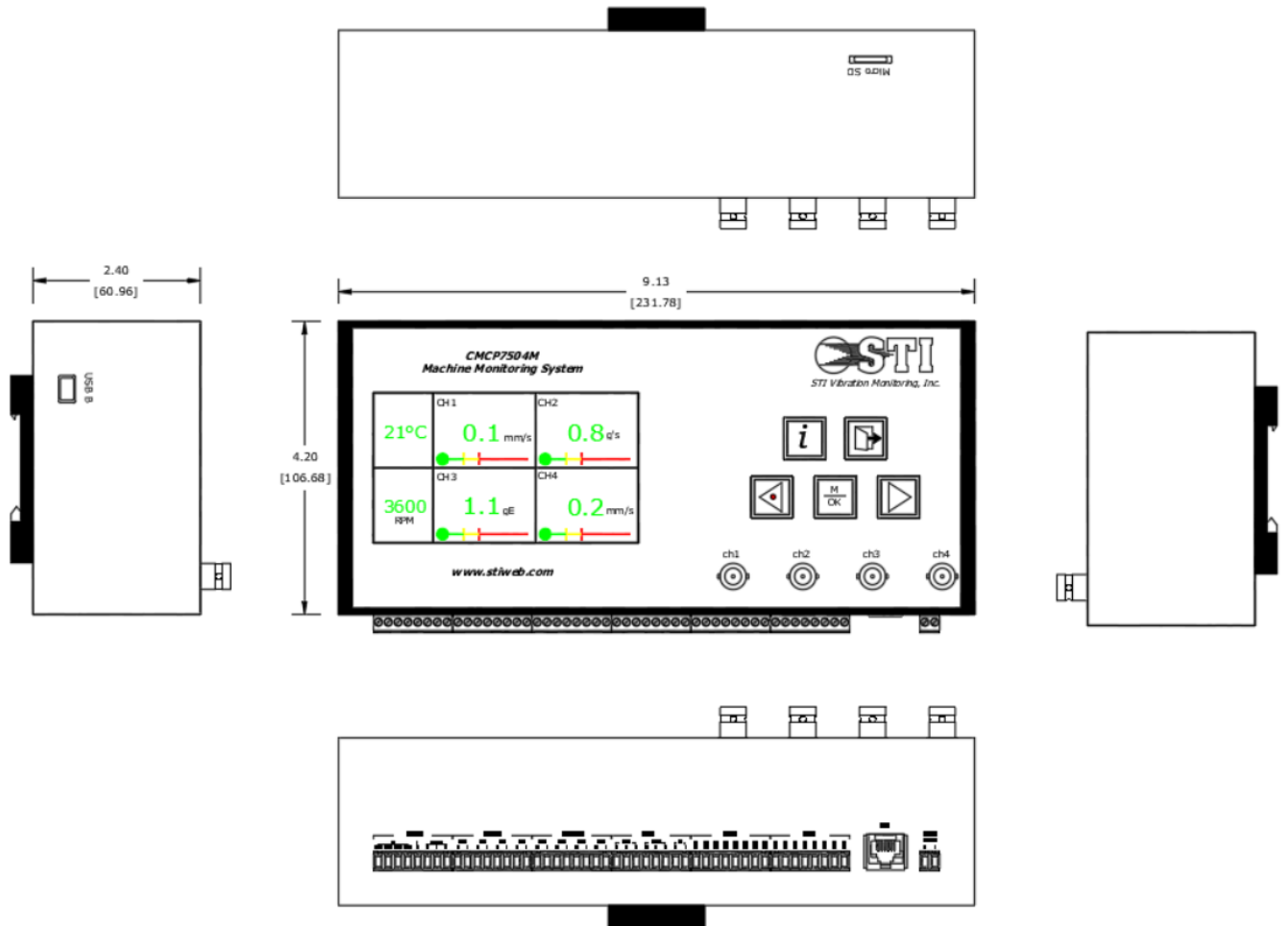
DataView Signal Recoding

The CMCP7504M records and stores the sensor's raw signal on demand, with the push of a button, and upon alarm. The raw signal is saved on a local removable Micro-SD card, with a date and time stamp, allowing the user to import the data to a vibration analysis program for waveform and FFT diagnostics. The file is stored as a .wav file, which is a conventional file type for many vibration analysis programs. The image below shows FFT and timewave data pulled from the CMCP7504M.





Dimensions



Ordering Information

CMCP7504M

Note:

Due to STI's continuous process improvement, specifications are subject to change without notice.