STI Vibration Monitoring Inc.

Vibration Monitoring and Machine Protection Systems

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Condition Monitoring Custom Products

CMCP5300 Series
Integrated Vibration Monitoring Systems

CMCP5304-E-FG-I Shown with Independent LED Displays

System Features:

- Simplified Vibration Monitoring for Up to 6 Channels
- Standard 100mV/g IEPE Accelerometer Inputs
- Fiberglass, Painted Steel, or Stainless Steel Enclosure
- 4-20mA and Relay Outputs
- English or Metric Units
- LED Displays for Overall Amplitude and Alarm Indication
- 90-240VAC 50/60 Hz or 24VDC Powered
- API 670 Compliant for Machine Protection Systems

Summary:

The **CMCP5300 Series Integrated Vibration Monitoring Systems** are preassembled and ready to install machinery protection systems. Each system includes a CMCP530A Vibration Velocity Monitor for each sensor input and provides real-time monitoring and machine protection for typical rotating machinery. Systems are available with Fiberglass, Painted Steel or Stainless Steel enclosures and an internal power supply allows for 90-240VAC (50/60Hz) or 24VDC operation.

About the Monitor:

The CMCP5300 Series Systems include a CMCP530A Vibration Velocity Monitor for each sensor input. The CMCP530A provides power and signal conditioning for a standard IEPE accelerometer such as STI's CMCP786A. The CMCP530A processes the signal to determine its overall amplitude in terms of Velocity Peak or RMS and provides a 4-20mA, Display and Relay outputs. Alert and Danger set-points can be adjusted via the front panel switch on the CMCP530A. Relays are rated for 5 Amps at 250VAC which allows the system the ability to handle machine shutdowns if necessary. Relays can be set for non-latching or latching and an alarm reset button is provided on the display panel to allow the operator to clear an alarm. A Timed OK Danger Defeat circuit is provided with each monitor to prevent unwanted to false trips. For additional machine analysis two buffered output signals are provided for online or portable vibration analysis equipment.

Communications:

The 4-20mA output from each CMCP530A Vibration Velocity Monitor can sent to a PLC, DCS, SCADA or other system featuring an analog input channel.

Enclosure Features:

- For up to 6 Monitors
- Available in Fiberglass, Painted Steel and Stainless Steel
- Clear Viewing Window in Door
- IP66 Approved
- NEMA Approved
- Optional LED Displays
- Internal Power Supply
- Includes Integration of Monitors

Monitor Features:

- Accepts Inputs from 100mV/g Accelerometers
- 4-20mA Output
- OK, Alert and Danger Alarms
- 5A @250VAC Relay Outputs
- Latching or Non-Latching Alarms
- Trip Multiply (2x or 3x)
- Selectable Time Delay
- API 670 Compliant

CMCP5302-E-FG-I Showing behind the hinged panel

Dimensions:

CMCP5301 and **CMCP5302**
Fiberglass (FG): 9.2"H x 11.20"W x 6.1" D
Painted Steel (PS): 9.85"H x 11.8"W x 5.9"D
Stainless Steel: (SS) 9.85"H x 11.8"W x 5.9"D

CMCP5304 and **CMCP5306**
Fiberglass (FG): 11.2"H x 13.21"W x 6.5"D
Painted Steel (PS): 9.85"H x 11.8"W x 5.9"D
Stainless Steel (SS): 9.85"H x 11.8"W x 5.9"D

CMCP5306-E-FG-C Shown with Common Switchable LED Display

CMCP530(A) Velocity Transmitter/Monitor

Specifications:

Electrical Specifications:	**CMCP530**
Input:	100 mV/g Accelerometer (-100A) 100 mV/in/sec (3.937 mv/mm/sec) Velocity Sensor (-100V) Other Sensitivities Available On Request
Output:	4-20 mA DC Proportional to Velocity (600 Ohms max. resistive load)
Frequency Response @ -3db	2 to 2,000 Hz ISO Low Frequency (-ISO LF) 10 to 1,000 Hz ISO Standard (-ISO)
Power:	+24 VDC 50 mA max. Transmitter (100 mA max. Monitor) Reverse Polarity and Transient Protected
Accuracy:	1% Full Scale
Selectable Ranges:	0.5, 1.0, 1.5, 2.0, 2.5 in/sec (12.7, 25.4, 38.1, 50.8, 63.5 mm/sec)
Signal Detection:	RMS or Peak
Sensor Power:	Internal 4.4 mA Constant Current Diode
OK Circuit:	Green LED (On = OK), Not OK = Off and 4-20 mA < 2.0 mA
Timed OK Danger Defeat:	30 Seconds on Power Up or Loss of OK (Alert and Danger)
Buffered Outputs:	Active Buffer, BNC and Terminal
Optional Filters:	Optional Pluggable High Pass and Low Pass Filters
Case:	Isolated
Terminals:	Screw Type, 24 AWG min., 12 AWG max.
Environmental Specifications:	
Operating Temperature:	-20ºC to +80ºC (-4ºF to +176ºF).
Storage Temperature:	-40ºC to +95ºC (-40ºF to +203ºF)
Relative Humidity:	0 - 95% Non-Condensing
Mechanical Specifications:	
Mounting:	32 mm (G style) or 35 mm (T style) DIN Rail.
Dimensions:	0.99"W x 3.11"H x 3.81"D (25.27 x 78.99 x 96.67 mm) Transmitter 1.67"W x 3.11"H x 3.81"D (42.3 x 78.99 x 96.67 mm) Monitor
Weight:	0.21 lb./0.40 lb. w/Alarm Module (0.095kg/0.18kg)
Certifications:	CE, RoHS, CSA & UL Approved Class I Division II B-D

Optional Alarm Module (Monitor):	CMCP530A
Number of Alarms/Relays	3 - OK, Alert and Danger
Alarm Indication:	OK = Green LED, Alert = Yellow LED, Danger = Red LED
Relay Specification:	3 - Form C, SPDT, 5 Amp 30 VDC/250 VAC, Latching or Non-Latching
Alarm Time Delay:	Separately Selectable 0.1, 1.0, 3.0 6.0 10.0 Seconds
Trip Multiply Function:	Terminal for None, 2X or 3X Alarm Limit Trip Multiply
Reset Function:	Terminal for Remote Reset if Latching Alarms Selected
Bypass Function:	Hold Reset to Common
Display Output:	0-5 VDC Switch Selectable Current Value, Alert and Danger Setpoint

Ordering Information:

CMCPXXXX	-X	-XX	-X	
5301				1 Channel Monitoring System
5302				2 Channel Monitoring System
5304				4 Channel Monitoring System
5306				6 Channel Monitoring System
	-E			English Units
	-M			Metric Units
		-FG		Fiberglass NEMA 4X Enclosure
		-PS		Painted Steel NEMA 4X Enclosure
		-SS		Stainless Steel NEMA 4X Enclosure
			-N	No Displays
			-C	Common Switchable LED Display
			-I	Independent LED Displays

Single Channel example shown –
CMCP5301-E-FG-I

Two Channel System Solution Kit example shown –
CMCP5302K-E-FG-I with Sensors and Cables