

CMCP500 Series Transmitters/Monitors



- Low Cost
- Din rail mount
- 4-20 mA output
- Sensor fault detection
- Buffered transducer output
- Optional filters
- Alert, Danger & OK Alarms and Relays
- Trip Multiply
- Remote Reset

Description:

The CMCP500 Series are general purpose monitor/transmitters. They are compatible with *vibration and temperature* inputs, they provide a 4-20 mA output proportional to the overall *measurement*. Each unit provides power for the associated transducer, processes the vibration signal to determine overall amplitude, and outputs a 4-20 mA dc current that is proportional to a user specified range such as 0-10 mils or 0-0.5 in/sec. Combining transmitters with an existing PLC or DCS system results in a high density, low cost vibration monitoring system. When specified with the alarm feature, the unit functions as a complete single channel monitor that includes alert and danger alarms, and output relays.

Buffered Output:

A BNC connector mounted on the front of the unit provides access to the buffered transducer output signal. This includes both the unfiltered vibration signal, and the DC bias voltage. Portable test equipment or analyzers can be connected to this output without disturbing other system outputs.

Fault Detection:

On board fault detection circuitry continuously monitors the transducer for normal operation. If a fault occurs, the output current is reduced to 2 mA to indicate the fault to the readout system. A red LED on the front of the unit is turned on to provide a local indication of the fault.

Filters:

For applications that require monitoring specific frequency bands, optional high-pass and low-pass filters can be specified. These filters are modular and can be installed by the factory or in the field. Each module attenuates out-of-band signals at a rate of approximately 24 dB/octave. Corner frequencies from 2 Hz to 20 kHz may be specified. Filter modules may be cascaded to form higher order filters or to create a band-pass response. Filtering does not effect the buffered transducer output.

Alarms:

This monitoring option adds two independent set points, with LED alarm indicators and output relay contacts (Alert and Danger). Set points are adjustable via potentiometer, from 0 to 110% of full scale. Each has an adjustable delay of 1 to 10 seconds. Relay contacts can be independently configured by the user for either Normally Open (NO) (Standard) or Normally Closed (NC) operation. Relays are normally de-energized and can be configured for latching or non-latching (standard) operation. Latched alarms may be reset locally or by remote contact closure. SPST Relay contacts are rated 5 Amps @ 30 Vdc or 250 Vac for resistive loads. The Alarm option also provides set point multiplication of 3X via contact closure (2X available).

Displays And Assemblies:

Various display options, NEMA and explosion-proof enclosures, and assembled multi-channel systems are available. Consult your sales representative.



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Electrical Specifications:

Power: +24 Vdc @ 45 mA max. (30 mA typical at 2 full scale output). Reverse polarity and transient protection included. (With the Alarm/Relay option installed: 75 mA max.)

Frequency Response (Without optional filters): (-3 dB) 2 Hz to 20 kHz.

Buffered Output: BNC Connector 0-20 kHz.

Accuracy: 5.0 % of Full Scale Range.

Output: 4-20 mA proportional to the full scale range.

Maximum Load: 600 Ohms Resistive.

Case: Isolated.

Environmental Specifications:

Operating Temp.: -20°C to +80°C (-4°F to +176°F).

Storage Temp.: -55°C to +125°C (-67°F to +257°F).

Relative Humidity: 0 - 95% Non-Condensing.

Mounting:

32 mm (G style) or 35 mm (T style) DIN Rail.

Ordering Example: To order a standard acceleration monitor that accepts input from a 100 mV/g Accelerometer, such as the SKF-CM CMSS786, with a Full Scale of 10 g with Peak Detection, specify Part Number: CMCP525A-100A-02P.

NOTES:

1. To order factory installed 4-pole filter modules, add the appropriate suffix to the basic part number:

Example: adding suffix -L500 specifies a 4-pole low-pass filter with a corner frequency of 500 Hz (30,000 cpm). Adding suffix -H40 specifies a 4-pole High-Pass filter with a corner frequency of 40 Hz (2400 cpm). Up to two filter modules may be specified. Filter modules can be field installed. If you are unsure about your filter needs, need higher order filters or a band-pass response, consult the factory or your regional sales office for assistance in specifying the correct option numbers.

2. The Full Scale option specified at order entry is used by the factory for initial calibration. However, several other ranges can be jumper selected in the field.

3. Transducer and Full Scale options not listed in the above table are available. Contact your sales representative.



CMCP500 Series Transmitters/Monitors

Ordering Information:

Low Cost Monitor System CMCP500

CMCP500-(aa)-(bb)-(cc)

(aa) Channels

- 01 thru 04, 1-4 Channel System (Specify)
- 05 thru 08, 5-8 Channel System (Specify)
- 09 thru 12, 9-12 Channel System (Specify)

(bb) Enclosure

- F, Fiberglass NEMA 4X Enclosure
- S, Painted Steel NEMA 4 Enclosure
- SS, Stainless Steel NEMA 4X Enclosure
- EX, Explosion Proof Enclosure

(cc) Display

- 01, No Display
- 02, Internal Common Digital Display w/ Switches
- 03, Internal Independent Digital Displays
- 04, External Common Digital Display w/ Switches
- 05, External Independent Digital Displays

DC Power Supply (24 Vdc)CMCP515

CMCP515-(aaa)-(bbbb)-(cc)

(aa) Input Voltage

- 115, 105-125 Vac Input
- 230, 210-250 Vac Input

(bb) Output mA.

- 200, 200 mA Capability
- 350, 350 mA Capability
- 600, 600 mA Capability
- 750, 750 mA Capability
- 1250, 1250 mA Capability
- 2000, 2000 mA Capability
- 5000, 5000 mA Capability

(cc) Enclosure

- N, No Enclosure
- F, Fiberglass NEMA 4X Enclosure
- S, Painted Steel NEMA 4 Enclosure
- SS, Stainless Steel NEMA 4X Enclosure

Acceleration Monitor/Transmitter CMCP525

CMCP525(X)-(aaa)-(bbb)-(ccc)-(dddd)

CMCP525, Acceleration Transmitter

CMCP525A, Acceleration Monitor

(aaa) Input

- 100, 100 mV/g Accelerometer
- Specify, Specify Exact mV/g

(bbb) Full Scale

- 01R, 0 to 5 g, RMS Detection
- 01P, 0 to 5 g, Peak Detection
- 02R, 0 to 10 g, RMS Detection
- 02P, 0 to 10 g, Peak Detection
- Specify, Specify in 5 g Increments, Followed by AR@ or AP@

(ccc) High Pass filter

HXX, High Pass Corner Frequency in Hz

(dddd) Low Pass Filter

LXXX, Low Pass Corner Frequency in Hz



CMCP500 Series Transmitters/Monitors

Velocity Monitor/Transmitter CMCP530

CMCP530(X)-(aaaaa)-(bbb)-(ccc)-(dddd)

CMCP530 Velocity Transmitter

CMCP530A Velocity Monitor

(aaa) Input

100A, 100 mV/g Accelerometer

100V, 100 mV/in/sec Velocity Transducer

500EV, 500 mV/in/sec Electro-Mechanical Pick Up

Specify, Specify Exact mV/g or mV/in/sec Followed by A, V, or EV.

(bbb) Full Scale

01R, 0 to 0.5 in/sec, RMS Detection

01P, 0 to 0.5 in/sec, Peak Detection

02R, 0 to 1.0 in/sec, RMS Detection

02P, 0 to 1.0 in/sec, Peak Detection

04R, 0 to 2.0 in/sec, RMS Detection

04P, 0 to 2.0 in/sec, Peak Detection

51R, 0 to 12.5 mm/sec RMS Detection

51P, 0 to 12.5 mm/sec, Peak Detection

52R, 0 to 25 mm/sec, RMS Detection

52P, 0 to 25 mm/sec, Peak Detection

54R, 0 to 50 mm/sec RMS Detection

54P, 0 to 50 mm/sec, Peak Detection

Specify, Specify in 0.5 in/sec Increments, Followed by R or P.

(ccc) High Pass Filter

HXX, High Pass Corner Frequency in Hz

(dddd) Low Pass Filter

LXXX, Low Pass Corner Frequency in Hz

Integrating Velocity Monitor/Transmitter CMCP535

CMCP535(X)-(aaaaa)-(bb)-(ccc)-(dddd)

CMCP535 Integrating Velocity Transmitter

CMCP535A Integrating Velocity Monitor

(aaa) Input

100V, 100 mV/in/sec Velocity Transducer

500EV, 500 mV/in/sec Electro-Mechanical Pick Up

Specify, Specify Exact mV/in/sec Followed by V or EV.

(bb) Full Scale

01, 5 mils Peak to Peak

02, 10 mils Peak to Peak

03, 15 mils Peak to Peak

51, 125 μ m Peak to Peak

52, 250 μ m Peak to Peak

53, 375 μ m Peak to Peak

(ccc) High Pass Filter

HXX, High Pass Corner Frequency in Hz

(dddd) low Pass filter

LXXX, Low Pass Corner Frequency in Hz



CMCP500 Series Transmitters/Monitors

Displacement Monitor/Transmitter CMCP540

CMCP540(X)-(aaa)-(bb)-(ccc)-(dddd)

CMCP540 Displacement Transmitter

CMCP540A Displacement Monitor

(aaa) Input

100, 100 mV/mil

200, 200 mV/mil

Specify, Specify Exact mV/mil

(bb) Full Scale

01, 5 mils Peak to Peak

02, 10 mils Peak to Peak

03, 15 mils Peak to Peak

51, 125 µm Peak to Peak

52, 250 µm Peak to Peak

53, 375 µm Peak to Peak

Specify, Specify in 5 mil Increments

(ccc) High Pass Filter

HXX, High Pass Corner Frequency in Hz

(dddd) Low Pass Filter

LXXX, Low Pass Corner Frequency in Hz

Position Monitor/Transmitter CMCP545

CMCP545(X)-(aaa)-(bb)

CMCP545 Position Transmitter

CMCP545A Position Monitor

(aaa) Input

100, 100 mV/mil

200, 200 mV/mil

Specify, Specify Exact mV/mil

(bb) Full Scale

01, 20-0-20 mils

02, 40-0-40 mils

03, 0-40 mils

04, 0-80 mils

51, 0.5-0-0.5 mm

52, 1.0-0-1.0 mm

53, 0-1.0 mm

54, 0-2.0 mm

Isolated RTD Temperature Monitor/Transmitter CMCP560

CMCP560(X)-(aaaa)-(bb)

CMCP560 Isolated RTD Temperature Transmitter

CMCP560A Isolated RTD Temperature Monitor

(aaaa) Input

100P, 100 Ohm Platinum RTD

(bb) Full Scale

01, 0-250 °F (-18 °C-120 °C)

02, 0-350 °F (-18 °C-175 °C)

03, 0-500 °F (-18 °C-260 °C)



CMCP500 Series Transmitters/Monitors

Thermocouple Temperature Monitor/Transmitter CMCP565

CMCP565(X)-(a)-(bb)

CMCP565 Thermocouple Temperature Transmitter

CMCP565A Thermocouple Temperature Monitor

(a) Input

J, J Type Thermocouple

K, K Type Thermocouple

(bb) Full Scale

01, 0-250 °F (-18 °C-120 °C)

02, 0-350 °F (-18 °C-175 °C)

03, 0-500 °F (-18 °C-260 °C)

Solid State Temperature Monitor/Transmitter CMCP570

CMCP570(X)-(aa)-(bb)

CMCP570 Solid State Temperature Transmitter

CMCP570A Solid State Temperature Monitor

(aa) Input

01, CMSS793T-3 or CMSS793T-1

(bb) Full Scale

01, 0-250 °F (-18 °C-120 °C)

Speed Transmitter CMCP575

CMCP575-(aa)-(bbb)-(cc)

(aa) Input

01, Output From Eddy Current Probe System

02, Hall Effect Sensor (Proximity Switch)

(bb) Counts per Revolution

01, 1 Event per Shaft Revolution

60, 60 Event per Shaft Revolution

120, 120 Event per Shaft Revolution

Specify, Specify Exact Number of Events

(cc) Full Scale

01, 0-1000 RPM

02, 0-2000 RPM

05, 0-5000 RPM

Process Variable Monitor/Transmitter CMCP580

CMCP580(X)-(aa)-(bb)

CMCP580 Process Variable Transmitter

CMCP580A Process Variable Monitor

(aa) Input

01, 1-5 Vdc

02, 0-10 Vdc

03, 4-20 mA

04, 0-20 mA

(bb) Full Scale

01, 0-100%

Specify, Specify Desired Units and Range