

CMCP540(A) Series Transmitter/Monitor



- Vibration Displacement
- 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 CMCP540(A) Series are displacement transmitters/monitors. They are compatible with proximity (eddy) probe 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 10 mils peak-to-peak detection. 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: 0.5 % 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 displacement monitor that accepts input from a 200 mV/mil Proximity Probe System, with a Full Scale of 10 mils peak-to-peak detection, specify Part Number: CMCP540A-200-02.

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.



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Ordering Information:

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 μ m Peak to Peak

52, 250 μ m Peak to Peak

53, 375 μ m 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