

What monitoring applications can a CLM100 be used for?

The CLM100 can be used to integrate special applications you wish to have monitored on a Maretron display. The following list of parameters can be configured to output from a CLM100 with a compatible 3rd party sensors installed:

- Voltage Measurement
- Current Measurement
- Distance Measurement
- Linear Velocity Measurement
- Linear Acceleration Measurement
- Angle Measurement
- Angular Velocity Measurement
- Angular Acceleration Measurement
- Flow Rate Measurement
- Temperature Measurement
- Humidity Measurement
- Resistance Measurement
- Strain Gauge Measurement
- Force Measurement
- Pressure Measurement
- Decibel Measurement
- Rotational Rate Measurement

A CLM100 can be used to monitor a vessel's drive shaft and provide status. The application shown in Figure 1 illustrates three separate third party sensors that are used to provide a 4-20mA two wire signal to a CLM100. The first sensor in this example is used for shaft rotational rate, the second sensor provides bearing temperature, the third sensor provides shaft strain indication. Figure 1 also shows a DSM250 screen configured to view the information

about the shaft health status divided into 3 sections of parameter data, RPM, Temperature, and Load.

Figure 1

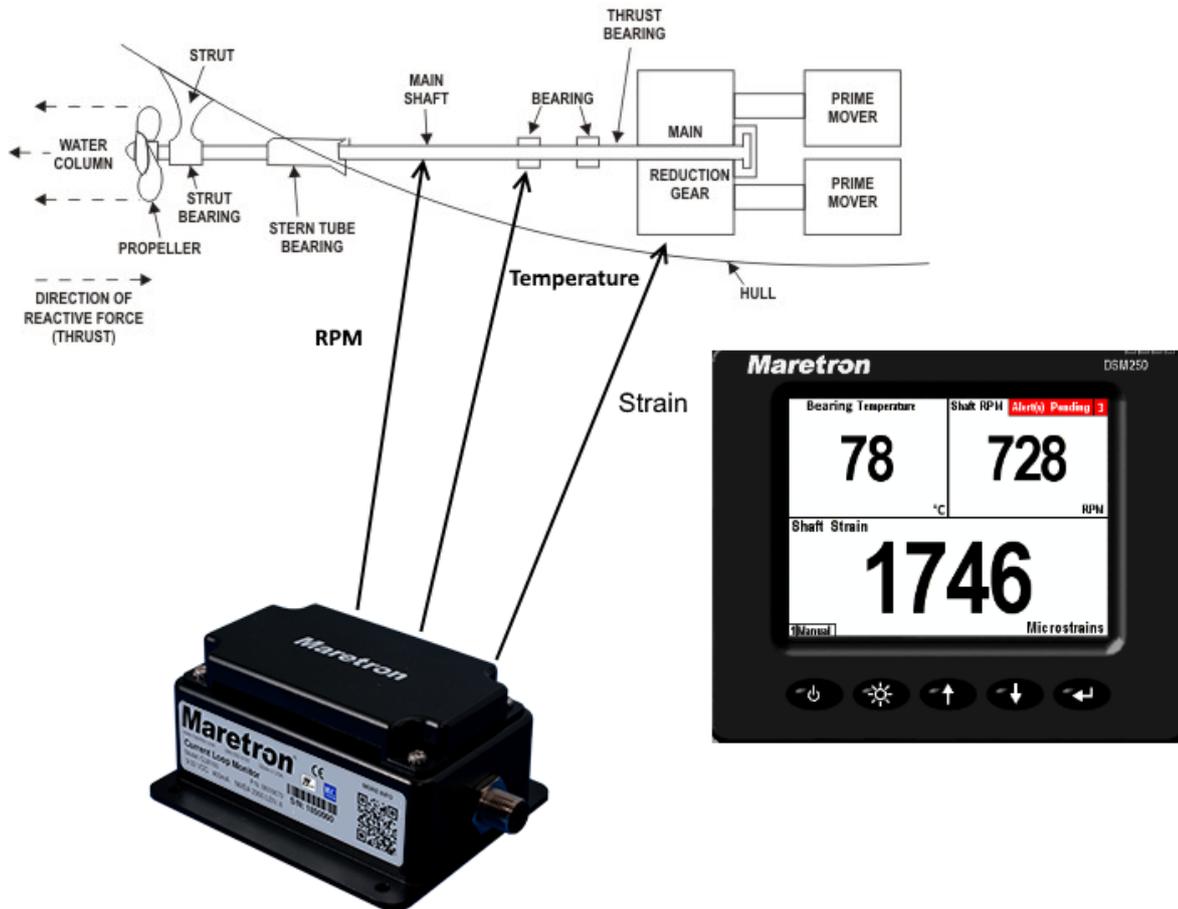


Figure 1

Sensor selection is vital to the success of implementing your CLM100. Sourcing a sensor is simple, look for the following characteristics about your sensor:

- Required voltage or excitation voltage: the CLM100 provides 13.5VDC loaded. Look for a sensor that works with the specified voltage.
- Two wire transmitter or Loop Powered: The Sensor has two wires and

powers from the loop using supplied voltage and loop current.

- Wire length, the benefits of two wire loop powered sensors is the ability to run long lengths of wire to accommodate an application, calculate your voltage drop to ensure you can power the sensor.
- When you are not able to find a two wire, loop powered sensor, that works with an excitation voltage of 13.5VDC, consider a conditioner circuit.

Conditioner device:

A Conditioner device can allow you to select a particular sensor with a package ideal for the application you have planned without having to special order the sensor to work with the CLM100 circuit.

For example in Figure 2, we show a common Stainless Steel PT100 RTD Thermistor Sensor Probe with a temperature Range of -20~420°C connected to a signal conditioner that offers a linear 4-20mA output of -50°C to 150°C ideal for our shaft monitoring application in Figure 1. Shown in Figure 3, the wiring of the conditioner to the CLM100 to provide temperature monitoring of our shaft application.

Figure 2

Figure 3

You can easily source similar signal conditioners for RPM, Strain, voltage, current, angle, and more if the sensor package requires conditioning and is not available in 4-20mA applications. .

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