

Diesel Engine Health Management

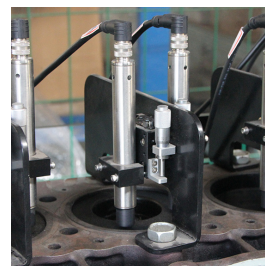
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The applications of diesel engine early alarm system developed by our company for the low-speed diesel engine include: main bearing wear monitoring, main bearing temperature monitoring, lube oil water content monitoring and crankcase oil mist concentration alarm device. The applications for medium-speed diesel engine include: crankcase oil mist concentration alarm device and crank pin oil splashing temperature detection device.

OMD & BWCM & BTS & WIOS



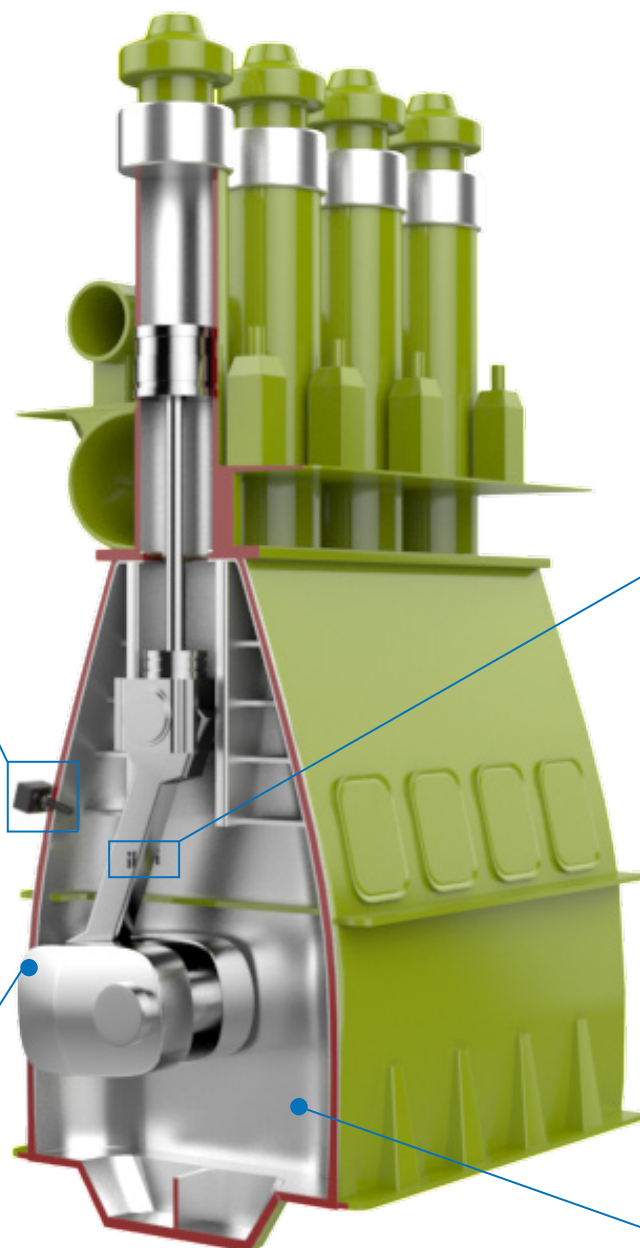
Make an early alarm and monitoring for the moving parts of the crankshaft based on the change of the oil mist concentration of crankcase.



Bearing Wear Measures the combined wear of crosshead, crank and main bearing and provides early warning of bearing seizure. It is required to avoid open up inspections.

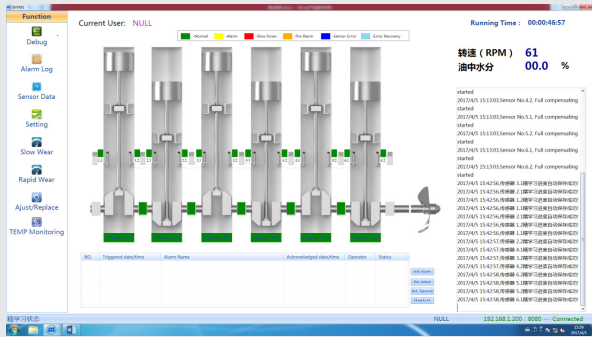


The main bearing temperature sensor is used to measure the temperature of the main bearing oil splashing



Water in Oil The sensor gives continuous measurement of moisture in oil, and oil temperature. Moisture is measured in terms of water activity.

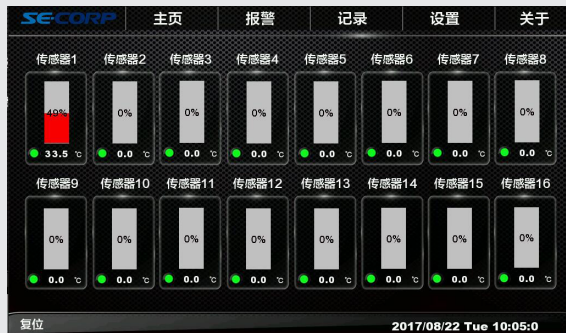
Bearing Wear Monitoring



The primary aim of BWM is to detect a bearing failure before it develops to an extent where heat is causing damage to other parts than the bearing shell. These could be the crosshead pin, shaft journal or distortion of the bearing housing. Such damage will generally be the result if the bearing lining (white metal or tin-aluminum) is worn through and contact between the shaft and the bearing shell steel backing occurs.

Another aim of BMW system is try the best to do inspection based on the bearing status, and avoid open-up inspection. The open-up inspection is time-consuming and has a risk of restore failure. So, we have to avoid unnecessary regular open-up inspection of bearing.

Oil Mist Detector and Device Instruction Manual



For mist detection by the sensor units, a natural diffusion system is used. This eliminates the necessity of such fan suction mechanism, piping and driving air that the conventional systems required.

The mist detection section consists of a light emitting element (LED) and a light receiving element (PD: photodiode). The use of the light scattering detecting technique reduced the equipment size and realized high-sensitivity detection excelling in stability.

The sensor units do not have mechanically moving parts. They are light and excel in durability and vibration resistance.

The changes in temperature of sensor unit are automatically corrected. The equipment is capable of automatic zeroing tracking for a long term.

The use of a MCU algorithm ensures high-performance stable detection.

The data communication and power cable are wired in a daisy chain wiring, which simplify the wiring work on site.

The system use the TFT touch display screen to make the display visual and setting convenient.

The monitor unit reserve a port for long distance transmission of RS485 data, convenient for remote monitoring of data.

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