

# TECHNICAL CIRCULAR

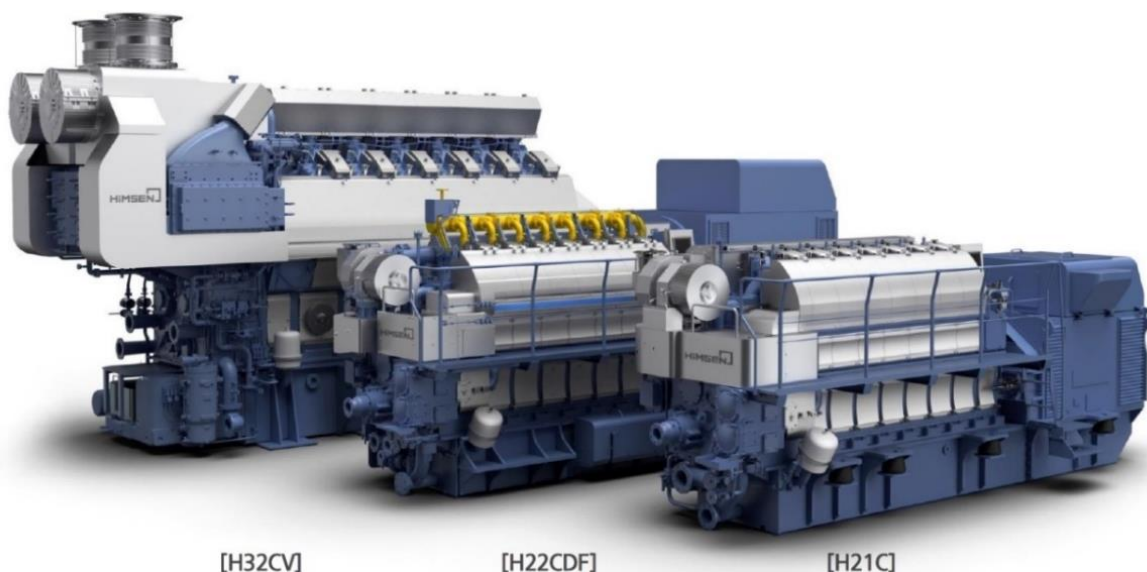
**SUBJECT: HiMSEN DUAL FUEL ENGINE  
CONROD BEARING TEMPERATURE MONITORING SYSTEM**

**TYPE: H35DF(V) and H54DF(V)**

**DOC No.: TEC2022-K2J0-YO-001-R0**

## DISTRIBUTION

Marine	<input checked="" type="checkbox"/> Ship yard	<input checked="" type="checkbox"/> Ship owner
Stationary	<input type="checkbox"/> Power plant	



[H32CV]

[H22CDF]

[H21C]

\* The projects on commissioning before delivery should be applied as a HHI-EMD standard.

\* The projects after delivery should be applied when the HGS is on board and after checking its necessity.

Date	A.C.	Wrote	Checked	Approved	Change	R
220818	F	XJH	JCM	PJH	First issued	0
						1
						2
						3

\*A.C.: Please see table 1, page 4

## [INTRODUCTION]

HiMSEN DF engine's conrod bearing temperature monitoring system provides the additional safety function by monitoring each cylinder's connecting rod bearing temperature. A wireless temperature sensor which mounted directly on the cylinder's connecting rod enables temperature measuring wirelessly at engine's rotating part. HiMSEN DF engine control system monitors all cylinder's connecting rod bearing temperature by interfacing with a sensor signal processing unit.

## [FEATURES]

### CONFIGURATION

Conrod bearing temperature monitoring system mainly consists of three parts as wireless temperature sensors, antennas and a signal processing unit. The wireless temperature sensor for each cylinder is installed at connecting rod bearing part. The antenna is facing to the temperature sensor and connected to the signal processing unit via hardwire with a connector gland. The signal processing unit which is mounted on the engine processes the measured temperature signal and transmits to the engine control system. HiMSEN DF engine control system can provide this information to vessel automation system together with Alarm & Shutdown event via Modbus communication interface.

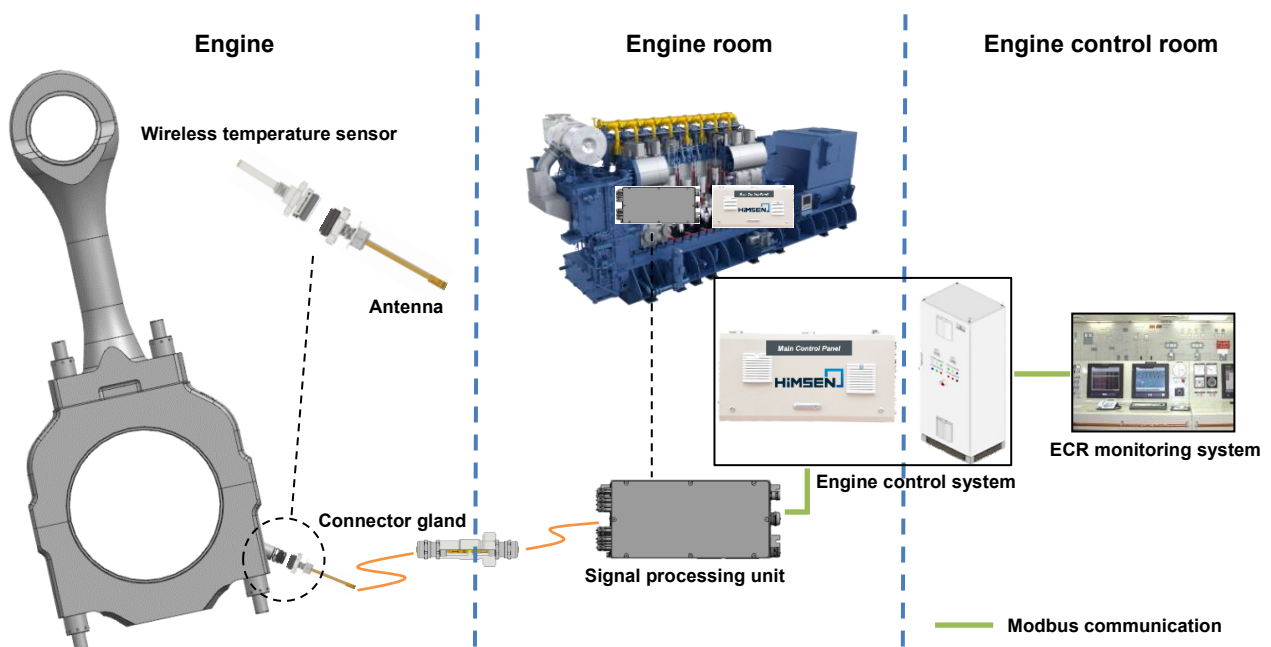


Figure 1. Overview of HiMSEN DF engine conrod bearing temperature monitoring system

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## KEY STRENGTHS

- ✓ Real-time temperature monitoring at connecting rod bearing part
- ✓ Alarm and engine shutdown safety function
- ✓ No need shipyard additional power sources
- ✓ Explosion proof and class certification

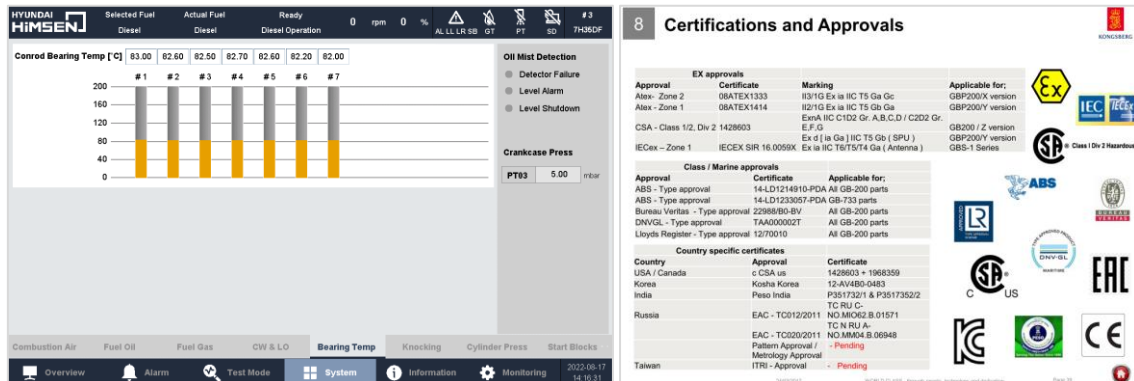


Figure 2. Real-time monitoring and certifications

## [CONCLUSION]

With the application of HiMSEN DF engine's conrod bearing temperature monitoring system, the engine control system is able to monitor each cylinder's connecting rod bearing temperature. The system enables the engine control system to release alarms and engine shutdown function against abnormal high temperature immediately. Furthermore real-time value of actual temperature could be monitored at the shipyard monitoring system via Modbus communication interface with the engine control system which is already established.

HiMSEN DF engine control system already provides high level of proven safety functions. And this conrod bearing temperature monitoring system can be applied as an option for newly contracted projects from August 2022, which can provide the dedicated engine protection with the additional safety monitoring system. This new system is available for H35DF and H54DF, and it will be applicable for H22CDF and H27DF in near future.

If you need more detail information about this technical circular, please contact your nearest HiMSEN service station or follow the links below.

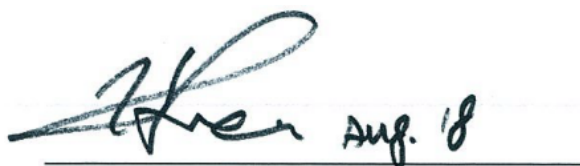
- HYUNDAI HEAVY INDUSTRIES – ENGINE & MACHINERY (HHI-EMD)  
: <http://www.hyundai-engine.com/customer/customer07.asp>
- HYUNDAI GLOBAL SERVICE(HGS)  
: <http://www.hyundai-gs.com/eng/Main.do>

[The end]

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Yours sincerely,



J.H.PYO / General Manager  
Head of Engine Control Engineering Dep't  
Engine & Machinery Business Unit

Action Code	Engine in service on vessel	Engine in production	New contracted engine
A	Modification by HHI-EMD, disposal of stock		Standard application
B	Modification upon customer's firm order (Spare part modification by HHI-EMD)	Modification by HHI-EMD, Disposal of stock	Standard application
C	Modification upon customer's firm order		Standard application after using stock material
D	Modification upon customer's firm order		Standard application
E	Modification upon customer's firm order		Option
F	Information		Option

Table 1. HiMSEN Action Code