

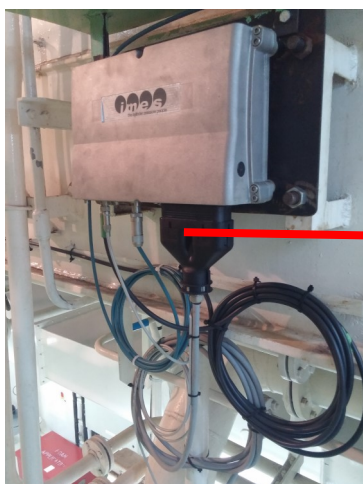
CCM Marine 2-stroke performance

cylinder balancing on 2-stroke Diesel engines incl. performance evaluation

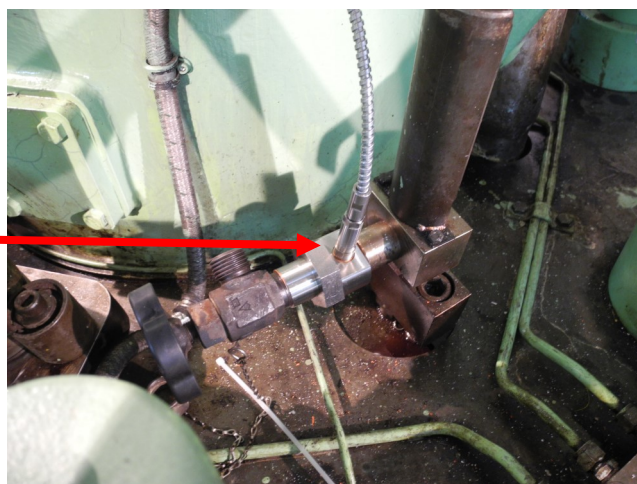
- Advanced engine balancing
- Easy collection, management and comparison of engine performance data
- Performance graphs and reports show deviation and suggest actions to take
- Clearly illustrated commercial calculations allow to save money by reducing fuel and oil consumption
- Reduced emission

Application:

- 2 stroke diesel engines 40...900 RPM



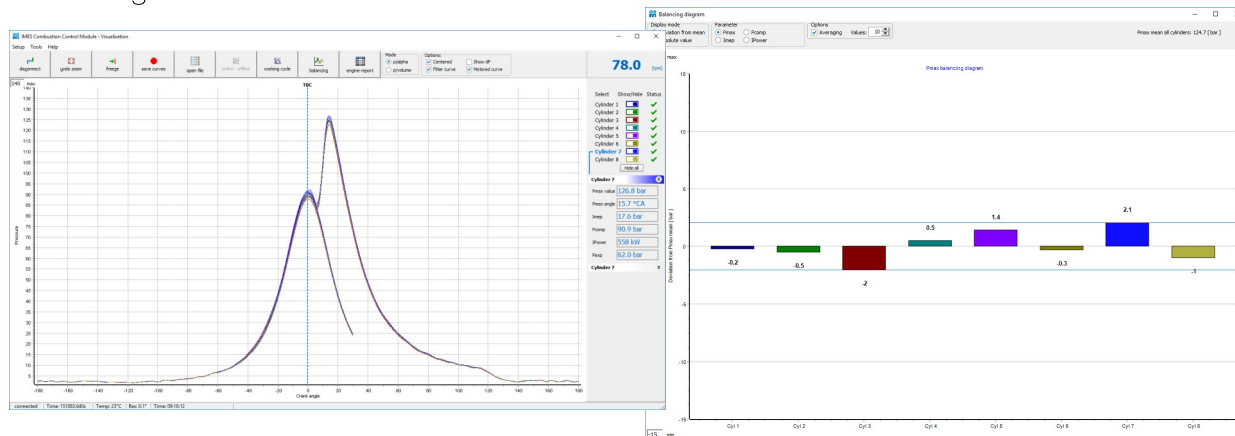
CCM Marine performance installed on container ship Hedda Schulte



Installation of two-stroke combustion sensor TCS-01CA including adaptor on a Wärtsilä 6 RTFlex84 engine

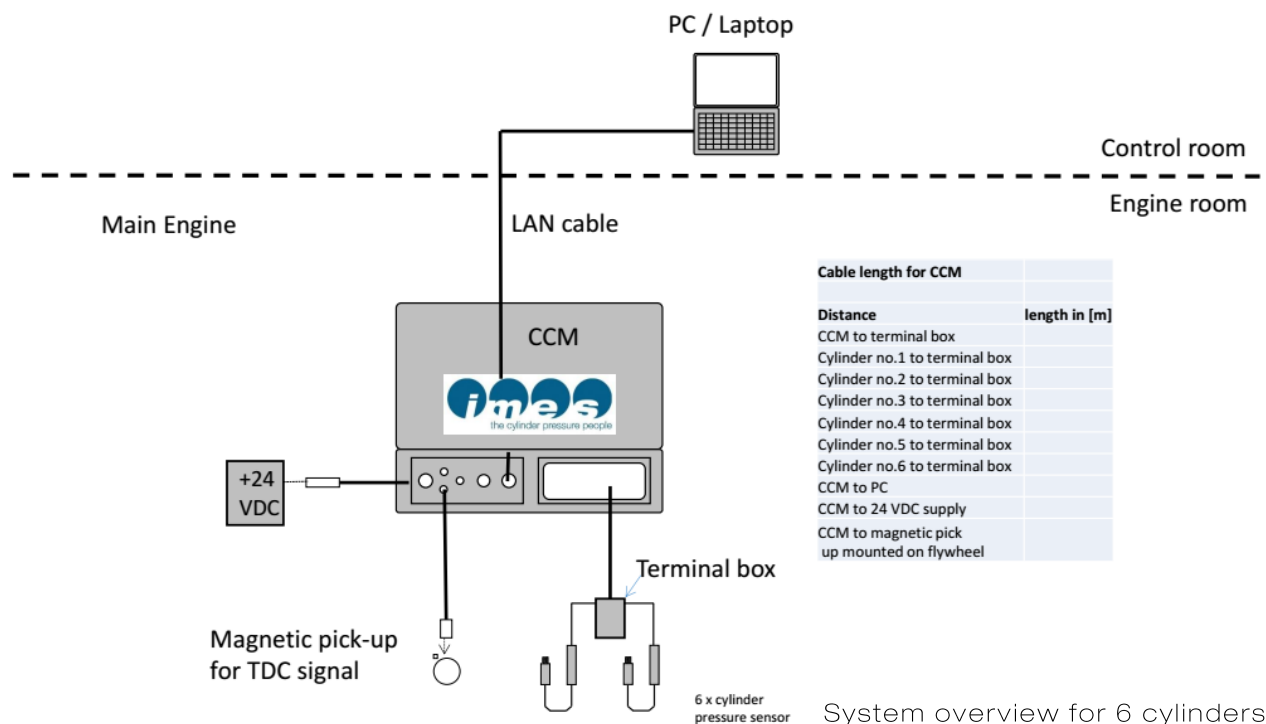
CCM Marine PC software

The CCM Marine PC software for online combustion monitoring on marine diesel engines.



System introduction

The IMES CCM Marine 2-stroke performance is easy to use as an online solution for condition and performance monitoring on 2-stroke diesel engines. The combustion pressure is measured in each cylinder, continuously and in speed range 40...900 rpm.



Technical data

CCM Combustion Control Module	
Multichannel data acquisition unit	Max. 12 analog inputs Resolution: 0.1° CA Interface: Fast Ethernet LAN 100 Mbits/s CAN Bus Power supply 24 VDC
Marine Application	Bureau Veritas
Cylinder pressure sensor TCS-01CA	
Measuring range pressure	0...300 bar
Over pressure	400 bar
Thermal shock 1500 RPM pmi=9bar	< +/- 0,5 bar
Accuracy	≤1% Full scale
Output signal range	4...20 mA
Cables	
Cables for TCS-01CA sensor	Habia RTFRO 3x0.75
CAN Bus cable	Lapp UNITRONIC BUS-CAN 1x2x0.34

Scope of supply

CCM Marine unit for fixed installation

Order no.

IW-8001

- Central unit incl. multi channel data acquisition unit 4...12 cylinder
- PC WIN 7 en
- Visualisation software 2-stroke (4 ...12 cylinder) incl. diagrams:
pressure/CA , Pmax/Pcomp, Pmax balance, Engine report
- Resolution 0.1 °CA
- Input: max. 12 channels
- Power supply: +24 VDC

Sensors, cable and accessories

- | | |
|--|---------|
| - TCS-01CA sensor range 0...300 bar | IW-6100 |
| - Sensor connecting cable 10m | IW-8008 |
| - Terminal box for max. 12 cylinder incl. 10m cable to CCM | IW-8127 |
| - Ethernet cable 20m | IW-8130 |

Adaptors and extension:

- | | |
|---|---------|
| - Extension for MAN B&W ME- and MC type engines | IW-8004 |
| - Adaptor for TCS-01CA sensor for MAN B&W engines | IW-8005 |
| - Adaptor for TCS-01CA sensor for Wärtsilä engines | IW-8009 |
| - Indicator valve thread M20x2 for MAN B&W engines | IW-8006 |
| - Indicator valve thread M20x1,5 for Wärtsilä engines | IW-8010 |