

Sensor-Test Kit

Accuracy check for all IMES sensor types



The main components of the easy to mount test-kit are the hydraulic pressure pump including manometer, the sensor check-box and the visualisation software.

| Sensor Check Report | |
|--|--|
| <div> <div>Company, ship name or power plant:</div> <div>Engine:</div> <div>Engine number:</div> <div>Operator:</div> <div>Date:</div> </div> <div> <div>IMES, Cogeneration plant</div> <div>MAN</div> <div>123456789</div> <div>Stefan Neumann</div> <div>08.11.2018</div> </div> | |
| <div> <div>Sensor Type:</div> <div>Serial Number:</div> </div> <div> <div>CPS-01CA</div> <div>5952-17-1273-0</div> </div> | |
| Evaluation (Temperature: 23°C) | |
| Offset | <div>Current: 4.1508mA</div> <div>Pressure: 2.8bar</div> <div>Deviation: 3.77% (referenced to 4.0000mA)</div> <div>Result: within specification</div> |
| Span | <div>Current (measured): 8.0091mA</div> <div>Pressure (entered): 150.0bar</div> <div>Current (norm. to 300.0bar): 16.0182mA</div> <div>Pressure (normalized): 300.3bar</div> <div>Deviation: 0.11% (referenced to 16.0000mA)</div> <div>Result: within specification</div> |
| Total result: approved | |
| Read out Sensor Operation Data | |
| <div> <div>Operation time (powered):</div> <div>Operation time (engine running):</div> <div>Maximum pressure:</div> <div>Maximum temperature:</div> </div> <div> <div>1h</div> <div>1h</div> <div>183.4bar</div> <div>82.6°C</div> </div> | |
| Pressure Pump | Checkbox |
| <div>Model: SIKA Ref-E2</div> <div>Serial number: 1225TG0</div> <div>Calibration date: 16.10.2018</div> | <div>H/W Serial number: 366935883436</div> <div>Calibration date: 17.09.2018</div> |
| Signature: | |

All data will be displayed in a sensor evaluation report and the measured data of **sensor offset and -span** will be compared with the sensor specification.

The software is reading out stored **maximum pressure, maximum temperature, and engine operating hours**.

Future fuel resistant sensor types

For more than 25 years we are specialised in the field of combustion engine cylinder pressure and data acquisition systems. Our sensors, electronic pressure indicators and combustion control and monitoring systems are employed on a wide range of diesel-, gas- and dual-fuel engines on ships and locomotives and in power and cogeneration plants and pipeline compressor stations all around the world.

Actually our sensors are installed on various hydrogen engines worldwide for long-time operation tests.

For H₂ application the sensors have to fulfill special material characteristics to withstand corrosion and embrittlement. As all our sensors they have a very good thermodynamic performance and they are extreme robust against high dp/dt.



CPS-03 installed on a hydrogen engine

You are welcome to contact us at any time for further information and support.

IMES GmbH
Email: sales@imes.de
Phone: +49 8341 9661730


ready for

Future Fuels

Cylinder Pressure Sensors

www.imes.de

Cylinder pressure sensor types

| Specification and technical data | HTT-06 | CPS-03 | SPS-01 | PCS-01 | HTT-05 |
|----------------------------------|---|---|--|--|--|
| |  |  |  |  |  |
| | On-line combustion control on diesel- and gas engines for increasing engine performance and optimised engine control. Extreme robust against high dp/dt and against vibration. Protection class IP69. | On-line combustion control on diesel- and gas engines for increasing engine performance and optimised engine control. Extreme robust against high dp/dt and against vibration. Protection class IP69. | Small pressure sensor for continuous measurement of combustion on diesel- and gas engines. | Small pressure sensor for continuous measurement of combustion on diesel- and gas engines as well as for pre-chamber pressure. | Compression pressure sensor for real time pressure inputs from the compressor cylinders, e.g. indicated HP, rod load, volumetric efficiencies. Received approval for hazardous area Class I, Division 1, Group A-D and Class I, Division 2, Group A-D. |
| Application | Closed loop control on diesel-, gas- and dual fuel engines. | Closed loop control on internal combustion engines. | Closed loop control on diesel-, gas- and dual fuel engines. | Closed loop control on diesel-, gas- and dual fuel engines. | Pressure measurements on compressors. |
| Measuring range | 0...300 bar (others on request) | 0...300 bar (others on request) | 0...300 bar (others on request) | 0...300 bar (others on request) | 0...300, 600, 1000, 1500, 3000, 5000 psi |
| Over pressure static | 1200 bar and 1600 bar | 1200 bar and 1600 bar | 1200 bar and 1600 bar | 1200 bar and 1600 bar | 3000, 4000, 10000 psi |
| Electrical connector | Plug DIN M12 / MIL-C-26482 | Plug DIN M12 / MIL-C-26482 | Plug DIN M12 / MIL-C-26482 | Plug DIN M12 | MIL-C-26482 |
| Thread | M14 x 1,25 | M10 x 1 | M8 x 0,75 | M5 x 0,5 | 1/2" NPT (others on request) |
| Certification | DNV, Bureau Veritas, ABS, Class Nk, Lloyd's Register, Korean Register, RINA, SGS | DNV, Bureau Veritas, ABS, Class Nk, Lloyd's Register, Korean Register, RINA | | | SGS |

All sensors offer

| signal rangeOutput | Frequency range | Accuracy error | max. temperature measuring cell | Thermal shock 1500 RPM pmi = 10 bar |
|---------------------------------|------------------------------------|-----------------|------------------------------------|--|
| 4...20 mA option 0,5...4,5 V | 2 or 10 kHz (others on request) | ≤ 1% Full scale | 300°C (short time 1 min. 350°C) | < +/- 0,5 bar |