PREMET®X

The PREMET® diesel indicators are known to be rugged and reliable. The newly developed PREMET® X now adds a brand new software, new sensor technology and connectivity to obtain, show, analyse and export the important pressure data of your diesel engine during operations. This device gives you the opportunity to fine tune your engine to a higher efficiency resulting in lower costs.

Compatible with low-, medium- and high-speed engines the **PREMET®X** is the perfect system to optimise your fuel injections to reduce fuel consumption but also to avoid repairs and damages as part of a condition monitoring regime. The **PREMET®X**, Made in Germany, is using high-quality materials and is equipped with the newest PiezoSMART sensor from Kistler Switzerland. Latest designed engines run with peak pressures up to 350 bar and high exhaust gas temperatures. The new sensor technology ensures high performance and accurate results for the complete range. The storage of calibration data inside the sensor makes it possible to easily exchange sensors without calibration of the device.

The new software allows to do an in depth analysis of your engine ensuring you will be in control of the condition of the engine without being an expert user. If your job includes responsibility for multiple vessels the Fleet Management Software will make your life much easier and for worldwide access CMT is offering a Cloud solution as well. The integrated WiFi connection increases the ease of data transfer considerably. A WiFi network with an internet connection, which can easily be established with a standard mobile phone in the next port will allow an automated upload of the data into the cloud.

The large internal memory of the **PREMET®X** allows to save as many engine set ups as you like up to 40 cylinders per engine. The integrated compensation of torsional vibrations enables ultra accurate measurements for 2-stroke engines. 4-stroke engines can be measured with an extra TDC sensor with high accuracy. Using an acoustic emission sensor the fuel injection can be monitored with no need to tamper with the high pressure fuel lines during installation. Ignition delay and other critical timings during combustion will become visible.

The new PREMET®X

Your benefits:

- Revolutionary new sensor technology
- New analysis software
- WiFi connection for easy data transfer
- Rugged design for onboard use
- Highest available accuracy
- DNV GL Eco Insight ready
- Cloud based Fleet Management
- Exchange Sensor without new calibration of the device
- Modern USB-C connectivity

4th generation improvements

After the success of the modern **PREMET®Devices** many firmware improvements were added to further advance the performance. With the 4th Generation of PREMETs there are updates to the hardware too. A modern battery will further extend measurement sessions and combined with an USB-C connection charging becomes much more convenient. These quality of life improvements stand along a new finish of the surfaces for a nicer feel and look. Furthermore, the new firmware was designed to be even more intuitive and enable the user direct input of important variables to the measurement from the device. Never loose parameters like wind speed, ..., ever again.

Specification	
Ignition pressure range	0-350 bar
Sensor	Kistler 6019A 11S
Speed range	20-3000 rpm
Max. number of engines	Unlimited
Max. number of cylinders (per engine)	40
Max. temperature	400 °C
Compensation of pressure	✓
Compensation of torosional vibration	✓
USB connection	✓
WiFi connection	✓
Display	Colour, size 160 x 90 mm, resolution 800 x 480
Accuracy	0.17% degree crank angle

Ordering Information

DPA-CT-12020
PREMET® X
- KISTLER Piezo-SMART-Sensor
- New Premium Analysis Software PREMET Viewer)

DPA-CT-12022
PREMET® TDC Pick up for 4-stroke engines

DPA-CT-12023
PREMET® pair of pick ups for 2-stroke engines

Acoustic Emission (AE) waves are commonly defined as transient elastic waves within a material caused by the release of localized stress energy. Hence, an event source is the phenomenon which releases elastic energy into the material, which then propagates as an elastic wave.

AE events that are commonly studied among material failure processes include the extension of a fatigue crack, or fibre breakage in a composite material.

AE is also related to an irreversible release of energy that can be generated from sources not involving material failure including friction, cavitation and impact.
Acoustic emissions can be detected in frequency up to 100 MHz.

Specifications

Frequency Range:	300-700 kHz (Acoustic Emission)
Operating Temperature:	130 °C
Power Supply:	5.0 +/- 0.25 VDC
Output Signal:	0.5-4.0 VDC
Attachment:	Alnico Magnet, 5.2 kg pull force
Diameter:	26 mm
Connector:	Neutrik, NC4MP-BAG

The Acoustic Emission Sensors is a piezoelectric sensor with built-in amplifier and signal conditioning. It is optimised to detects waves in the range of 300 to 700 KHz , which are caused by the injection of the fuel through the nozzle, exhaust gas flow through the valve, impact of the injector needle, closing and opening of the fuel pump spill.

The AE sensor is used to measure the angle at which these events occur and to detect deviations in injection timing, late burning of fuel in the cylinder, leaking injectors.

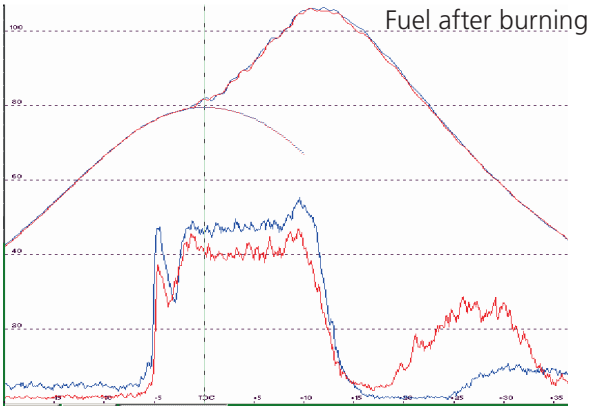
The optional Acoustic Emission (AE) Sensor can be used for the PREMET® X, PREMET® Single Sensor and PREMET® 24/7. It is not suitable for the use with the PREMET® M.

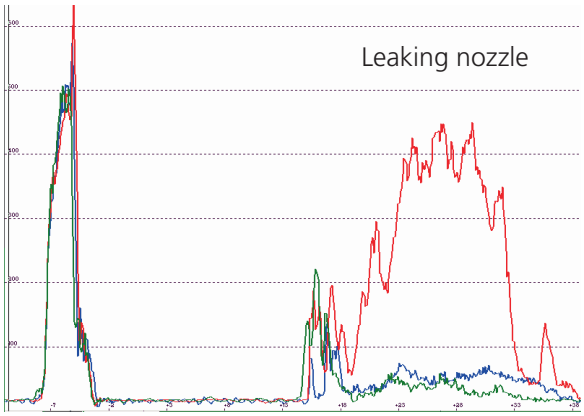
Your benefits:

- No penetration of the fuel system
- Eliminates possible fuel leakage
- Applicable for 2-stroke and 4-stroke engines

Ordering Information

DPA-CT-12026
Acoustic Emission Sensor





PREMET® Viewer

The Viewer helps to analyse the combustion process, store the measurements in data files, print diagrams or complete reports and send data files by E-mail to the office.

The software facilitates the evaluation of the engine condition. A variety of diagrams, bar plots and tables present the measurements incl. manually entered data in an user-friendly way.

The software makes it easier to compare current with reference data and thus detect worn parts or incorrect adjustment.

It helps to reduce the engine's operating costs. Cylinder-to-cylinder load balancing and correct fuel injection settings will optimise engine performance and minimize specific fuel oil consumption.