SIMPLE HANDLING
NO NEED FOR INSTALLATION

Digital Pressure Indicator DPI Type50

Electronic Engine Indicator

The Digital Pressure Indicator DPI Type50 measures dynamic pressures. It is especially designed to analyze large two and four stroke Diesel engines.

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Description

The electronic engine indicator DPI[Type50] measures dynamic pressures. It can be seen as the electronic equivalent of our range of mechanical indicators with all advantages of an electronic device and a very convincing price-performance ratio.

If precise digital pressure measurements of your ship's engines are needed, the DPI[Type50] is the ideal instrument. The hand-held is ready-to-use, is very simple to operate and lets you experience all the benefits of digital measurement.

With the included Windows PC software, measurements can be archived, mailed or used to analyze the engines using the many sophisticated data visualizations.

The DPI[Type50] is a powerful and easy-to-use electronic indication device. A specially developed measuring procedure allows a high-accuracy level of the measuring results.

The DPI[Type50] is a high quality product which can be characterized by its long life components as well as being absolutely user friendly. The system contains the basic components: Hand-held data acquisition unit, quartz pressure sensor and analyzing software.

The measuring method of the DPI[Type50] is as follows: The pressure sensor is temporarily connected to the indicator valve. While the measuring series is being recorded, the data can be read off the LC display of the DPI[Type50] hand-held. After that, the data sets are saved to memory and can be transferred to the PC via the USB interface. The data may be evaluated and administered with the DPI software.

In order to connect the pressure sensor, the engine to be analyzed must be equipped with standard indication valves (Thompson connection). If such valves are not available, please contact LEUTERT.

The DPI[Type50] works on long lasting standard AA batteries during measurement.

Pressure sensor

The type of quartz sensor used for the DPI[Type50] has passed trials of 16,000 hours non-stop operation and is accepted world wide by all engine manufacturers. Furthermore the sensor has a calibration interval of approx. 8,000 hours.

Fig. 1 - Pressure sensor

The DPI[Type50] system includes the pressure sensor displayed in fig. 1 which serves to determine the cylinder pressure in diesel and gas engines. It is characterized by a high level of precision and rugged design.

The pressure sensor is connected to the DPI[Type50] hand-held by an armoured cable and plug.

Handheld data acquisition unit

The electronic components of the portable DPI[Type50] hand-held are incorporated in a tough ABS resin (plastic) water resistant body. Figure 2 below shows the hand-held data acquisition unit.

Fig. 2 - Hand-held data acquisition unit

Analyzing software

A high amount of information can be displayed using the DPI software. After measuring the pressure with the DPI[Type50] hand-held, the measured data can be downloaded to any PC and analyzed with our analyzing software supplied with the DPI[Type50].

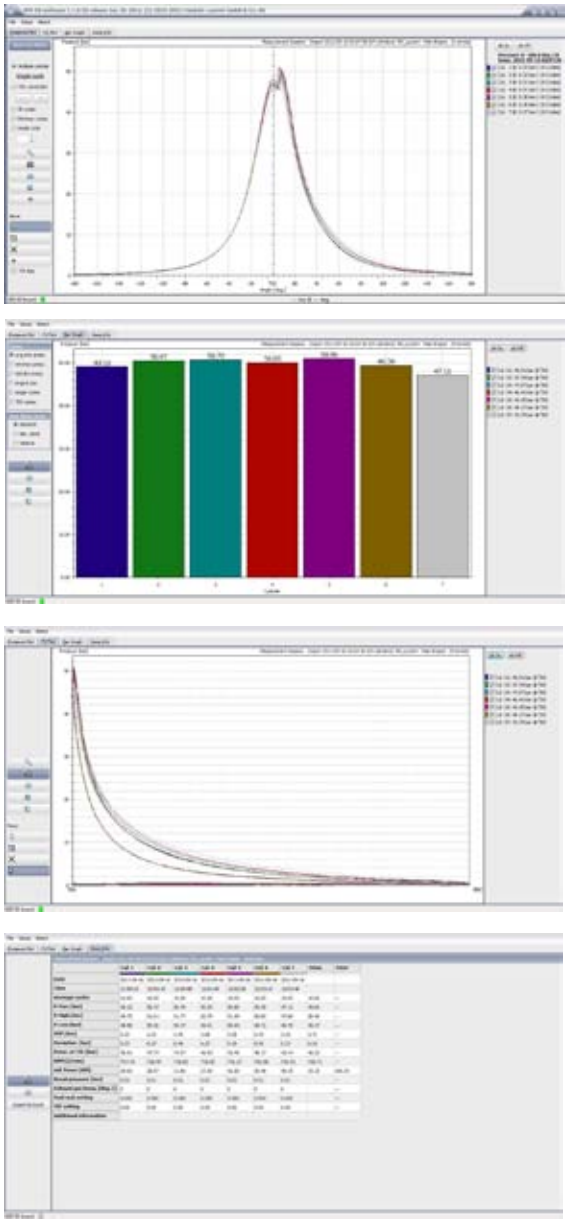


Fig. 3 - Screenshots of the DPI software

Features

- Menu controlled operation
- Sufficient memory and battery to analyze up to 50 engines with 24 cylinders each
- Storage of motor and measurement parameters
- Easy, on-site hand-held software update (via download or e-mail)
- Directly e-mail measurements from the PC software
- High sensitivity through 16-bit A/D converter
- Real time clock
- Uses standard AA rechargeable batteries (4 pcs.)
- Charge the batteries via USB connection to the PC or via the provided USB charging device
- PC interface USB 2.0

Technical specifications

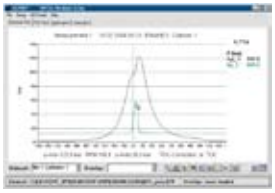
Pressure range	:	0 to 250 bar
Engine range	:	50 to 5,000 rpm
Accuracy	:	< 0.5%
A/D sampling precision	:	16 bit (0.0092 bar/sample)
Memory capacity	:	50 engines
Battery type	:	Standard AA, rechargeable
Battery capacity	:	> 6 hrs
Charging	:	via USB, see above
Display	:	20 x 4 alphanumeric characters backlight, high contrast
Standard connection	:	W 27 x 1/10"
Operating temperature range		
Hand-held unit	:	0 to 55 °C
Pressure sensor	:	0 to 350 °C
Dimensions		
Hand-held unit	:	211 x 100 (81) x 45 (26) mm
Pressure sensor	:	Ø = 60 mm , L = 210 mm
Weight		
Hand-held unit	:	380 g
Pressure sensor	:	830 g

Digital Pressure Indicator DPI-2

The Digital Pressure Indicator DPI-2 measures dynamic pressures. It is especially designed to analyze large two and four stroke Diesel and gas engines. The main application area is the marine market and mobile and stationary power stations.

The DPI-2 is a powerful and easy-to-use high quality electronic engine indicator which can be characterized by its long life components.

The measuring method of the DPI-2 is fast and simple: The pressure sensor is temporarily connected to the indicator valve (connection W 27 x 1/10"). While the measuring series is being recorded, the data can be read off the LC display. After that, the data sets are saved to memory and can be transferred to the PC. The data may be evaluated and administered with the DPI software.



Torque Measuring System TMS

The Leutert Torque Measuring System TMS provides precise information on the engine performance by giving instantaneous readout of torque, speed and power. This permanently installed system gives you the opportunity to compare the indicated power to the output power. The results are being displayed directly on the PC in the engine control room, thus, helping the crew to optimize speed and trim of the vessel and therewith optimizing the engine output in combination with our indicators.

Service and support are available worldwide.

Type 50 for low pressure-change rates

The mechanical pressure indicator Type 50 measures dynamic pressures. It is especially designed to analyze large two stroke Diesel engines.

Type 30 for high pressure-change rates

The mechanical pressure indicator Type 30 measures dynamic pressures. It is designed to analyze large two and four stroke Diesel engines.

Peak Pressure Indicator MSI-3

The MSI-3 peak pressure engine indicator is designed for displaying the maximum value of gas pressures which are subject to constant and rapid variations. The device is particularly suitable for applicational tasks on Diesel engines.

Indicator Valves

for the connection of mechanical engine indicators and digital pressure indicators with Diesel engines. At special request, Leutert can also supply valves with detachable hand wheels.

NEW

Indicator / Features	DPI-2	DPI^{Type50}	Type 50/30	MSI-3
Automatic power/MIP calculation **with** CAE	✓	–	–	–
Software based power/MIP calculation **without** CAE [1]	✓ [2]	✓ [2]	✓ [3]	–
Analyzing Software	✓	✓	–	–
Fuel injection measurements	✓	–	–	–
Electronic data transfer and sharing	✓	✓	–	–
P-Max	✓	✓	✓	✓
PV-Plot	✓	✓	✓	–
P-comp	✓	✓	✓	–
DP (Derivative plot)	✓	✓	–	–
RPM	✓	✓	–	–
Suitable for 2- and 4-stroke engines	✓	✓	✓ [4]	✓

1) Less accurate than using calculation with CAE sensor
2) After manual TDC correction in the software
3) Using Planimeter with manual calculation, and engines fitted with an indicator drum drive
4) Choose correct indicator type according to RPM range