

### Important attributes:

- Illustrative demonstration of the basic functions of an electronically regulated mixture preparation
- Sensor - Input signals varied in any way, investigation of the control unit responses
- Animations and illustrations clarify the function of individual components
- Questions and worksheets to test knowledge and learning control
- Extension of the experimental scale by original components possible (injection valve, NTC sensor, etc.)

### Program description:

With this simulation program the basic principles of the electronically regulated mixture preparation can be compiled and indicated.

The influence of the amount of air signal and the basic mixture adjustment factors (engine temperature, load condition, lambda sensor voltage) on the mixture composition are explained.

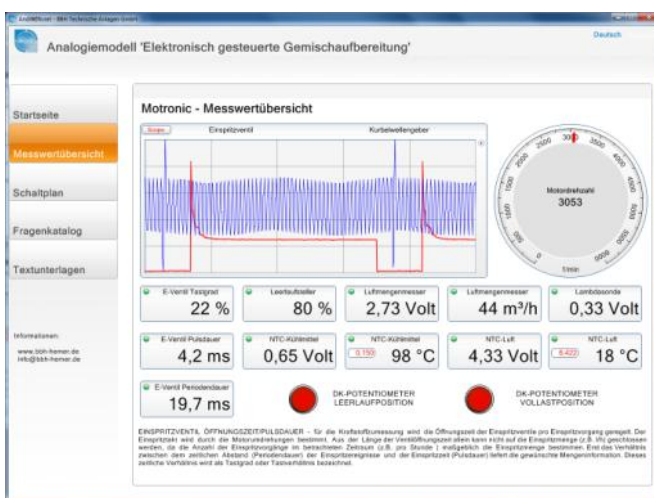
By the variation of the engine speed, the engine load condition, the engine temperature, the amount of air and the lambda sensor voltage, the rule process of the fuel measuring and the idling regulation and/or the deceleration fuel shut-off can be pursued.

The operation values of the mixture simulation are demonstrated in graphical (oscilloscope or continuous line recorder) and numeric form, and the functions of the individual components are explained.

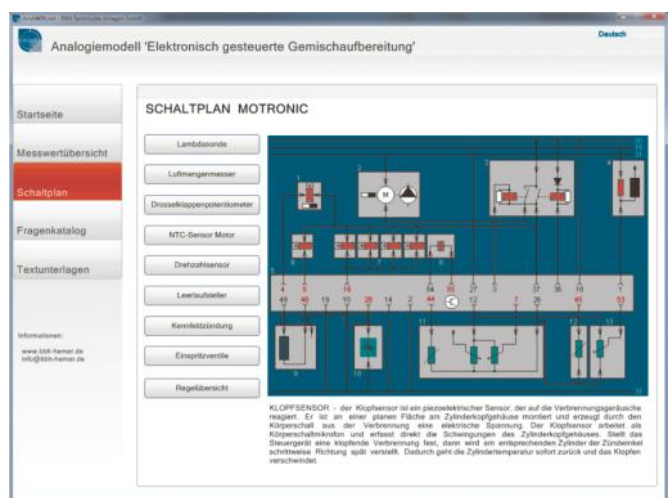
The simulation program 'Motronic' is a low-priced alternative to original systems (function engine, training wall mixture preparation), if the fundamental function mode of an electronically regulated mixture preparation system is to be obtained descriptive.

By extending the simulation program with original automotive sensors and actuators (NTC engine, throttle position potentiometer, injector, etc. - Demonstration model mixture preparation), the experiments are made even more vivid.

Following some screenshots of the software.



Measured value overview of the mixture preparation system. Operation value announcement in numeric or more graphically (oscilloscope: speed sensor and E-valves) presentation.



Connection diagram with engine control unit and explanation of the individual components. From here the measuring attempts can be called to the individual components.

Technical alterations are subject to change without notice!

© BBH Technische Anlagen GmbH, Hemer



Air volume meter, animated presentation, explanation of the function mode. Computation of air mass from the air temperature (influence of the induction air temperature).



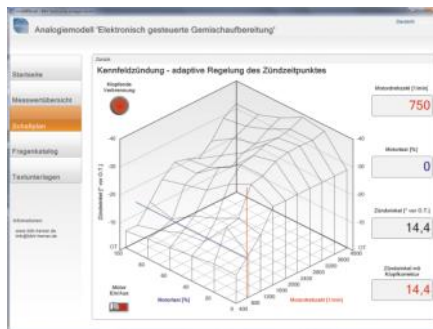
NTC sensor cooling-fluid. Explanation of the function mode, mounting of a sensor characteristic, notes for the fault diagnosis.



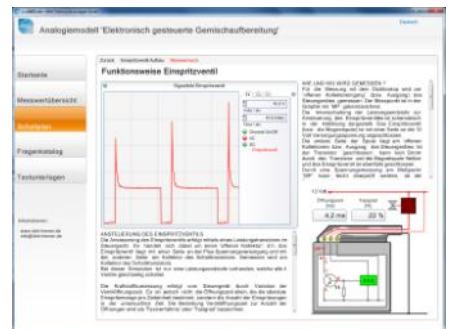
Speed and reference mark sensor. Explanation of the function mode, oscilloscope presentation of the sensor signal depending on the engine speed.



Operating procedure of a mapped ignition with adaptive knock control. Two-dimensional map, addressed by engine speed and load. Characteristic values can be edited as desired.



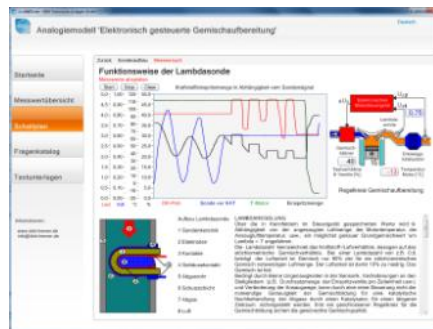
Three-dimensional representation of the ignition characteristic map with indication of the respective address.



Injector. Explanation of the function mode, oscilloscope presentation of the valve control depending on the engine speed and intake air quantity.



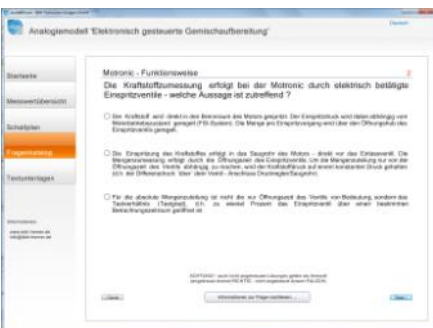
Idle adjustment. Explanation of the function mode, oscilloscope presentation of the adjustment activation depending on the desired engine number of revolutions which can be regulated.



Function of the lambda control in dependence on the engine operating condition.



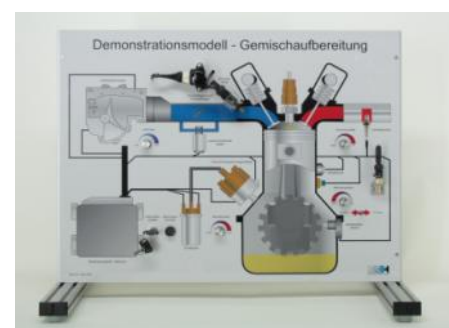
Graphical representation of the engine operating parameters as continuous lines printout.



Questions for the knowledge test, with interactive declaration (CBT-function).



Evaluation of student responses with grade and ability to print a test certificate.



Demo model 'Motronic' with original parts (E-valve, DKP, NTC, head sensor, etc.) for program operation. E-valve is controlled by the program. Optional additional equipment.

### Order-number:

0000 4362 Multimedial Course Module Fuel-Mixture Motronic

### Optional accessoires:

0000 3340 Demonstration model Fuel-Mixture Motronic

Technical alterations are subject to change without notice!

© BBH Technische Anlagen GmbH, Hemer