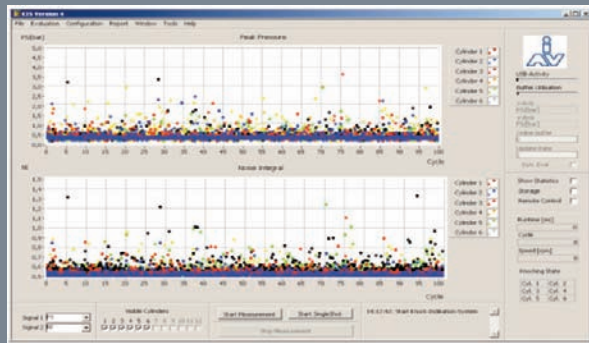
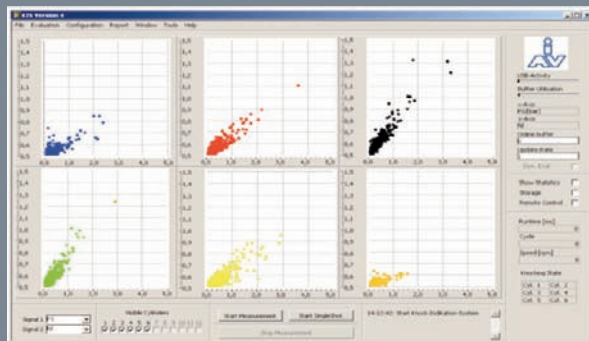


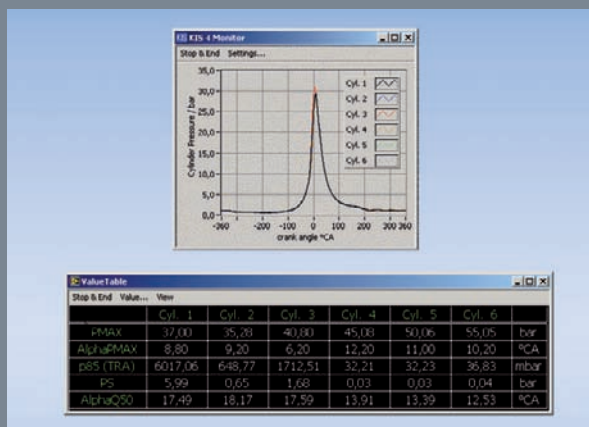
Thermodynamic Real-time Analysis Module



Online Statistics



Correlation



KIS Monitor

Measured and Calculated Values

- ▶ Knock peak value
- ▶ Noise integral
- ▶ Knock value p85
- ▶ Knock rate
- ▶ Maximum pressure signal
- ▶ Position of maximum pressure signal
- ▶ Maximum pressure change
- ▶ Position of maximum pressure change
- ▶ Different mean effective pressures
- ▶ Position of 10 %, 50 % and 90 % heat release
- ▶ Engine speed
- ▶ Misfire detection

Offline Evaluation

- ▶ Correlations
- ▶ Histograms
- ▶ Probability density and cumulative distribution functions
- ▶ Gaussian or lognormal fitting
- ▶ Special evaluation tool for dynamic measurements
- ▶ Statistics for knock detection and knock control

Technical Features

- ▶ 8 freely configurable input channels
- ▶ Sample rate: 400 kHz
- ▶ Resolution: 16 bit
- ▶ Input channel range: -10 V to +10 V
- ▶ Powerful FPGA filtering
- ▶ Digital signal processor
- ▶ Engine speed up to 8000 rpm
- ▶ CAN interface (integration of third-party hardware, e.g. test bench system)
- ▶ USB 2.0 interface