AVL COMBUSTION MEASUREMENT SYSTEMS

INDISMART GIGABIT™

THE SMART SOLUTION FOR MOBILE COMBUSTION ANALYSIS

The AVL IndiSmart Gigabit™ is a complete, ready to go solution for combustion analysis.
It features a wide range of applications, from a cost effective test bed system up to a powerful in vehicle measurement system benefitting from its integrated amplifiers. The typical mobile package provides 6 inputs for cylinder pressure sensors as well as two multi purpose inputs for piezo resistive sensors, strain gauges, needle and valve lift signals, generic voltage signal etc. 8 Digital and 2 delta-T inputs complement the input facilities.
The IndiSmart supports an automated cold start measurement sequence with concurrent time based and crank angle based data acquisition. An integrated GigaBit Ethernet interface supports real time raw data transfer to a connected laptop or automotive PC utilizing AVL's IndiCom Mobil™ software package. Flexible measurement modes support automatic event catching and event raw data storage to the PC's hard disc.

Your benefits at a glance:

- Reduction of cost and cabling efforts due to integrated amplifiers
- Direct connection of inductive or Hall effect crank angle sensors (ECU signals or flywheel)
- Direct integration into application system (INCA) , but also recording of ECU data into combustion raw data file (AVL Ifile) via iLink-RT
- Fast and easy set-up due to crank angle auto diagnostics and reliable operation utilizing real time plausibility checks
- Full upgrade path to IndiCom Top™ level
- Wide selection of real time processing algorithms as well as real time CAN output
- Raw data streaming and continuous monitoring for "endless" measurements with automatic trend file creating for easy navigation in huge amounts of data

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Technical Data / Product Name	**IndiSmart GigaBit™**
Product Description	Compact Indicating system with integrated amplifiers for crank angle related measurments
Analog Input channels	8
Sampling Rate per Channel	14 Bit / 800kHz per channel
Resolution	0.025 / 0.05 / 0.1 / 0.2 / 0.5 / 1 °CA
Analog Input Signal	+/- 10V
Digital In Channels	2 Input channels per acquisition module can be used as 8Bit Parallel or Delta-T
Digital Out Channels (optional)	8 output channels; can be used as TTL or relais contact
CAN interface	Real time CAN out integrated
Input Range (amplifier)	Up to 14,400 pC
Linearity	+/- 0.01% FS
Filter	12, 50 or 100kHz
Digital data filters	User definable digital filter before transformation to crank angle
Drift Compansation	Cyclic or continuous drift compensation modes
Multipurpose inputs (optional)	2 channels, remote controlled multi purpose amplifier channels for piezo resistive, strain gauge, wolff, hall or voltage signals bridge supply voltage 0…10 V bridge supply current 0…10 mA gain 1…1000 linearity error < +/- 0.01% FS frequency range 0…100kHz
Crank angle Inputs	LVDS ; direct connection of AVL 365
Pick Up In	Crank angle signal from Hall or inductive pick up
Interface	GigaBit Ethernet interface to PC/Notebook
Slow ADC (optional)	8 channel time based voltage input, ± 10V, 12 Bit resolution, 5kHz/channel
Testbed Connection	RS232 or TCPIP
Special Measurement modes	Automatic Cold Start Sequence; Background Event Monitoring, Snap shot measurement
Real Time Results	Single value, edge detection, heat release, IMEP, Knock, max. rise, maximum, minimum, mean value, polytropic coefficient, timing
Plausibility	Plausibility monitoring for indicating hardware and data with error output as Bit or message
SW Package	IndiCom Mobile™ or IndiCom Top™
Temperature Range	-30 °C…50 °C
Dimensions W x H x D in mm	490 x 88 x 500
Power Supply	9 – 40 V DC sockets for automotive battery ; 24 – 40 V DC socket for power supply
Application	The IndiSmart™ is a solution for gasoline and diesel engines at the testbed as well in vehicle. It's low handling and installation effort makes it very suitable for changing operational areas.

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