



# Data Sheet



## Powerful Datacollector and Analyser Adash 4300 - VA3

### Applications:

- Diagnosics of bearings
- Diagnosics of mechanical defects of machines – unbalance, misalignment, resonance, looseneses...
- Diagnosics of ventilators, pumps, gearboxes, engines, turbines, machine tools...
- Diagnosics of low-speed machines – paper machines, rolling mills, transport mechanisms...
- Diagnosics of bearings of lubrication
- Motor current analysis
- Operating machine balancing
- Machine Deflection Shapes measurement
- Speed measurement
- Quality check out of products
- CE 1026 Ex II 2G EEx ib IIC T3 certificate (optional)

### Characteristics:

- Firmware upgrade via RS232 !!!
- Route measurement system
- Analyser mode - fast setting inside on-line measurements
- Fast switching between collector and analyser mode
- Keyboard operation by one hand
- Backlighted graphic LCD display 320 x 240 dots
- A possibility to connect acceleration, velocity and displacement sensors, tachoprobe, a measuring transformer, DC/AC input, TTL or analogue trigger
- ICP sensor powering
- Bearing condition analysis - *Bearing*, *L-Bearing* methods
- Low speed bearings analysis - *Peak Watch*
- FFT analysis, Order analysis
- Signal averaging
- Time signal analysis
- Frequency span AC/ICP 0.8-20,000 Hz
- RMS, Peak, Peak - Peak measurements
- Crest* and *Kurtosis* factors
- Manual input of data
- DC measurements of voltage, temperature, pressure...
- Up to 12 MB memory
- RS232 interface for communication with computer
- Check of an overloading, sensor and cable defects
- Power supply 4 x AA batteries or alkaline cells
- DDS 2000, A4300 Download, MDS 5.00 software

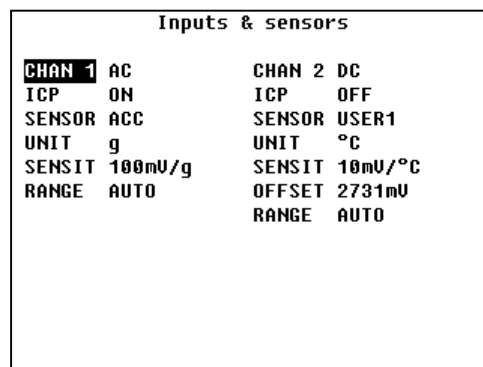
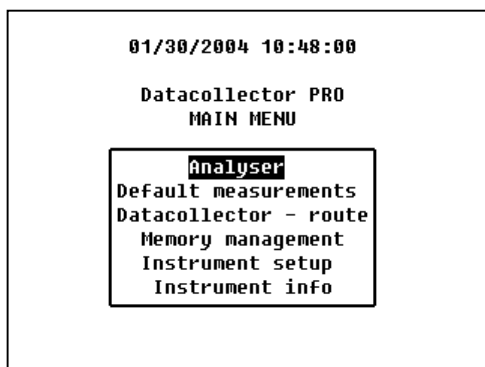


**Adash A4300-VA3** is portable very modern construction one or two channel datacollector and analyser. Main features are small dimensions and weight (970 g), large LCD display with high resolution and powerful processor which provides fast data analysis.

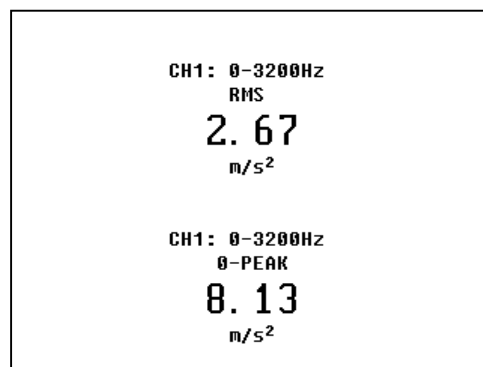
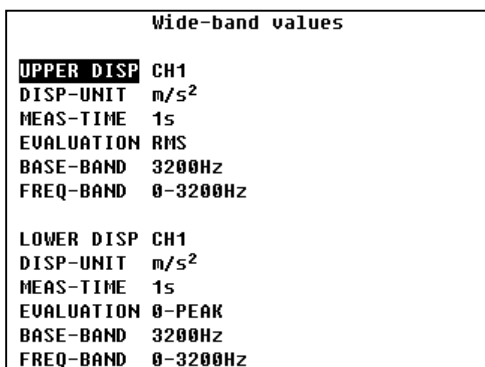
**Adash A4300-VA3** is determined for bearing condition analysis, lubrication analysis and analyses of mechanical defects of machines – unbalance, misalignment, resonance, looseness. Enables to perform any of the FFT, order or time signal analyses. Instrument memory enables archiving of large amount of data. The most important feature is possibility of firmware upgrade via interface RS232. Instrument can work as datacollector or analyser and the switching between these modes is by one button push. There are implemented special methods for measurement of bearing condition, where is low speed bearing included. With software system **DDS 2000** is **A4300-VA3** instrument very powerful weapon in predictive maintenance.

For bearing and lubrication analyses several methods are implemented. There are Bearing, L-Bearing and envelope analyses, Crest a Kurtosis factors. Measurement with bearing method is the base way for bearing condition analysis. The physical base of the method is an occurrence of a considerable increasing of high frequency signal energy. All these factors are also very sensitive for lubrications breaks. Envelope analysis in connection with FFT analysis can determine, witch part of bearing is wrong (outer race, inner race, cage or ball). Crest factor is very sensitive parameter for early defect detection. This method is independent of bearing type and machine speed and it is also helpful parameter of lubrication check. The Kurtosis factor represented statistical approach. **A4300-VA3** includes also all tools for mechanical defects detection. Mechanical defect with bearing defects represents the most of maintenance problems. Each defect can be checked by more than one method, this feature increases the reliability.

Adash **A4300-VA3** is manufactured in several modifications. The standard are **Analyser Trend** or **Pro**. It is possible to add next modifications: **DataCollector**, **DualChannel**, **Balancing** and it is possible to develop a special modification regarding customer needs.



**Analyser Trend:** Enables measurements of overall (wideband) values, envelope analysis, bearing condition values, process values and speed. Measurements are executed in multiplexed 2-channel mode (not synchronous). Data are saved into memory for next evaluation.



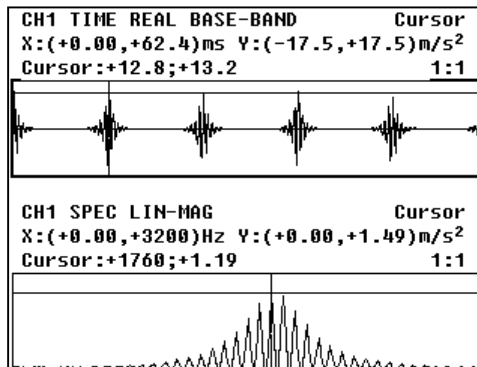
**Analyser Pro:** Enables measurements of overall (wideband) values, time signals, FFT spectrum, Order (tracking) analysis, envelope analysis, bearing condition values, process values and speed. Measurements are executed in multiplexed 2-channel mode (not synchronous). Data are saved into memory for next evaluation.

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Dynamic measurements

UPPER DISP CH1
DISP-UNIT m/s2
EVALUATION TIME
Y-AXIS REAL
Y-RANGE AUTO

LOWER DISP CH1
DISP-UNIT m/s2
EVALUATION SPEC
Y-AXIS LIN-MAG
Y-RANGE AUTO
    
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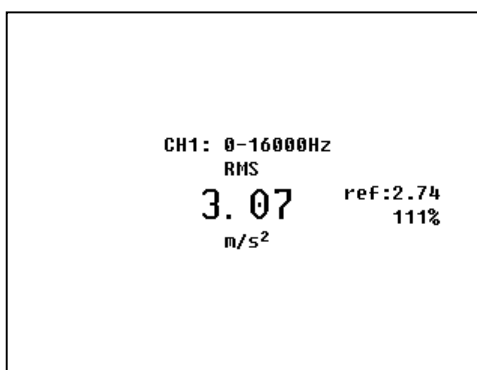


**DataCollector:** Enables in addition to use all possible measurements (Analyser Trend or Pro) in Datacollector (Route) mode. The route is defined in DDS 2000 software. Important feature is the possibility of manual input from instrument keyboard.

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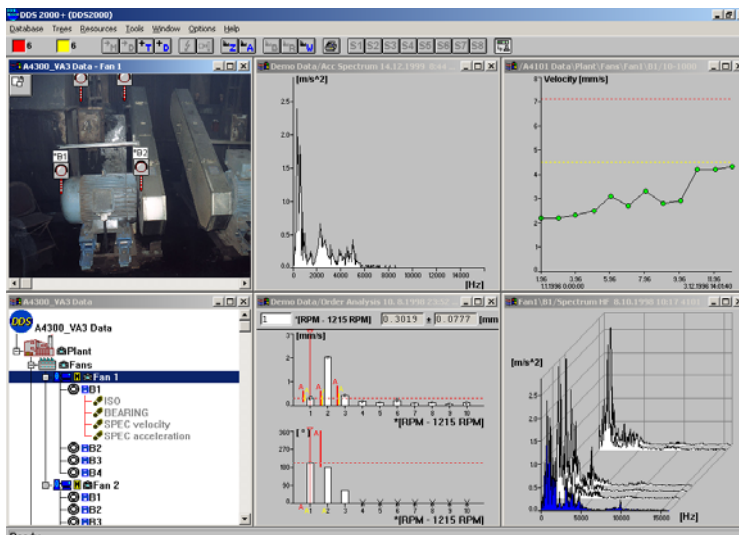
Left bearing - radial

16kHz [m/s2]-RMS-01/30 10:59
16kHz [m/s2]-0-PEAK-01/30 10:59
16kHz [m/s2]-PEAK-PEAK-01/30 10:59
16kHz [m/s2]-CREST-
16kHz [m/s2]-KURTOSIS-
16kHz [m/s2]-TIME-
16kHz [m/s2]-SPEC-
    
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**DualChannel:** Synchronous (simultaneous) measurement in 2 channels.

**Balancing:** Balancing in one and two planes with trim measurements.



 **Technical specification:**

<b>Input channels:</b>	- 2 for AC vibration sensors or DC process value sensors (with ICP powering possibility) - 1 for external trigger (tachoprobe)
<b>Option:</b>	- standard or Eex ib IIC T3
<b>Measurements mode:</b>	- datacollector or analyser (both types is possible to switch in any time)
<b>Sensors:</b>	- sensor with ICP powering - AC voltage signal - DC voltage signal
<b>Input ranges:</b>	- 0.01 – 1,000 m/s <sup>2</sup> (sensor 100 mV/g) - 0.1 – 10,000 m/s <sup>2</sup> (sensor 10 mV/g) - 0.1 – 20,000 CPS (6 –1,200,000 RPM) - AC +/-10 V peak - DC +/-20 V
<b>Data acquisition:</b>	- TRUE RMS and TRUE PEAK measurements - band pass measurements (user defined frequency limits) - user defined sampling frequency from any band interval - signal integration (1x, 2x) - envelope analysis (ENV) - band pass Bearing measurements and envelope analysis for bearing condition measurement - <i>Peak Watch</i> measurement for low speed or large bearings - Crest a Kurtosis factors - time signal analysis - FFT spectrum analysis - order analysis - speed measurement
<b>Trigger:</b>	- auto (immediately after pushing of START button) - manual (after next pushing of any button) - external (TTL or tachoprobe) - by signal exceeding defined limit
<b>External trigger:</b>	- signal of TTL or pulses greater then > 0.7 V
<b>FFT:</b>	- frequency ranges: user defined from 20 Hz to 20 kHz - max. lines number: 6,400 Base (12,800 Advanced) - window: Hanning, Rectangular
<b>Averaging:</b>	- max. 255
<b>Filters:</b>	- High pass, Low pass and Band pass
<b>Memory:</b>	- 12 MB
<b>Display:</b>	- LCD with backlighting 40 characters x 15 lines / 320 x 240 dots
<b>Interface:</b>	- RS232, USB interface in PC can be used with an USB-RS232 converter
<b>Software:</b>	- A4300 Download, DDS 2000, MDS 5.00
<b>Protection:</b>	- IP55
<b>Temperature:</b>	- -20 °C to +70 °C
<b>Power Supply:</b>	- 4 x AA 1.5 V or 4 x ACU 1.2 V
<b>Size:</b>	- 223 x 105 x 50 mm
<b>Weight:</b>	- cca 970 g (battery incl.)
<b>Accessories:</b>	- sensors, magnets and cables - laser or optical tachoprobe - transport case - battery charger