

CANHEAD®

Capture data directly at the measuring point with CANHEAD® ...

... the distributed amplifier system for structural testing
and experimental stress analysis





Boundless opportunities

... capture data directly at the measuring point

CANHEAD® – compact amplifier modules for structural testing and experimental stress analysis

Simplify your measurement processes with CANHEAD® – and at the same time gain flexibility and efficiency. With CANHEAD®, long confusing cabling is a thing of the past, because installation occurs right next to the measuring point. So the cables from the measuring point to the CANHEAD® module are short – which saves you time, effort, and cost.

► Simply inspired ...

... with CANHEAD®, you can reduce your cabling expenditure by 90 %

- ___ Flexibility and convenience for your measurements with the intelligent CANHEAD® principle
- ___ 10-channel CANHEAD® amplifier modules are installed close to the measuring point
- ___ Inexpensive and reliable standard fieldbus cables connect the CANHEAD® modules to a communication master

Your advantage: Turn ten into one – a saving of 90 %.



CANHEAD® convinces international experts...

Awarded the prize for the most innovative product of 2005 in the measurement of mechanical quantities category by the French trade journal "mesures"

► Reliable and stable measurement results ...

... even in demanding environments

- ___ Interference-immune, thanks to reliable, carrier-frequency technology
- ___ Stable results even in difficult temperature conditions
- ___ The patented four-wire circuit provides full compensation of cable effects
- ___ Synchronous data acquisition and uniform processing, even for extended systems with many single modules
- ___ Automatic, fail-safe setup with TEDS sensor identification.

CANbus

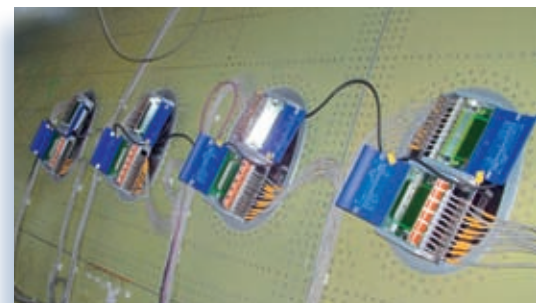


► Stay flexible...

...CANHEAD® adapts to your requirements

- Versatile principles of measurement: Single strain gages (SGs) in a quarter bridge circuit, SG full and half bridges, measurement of DC voltage sources
- Removable amplifier module for all measured quantities and circuit variants – can also be used alternately in several test structures
- Unlimited cascading and simple linking to an MGCplus system for additional measured quantities.

Photo: IABG



Structural testing with CANHEAD® – here for A380 fatigue testing, as performed by the German Engineering Company, IABG



Testing of a turbine wing under laboratory conditions



Efficient measurements with CA

...in a variety of applications:

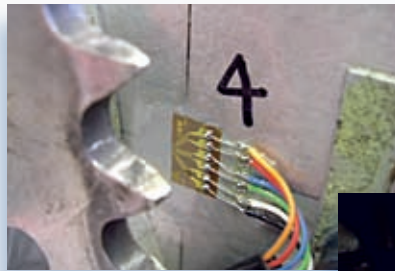
CANHEAD® – the first choice for your application!

From experimental stress analysis with single strain gages to flexible function testing with various measured quantities. CANHEAD® is ideal for average to high channel counts.

Choose ...

- ☒ **...more efficiency!**
YES, I want a cost-efficient amplifier system for small to high channel numbers
- ☒ **...closer proximity!**
YES, I want to cable my amplifiers together intelligently – close to the measuring points, distributed over an extended structure
- ☒ **...advanced measurement!**
YES, I want a replacement system for multi-point measurement technology with old changeover systems that is as simple as it is advanced
- ☒ **...absolute safety!**
YES, I want a measurement system with integrated temperature compensation for SG quarter bridges
- ☒ **...fast transducer detection!**
YES, I want a measurement system that automatically identifies transducers electronically in large structures, with TEDS

Choose CANHEAD® – the system with perfectly coordinated components – suitable for all the measured quantities of experimental stress analysis.



Experimental mechanics

- ___ Measurements on wind turbines
- ___ Measurements on rail vehicles
- ___ Component testing

“ We use the CANHEAD® system primarily with components that need to allow for major movements, e.g. with tipping bodies. The CANHEAD®'s distributed structure reduces cabling expenditure by up to 90%. ”

Ben Kiefer, Schmitz-Gotha Fahrzeugwerke GmbH, Germany

CANHEAD® ...

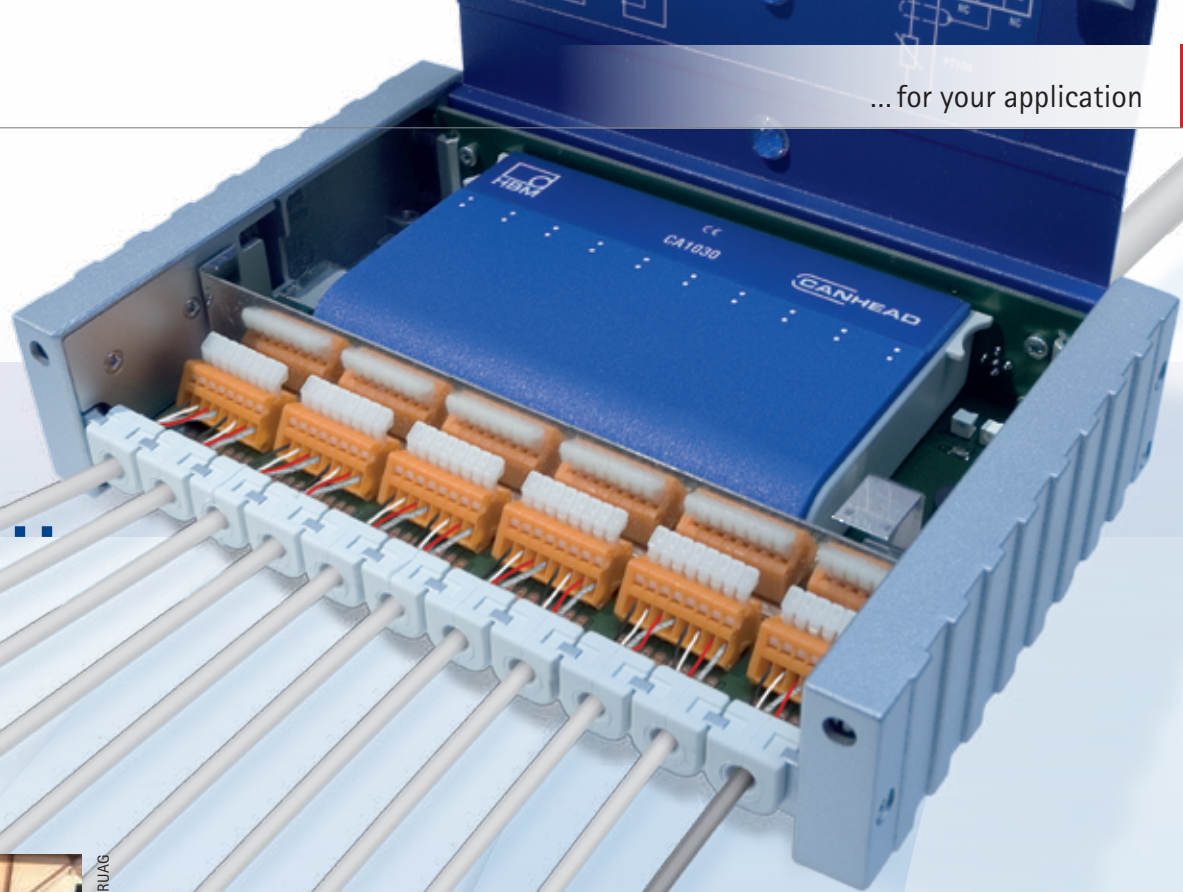


Photo: RUJAG

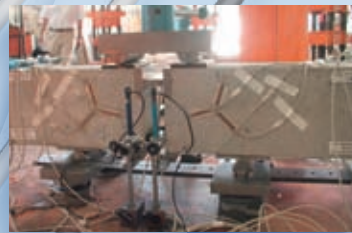


Photo: IABG



Photo: Liebherr

Aviation

- ___ Static structural testing
- ___ Fatigue testing



“ IABG made the decision to use CANHEAD® for A380 fatigue testing, as distributed measurement acquisition has considerable advantages for extended structures. With 7,000 SG measuring points to deal with, we found reduced installation costs and time, better interference immunity and easier expansion very persuasive arguments.”

Dipl.-Ing. Detlev Bauer, IABG, Germany

Structural engineering

- ___ Long-term monitoring of bridges and structures
- ___ Acceptance measurements

“ We have continuously measured strain and deformation on a motorway bridge's pre-stressed concrete bearing structure for one year. The CB1010 CANHEAD® modules enable us to bundle measurement channels and take measurements at measuring points that are a long way away from each other. ”

Dipl.-Ing. Jan Peter Liebig, Institut für Massivbau, Leibniz University, Hannover, Germany



The CANHEAD® system..

... three components to bring results

CANHEAD® – the system solution

To take you from the sensor to digital measurement data in the PC, you need three components:



The CANHEAD® amplifier module

The heart of the system ...

- ___ A standard amplifier module for all measured quantities and circuit variants, that is to say, suitable for all base module types
- ___ The amplifier module can be removed and reinserted in no time at all. This allows the amplifier module to be quickly and flexibly swapped between the different measurement structures.



CANHEAD® base modules

Intelligent junction boxes ...

- ___ Direct connection of sensors close to the measuring point
- ___ Stays integrated in the cabling
- ___ Information specific to each measuring point is permanently stored in the base module
- ___ Available in three variants for feeding and connecting different SG circuits and transducers.



MGCplus... or ...CANHEADdirect

MGCplus communication master

Plug-in module for the MGCplus system ...

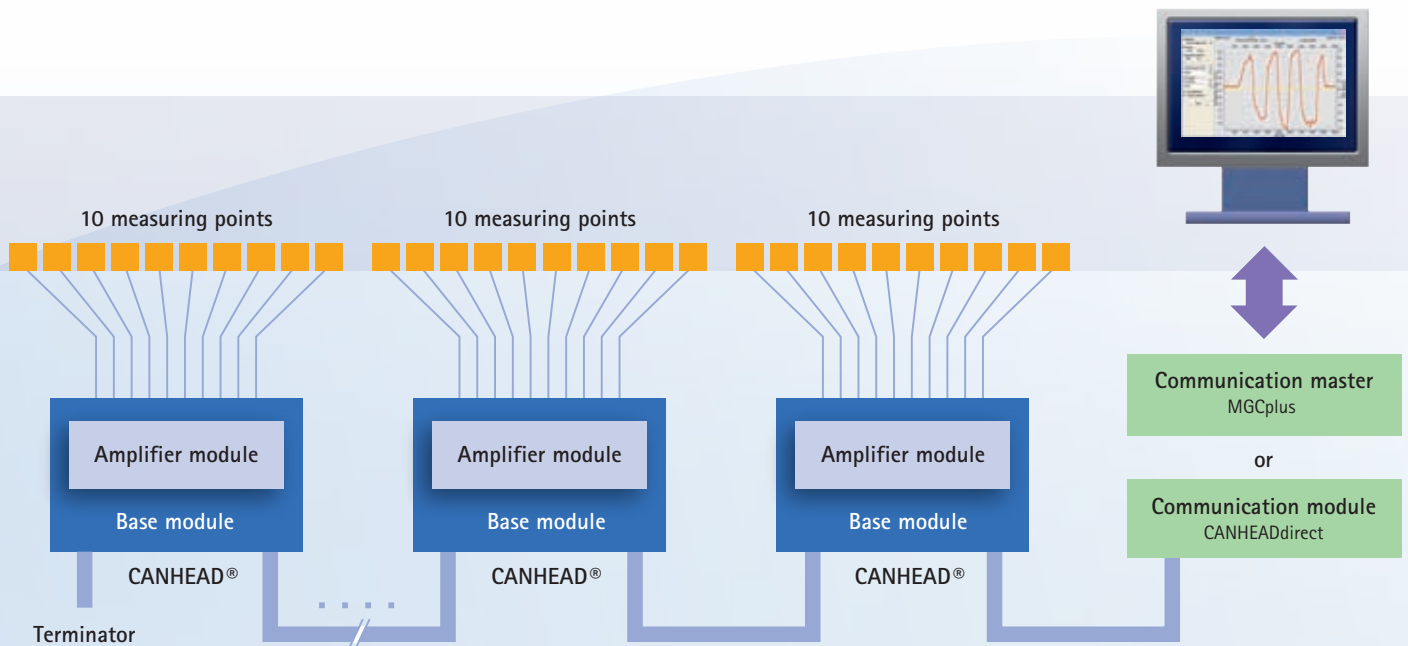
- ___ 240 measurement channels, even in the most compact housing
- ___ Cascadable, up to 10,000 channels as required
- ___ A direct link to the universal MGCplus measurement system allows CANHEAD® to flexibly combine with all the measured quantities.

CANHEADdirect communication module

Cost-efficient, direct connection to the PC ...

- ___ CAN-to-USB conversion
- ___ USB connection of up to five CANHEAD® modules (50 measurement channels) to the PC
- ___ External voltage supply of the CANHEAD® system.





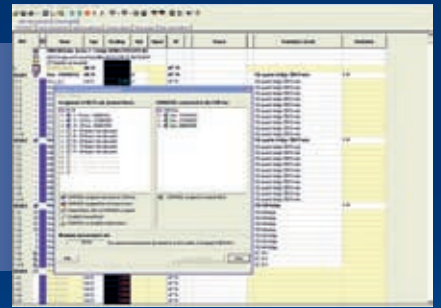
Data transmission by fieldbus: the alternative to miles of measurement cables

With CANHEAD®, you benefit from the advantages of CANBUS technology. Customary market fieldbus cables are used. These are more compact and flexible than conventional measurement cables, where several separate wires are required for each channel. The linear structure is a further plus for you – as each module only needs a cable to the adjacent module. The bus cables can be up to 250 meters long.

Amplifier module for 10 measuring points	Base module for 10 measuring points				Communication modules	
CA1030	CB1014	CB1015	CB1016	CB1010	ML74/AP74	CANHEADdirect
<ul style="list-style-type: none"> - Separate A/D converter for each channel - Interference-immune 600 Hz carrier frequency - Excitation voltage for SGs 	Single SGs in a 3-wire circuit Cost-efficient, for stable measurement environments	Single SGs in a 4-wire circuit Reliable, for measurement environments with difficult temperature conditions thanks to full compensation of cable effects	Single SGs in a 4-wire circuit <ul style="list-style-type: none"> - RJ45 plugs for convenient transducer connection - Compensation of cable influences - For demanding temperature conditions 	<ul style="list-style-type: none"> • SG full bridges • SG half bridges • ± 10 V DC voltage <ul style="list-style-type: none"> - Transducer type selectable for each channel - RJ45 plugs for convenient transducer connection - Supports electronic transducer identification by TEDS (only with MGCplus) 	Removable communication module and connection board to the MGCplus system <ul style="list-style-type: none"> - Up to 12 CANHEAD®s (120 measuring points) per ML74B - Up to 256 measuring points per MGCplus device - Up to 10,000 measuring points can be acquired synchronously 	<div>NEW</div> <ul style="list-style-type: none"> - Interface for CAN-to-USB data transmission - Up to 5 CANHEAD modules can be connected (50 measuring points) - Current supply through external power pack

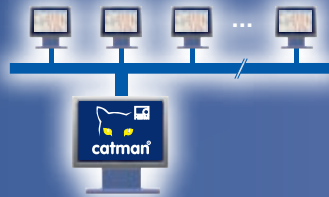
Convenient CANHEAD® setup with free Assistant software

It is easy and convenient to make your settings using the accompanying Assistant software. You do not need any specialist knowledge about data communication by fieldbus.



Evaluation and analysis with catman®

catman® is powerful software for configuring, displaying and analyzing your measurement.



catman® Easy

Software for easy acquisition of measurement data

- ___ Fast measurement results thanks to the modern and intuitive user interface
- ___ Library for experimental stress analysis
- ___ Graphical data analysis with export option for measurement curves (to Word, for example)
- ___ Export measurement data into commonly used formats (Excel, ASCII, DIAdem™)
- ___ Optional add-on modules for more demanding tasks (such as post-process math, scripting).

catman® Enterprise

Up to 10,000 channels can be configured with ease

- ___ Use measurement data jointly in one network, thanks to the client/server architecture
- ___ Measurement data distributed online to multiple client PCs
- ___ Extensive trigger functions (such as desired response or limit triggers)
- ___ Logging the entire measurement sequence in a log file
- ___ SG measuring points automatically checked
- ___ Trend analysis.

Glyph XE™

Analysis software for real understanding of your measurement data

- ___ Dramatically reduces the time to process test and operational data
- ___ Comprehensive analysis for experts but simple to use for occasional users
- ___ Processes can be locked down, capturing corporate knowledge and improving consistency
- ___ 'One-click' generation of results and reports. Go straight from raw data to finished document and improve productivity.

You can find out everything you need to know about CANHEAD® – and request your choice of products directly online!

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measure and predict with confidence

