High-precision amplifier for strain-gauge transducers

DMP41

The worldwide reference

Accuracy class 0.0005

HBM

DMP41

Best in class ...

DMP41 is the world's most accurate amplifier for strain gauge-based measurements. With its long-term stability and state-of-the-art usability features such as touch screen operation, the DMP40 successor benefits from over 30 years of experience with HBM's DMP series.

Accuracy class

0.0005

Measurement precision at its peak with HBM!

- HBM's most accurate measuring amplifier offering an accuracy class of 0.0005
- Signal resolution up against the physical limits
- Usability: totally new graphical user interface (GUI) with touch screen
- "Background Calibration": no freezing of the live measurement
- Individual linearization
- Up-to-date interfaces: Ethernet, USB Device, USB Master
- High-performance digital filters
- Based on 225 Hz carrier frequency (CF)

... and well-suited for many applications

Multiple requirements – one answer: DMP41

The DMP41 precision measuring amplifier is particularly well-suited for high-precision comparison measurements of mechanical quantities.

Used in national metrology institutes

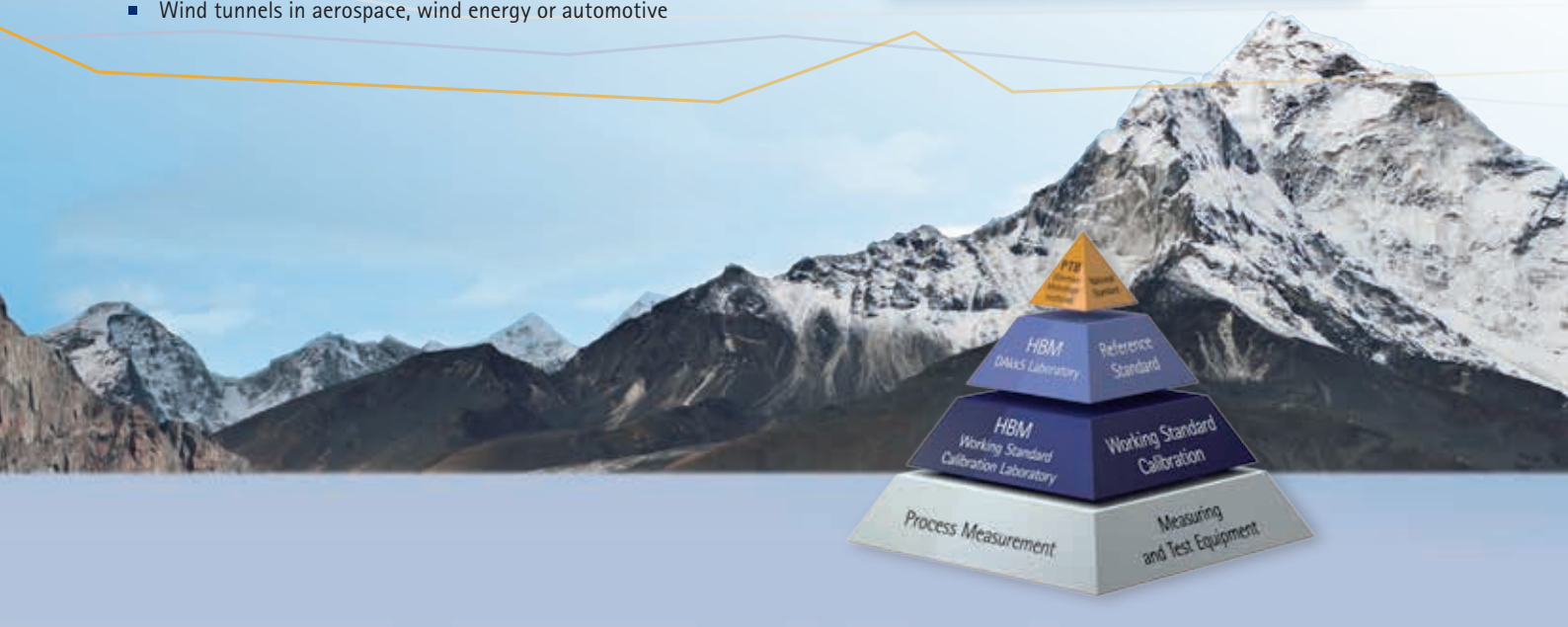
- For inhouse multi-component measurements at the institutes (e.g. the German National Metrology Institute - PTB) to ensure traceability of mechanical quantities such as force, weight, torque, pressure
- As the current "reference instrument" in approximately one hundred standard institutes around the world

Development, manufacture and quality assurance of strain-gauge transducers

- Particularly in load cell production
- Measurement of very small variations at high static loads

Simultaneous measurement with multiple channels

- DMP41-T6 version runs up to six channels absolutely simultaneously for many new and future applications
- Wind tunnels in aerospace, wind energy or automotive



DMP41

Benefit from new features and options

Scope of performance

The DMP41 digital precision measuring amplifier has been designed for measurements using strain gauge-based transducers. The instrument enables a transducer signal of 2 mV/V to be resolved into one million digits without any instabilities. Connected transducers are supplied with 225 Hz carrier frequency to ensure maximum immunity to interference as well as zero point and display stability. Unparalleled: the accuracy class of 0.0005.

New master-slave function

In addition to the maximum of six channels in the device, several DMP41 can be connected using the master-slave function. There are practically no limits to ultra-high precision measurements with high channel counts anymore. This will certainly be a trend of the future opening up new possibilities and helping users face new challenges.

Two versions are available:

DMP41-T2

Two-channel precision amplifier

DMP41-T6

Six-channel precision amplifier

Opening up of new possibilities for calibration using absolutely parallel measurement, e.g. in multi-component measurement

Conversion of the electrical quantity (mV/V) into physical quantities (e.g. kg, N, Nm, Pa) for each channel individually through linearization of 2 ... 11 data points

New option of connecting all transducers either via DP15P or MS plug

Measurement of up to four temperatures as auxiliary quantities in parallel to the strain gauge signals

Dual mode operation

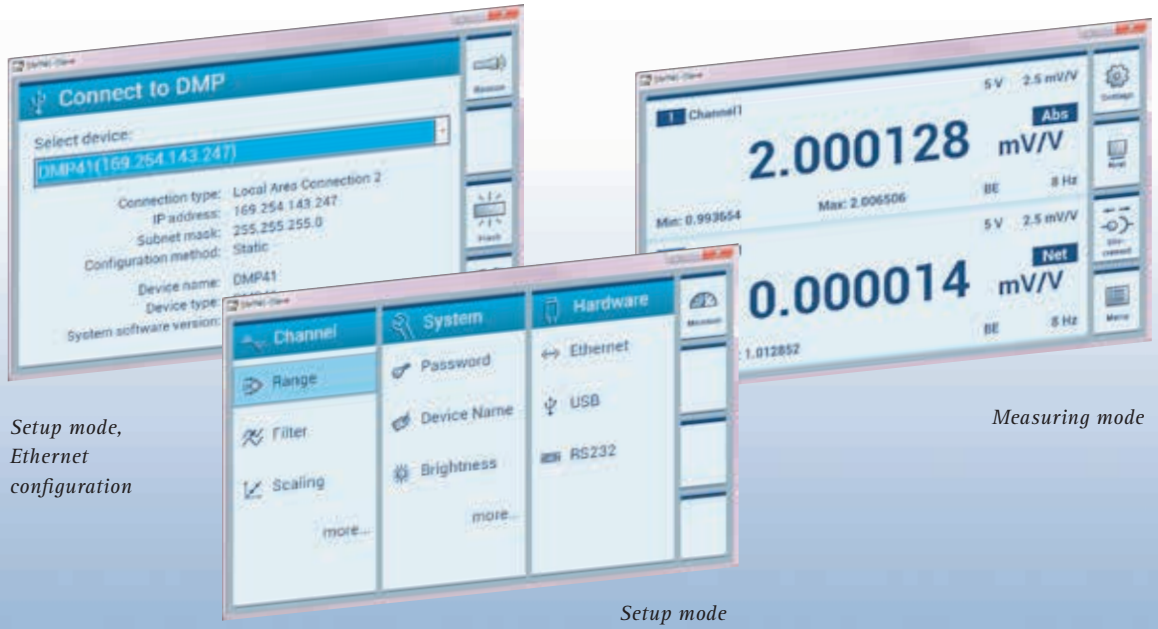
Operate the device either via touch screen or traditionally via function keys.

DMP41

Setting new standards in usability ...

Enhanced usability

The newly developed operator interface enables users to choose between conventional operation via the keys, if necessary, using an additional PC keyboard that can be connected as an option, touch-screen operation or remote control by a PC connected via the Ethernet or USB interface.



Setup mode, Ethernet configuration

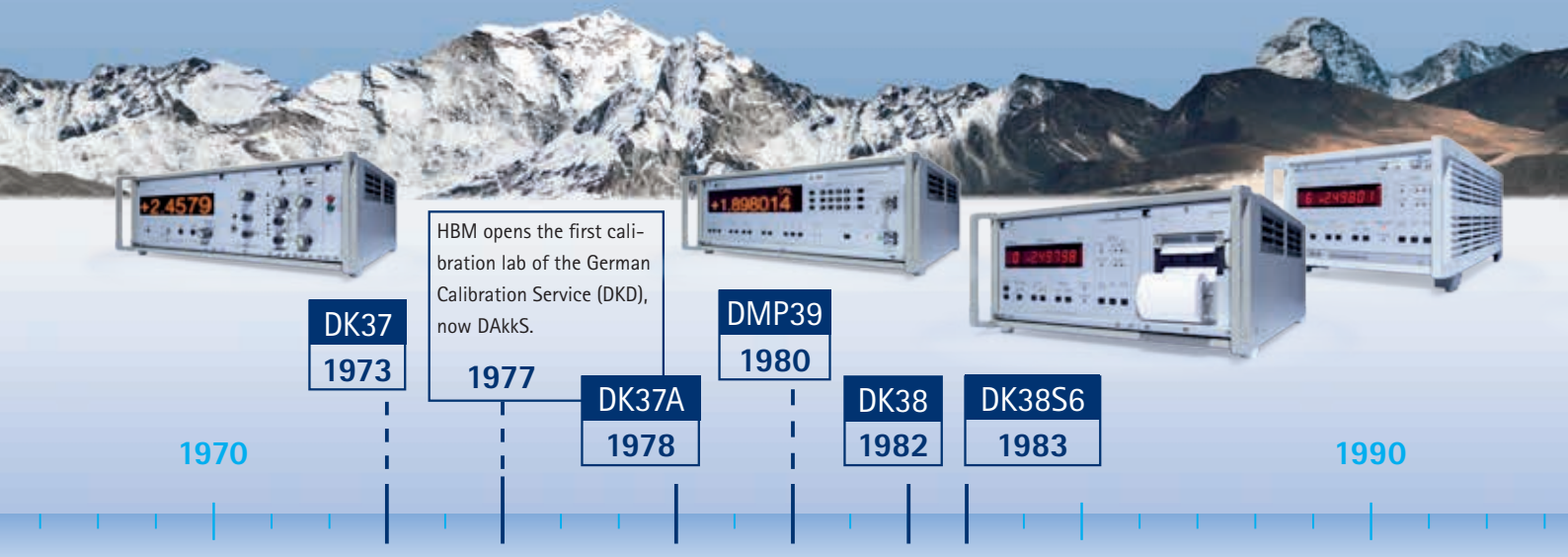
Setup mode

Measuring mode

... via touch screen

... via control elements

... via PC



Time line

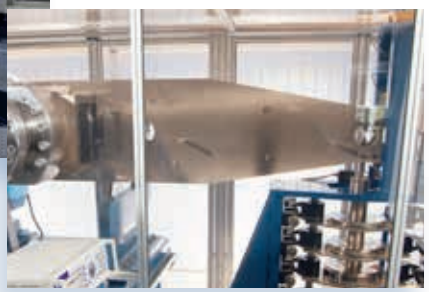
The history of precision measuring instru

... and calibration

What is unique with DMP41

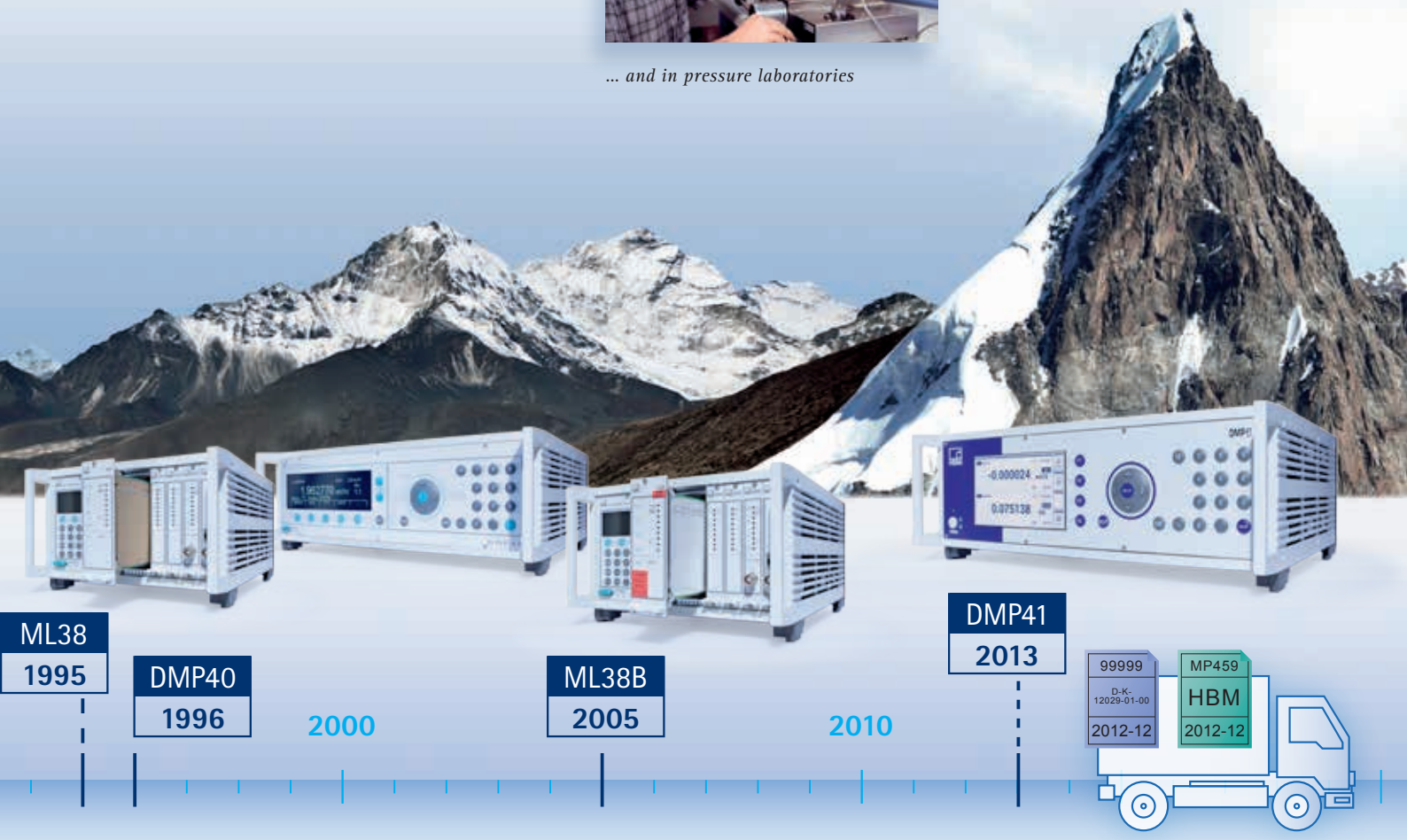
- DMP41 is the logical successor of DMP40 and DMP39
- Compared to its predecessors, DMP41 offers:
  up-to-date features, such as "Background Calibration",
  i.e. no freezing of the live measurement
- Enhanced EMC protection
- Much better connectivity
- Wide choice of operating options
- Up-to-date usability
- Multiple applications

Application in force ...



... in torque

... and in pressure laboratories



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