



This small, versatile meter is good for new positions in your process. You never thought they could be economically possible

VISILAB
SIGNAL TECHNOLOGIES

Model AK40GW

On-Line Moisture Meter for Paper and Board and for Other Fiber Products - a Wide Range of Applications

APPLICATIONS:

- ➤ Moisture measurement in very tight places
- ➤ Various papers and boards, recycled, cellulose board
- ➤ Various fiber materials, felts, textiles
- ➤ Water-based glues, pigments and other coating materials
- ➤ Suitable for clean conditions +5 ... +40C
- ➤ More requiring conditions may require a cleaning air purge on the outside or a protective cap (option)
- ➤ Two versions available: On-line and portable

TARGETED FOR CLEAN POSITIONS IN THE COATING, PROCESSING AND LAMINATING MACHINES - KEEPING IT IN THE BUDGET

What would you expect to have in your on-line surface moisture meter?

A. Good reliability

B. Simplicity of use

C. Excellent stability

D. Small size, low weight

E. Suitable interfaces for user and DCS

F. Usability in process conditions

Look at what Visilab has to offer in our model **AK40GW** meter

A. Good reliability - It is built to last. All wearing parts are carefully designed and rated to gain extra margin. The service interval is 200 000 hours

B. Ease of use - Plug in the supply cable, turn the meter on and start measuring. Could it be simpler? Connect the analog signals to your DCS. Measure the web or glue weight. Use either the big numeric display or the smaller graphic and numeric indicators on the front panel to see what is the moisture level.

C. Good stability - It is in a unique class in stability due to its new ultras-stable technology developed in Visilab. We can guarantee a superior long-term stability figure

D. Small size - Its dimensions are 150x460x130 mm with the standard 300 mm tubing for the optical head, weighing about 800g

E. Interfaces - It connects to the world with the following:

- two analog channels (0..2V, 0...5 V) for moisture signals, one 4-20 mA channel for moisture
- Wireless Bluetooth and a wired serial port to PC (RS232 9600 bauds via a cable up to 40 meters or 115200 bauds along short cables) with a full-featured data acquisition software **AK30, AK30Mini, ATOM** or the optional **Advanced** for true scanner use (licensed). These software have a great number of highly useful features for regular quality control, troubleshooting and special research purposes. The Bluetooth is able to operate at up to 100 meters' distance from the PC with unobstructed sight. Therefore we have the plastic box to allow its operation.
- Keyboard and display with a set of three colour LCD's to get full control of the meter and see the moisture reading at the same time, also a trend curve.

These interfaces are all standard in every meter and can be used simultaneously. The programs follow each meter without extra cost

F. Usability - User and process interfaces:

- The 4-20 mA signal is calibrated and also the 0...2 V, 0...5 V signals similarly.
- The keyboard has keys with a good feel and a tone signal feedback. The three displays are visible in bad conditions with the help of coloured background lighting, a good contrast and with all necessary information visible. Using AK40GW is simple and straightforward.
- The box is IP67 rated meaning splash water proof. If the window gets wet while using, wipe out any water of the small optical surface and continue. AK40GW is targeted for easier positions though, to keep it clean and safe. It can operate in high moisture positions too but keeping it clean may become a challenge
- A small gap of 12 - 22 mm is left to the measured surface.
- All data, calibration tables and configuration data are saved to a nonvolatile memory.
- It has an optional infrared thermometer for measuring web temperature. The reading is on the panel display and available on the second 0..5 V analog channel.

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There is more than you expected..

AK40GW has a raw measuring speed of 72 Hz which offers a good quality signal of 5 Hz, perfect for quality control

Memory banks (800 of them) are built into the meter for saving data with adjustable sample intervals of 0.2 s and longer. This feature is good for regular sampling either in field tasks without fear of running to memory limits. A time stamp is added to each measurement

Calibration - It is straightforward both in field and laboratory conditions with most regular papers. The internal library can contain up to 100 tables which can be manipulated extensively in software. The linearity is excellent above 8% with paper products

What else does it have? Small things like:

A trend curve in one of the three displays is showing recent history. Its data can be saved by one key press to a memory bank. This is unique in this class of products.

A numeric display with large digits, quickly switched from trend display and back

High immunity to external infrared radiation and to external water vapor

Reel number settable via keyboard and carried forward with data, even from old data

A **Flash calibration** utility for an immediate generation of a new calibration for some paper whose basis weight is known

A **zeroing** of the moisture reading if only the difference from a reference sample is meaningless

Five **recipes** which include a label text field descriptor and an associated calibration to be used. The same data is saved with each memory bank data and also downloaded to PC. The time stamp is also included.

The PC programs have features for acquiring moisture data for archiving, reporting and display

An extremely low noise level in moisture readings

Wide moisture range (0... > 70% total)

Automatic conversion of total weight moisture to dry weight moisture when required, while measuring.

A selectable unit for calibration: %, g/m2, g/m3, dry weight, dryness etc. with dryness and dry weight automatically converted while measuring

A digital filter with three selectable passbands for web noise (FAST, MEDIUM, SLOW). The fastest one supports full speed of 5 Hz sampling with no delay.

Optional battery operation for at least 1 hour before recharging is required. Energy saving features are built-in, like Sleep mode, user-adjustable display brightness and hue etc. This feature is good for power interruptions, the meter will continue operation in spite of disturbances. The battery needs replacement every five years if this support is required to be continuous.

A miracle price, a quick ROI

A spot size of 10 mm in diameter allowing for exceptional profile studies and small scale phenomena. This is very useful in scanner installations

The sleep mode allows for automatically turning to Low Power mode after one hour of use or to dimming the display only (DIM mode) instead.

A battery-backed clock for time stamps, date and time

Memory banks keep the data with the date and time stamp. Saving is done either with a single key press (present display contents, 64 points) or at

regular intervals. The internal autotimer takes the samples (1 to 500 per bank) and it can be triggered by a key or a software command at a PC. The data may be kept in the meter for years, each with a time stamp. This feature is useful for manually sampling the running web or for troubleshooting. Also reference CD profiles can be saved to the meter itself.

The display background colour may change after crossing a preset high or low level (adjustable alarm feature)

The display colour changes according to various operating modes (5 of them) to help the user recognize the meter status. The colours are user-adjustable to match requirements in contrast or energy saving

There is a HOLD button to keep the latest value frozen to display

A special feature: Data collected to memory banks can be analysed statistically in batches (1 to 64 banks at a time) for QC tasks.

All AK30 programs support downloading several memory banks at a time from the meter. All PC software are Windows 11 +/10/8/7 compatible.

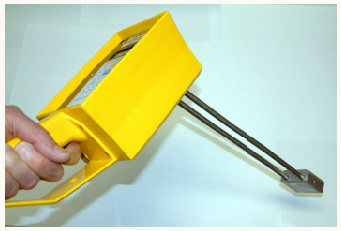
The AK30 program supports continuous checking of new memory banks and automatic downloading of them to the PC

Options: - Selectable tube length at time of ordering 50...300 mm
- Web IR thermometer with signal output from the meter via analog voltage 0...5 V and digital
- The keyboard is hidden under the box or on the front panel, as requested
- licensed Advanced program with greatly extended analysis and postoperation features is available to all customers at a low-cost one-time fee with free updates for lifetime and millwide use.
- the AK40GW has two options (see pictures below):
  - AK40GW right-oriented on-line meter
  - AK40GW-P portable meter with battery operation having a small fixture at the bottom for temporary on-line measurements.
  - tube length can vary from 50 to 300 mm as requested

AK40GW

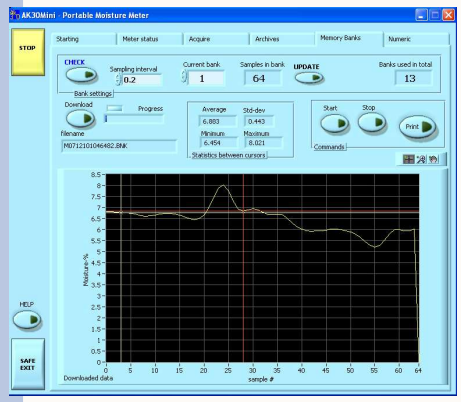


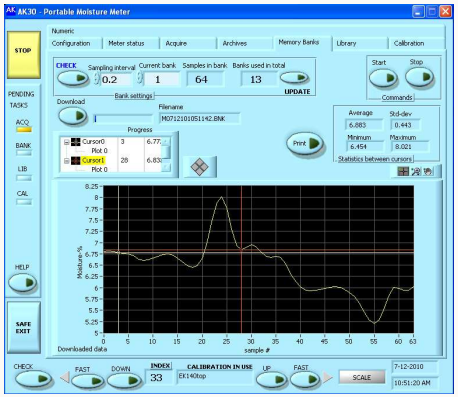
AK40GW-P portable version





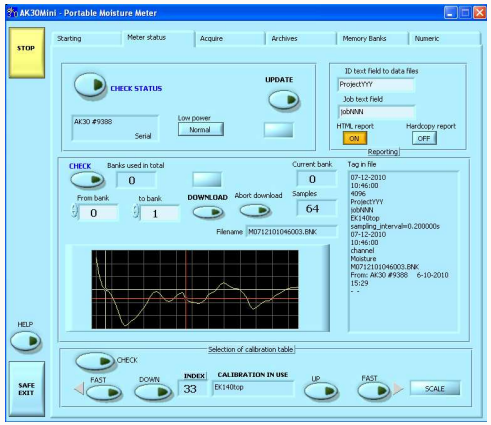
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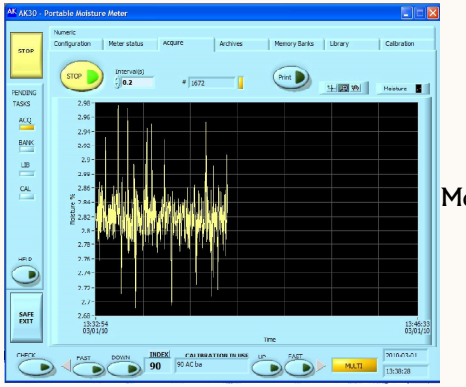




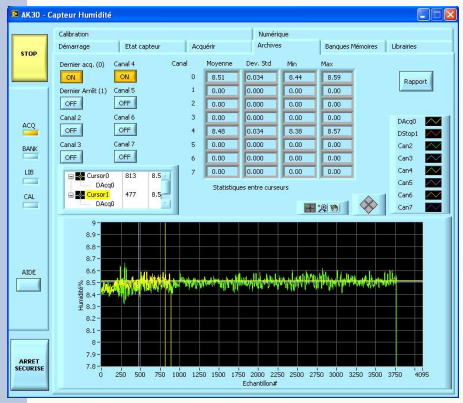
Memory banks for collecting and archiving data can be downloaded to AK30 and AK30Mini

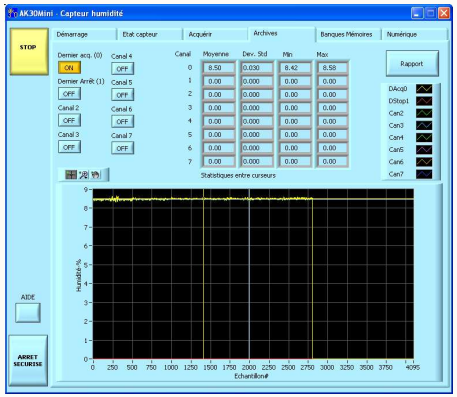
Meter Status page in AK30Mini where one can download a great number of memory banks from the meter after selecting them. This feature is in all other software too.





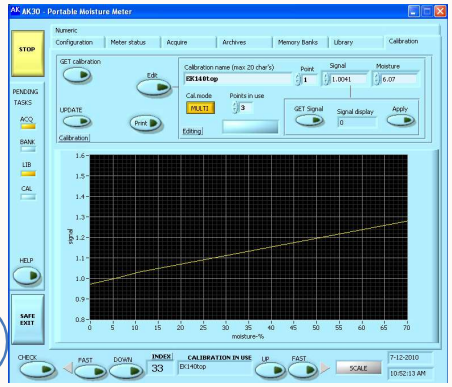
Moisture acquisition in AK30 program



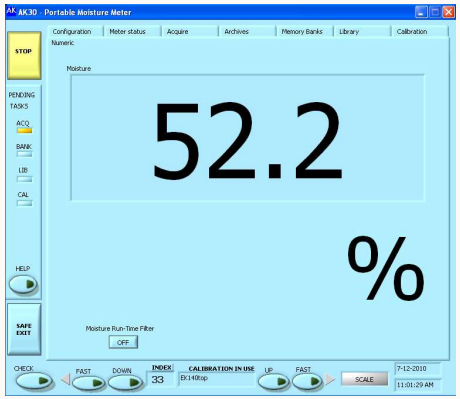


Archives tasks in AK30 and AK30Mini

Calibration task in AK30 pogram



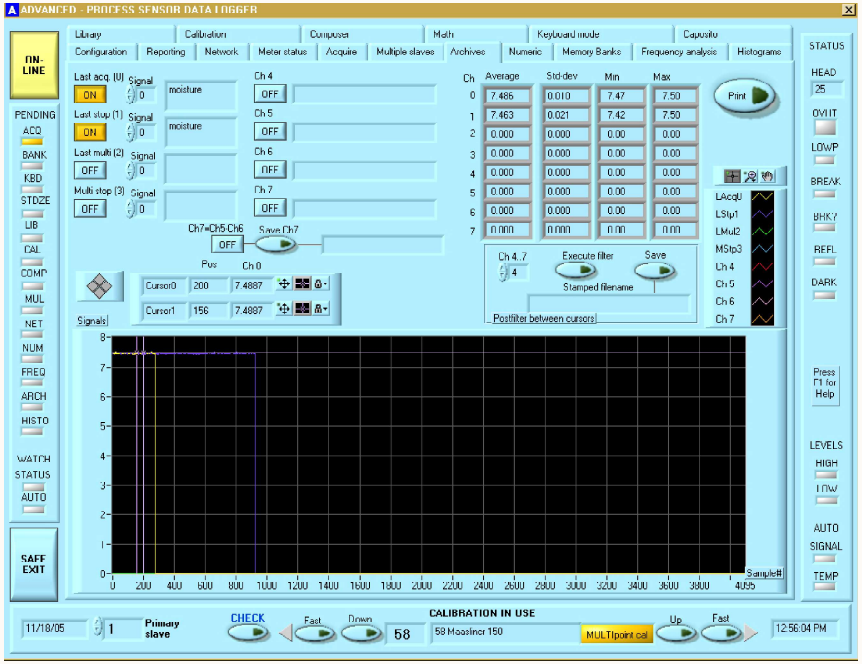
A numeric display, typical for all smaller software



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Are these specifications sufficient for you?

Now, what is keeping you from asking for more data and a price offer?



Archives task in **Advanced** program. It has file retrieval, incoming signals, piecewise filtering of data, statistics, channel difference calculation etc., all on the same page at the touch of your mouse. This program is for a more advanced user who wants to analyze more data and handle calibrations with great ease etc.

AK40GW is the optimal on-line moisture meter for tight places:

- ➤ Lowest cost, simplest to use
- ➤ Smallest and most compact, very small spot
- ➤ Contains a large number of useful features
- ➤ Easy-to use support software
- ➤ A large number of applications
- ➤ Wireless communication with a PC
- ➤ DCS interfaces
- ➤ Ultrastable technology
- ➤ Two models to select: On-line and portable

Moisture meters made by Visilab Signal Technologies have been sold to a large variety of applications since 1994: From paper and machine research to troubleshooting and regular quality control and rough field use. The applications range from SC, board and newspaper to nonwoven, fabrics, note papers, special papers, sawdust and wood chips and printing. They have been used frequently in research studies made by universities and research institutions in addition.

*We also have products for measuring paper **colour**, please check our **FrontColour** product*

Find latest news and other up-to date material on our web pages:

www.visilab.fi

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