

Moisture and Temperature Measurement using GANN Measuring Devices

Wood moisture content: The processes commonly used today for determining the moisture content of wood can be divided into two main groups, of which measurement of electrical resistance has clear precedence. All GANN measuring devices, with exception the model Hydromette COMPACT “A”, operate on this principle. Since the electrical conductivity of wood is considerably affected not only by its moisture content, but also by the wood temperature and various substances contained in the wood, it is necessary to take these influences into consideration in the design of the moisture meters to ensure accurate readings. GANN has therefore developed, **world-wide first**, wood moisture meters with setting device for automatic correction of the readings according to the species and temperature of the timber to be measured. Today’s standard in this field is an adjustment facility for four groups of wood and a temperature compensation range of -10 to +90 °C. Another improvement for accuracy of measurement has been achieved in the models RTU 600, M 2050 and M 4050 which have an input facility for a type specific calibration curve code number for each material to be measured or for each species of wood.

Measuring devices based on the principle of non-destructive measurement by means of high frequency or dielectric constant measurement (Hydromette COMPACT “A”) have the advantage that no electrode pins have to be inserted. With this measuring method the density, i.e. the specific weight of the timber has to be taken into consideration to obtain accurate results. For this purpose the Hydromette COMPACT “A” is equipped with a setting device for the various species of wood. The Hydromette COMPACT “A” is particularly suitable for balanced thinner boards with plane surface.

Structural moisture: The resistance measuring method is to be used for measurement in depth of more than 40 mm, for which

electrodes with a penetration depth up to 250 mm are available. For all other measurements on hardened building materials, we recommend the non-destructive measuring method based on a high frequency field. This patented measuring method permits to locate, in non-destructive way, the dampness in building materials of all kinds and to convert the relative readings into percent of dry weight. For this measuring method the Hydromettes HB 30, UNI 1, UNI 2, RTU 600 and M 4050 in conjunction with the active electrodes B 50 and B 60 are available. The Hydromette COMPACT “B” is an ideal preliminary test unit for all CM type moisture analyzers.

CM structural moisture analyzers: The new range of moisture analyzers **GANN HYDROMAT CM** has been designed for determining the moisture content of building materials using the calcium carbide method.

Air relative humidity: The measurement of the air relative humidity is performed by a capacitive sensor which operates rapidly and with precision thus enabling evaluation of various measuring points in a matter of seconds. In addition to the standard measuring probe RF-T 28, other sensors are available for the measurement of relative humidity of bulk materials, building materials, brickwork etc. Additionally a combined thermometer / hygrometer in pocket size (Hydromette COMPACT TF-1) is available.

Temperature: The sensor Pt 100 used with all contact-type temperature probes has a low mass and ensures, therefore, a short response time. An infra-red temperature probe is additionally available for surface temperature measurements.

Electronic Moisture Meter for Wood and Plaster GANN HYDROMETTE COMPACT

Wood Moisture Plaster Moisture



Measuring range: 5 to 20 % m.c. for wood with two group species correction and 0.3 to 3.5 % m.c. for plaster, with large 3-digit LCD readout.

The hand closes naturally around the ergonomic form of the housing so that the pins on the end of the instrument can be pressed into the material to be measured. The thin pins make it easy to measure the moisture content of sawn timber, chipboard and fibreboard materials up to a maximum thickness of 25 mm as well as normal gypsum or mixed plaster.

Important features and technical specifications

- Handy, quick pocket-sized moisture meter for speedy single or series measurements.
Size: H 200 mm × W 35 mm × D 35 mm. Weight approx. 130 g.
- Two-group wood species correction.
- Measurement of plaster moisture content with a direct readout in percent of dry weight.
- Completely automatic instrument setting.
- No separate electrodes or leads required.
- Power supply by 9 V dry cell or rechargeable battery (*optional accessory*).

Ref. No. 2010
(including battery, spare pins
and protective cap)

Electronic Moisture Meter for Wood Based Fuels **GANN HYDROMETTE COMPACT “S”**



Ref. No. 2011
(including battery, spare pins
and protective cap)

Wood Moisture

Measuring range: 10 to 50 % wood moisture content,
Calibrated on the mean value based on a great number of hard and soft
woods, with large 3-digit LCD readout.

This ideal and reasonably priced moisture meter ensures

- Lower waste gas emission by improved combustion of solid fuels in the interest of environment protection,
- Protection of the stove and chimney by improved combustion,
- Savings in heating energy by improved exploitation of the solid fuels.

Important features and technical specifications

- Handy rapid-action moisture indicator in pocket size for fast single and series measurements.
Size: H 200 mm × W 35 mm × D 35 mm. Weight approx. 130 g.
- Electrode pins fastened to the meter housing suitable for wood up to approx. 30 mm thick.
- Fully automatic adjustment of the indicator.
- Power supply by 9 V dry cell or rechargeable battery (*optional accessory*).

High-Frequency Wood Moisture Meter GANN HYDROMETTE COMPACT "A"

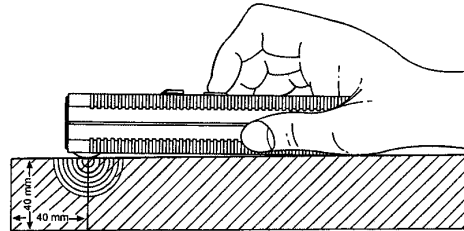


Ref. No. 2020
(including battery)

Wood Moisture

Measuring range: 5 to 45 % m.c., with digital LCD readout and wood species selector switch. Suitable for timber up to 40 mm thick.

The measuring principle of the Hydromette COMPACT "A" is based on the dielectric constant measuring or high frequency measuring method. For taking measurements, the meter is **simply placed**



on the material to be tested. The moisture content can be read off immediately. No need to drive pins into the wood.

Important features and technical specifications

- Handy, pinless wood moisture meter for fast single and series measurements.
Size: H 170 mm × W 35 mm × D 35 mm. Weight approx. 180 g.
- No separate measuring electrodes or cables required.
- Fully automatic adjustment of the indicator.
- Setting device for automatic correction of the readings depending on the species of wood.
Setting range: Positions 1 to 10.
- Power supply by 9 V dry cell or rechargeable battery.

Electronic Structural Moisture Indicator GANN HYDROMETTE COMPACT “B”

Structural Moisture



Ref. No. 2030
(including battery)

Measuring range: 0 to 100 digits

Electronic structural moisture indicator using a **patented** technique based on the dielectric constant / high frequency measuring principle.

The indicator is equipped with a digital LCD readout and a universally applicable ball sensor for **non-destructive** location of moisture concentration in all kinds of building materials as well as for assessment of moisture distribution in walls, floors and ceilings.

Important features and technical specifications

- Handy rapid-action moisture indicator in pocket size for fast single and series measurements.
Size: H 200 mm × W 35 mm × D 35 mm. Weight approx. 190 g.
- No separate measuring electrodes or cables required.
- Ideal pre-tester for use with all moisture analysers using the carbide method.
- Fully automatic adjustment of the indicator.
- Power supply by 9 V dry cell or rechargeable battery.



Ref. No. 9800
(including battery)

Combined Thermometer / Hygrometer

GANN HYDROMETTE COMPACT TF-1

Air Humidity Temperature

Measuring range: 5 to 98 % R.H.
-15 to +50 °C

Precise dual measuring instrument in pocket size for air humidity and air temperature with a wide range of applications, e.g. air conditioning technology, quality control, printing-offices, museums, warehouses, etc.

Equipped with integrated sensors and large two-line LCD readout for simultaneous display of air temperature and air humidity, and suitable for one-hand operation by push buttons. By means of two humidity reference bottles (*optional equipment*), the user can check and also recalibrate the air humidity measuring section of the meter.

Important features and technical specifications

- Handy rapid-action measuring instrument in pocket size
Size: H 175 mm × W 42 mm × D 16 mm. Weight approx. 70 g.
- No separate measuring electrodes or cables required.
- Recalibration of air humidity measuring section by user at any time possible.
Optional accessory: Recalibration set (Ref. No. 9801).
- Fast measurement owing to integrated sensors.
- Power supply by long-life lithium battery.



Ref. No. 1100
(without accessory)

Electronic Wood Moisture Meter **GANN HYDROMETTE H 35**

Wood Moisture

Designed for fast measurement of timber (up to 180 mm thick), particleboard and veneer. Ideal both for single and series measurements before, during and after processing wood.

Measuring range: 4 to 30 % m.c., with correction facility for four groups of wood, display by digital LCD readout

Principal features and technical data:

- Handy quick moisture meter for fast single and series measurements.
Size: L 140 mm × W 90 mm × H 42/50 mm. Weight: 220 g without accessory.
- Direct reading by digital LCD, resolution: 0.1 % m.c.
- Wood species selector for automatic correction of readings, for **over 300 species of wood**.
- Fully automatic instrument setting – no manual adjustment necessary.
- Power supply by 9 V dry cell or, optionally, Ni-Cd accumulator.

Suitable for use with measuring electrodes: M 18, M 20, M 20-OF 15, M 20 HW 200/300



Ref. No. 1250
(without accessory)

Electronic Wood Moisture Meter **GANN HYDROMETTE HT 65**

Wood Moisture

Designed for fast measurement of timber (up to 180 mm thick), particleboard and veneer. Ideal both for single and series measurements before, during and after processing wood.

Measuring range: 4 to 60 % m.c., with correction facility for four groups of wood and automatic temperature compensation, display by digital LCD readout

Principal features and technical data:

- Handy quick moisture meter for fast single and series measurements.
Size: L 140 mm × W 90 mm × H 42/50 mm. Weight: 220 g without accessory.
- Direct reading by digital LCD, resolution: 0.1 % m.c.
- Wood species selector for automatic correction of readings, for **over 300 species of wood**.
- Automatic compensation of influence of wood temperature between -10 and +40 °C.
- Fully automatic instrument setting – no manual adjustment necessary.
- Power supply by 9 V dry cell or, optionally, Ni-Cd accumulator.

Suitable for use with measuring electrodes: M 18, M 20, M 20-OF 15, M 20 HW 200/300



Ref. No. 1510
(without accessory)

Electronic Three-in-One Meter GANN HYDROMETTE HB 30

Wood Moisture Structural Moisture Temperature

Triple measuring device with digital LCD readout and correction facility for two groups of wood, for moisture measurement in timber, particleboard, parquet flooring and hardened building materials.

Meter Measuring ranges:

Wood moisture: 4 – 30 % m.c. using resistance measuring method.

Structural moisture: 0 – 80 digits, conversion into % of dry weight between 0.5 and 25 % depending on building material.
0 – 199 digits (scanning range) using electrode B 50 or B 60.
0.3 – 8.5 % of weight with electrode B 50 or B 60 by conversion table.
0.3 – 6.5 % CM with electrode B 50 or B 60 using conversion table.
2 – 8 % of weight on testing concrete surfaces with electrode MB 35.

Temperature: –20 to +199.9 °C with infrared sensor IR 40.

Principal features and technical data:

- Handy quick moisture meter for fast single and series measurements.
Size: L 140 mm × W 90 mm × H 42/50 mm. Weight: 230 g without accessory.
- Direct reading by digital LCD, resolution: 0.1 % m.c.
- Device for automatic correction of reading according to species of wood to be measured.
- Fast measurement of hardened building materials using the resistance measuring method.
- Fully automatic meter adjustment.
- Power supply by 9 V dry cell or, optionally, Ni-Cd accumulator.

Suitable probes for wood moisture measurement:	M 18, M 20, M 20-OF 15, M 20 HW 200/300
for structural moisture measurement:	M 6, M 6-150, M 6-250, M 6-Bi 200/300, M 20, M 20-OF 15, M 20-Bi 200/300, M 21-100/250, M 25, B 50, B 60, MB 35
for temperature measurement:	IR 40



Ref. No. 1370
(without accessory)

Electronic Three-in-One Meter **GANN HYDROMETTE HT 85**

Wood Moisture Structural Moisture Temperature

Triple measuring instrument for wood moisture, structural moisture and temperature, with digital LCD readout and correction facility for four groups of wood and automatic temperature compensation. Designed for precise measurement of wood (up to 180 mm thick), particleboard, veneer and hardened building materials as well as for monitoring kiln drying timber using any desired number of MC, EMC and temperature in-kiln measuring points.

Measuring ranges: 4 to 100 % m.c. with wood.
0 to 80 digits corresponding to 0.5 to 25 % of dry weight with building materials, conversion by evaluation graphs.
-50 to +199.9 °C for temperature measurements.

Principal features and technical data:

- Handy quick moisture meter for fast single and series measurements.
Size: L 180 mm × W 115 mm × H 53 mm. Weight: 370 g without accessory.
- Direct reading by digital LCD, resolution: 0.1 % m.c. or 0.1 digits resp.
- Wood species selector for automatic correction of readings, for **over 300 species of wood**.
- Automatic compensation of influence of wood temperature between -10 and +90 °C.
- Fast measurement of moisture of hardened building materials using the resistance method.
- Precise temperature measurement by Pt 100 probes in 4-conductor technology.
- Fully automatic instrument setting – no manual adjustment necessary.
- Power supply by 9 V dry cell or, optionally, Ni-Cd accumulator.

Suitable probes for wood moisture measurement:	M 18, M 20, M 20-OF 15, M 20 HW 200/300
for structural moisture measurement:	M 6, M 6-150, M 6-250, M 6-Bi 200/300, M 20, M 20-OF 15, M 20-Bi 200/300, M 21-100/250, M 25
for temperature measurement:	OT 100, OTW 90, ET 10, ET 50, TT 30/40, LT 20, FT 2-FT 30

Electronic Two-in-One Meter

GANN HYDROMETTE M 2050

Wood Moisture Temperature



Ref. No. 1700
(without accessory)

Microprocessor operated wood moisture and temperature measuring instrument, with the option of storing up to 3000 readings including date and time of measurement, and with interface for connection to a printer or PC for processing memorized data, with large 4-line LCD matrix readout, **measuring range 4 to 100 % m.c.** and **-30 to +170 °C**. Available with measuring electrodes for solid wood up to 180 mm thick as well as for veneer, and for temperature measurement of the air and of solid or liquid materials.

The software of this sophisticated meter contains individual calibration curves of 250 species of wood ensuring highest accuracy of the readings, as well as a special calibration curve as approved by the FMPA (Research and Materials Testing Institute for the Building Trade, associated to the University of Stuttgart) for use in the licensed bonded-wood industry. Designed for dialogue conducted handling, with additional device for display of error messages.

Principal features and technical data:

- Memorizing of 3000 each wood moisture and temperature readings including date and time.
- Individually memorized calibration curves of 250 species of wood.
- Interface for direct connection to a printer or PC for processing or printout of stored data.
- Automatic compensation of influence of wood temperature by temperature sensor or manual input of temperature value.
- Special calibration approved by the FMPA for use by the licensed bonded wood industry.
- Statistical evaluation of readings according to maximum, minimum and mean value as well as standard deviation.
- Power supply by 9 V dry cell or, optionally, Ni-Cd accumulator.
- Size of the meter: L 190 mm × W 115 mm × H 56 mm. Weight: 460 g without accessory

Suitable probes for wood moisture measurement: M 18, M 20, M 20-OF 15, M 20 HW 200/300

for temperature measurement: OT 100, OTW 90, ET 10, ET 50, TT 30/40, LT 20, FT 2-FT 30



Ref. No. 1430
(without accessory)

Universal Indicating Instrument GANN HYDROMETTE UNI 1

Structural Moisture Air Humidity Temperature

Electronic indicating instrument with digital LCD readout, designed for connection of the active electrodes

- MB 35** For surface moisture measurement on concrete.
Measuring range: 2 to 8 % m.c. (according to oven test).
- B 50** For the detection of dampness in all kinds of building materials.
Measuring range: 0 to 199 digits (scanning range)
0.3 to 8.5 % of dry weight or 0.3 to 6.5 % CM by conversion table
- B 60** Identical with B 50 but additionally equipped with limit value selector and acoustic signal generator.
- RF-T** For fast measurement of air relative humidity and air temperature.
Measuring ranges: 5 to 98 % R.H. and -10 to 80 °C.
- IR 40** Fast surface temperature measurements using infra-red sensor.
Measuring range: -20 to 199.9 °C.
- PT 100** For fast temperature measurement. Ten different probes available.
Measuring range: -199.9 to 600 °C.
- MH 34** For measurement of high moisture values in conifers.
Measuring range: 40 to 200 % m.c.

Technical data:

- Direct display of readings by large LCD readout. Resolution 0.1 digits.
- Size: length 140 mm × width 90 mm × height 42/50 mm. weight without accessory 230 g.
- Power supply: 9 V dry battery IEC 6 F 22 or, optionally, rechargeable battery.

Suitable Electrodes for Structural Moisture: MB 35, B 50, B 60, RF-T 31, RF-T 36
for Air Humidity: RF-T 28, RF-T 31, RF-T 32, RF-T 36
for Temperature: IR 40, OT 100, OTW 90, ET 10, ET 50, TT 30/40, LT 20,
 FT 2-30
for Wood Moisture: MH 34 (only for high moisture contents with conifers)



Ref. No. 1670
Meter without accessory

Electronic Four-in-One Meter **GANN HYDROMETTE RTU 600**

Wood Moisture Structural Moisture Air Humidity Temperature

Electronic four-in-one meter designed for measurement of wood moisture, structural moisture, air humidity and temperature, with digital LCD readout, automatic temperature compensation for wood temperatures between -10 and 80 °C. and very precise correction facility for all species of wood. Suitable for connection of the active measuring electrodes

- **B 50** and **B 60** for non-destructive location of moisture concentration in building materials,
- **MB 35** for surface moisture measurement of concrete,
- **MH 34** for measurement of high moisture content (40 to 200 % m.c.) in coniferous wood,
- **IR 40** for measuring surface temperature, thermal bridges and dew point,
- **RF-T 28, RF-T 31, RF-T 32** and **RF-T 36** for air humidity and air temperature measurement as well as all **PT 100** probes of our range of temperature sensors.

Measuring ranges:

- **Wood moisture:**
 - 4 to 100 % m.c.
 - 40 to 200 % m.c. with coniferous wood using MH 34 probe.
- **Structural moisture:**
 - 0 to 80 digits, conversion into % of dry weight by graph.
 - 0 to 199 digits, scanning range using probe B 50 or B 60 for determination of moisture concentration, classification by table, or
 - 0.3 to 8 % of dry weight by conversion table, using probe B 50 or B 60.
 - 2 to 8 % of dry weight on testing concrete surfaces by probe MB 35.
- **Air Humidity:**
 - 7 to 98 % R.H.
- **Temperature:**
 - 200 to 600 °C using PT 100 sensor.
 - 20 to 199.9 °C using infrared surface sensor IR 40.
 - 10 to 80 °C using RF-T probe.

The very best of its kind, the **GANN HYDROMETTE RTU 600**, is the culmination of **over 45 years' experience** in moisture and temperature measurement and has been specially developed for **architects, housing contractors, surveyors** or anyone requiring reliable measuring in order to avoid or to assess complaints. This instrument is of course also ideal for monitoring artificial or natural **timber drying**. The **HYDROMETTE RTU 600** incorporates a highly sophisticated, fully electronic **4-circuit measuring system** for fast, accurate measurements. The four integrated measuring ranges can perform tasks which previously required several different instruments.

Principal features and technical data:

- **Handy moisture meter and thermometer** for rapid single and series measurements.
Length 180 mm × width 115 mm × height 53 mm; weight 390 g without accessories.
- **Direct reading by digital LCD readout.** Resolution 0.1 % or 0.1 °C.
- **Fully automatic calibration** – no manual adjustment necessary.
- **Automatic compensation of wood temperature** in the range between –10 and 90 °C.
- **Highest accuracy of readings** by individual meter setting depending on species of wood.
- **Non-destructive structural moisture measurement** using active electrodes B 50 and B 60
- **Fast measurement** of moisture of set **building** materials using the resistance measuring method.
- **Precise** temperature measurement by use of quadruple conductor PT 100 temperature probes.
- **Power supply** by long-life 9 V battery IEC 6 F 22 or optionally by rechargeable battery.

<p>Suitable for use with electrodes</p>	<p>for Wood Moisture: M 18, M 20, M 20-OF 15, M20-HW 200/300, MH 34</p> <p>for Structural Moisture: M 6, M 6-150/250, M 6-Bi 200/300, M 20, M 20-OF 15, M 20-Bi 200/300, M 21-100/250, M 25, MB 35, B 50/ B 60, RF-T 31, RF-T 36</p> <p>for Air Humidity: RF-T 28, RF-T 31, RF-T 32, RF-T 36</p> <p>for Temperature: IR 40, OT 100, OTW 90, ET 10, ET 50, TT 30/40, LT 20, FT 2-FT 30</p>
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Multifunctional Computerized Measuring Instrument GANN HYDROMETTE M 4050



Ref. No. 1400
Meter without accessory

Wood Moisture	Structural Moisture	Air Humidity	Temperature
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The **Hydromette M 4050** uses microprocessor based technology to measure the moisture content of building materials and wood as well as the air humidity and temperature; features include: **data storage**, an interface for a **printer** or direct data transfer to a **PC**, 4-line LCD matrix display, automatic compensation of influence of wood temperature, memorized calibration curves for 250 species of wood including special calibration curve as approved by the FMPA (Research and Materials Testing Institute for the Building Trade, associated to the University of Stuttgart) for use in the licensed bonded-wood industry, memorized calibration curves for many building materials with direct display of moisture content in percents of weight and CM-%, designed for hook up of the following **active electrodes**:

- **B 50** and **B 60** for location of moisture distribution in building materials.
- **MB 35** for measuring surface moisture on concrete.
- **MH 34** for measuring high moisture levels (40 to 200 % m.c.) in conifers.
- **IR 40** for measuring surface temperature, thermal bridges and dew point.
- **RF-T 28, RF-T 31, RF-T 32 and RF-T 36** for measuring air humidity and air temperature.
- Also suitable for use of all Pt 100 temperature probes listed in this brochure.

The Hydromette M 4050 enables measurements in the following ranges:

- | | |
|----------------------------|---|
| Wood moisture | <ul style="list-style-type: none"> - Range 1: 4 to 100 % m.c. with over 250 characteristic-curves for fully automatic correction for wood species and automatic temperature compensation. - Range 2: 40 to 200 % m.c. in conifers with active electrode MH 34. |
| Structural moisture | <ul style="list-style-type: none"> - Range 1: 0.5 to 25 % of dry weight in cured building materials, with direct display (in % of dry weight and CM-%) depending on the material tested. - Range 2: 0 to 199 Digits structural moisture (scanning range), classification by table. - Range 3: 0.3 to 11 % of dry weight or 0.3 to 10 CM-% in cured building materials with active electrodes B 50 and B 60, with direct display depending on the material tested. - Range 4: 2 to 8 % of dry weight or 0.4 to 5.5 CM-% of surface moisture on concrete with active electrode MB 35, with direct display of moisture content. |

- **Range 5:** **0.2 to 3.2 %** of dry weight in set building materials with Active Electrodes RF-T and direct display of the converted **sorption isotherms** depending on the materials tested.

Air Humidity

- **Range 1:** **5 to 98 % R.H.** with all active electrodes of the RF-T series.

Temperature

- **Range 1:** **-30 to +169.9 °C** with over 10 different Pt 100 temperature probes.
- **Range 2:** **0 to +169.9 °C** with infrared surface temperature probe IR 40.
- **Range 3:** **-10 to +80 °C** with RF-T probes.

The **GANN HYDROMETTE M 4050** has been designed especially for construction inspectors, architects, housing construction companies and all who need optimal measurement capabilities to avoid assess complaints.

The **GANN HYDROMETTE M 4050** contains a highly sophisticated **microprocessor-based measuring system** which enables quick and precise measurements. This computerized instrument offers the following features: a large 4-line LCD matrix display, data storage with date and time, various statistical functions, interactive dialogue, error messages, fully automatic level calculation, individual calibration curves for over 250 species of wood plus patented evaluation algorithms, automatic compensation of wood temperature via either probe or keyboard and an interface for connection of a printer or direct data transfer to a PC.

The wide range of measuring tasks that can be solved with the HYDROMETTE M 4050 previously required several individual measuring instruments.

Important features and technical data:

- Storing capacity for up to 3000 wood moisture and temperature readings including date and time.
- Incorporated database of characteristic-curves for over 250 wood species, with patented evaluation algorithms.
- Non-destructive measurement of structural moisture with active electrodes B 50 and B 60.
- Interface for direct connection of a printer or PC for printout or further processing of memorized data.
- Automatic compensation of influence of wood temperature using a temperature sensor or via keyboard.
- Statistical evaluation of measured values by min, max and mean values including standard deviation.
- Power supply by a 9 V battery; 9 V rechargeable battery or a 12 V power supply unit.
- Dimensions: length 190 × width 115 × thickness 56 mm; weight without accessories 460 g.

Suitable for use with electrodes	for Wood Moisture:	M 18, M 20, M 20-OF 15, M20-HW 200/300, MH 34
	for Structural Moisture:	M 6, M 6-150/250, M 6-Bi 200/300, M 20, M 20-OF 15, M 20-Bi 200/300, M 21-100/250, M 25, MB 35, B 50, B 60, RF-T 31
	for Air Humidity:	RF-T 28, RF-T 31, RF-T 32, RF-T 36
	for Temperature:	IR 40, OT 100, OTW 90, ET 10, ET 50, TT 30/40, LT 20, FT 2-FT 30

Structural Moisture Analyzer using the Carbide Method

GANN HYDROMAT CM-B

Structural Moisture



**Measuring range: 0.14 to 22.9 CM-% using conversion table
0.3 to 7.5 CM-% directly using manometer reading**

The Hydromat CM is a device for determining the dampness of hardened building materials and various other materials using the calcium carbide method. The use of this measuring technique is recommended by various specialist associations for a range of measurement tasks and has thus been well known for years in practice alongside electrical measurement.

The Hydromat CM is easy to use. All measurements can be made directly on the object using the tools contained in the carrying case and enable rapid information to be obtained concerning the current state of dampness.

The decision as to whether a floor or wall surface is ready for covering, for example, can be made immediately.

Main features and technical data:

- especially compact pressure flask
- specially shaped flask bottom
- variable closure system
- small test quantity (e.g. 20/50 g)
- case size: ca. H 380 × W 430 × D 130 mm
- weight of case: complete ca. 7.1 kg.



Ref. No. 2900
(Basic version)

Structural Moisture Analyzer using the Carbide Method **GANN HYDROMAT CM-P**

Structural Moisture



Measuring range: 0.14 to 22.9 CM-% using conversion table
0.3 to 7.5 CM-% directly using manometer reading

The Hydromat CM-P has the same technical characteristics as the CM-B version (Ref. No. 2900)

The cased set is more extensively equipped however. Amongst other things it contains the Hydromette COMPACT "B" moisture indicator to reduce the number of individual CM measurements necessary, to scan larger surfaces quickly and efficiently and to achieve a significantly higher level of test reliability. The preliminary test unit works non-destructively using a high frequency field.

By means of the useful hand mortar, the material under test can be crushed and quickly prepared directly in the pressure flask while preserving the dampness.

The decision as to whether a floor or wall surface is ready for covering, for example, can be made immediately.

Main features and technical data:

- especially compact pressure flask
- specially shaped flask bottom
- variable closure system
- small test quantity (e.g. 20/50 g)
- case size: ca. H 380 × W 430 × D 130 mm
- weight of case: complete ca. 8.2 kg.



Ref. No. 2920
(Premium version)



100 Ampoules Calcium Carbide CA 7

large re-fill pack in a sturdy cardboard box

Ref. No. 3621



Hand Mortar

For the rapid preparation of the material under test in the CM pressure flask while preserving the dampness

Ref. No. 3630



20 Ampoules Calcium Carbide CA 7

re-fill / replacement pack

Ref. No. 3620



Stainless Steel Balls

Replacement pack with 3 balls/set

Ref. No. 3615



10 Ampoules Test Water

for testing the pressure flask for leaks and the functional capability of the manometer

Ref. No. 3626



Manometer Seals

Replacement pack of 5

Ref. No. 3613



Test Weight M 1-20

For testing the spring balance (20 g)

Ref. No. 3645



Lid / Flask Seals

Replacement pack of 5

Ref. No. 3612

Electronic Measuring and Memorizing Appliances for Air Humidity and Ambient Temperature

GANN DATA LOGGER KLIMA I – IV



Air Humidity	Temperature
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Measuring ranges: Air relative humidity 15 to 98 % R.H.
Temperature -5 to + 60 °C

Memory capacity: 2000 air humidity and temperature measurements each,
Including date and time of measurement

Measuring cycle: adjustable via PC between 5 seconds and 6 hours

Min/Max limits: adjustable via PC, signaling by LED

Ideal for monitoring living rooms and workrooms, museums, warehouses, etc. **Not recommended for outdoor use or at constant high air humidity.**

DATA LOGGER KLIMA I: portable instrument with integrated temperature and air humidity sensor, equipped with interface for PC and long-life lithium battery. **Ref. No. 9700**

DATA LOGGER KLIMA II: portable instrument with **digital LCD readout** and integrated air humidity and temperature sensor, equipped with interface for PC and long-life lithium battery. **Ref. No. 9720**

DATA LOGGER KLIMA III: stationary instrument, suitable for use within a network of up to 16 units, with integrated temperature and air humidity sensor, with interface for PC and net-work link. **Ref. No. 9710**

DATA LOGGER KLIMA IV: stationary instrument, suitable for use within a network of up to 16 units, with **digital LCD readout**, integrated temperature and air humidity sensor and interface for PC and network link. **Ref. No. 9730**

Interface converter KL 16 with mains unit, designed for operation of up to 16 data logger KLIMA III and KLIMA IV within a network and for connection to an IBM compatible PC as well as for power supply. **Ref. No. 9740**

Connection cables and assembly accessory for network installation on inquiry.

Electrodes for Wood Moisture Measurement



Drive-in electrode M 20

For measurement of timber up to 50 mm thick. Electrode body of impact resistant plastic. Included in the delivery are ten spare pins 16 mm and 23 mm

Ref. No. 3300



Ram-in electrode M 18

For measurement in depth of timber up to about 180 mm thick. Included in the delivery are ten spare pins 40 mm and 60 mm long.

Ref. No. 3500

Teflon insulated electrode needles for point measurements at different depths available on special order.

45 mm long

Ref. No. 4550

60 mm long

Ref. No. 4500



Surface measurement caps M 20-OF 15

For moisture measurements on veneer up to a depth of about 3 mm and surface measurement without damaging the material. Only in conjunction with electrodes M 18 and M 20.

Ref. No. 4315



200 mm/300 mm

Stick-in electrode pins M 20-HW 200/300

Non-insulated pins for use with electrode M 20 for moisture checks on chips, woodwool, veneer piles, etc.

Length 200 mm

Ref. No. 4350

Length 300 mm

Ref. No. 4355



Active electrode MH 34

With integrated measuring circuit for measurement of high moisture contents in coniferous wood, specially in case of water-borne storage and for pre-sorting of freshly cut timber for kiln drying.

Measuring range: 40 to 200 % m.c.

Ref. No. 3370

Active Electrodes for Moisture Measurement in Building Materials



Drive-in electrode M 20

For measurements of soft, set building materials (plaster, gypsum, etc.). The electrode body is of impact resistant plastic, including 10 spare pins 16 mm and 23 mm long.

Ref. No. 3300



Surface measuring caps M 20-OF 15

For moisture measurements on surfaces without damaging the material. Effective up to depth of approx. 3 mm. (Only to be used with electrode M 20).

Ref. No. 4315



Stick-in electrode M 6

For measurement on hard, set building materials (mortar, concrete, etc.). With two each electrode pins 23 mm, 40 mm and 60 mm long (only to be used with contact paste).

Ref. No. 3700



200 mm/300 mm

Flat electrode pair M6-Bi 200/300

For measuring concrete or insulation materials in corner or expansion joints (with insulated shank).

10 × 0.8 × 200 mm

Ref. No. 3702

10 × 0.8 × 300 mm

Ref. No. 3703



Pair of brush electrodes M 25

of stainless steel, for measurements on hard and soft building materials without contact paste

Ref. No. 3740



200 mm/300 mm

Stick-in electrode pins M 20-Bi 200/300

For measurement of materials hidden beneath another panel or covering.

200 mm in length

Ref. No. 4360

300 mm in length

Ref. No. 4365

(only to be used with electrode M 20)



100 mm/250 mm

Deep electrodes M21-100/250

For deep measurements of all kinds of set building materials in conjunction with contact paste.

100 mm in length

Ref. No. 3200

250 mm in length

Ref. No. 3250



150 mm/250 mm

Stick-in electrode pins M 6-150/250

Extra thin probes for measuring the moisture content in building and insulating materials over expansion joints or through intersecting tile joints, non-insulated. For use with electrodes M 6 and M 20.

150 × 3 mm Ø

Ref. No. 3706

250 × 2 mm Ø

Ref. No. 3707

Active Electrodes for Moisture Measurement in Building Materials



Active electrode MB 35

with integrated measuring circuit, designed for surface measurement on concrete, in particular before coating, painting or colour marking.

Measuring range: 2 to 8 % of dry weight

Ref. No. 3770



Active electrode B 50

with integrated measuring circuit, designed for non-destructive location of moisture concentration in building materials and moisture distribution in walls, ceilings and floors. The electrode uses a patented process to create a high frequency field with a penetration depth up to 120 mm depending on the density of the tested building material.

Measuring range: 0 to 199 digits scanning range (classification according to table).
0.3 to 8.5 % of dry weight, conversion of reading by table,
0.3 to 6.5 % CM, conversion of reading by table.

Ref. No. 3750



Active electrode B 60











with integrated measuring circuit, designed for non-destructive location of moisture concentration in building materials and moisture distribution in walls, ceilings and floors. The electrode uses a patented process to create a high frequency field with a penetration depth up to 120 mm depending on the density of the tested building material. With additional selector for setting a limit value between 20 and 140 digits and acoustic Signal generator.

Measuring range: 0 to 199 digits scanning range (classification according to table).
0.3 to 8.5 % of dry weight, conversion of reading by table,
0.3 to 6.5 % CM, conversion of reading by table.

Ref. No. 3760

Electrodes for Temperature Measurement

PT 100 temperature sensors

	ET 10	Robust stick-in temperature sensor for solid substances, bulk materials and fluids, length of probe 100 mm, Ø 3 mm, measuring range -50 to 250 °C	Ref. No. 3165
	TT 40	Robust immersion and combustion gas temperature sensor, length of probe 480 mm, dia. Ø 5 mm, measuring range -50 to 350 °C	Ref. No. 3180
	LT 20	Fast reacting air/gas temperature sensor with probe 480 mm long, dia. Ø 5 mm, Measuring range -20 to 200 °C	Ref. No. 3190
	TT 30	Robust immersion and combustion gas temperature sensor, length of probe 230 mm, dia. Ø 3 mm, measuring range -50 to 350 °C	Ref. No. 3185
	ET 50	Fast reacting stick-in temperature sensor for soft solid substances, bulk materials and Fluids, length of probe 120 mm, dia. Ø 3.0/2.3 mm, measuring range -50 to 300 °C	Ref. No. 3160
	OTW 90	Angled special surface temperature sensor for use at veneer presses etc., length of probe 100 mm, dia. Ø 5 mm, measuring range -50 to 250 °C	Ref. No. 3175
	OT 100	Spring loaded, low mass surface temperature sensor, for use on wall surfaces, etc. Length of probe 110 mm, dia. Ø 5 mm, measuring range -50 to 250 °C	Ref. No. 3170
	OTW 480	Angled special surface temperature sensor for use at veneer presses etc., length of probe 480 mm, dia. Ø 5 mm, measuring range -50 to 600 °C	Ref. No. 3176
	TT 480	Robust immersion and combustion gas temperature sensor, length of probe 480 mm, dia. Ø 5 mm, measuring range -50 to 600 °C	Ref. No. 3181
	TT 600	Robust immersion and combustion gas temperature sensor, length of probe 600 mm, dia. Ø 5 mm, measuring range -50 to 600 °C	Ref. No. 3182

Flexible Pt 100 Temperature Sensors



Temperature probe FT

with connection cable and 7-pin plug 5 mm dia.
Measuring range: -20 to $+120^{\circ}\text{C}$

FT 2 with connection cable 2 m long **Ref. No. 3195**

FT 5 with connection cable 5 m long **Ref. No. 3196**

FT 10 with connection cable 10 m long **Ref. No. 3197**

FT 20 with connection cable 20 m long **Ref. No. 3198**

FT 30 with connection cable 30 m long **Ref. No. 3199**



Infra-red Surface Temperature Sensor IR 40

Contactless temperature measurement from -20 to $+199.9^{\circ}\text{C}$, resolution to 0.1°C , emission degree 95%, ratio of measured area to distance 2.5:1 (diameter 45 mm at a distance of 100 mm), sensor length 185 mm, diameter 32 mm, coiled cable 400/1400 mm.

An ideal sensor for detection of heat bridges, determination of the dew point temperature, measurement of live, moving or vibrating components as well as measurement of components with low heat capacity, e.g. wood, glass, insulating materials, etc., as well as for finding heating coils.

Ref. No. 3150

Electrodes for measurement of air relative humidity



Special electrode RF-T 28

For high-speed testing of air relative humidity and air temperature, complete with connection cable.

Measuring range: 7 to 98% R.H.,
-10 to +80°C.

Ref. No. 3155

Special electrode RF-T 36

For measurement of air humidity and air temperature, water activity value or equilibrium moisture in rooms, warehouses or solid substances (e.g. concrete, subflooring, masonry, etc.)

Measuring range: 5 to 98% R.H.,
-5 to +60°C.

Ref. No. 3136



Special electrode RF-T 36 T

For stationary installation for measurement of air humidity and air temperature in rooms, warehouses etc., technical details as with RF-T 36 but in transducer design with output 0 to 20 mA for temperature and humidity.

Ref. No. 3138



Plug-in Sensor RF-T 31

For measurement of atmospheric moisture, water activity value or equilibrium moisture in bulk materials and solid substances, e.g. brickwork and other building materials.

Measuring range: 7 to 98% R.H., -10 to +80°C. Diameter 10 mm, sintered filter tip 32 mm long.

Insertion length 250 mm

Ref. No. 3131

Insertion length 500 mm

Ref. No. 3132



Blade Sensor RF-T 32

For measurement of atmospheric humidity, water activity value and equilibrium moisture in paper, leather, textile and tobacco stores etc.

Range of Measurement 7 to 98% R.H., -10 to +80°C. Flat elliptical probe approx. 10 x 4 mm

Insertion length 250 mm

Ref. No. 3133

Insertion length 500 mm

Ref. No. 3134

Accessories for Meters and Electrodes



Carrying Case I
For Hydromette H 35 and HT 65
with standard accessory.

Ref. No. 5051



Measuring cable MK 8
Suitable for all meters and electrodes.
Ref. No. 6210



Measuring cable MK 15
For connection of TKMU to the meter
for temperature measurement.
Ref. No. 6710



Carrying Case IV
For Hydromette H 35, HT 65, UNI 1,
UNI 2 and HB 30 with standard
and optional accessory.

Ref. No. 5084



Rechargeable battery
With charging unit suitable for all
meters.
Ref. No. 5100

Carrying Case V
For Hydromette HT 85 A, HT 85 T,
RTU 600, M 2050 and M 4050 with
standard and optional accessory.

Ref. No. 5085



Contact Paste
For testing hard building materials
(flooring, concrete) in conjunction with
electrodes M 6 and M 21.

Ref. No. 5400



Silicone heat conducting paste
To improve heat transmission on
rough surfaces or where there are
contact problems. Unconditionally
recommended with OT 100.
Ref. No. 5500



Matt-black stickers IR 30/E 95

Measurement spot diameter 30 mm, emissivity 95%, e.g. for measurements of metallic surfaces

Ref. No. 5833



Filter Cap

For use with RF-T 28 in dust laden air or at high air speed

Ref. No. 3156



Bore hole adapter

For equilibrium moisture measurement in brick-work or building materials for use with stick-in sensor RF-T 31

for bore holes up to 150 mm in depth
for bore holes up to 250 mm in depth
for bore holes up to 500 mm in depth

Ref. No. 5615

Ref. No. 5625

Ref. No. 5650

Test Devices



Sensorcheck

For testing and calibrating air humidity probes.

- For Electrode RF-T 28 **Ref. No. 5728**
- For Electrode RF-T 31 **Ref. No. 5731**
- For Electrode RF-T 32 **Ref. No. 5732**

Fluid for testing and standardizing

RF-T Electrodes using Sensorcheck. Each set consists of 5 ampoules with absorbent cloth and is sufficient for 5 tests or standardizations.

- **SCF 30** for humidity range 10 to 50 % R.H. **Ref. No. 5753**
- **SCF 70** for humidity range 50 to 90 % R.H. **Ref. No. 5757**
- **SCF 90** for humidity range 80 to 98 % R.H. **Ref. No. 5759**



Test Standard

For checking resistance wood moisture meters with accessories.

Ref. No. 6070



Test Standard

For checking structural moisture measuring section of resistance moisture meters.

Ref. No. 6071



Test Standard

For checking temperature measuring section.

Ref. No. 6072

Printer and accessory for use with HYDROMETTE M 2050 and M 4050



Thermo-printer TDH

portable compact printer for battery and mains operation for on-site print-out measuring data stored with Hydromette M 2050 and M 4050, complete with connecting cable MK 23, mains unit and one roll of graph TDH 110, **but without rechargeable battery**

Ref. No. 9600



Accumulator Set 4.8

for thermo-printer

Ref. No. 9610

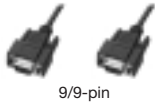


Roll of graph TDH 110

for thermo-printer TDH

Ref. No. 9640

Software for HYDROMETTE M 2050 and M 4050



9/9-pin



Application program **DIALOG M Plus**

PC software for transmission of memorized data to IBM compatible PC equipped with operating system Windows 3.1, WIN 95/98 and NT, complete with PC connecting cable MK 19 and 3.5" disk.

Ref. No. 6081

UPDATE

for application program DIALOG (Ref. No. 6080), complete with 3.5" disk and manual but without cable and against return of original disks.

Ref. No. 6086

Software for data logger **KLIMA I – IV**

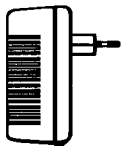


Application program **DIALOG D Plus**

PC software for transmission of the memorized data to IBM compatible PC for evaluation and print-out, complete with 3.5" disk as well as PC connecting cable MK 24. System requirements: Windows 3.1, WIN 95/98 and NT.

Ref. No. 6082

Optional Accessory for HYDROMETTE M 2050, M 4050 and Data Logger



Power supply unit 12

220 V/12 V = stabilized, recommended for lengthy data transmissions to a PC or printer.

Ref. No. 5150



9/25-pin

Connection cable MK 17

9/25 pin, for connection of a printer with serial interface, e.g. EPSON LX 300/400

Ref. No. 6950



PC adapter 9/25 pin

for connection of cable MK 19 to a 25 pin PC input.

Ref. No. 6910



9/9-pin

Connection cable MK 19

9/9 pin, for connection of an IBM compatible PC.

Ref. No. 6900



Connection cable MK 24

for connection of data logger KLIMA I – IV to an IBM compatible PC

Ref. No. 6940



9/9-pin

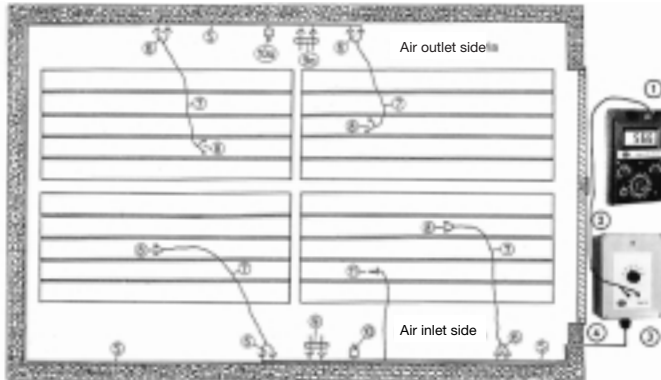
Connection cable MK 23

9/9 pin, for connection of Hydromette M 2050 and M 4050 to thermo-printer TDH

Ref. No. 6930

Monitoring kiln drying timber using **HYDROMETTE** wood moisture meters HT 85 T, RTU 600, M 2050 or M 4050

Example for arrangement of measuring points for wood moisture (MC), wood equilibrium moisture (EMC) and kiln temperature.



- 1 Hydromette HT 85T, RTU 600, M 2050 or M 4050
- 2 MK 8 for connection of measuring instrument to measuring point selector TKMU (for taking MC and EMC readings) or MK 15 (for taking temperature readings).
- 3 Measuring point selector TKMU-6
- 4 Cable duct (to be sealed on the inside)
- 5 Fix installed connecting cable for each MC and EMC measuring point Standard length 10 m, other lengths on request.
- 6 Wall connector for wood moisture measuring points
- 7 Electrode connecting cable (loose special cable in any desired length with plugs at both ends, standard length 4 m)
- 8 2 stainless steel electrodes for wood moisture measurement, standard lengths 10 mm, 15 mm and 25 mm
- 9 Wall connector with EMC electrode holder mounted on the air inlet side of the kiln load
- 9a Wall connector with EMC electrode holder mounted on the opposite side with reversing type dry kilns
- 10 Temperature probe for measurement at forward run of the fans
- 10a Temperature probe for measurement at inverse run of the fans
- 11 Sensor for internal wood temperature (optional device)



③
TKMU-6
measuring point
Selector



⑥
Wood moisture
Measuring point



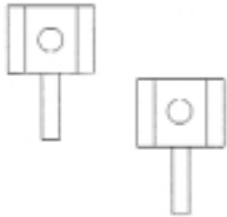
⑨
Wall connector
with EMC electrode
holder and sensor

More efficient drying means safer drying

In drying kilns without automatic control system with wood moisture measuring device it is recommendable for cost and safety reasons to monitor the drying cycle by accurate MC, EMC and temperature measurement. This task can be solved inexpensively and with relatively little effort by using this outstanding measuring device.



- Measuring Point Selector TKMU**
 - for 6 wood moisture and EMC measuring points - **Ref. No. 7100**
 - additionally for one temperature measuring point - **Ref. No. 7101**
 - additionally for two temperature measuring points - **Ref. No. 7102**

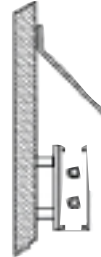


- Drive-in electrodes**, without insulation, for wood moisture measurement inside dry kilns, with a penetration depth
- up to 10 mm - **Ref. No. 7201**
 - up to 15 mm - **Ref. No. 7202**
 - up to 25 mm - **Ref. No. 7203**
 - up to 40 mm - **Ref. No. 7204**
 - up to 70 mm - **Ref. No. 7205**

- Drive-in electrodes**, teflon insulated, with a penetration depth
- up to 15 mm - **Ref. No. 7207**
 - up to 25 mm - **Ref. No. 7208**
 - up to 40 mm - **Ref. No. 7209**
 - up to 70 mm - **Ref. No. 7210**

EMC measuring probe

for EMC measurement using a wooden sensor of white afara.
Ref. No. 7402



Wall connector
 to be mounted to the inside of the kiln wall for connection of the EMC measuring probe and the electrode connecting cables for wood moisture measurement.

Protective cover **Ref. No. 7354**
Ref. No. 7355

Package of
 50 EMC sensors - **Ref. No. 7403**
 100 EMC sensors - **Ref. No. 7404**

Teflon insulated special cable

for connection of the drive-in electrodes for wood moisture measurement

- length 4 m - **Ref. No. 7304**
- length 5 m - **Ref. No. 7305**
- length 6 m - **Ref. No. 7306**

Teflon insulated special cable

for connection of the MC and EMC measuring points to the selector switch TKMU

- length 10 m - **Ref. No. 7330**
- length 20 m - **Ref. No. 7340**

Temperature measuring point

for measurement of the drying temperature inside the dry kiln, with connection cable

- length 10 m - **Ref. No. 7500**
- length 20 m - **Ref. No. 7520**

Electrode tool

for driving the electrodes for wood moisture measurement into the wood and extracting them after completion of the drying cycle.

Ref. No. 7250