PROTIMETER

Moisture

Protimeter MMS2

Instruction Manual



Amphenol

Advanced Sensors

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Protimeter MMS2

Moisture Measurement System

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1. Introduction

The Protimeter Moisture Measurement System2 (*Protimeter MMS2*) is a powerful and versatile instrument for measuring and diagnosing dampness in buildings and building materials. This product enables building surveyors and other practitioners to measure moisture levels of building elements such as walls, floors and building environments simply by switching between the five different modes of operation. In this way, a detailed understanding of the moisture condition of the property can be obtained.

2. Safety Considerations

- **Caution note for the WME pins -** The Pin Moisture measurement pins are extremely sharp and the instrument should be handled with due care. The pins should be covered with the cap provided with the unit when the function is not in use.
- **IR temperature measurement -** Please note that the readings are indicative readings outside the measurement range of the IR temperature mode and the accuracy of the measurement is not guaranteed outside the range.
- **Calibration of unit -** The accuracy specifications of the product are valid for one year after the date of calibration, and the product requires recalibration after this period.

Laser pointers are effective tools when used properly, but the following considerations must be observed when using laser pointers:

- Never look directly into the laser beam.
- Never point a laser beam at a person.
- Do not aim the laser beam at reflective surfaces.
- Never view a laser beam using an optical instrument, such as binoculars or a microscope.

2. Safety Considerations (cont.)

- Do not allow children to use laser pointers unless under the supervision of an adult.
- Use only laser pointers meeting the following criteria:
  - Labeled with FDA certification stating *"DANGER: Laser Radiation"* for Class 3R lasers or *"CAUTION: Laser Radiation"* for Class 2 lasers.
  - Classified as Class 2 or 3R according to the label. Do not use Class 3b or Class 4 products.
  - Operates at a wavelength between 630 nm and 680 nm.
  - Has a maximum output less than 5 mW, the lower the better.

3. Product Components and Accessories

The MMS2 instrument measures the different parameters in the buildings: room temperature, room humidity, building material moisture, surface moisture and surface temperature (contact and non-contact method). To measure all the above mentioned parameters, MMS2 uses different sensors, along with a variety of accessories for convenient measurements. The following external connections are found on the instrument (see *Figure 1 on page 3*):

A - This edge connection socket is for use with a Hygrostick® Quikstick or Short Quikstick probe.

B - This jack connection socket is for use with a moisture probe, deep wall probes or a Hammer electrode.

C - This jack connection socket is for use with the Direct Contact Surface Temperature Sensor.

3. Product Components and Accessories (cont.)

D - This USB socket is for connection to a PC when using the optional MMS2 logging software.

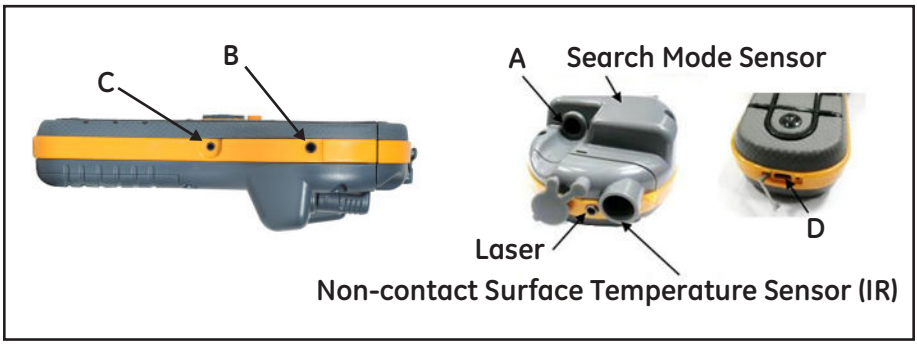


Figure 1: Connections for Probes and Sensors

- The Hygrostick (POL4750), Quikstick (POL8750) and Short Quikstick (POL8751) probes measure relative humidity (%RH) and ambient air temperature in rooms or materials. They can be connected to the MMS2 instrument either directly or by means of the extension lead.
- The surface temperature sensor is used when investigating condensation situations.
- The moisture probe is used to obtain percent moisture content values in wood or wood moisture equivalent (WME) values in other non-conductive materials.
- Multiple probe types are available, including hammer probes and deep wall probes.

3.1 Switching the MMS2 ON and OFF

Prior to initial use, ensure that a 9V battery is correctly inserted in the battery compartment.

Note: *The battery status is indicated by an icon*  *on the display. When the LOW BATTERY message appears, replace the battery.*

To switch the MMS2 **ON**, press the power button momentarily.

Note: *The MMS2 switches* **OFF** *automatically after 2 minutes if no activity is observed, unless the default settings are changed (see* Section 4.7c, "Auto Off", on page 17 *for instructions).*

To switch the instrument **OFF** immediately, press and hold for at least 3 seconds. Once has been depressed for 3 seconds or more, the text string **SWITCHING OFF THE DEVICE** appears on the display. When is released, the text string disappears and the unit switches **OFF**.

Whenever the battery voltage falls below the threshold value, the **LOW BATTERY** message appears. If the battery voltage falls below the operating level, the instrument prompts with the message:

LOW BATTERY
SWITCHING OFF THE DEVICE

4. MMS2 Modes

The Protimeter MMS2 can be used to detect and measure moisture in non-conductive solid materials such as wood, drywall and masonry. The MMS2 can measure the different parameters in building applications: room temperature, room relative humidity, surface temperature with contact and non-contact method, qualitative measurements and precise and localized moisture content measurements in wood or WME values in materials other than wood.

4.1 Pin Moisture Meter - Selection and Use

Navigate to **SELECT MODE -> PIN MOISTURE METER** and press  to select the *Pin Moisture Meter* mode. Connect the moisture probe, deep wall probe, or Hammer electrode into socket B of the MMS2 instrument.

The instrument can now be used to take actual **%MC** (moisture content) readings in wood and **%WME** readings in non-conductive solid materials other than wood by placing the moisture probe pins in firm contact with the surface as shown in *Figure 2 on page 6*. The measured value is displayed and the progress bar indicates whether the material is in a **DRY, AT RISK** or **WET** condition.

Table 1: MC Readings and Progress Indicators

MC%WME	Display	Indication	Progress Bar
<7.8	---.-		
≥7.8 but <17	MC%WME value	DRY	Green
≥17 but <20	MC%WME value	RISK	Yellow
≥20	MC%WME value	WET	Red

Note: *The MMS2 has the capability to show* **%MC** *value for 8 wood types.*

4.1 Pin Moisture Meter - Selection and Use (cont.)

When the instrument is in *Pin Moisture Meter* mode, by default it displays **WME WOODTYPE A** (see the Protimeter wood calibration chart).

Use the up and down buttons / to navigate between different wood types. From Wood Type B to Wood Type H, if MC% is greater than 30.0, **ABOVE FIBER SAT** will be displayed as the wood status, otherwise the wood status will not be displayed. When using the built-in pins, the operator should make firm contact on the surface. It is not necessary or recommended to push the pins deeply below the surface.



Figure 2: Using the Pin Moisture Meter

4.1a Using Auxiliary Deep Well Moisture Probes in Measure Mode

To take sub-surface readings in masonry, the deep wall probes should be used instead of the standard moisture probe. To use the deep wall probes, drill two 1/4" (6 mm) diameter clearance holes, spaced 2-3 in. (50-75 mm) apart, to the required depth. Push the two deep wall probes into the holes and press and hold the tips firmly against the bottom of the holes. Ensure that the probes are connected to socket **B** and measure the **%WME** value as described in *Section 4.1, "Pin Moisture Meter - Selection and Use", on page 5*.

Note: *The most convenient way to take sub-surface readings in wood is by using an optional* Hammer Electrode.

4.1b Detecting Hygroscopic Salts

The Protimeter MMS2 instrument can be used as a basic salts detector when used with the moisture probe, filter papers and distilled water (not included). Moisten the filter paper with the water and take a reference reading across it with the moisture probe. Then place the moistened filter paper against the surface of interest and hold in place for 30 seconds. Remove the paper and place the pins of the moisture probe across the paper again and observe the reading. Compare this reading with the original reference reading. If the difference is more than 20 points, there is significant salts contamination that may warrant further investigation.

4.2 Pinless Moisture Meter — Selection and Use

Navigate to **SELECT MODE -> PINLESS MOISTURE METER** and press  to select the *Pinless Moisture Meter* mode.

The instrument can be used to take relative moisture readings in solid, homogenous materials (such as walls and floors) by holding the surface of the sensor bulge against the surface (see *Figure 3* below). Relative readings ranging from 60-999 appear on the LCD together with a progress bar that indicates whether the material is in a **DRY, AT RISK** or **WET** condition.

Note: *When holding the meter at the bottom, away from any objects, it should not show any reading.*



Figure 3: Taking Relative Moisture Readings

4.2 Pinless Moisture Meter — Selection and Use (cont.)

As reliable readings are obtained only if the sensor bulge is in direct contact with the surface, the *Search* mode is not suitable for surveying textured finishes. The nominal depth of penetration is up to19 mm (3/4") in dense, homogeneous materials. Readings taken through low-density coverings (carpets, polystyrene tiles, etc.) will not be representative of the moisture level in the substrate itself. When using the MMS2 in *Pinless* mode, it is recommended that no attachments are connected. This practice will minimize reading errors and the potential for electromagnetic interference with other electronic equipment. When the *Pinless Moisture Meter* mode is selected, the device will display the surface moisture in terms of *Wood Moisture Equivalent* count.

Note: *Place the MMS2 on the surface, but do not slide it. Sliding will wear out the back of the meter, as well as possibly mark the wall.*

Table 2: Aquant Indicators

Aquant	Display	Indication	Progress Bar
<60	----		
≥60 but <170	Aquant value	DRY	Green
≥170 but <200	Aquant value	RISK	Yellow
≥200 but <999	Aquant value	WET	Red
≥999	999	WET	Red

4.2 Pinless Moisture Meter — Selection and Use (cont.)

In *Search* mode, the device has the capability to give comparative measurement.

Note: *If metal is present below the surface, the MMS2 may give a false positive.*

Comparative measurement helps in measuring whether the surface moisture/material is wetter or dryer than the Reference surface/ material. If the surface moisture/material is wetter than the reference surface/ material, then the progress bar is red, or if it's dryer, then the progress bar is green.

This method takes four steps:

1. Select **Pinless Moisture meter** under the *Main Menu*.
2. Place the device on the material which has been chosen as the reference material.
3. Press the right arrow button  for two seconds to store the reading as reference reading.
4. Now if the device is placed on any material, it indicates whether the material is wetter or dryer than the reference material.

4.3 Hygrometer - Selection and Use

Navigate to **SELECT MODE -> HYGROMETER** and press  to select the *Hygrometer* mode.

To use the Protimeter MMS2 as a Hygrometer (see *Figure 4 on page 11*), connect the Hygrostick, Quikstick or Short Quikstick probe into socket **A** either directly or indirectly with the extension lead.

4.3 Hygrometer - Selection and Use (cont.)

Relative humidity and temperature measurements are made with the Hygrostick, Quikstick or Short Quikstick probe, and the MMS2 instrument uses these values to calculate a range of psychometric readings. When using the MMS2 to measure the conditions in air, the humidity probe is normally connected directly to the instrument. However, when it is impractical or awkward to use the instrument in this way, the extension lead may be used to connect the Hygrostick, Quikstick or Short Quikstick to the instrument. Typically, the extension lead will be used when taking readings from probes that have been embedded in structures such as walls and floors.



Figure 4: MMS2 as a Hygrometer

Note: *For best response time, do not store the MMS2 in excessively hot or cold locations, such as in a vehicle.*

4.4 Psychrometrics - Selection and Use

Navigate to **SELECT MODE -> PSYCHROMETRICS** and press  to select the Psychrometrics mode.

Connect the Hygrostick, Quikstick or Short Quikstick probe into socket **A.** The following parameters are displayed in this mode:

4.4a Dew Point

Navigate to **SELECT MODE -> PSYCHROMETRICS -> DEW POINT** and press  to get the *Dew Point* reading.

4.4b Grains per Pound/Grams per Kilogram

Navigate to **SELECT MODE -> PSYCHROMETRICS -> GRAMS PER KILOGRAM/ GRAINS PER POUND** and press  to get the *Mixing Ratio* reading.

4.4c Enthalpy

Navigate to **SELECT MODE -> PSYCHROMETRICS -> ENTHALPY** and press  to get the *Enthalpy* reading.

4.4d Vapor Pressure

Navigate to **SELECT MODE -> PSYCHROMETRICS -> VAPOR PRESSURE** and press  to get the *Vapor Pressure* reading.

Note: *Change the units in* **Settings** *(see* page 16*) to obtain both metric and non-metric equivalents.*

4.5 Condensator

The *Condensator Mode* enables the user to assess the risk of condensation occurring on surfaces or to confirm whether or not condensation is present on a surface.

The MMS2 can be used as a *Condensato*r using two modes:

4.5a Surface Temperature Probe (Contact Based) - Selection and Use

Navigate to **SELECT MODE -> SURFACE TEMPERATURE PROBE** and press  to select the *Surface Temperature Probe* mode.

In this mode, the MMS2 measures the surface temperature using an external *Surface Temperature* probe inserted into socket **C** and making contact with the surface to be assessed. In addition to the *Surface Temperature* probe, connect a *Humidity* probe into socket **A** for the MMS2 to show the *Condensation* status.

TDIFF is a useful function when investigating condensation, as it tells the user how many degrees a surface temperature is above or below the prevailing dew point temperature.

4.5b Surface Temperature IR (Non-Contact Based) - Selection and Use

In this mode, the MMS2 measures surface temperature using IR technology

Connect a humidity probe into socket **A**.

Hold the 

button to enable the *IR Thermometer*. Release the button and press it again within 1 second to enable the **LASER** pointer. The **LASER** pointer will indicate the area on the surface where the measurement is being taken (see *Figure 5 on page 14*).

4.5b Surface Temperature IR (Non-Contact Based) - Selection and Use (cont.)



Figure 5: LASER Pointer

Table 3: TDIFF Readings

T. DIFF (DEGC)	Condensation Status	Progress Bar
≤0	Condensation	Red
>0 but ≤3	Risk of Condensation	Yellow
>3	No Condensation	Green

4.6 Logging - Selection and Use

The MMS2 supports both continuous and manual logging.

4.6a Manual Logging

If  is pressed at any of the measurement screens, the data and *Timestamp* at that instant will be logged and a **RECORD SAVED** message will be displayed on the bottom bar.

4.6b Continuous Logging

Continuous logging is used to sample and store data continuously. Continuous logging is enabled either by setting logging parameters through the Keypad or through a PC using *MMS2 Logging Software*. (see *Section 4.7g, "Set Logging Parameters (Optional PC Logging Software Required)", on page 19*.)

After the logging parameters are saved, logging starts after the **START AFTER** minutes have elapsed. The logging icon  is displayed on the top right corner of the screen while logging is active.

When logging is in progress, an option to stop logging is provided under the **SETTINGS** menu. Logging can be stopped either by selecting **SELECT MODE -> SETTINGS -> STOP LOGGING** in the instrument, by clicking **STOP LOGGING** in the MMS2 Logging Software or when the instrument is turned **OFF**.

4.7 Settings - Selection and Use

The Protimeter MMS2 instrument has a range of user-selectable features.

Navigate to **SELECT MODE -> SETTINGS** and press to configure the MMS2. The following options are available for configuring:

4.7a Set Units

MMS2 has the option to select between **METRIC** and **NON METRIC** units.

Navigate to **SELECT MODE -> SETTINGS -> UNITS** and press to open the Unit options. Use / to navigate between the options available, and press to save the desired units.

Table 4 below shows how the units and the parameters measured appear in metric and non-metric units.

Table 4: Metric and Non-Metric Units for Parameters

	Metric	Non-Metric
Temperature	°C	°F
Dew Point	°C	°F
Mixing Ratio	g/kg	g/lb
Enthalpy	kJ/kg	BTU/lb
Vapor Pressure	kPa	inHg
Surface Temperature	°C	°F
T. Diff	°C	°F
Ambient Dew Point	°C	°F

4.7b Date and Time

Navigate to **SELECT MODE -> SETTINGS -> DATE AND TIME** and press  to change the date and time. Use  to navigate to the required field. Then, use  /  to increment/decrement the value in that box.

After entering the required date and time, press  to set the date and time. The new date and time are displayed at the top right corner of the screen. Date and time can also be set up by connecting to a PC and using the optional MMS2 logging software.

4.7c Auto Off

The MMS2 will switch **OFF** automatically after auto switch off time, if no activity/key press is observed. Navigate to **SELECT MODE -> SETTINGS -> AUTO OFF** and press to configure the Auto off time. Use  /  to navigate between 0 to 6 minutes and press  to set the Auto off time. To disable the Auto off feature, set the Auto switch off time to 0.

Note: *During continuous logging operation, auto switch off time is considered to be the display turnoff time.*

4.7d Set Brightness

Navigate to **SELECT MODE -> SETTINGS -> SET BRIGHTNESS** and press  to set the Brightness level. Use  /  to navigate between the different brightness levels (1 to 10) and press  to set the desired brightness. (Brightness level 2 is the default setting.)

4.7e Buzzer On-Off

This option is used to switch the Buzzer **ON/OFF**. When the Buzzer is **ON**:

- Any key press will make a beep sound.
- In WME/Aquant mode, a **RISK/WET** condition will be alerted.
- Instrument turn **ON/OFF** will be indicated

Navigate to **SELECT MODE -> SETTINGS -> BUZZER ON-OFF** and press  to switch the Buzzer on/off.

Use  /  to navigate between the on and off options and press  to save the desired configuration.

4.7f Calibration

The Calibration option is unavailable to the user.

4.7g Set Logging Parameters (Optional PC Logging Software Required)

Navigate to **SELECT MODE -> SETTINGS -> SET LOGGING** and press  to set the following logging parameters:

- **Start After:** minutes after which logging should start (0 to 999).
- **Sampling Interval:** sampling interval in minutes (1 to 60).
- **End After:** minutes after which logging should stop after sampling begins (1 to 999).
- **Job Number:** 1 to 255

Use  to navigate to the required box. Then, use  /  to increment or decrement the value in that box and press  to save the entered logging parameters.

Note: *You can also set up and conduct logging via the optional PC software.*

5. Diagnostic Procedure Guidelines

When diagnosing dampness in buildings, three key criteria must be considered, as outlined in *Table 5* below.

Table 5: Diagnostic Criteria

Item	Criteria	Notes
1	Is a wall or other building element in a safe air-dry condition?	Air-dry is the moisture content that is normal and safe (from moisture-related deterioration or decay) in buildings. When the Protimeter MMS2 moisture meter modes are selected, measured values are identified as **DRY, AT RISK** or **WET.**
2	Is the surface temperature of a wall or other building element above or below the dew point?	Dew point is the temperature at which a given quantity of air becomes saturated (100% RH) and forms dew, or condensation. If a surface is colder than the dew point, condensation occurs. When the Protimeter MMS2 Condensator Mode is selected to measure TDIFF (the proximity of a surface to the dew point) the instrument identifies either a **NO CONDENSATION** condition, an **AT RISK** condition, or a **CONDENSATION** occurring condition.
3	Is a wall surface or other building element contaminated with hygroscopic salts or other conductive material?	Artificially high moisture meter readings may be obtained either in material that has been heavily contaminated by hygroscopic salts or in materials that are conductive by nature. The presence or absence of nitrates and chlorides should be established when investigating suspected rising dampness situations in particular.

5. Diagnostic Procedure Guidelines (cont.)

Item 1: The *Search and Measure* modes (pinless and pin) should be used in combination to map out the extent of a moisture problem and to distinguish between surface and sub-surface moisture. The profile of readings obtained will give insight into the potential cause (e.g., condensation, lateral ingress or rising dampness) of a moisture-related problem.

Far greater insight will be obtained from moisture readings taken in a methodical manner than from those taken in a random manner. When testing walls, the user should start by taking readings at the lower levels and move up the wall in regular steps of 4-6 in. (10-15 cm). When high subsurface relative readings are obtained in the Search mode, the user is strongly recommended to quantify these values in **%WME** terms by using the deep wall probes in the Measure mode. If the depth of clearance holes is increased incrementally by a nominal 0.4 in. (10 mm) at a time, the moisture profile through the wall can be established.

Item 2: Condensation related moisture problems are common. When assessing the risk of condensation, or confirming its existence, the proximity of the actual temperature of the surface under investigation to the dew point must be established. The **TDIFF** measurement in **CONDENSATOR** mode tells the user how many degrees the temperature of a surface is above or below the dew point.

As many condensation situations are transient, **TDIFF** readings should be taken in a methodical and regular manner, similar to moisture meter readings in materials. Ambient RH and temperature values should also be taken to assess the moisture condition of the room as a whole. Dwellings and working environments generally have an **RH** from 40% to 60%, so there may be cause to investigate environments that register **RH** values outside this range.

5. Diagnostic Procedure Guidelines (cont.)

Item 3: Two hygroscopic salts, chlorides and nitrates, may build up on the surface of walls where rising dampness or wicking occurs. As groundwater moves through the wall and migrates to the surface, salts tend to accumulate where the rate of evaporation of this water is greatest. The salts themselves are non-conductive, but when mixed with a small amount of moisture a highly conductive solution is formed. The presence (or absence) of such salts should therefore be established when rising dampness is suspected by using the Protimeter MMS2 in Measure mode as described. When required, the Protimeter Salts Analysis Kit (part number BLD4900) can be used to identify the relative concentrations of nitrates and chlorides.

In summary, effective dampness diagnosis is a process that draws on the knowledge and expertise of the surveyor. The Protimeter MMS2 kit enables the user to investigate moisture levels in materials and environments from various perspectives that, in turn, permits a more thorough and reliable judgment as to the cause of dampness related problems.

6. Calibration Checking

Check the moisture meter *Measure Mode* by holding the pins of the moisture probe across the exposed wires of the calibration check device (**Calcheck**). The WME value of correctly calibrated instruments is **17-19**. Instruments that register values outside this range should be returned to Protimeter for servicing.

Note: *Search mode can be checked against a stable area of wall. For comparative purposes, humidity and ambient temperature conditions should be stable and consistent.*

Working Hygrostick, Quikstick and Short Quikstick probes can be checked against reference probes and/or over standard salt solutions.

7. Care and Maintenance

The Protimeter MMS2 is a precision-built electronic instrument that will provide many years of reliable service if the following points are observed:

- When not in use, keep the MMS2 instrument and its accessories in the factory carry case. Store the case in a stable, dust-free environment and keep it out of direct sunlight.
- If the instrument is to be stored for more than four weeks or if the low battery power symbol appears on the display, remove the batteries from the instrument.
- When using the MMS2 in Search mode, do not slide the bulge across surfaces, as this may lead to rapid instrument case wear. The instrument should be lifted and placed in position to prevent such wear.
- Check the condition of the MMS2 accessories on a regular basis, and replace them if they become worn or damaged.
- To preserve their calibration characteristics, Hygrostick probes should not be exposed to saturated environments. If this is unavoidable, Hygrostick probes should be replaced on a regular basis and their calibration should be checked frequently.

8. Displaying the MMS2 Information

Go to **SELECT MODE -> VERSION** to view the MMS2 information. The following information will be provided:

- Firmware version
- Date of build
- Device Model and Serial number
- Calibration date/status: Tair-RH-WME-Ts, Aquant, IR, surface temperature
- Battery status

9. Technical Specifications

9.1 Operating Conditions

Operating Temperature Range
Instrument Only: 0°C - 50°C

Humidity: 0 to 95% non-condensing

9.2 Measurement Specifications

9.2a Humidity Measurement

Hygrostick Data (Nominal)

Relative Humidity

Range: 30% to 40% RH, Accuracy: ±3% RH at 68°F (20°C)
Range: 41% to 98% RH, Accuracy: ±2% RH at 68°F (20°C)

Temperature

Range: 14°F to 122°F (-10°C to 50°C), Accuracy: ±0.6°F (±0.3°C)

Short Quikstick Data (Nominal)

Relative Humidity

Range: 0% to 10% RH, Accuracy: ±3% RH at 68°F (20°C)
Range: 10% to 90% RH, Accuracy: ±2% RH at 68°F (20°C)
Range: 90% to 100% RH, Accuracy: ±3% RH at 68°F (20°C)

Temperature Range

Range: 14°F to 122°F (-10°C to 50°C), Accuracy: ±0.6°F (±0.3°C)

9.2b Moisture Measurement

For Integrated and Remote Pin probes

Integrated pins
Strong and reliable integrated WME pins with cap,
No effect on readings by surface moisture

Pin (% WME) 8% to 100%, readings over 30% are relative

Non-invasive (RF)

Up to 3/4" (15 mm) deep, 60 to 999 (relative),
Tolerance: ±10 relative scale

9.2c Surface Temperature

Plug in Temperature Probe Surface Temperature Probe - BLD5805

Range 32°F to 158°F (0°C to 70°C)
Accuracy at 77°F (25°C) +/- 1.3°F (0.7°C)

IR Based — With 12:1 (D:S) Ratio — With Laser Pointer

Range: 14°F to 122°F (-10°C to 50°C)
Accuracy: ±3.6°F (±2°C) @77°F (25°C)

9.3 Physical Specifications

9.3a Power

Battery
9V Alkaline ≥ 550mAH
Battery Life visual indication on LCD

9.3b Size (H x W x D)

7.5 in. x 3.7 in. x 2.2 in. (19.1 cm x 9.4 cm x 5.6 cm)

9.3c Gross Weight

Instrument only: 9.17 oz (260 g)

9.3d Maximum Needle Depth

For WME Pins 0.4 in. (10 mm)

9.3e Buzzer

Audible buzzer for Key tone, WME/Aquant Measurement

9.4 Regulatory Compliance

CE, RoHS, ETL

9.5 User Interface

9.5a Keypad

Plastic/silicone keypad for easy navigation between different user menus on the unit, separate key for IR operation (non-contact based surface measurement)

9.5b Display

Graphical LCD
Size: 2.4”¨
Color: 256 bits
Resolution: 320 x 240 dpi
Backlight (with adjustable brightness)

9.5c Language

Multiple language support

9.5d User Application Profiles

Sticky memory last used application settings

9.5e PC Interface

USB interface:
mini B type USB port on instrument

PC Interface features:
Firmware Upgrade in field
User specific instrument setup
Data Logging setup
Stored data retrieval

9.5f Data Logging

RH-Tair-Ts-WME-Aquant Data logging
Easy user setup through Keypad
Samples with Date and Time stamp:
Manual logging — 8000 samples
Continuous logging — 6100 samples

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Amphenol
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