



ms1 Set M



A hand-held precision instrument for the measurement of relative humidity of materials / water activity of foodstuffs (a_w value), and temperature.

For measurements in somewhat larger material samples, such as granulates, textiles, wood chips, sawdust, tobacco, tealeaves, herbs, potato crisps, biscuits, confectioneries, cereals, coffee beans etc.

Relative humidity measurements can also be performed if the sensor is open. The sintered filter provides excellent dust protection.

Set AM or Set AMS are to be preferred for measurements in very large product volumes.

Measurement range	:	6 ... 98%rh , not condensing corresponds to = 0.06 ... 0.98a_w
Temperature	:	-20...+80°C
Box sensor	:	enMBRK-3 with resistive electrolyte measurement cell CK-3
Precision	:	+/- 1.0%rh / 0.01a_w , +/- 0.3°C
Communication	:	RS 232 interface (optional)

Additional functions for relative humidity measurements in air (not applicable to humidity measurements in materials):

stored Mollier diagram: the ms1 also computes and displays dew point temperature, mixing ratio, wet bulb temperature, specific enthalpy und partial water vapor pressure.



ms1 Set M *Precise, fast, flexible*

A practical, 1'000-times proven precision, hand-held instrument for humidity and temperature measurements. Thanks to its Novasina electrolyte sensor, the ms1 is particularly well suited to precision humidity measurements in a broad range of materials and also in air. The instrument and sensor are robust, have excellent long-term stability and are essentially hysteresis-free. The integrated computer supplements relative humidity measurements in air with a number of parameters of the Mollier hx-Diagram. The large and clear LCD display is easy to read. The instrument is battery powered, and an additional mains power supply is available to support long-term measurements. An optional RS 232 interface and supporting software is available for connecting a printer or PC.

The instrument is delivered in a sturdy plastic carrying case with space for various additional accessories. “

Examples of relative humidity/ a_w -value measurements with the **Set M**:

- Plastic granulates
- Tea or tobacco leaves
- Textiles
- Foodstuffs, cereals, coffee beans (see also Set AMS)
- Room- or conduit humidity, dew point temperature etc.
- Cosmetics
- Medications, pharmaceuticals

Instrument ms1:

Dimensions	: 54x43x265mm
Weight	: 280 g
Power	: 9V Battery

Humidity sensor:

Electrolyte measurement cell	
Range	: 6...98%rh
Repeatability	: +/- 0.3%rh
Precision	: +/- 1.0%rh (10...95% rh, 25°C, with 5 point calibration)

Temperature sensor :

Precise NTC-Resistance	
Range	: -20...80°C
Repeatability	: +/- 0.1° C
Precision	: +/- 0.3° C

Humidity standards:

Sensor Checks “SC”:

Saturated pure salt solutions based on national standards are recommended, with the following humidity values:

11%, 33%, 53%, 75%, and 90% rh

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111 0511 -> Speisung 9V Bat.

ms1 Set M

The Set aw is a simple and precise entry-level set for important aw value measurements in the food sector, particularly when larger volumes of samples are involved. It consists of an ms1 hand-held instrument with a large, special-purpose measurement sensor, and a range of accessories all housed in a robust plastic case. Space is available for further options, such as a power supply or interface/cable. The Set can be tested and recalibrated as required using individual Sensor Check humidity-standards.

Consists of :

Carrying case with:

- Measuring instrument ms1
- Sensor enMBRK-3, 1m cable with 9-pin plug
- 9V Battery
- Plastic rack for the ms1
- Sensor Check SC 75% rh
- Adapter cs
- Styrofoam box for calibration
- User manual
- Manufacturers report for the 5-point calibration 11-33-53-75-90%

Weight: 2.300 kgs

Accessoirs to Set M



111 1564 230V power supply
111 1406 115V power supply

230V or 115V power supply

The power supply is recommended when the **ms1** is used for a long period in one place, or to preserve battery power when the RS 232 interface is extensively used.

The ms1 does not recharge batteries. If rechargeable batteries are used an external charger is needed.

Power supply:

230V AC +/- 10% / 50-60Hz
115V AC +/- 5% / 50-60Hz

Output : 9 V DC / 16 mA

Power requirement: 0.4 VA

Plug : 4 mm diameter coax

Weight: 250g



111 0826 Interface PC

PC communication via RS232

RS232 interface, 1m long cable, CD with software NOVALOG32 for Win 9x/2000/NT/XP.

Interface Set comprising:

- 1m cable with D-Sub 25/25-pin
- RS-232 Interface
- CD with NOVALOG32 software for Windows systems
- User manual

Weight: 450g



111 0562 Interface Seiko

RS232 interface for Seiko printer

RS-232 interface, 1m long cable to connect a Seiko **DPU 411** thermal printer. This makes it possible to control the printer using the printer parameters defined in the **ms1** menu.

-> **A printer must be obtained locally**

Printer-Interface-Set Seiko:

Printer cable : Flat cable

- **1m long printer cable with D-Sub 25/25-pin**
- **RS 232 interface**
- **Seiko adapter box**

Weight : 300g



111 6256 Adapter 25F/9M

D-Sub adapter 25F/9M

Additional adapter for the RS232 Interface for Seiko printer (111 0562), permitting connection to the more recent Seiko **DPU 414** printer.

Adapter Interface:

Dimensions : 60 x 40 x 20 mm

Adapter D-Sub 25F/9M

25-pin female con.

9 - pin male con.

Weight: 50g



111 0661 Interface Epson

RS232 interface for Epson printer

RS-232 interface, 1m long cable to connect an Epson or other compatible 9-pin needle printer. This makes it possible to control the printer using the printer parameters defined in the **ms1** menu.

-> **A printer must be obtained locally.**

Printer-Interface-Set Epson:

Printer cable: Flat cable

- **1m long printer cable with D-Sub 25/25-pin**
- RS 232 interface
- Epson adapter

Weight: 300g