



# LabMaster - aw



A professional laboratory instrument for a very precise measurement of aw values (water activity) in foodstuff, drugs, cosmetics etc.. The temp. of the measurement chamber may be set in the range from 0°C to 50°C and kept consistently with an accuracy of +/-0.2K.

This instrument runs the most used aw measuring technology, the electrolytic resistive principle. The advantages are appreciated by all users around the world.

<b>Measuring range aw</b>	:	<b>0.03 ... 1.00aw</b>
<b>Measurement chamber temperature</b>	:	<b>selectable 0 ... 50°C, +/- 0.2K</b>
<b>Sensor type</b>	:	electrolytic resistive measurement cell CM-2
<b>Accuracy</b>	:	<b>+/- 0.003aw / 0.2°C at 25°C</b> when the system is calibrated at min. 6 points Repeatability +/- 0.002aw
<b>Communication</b>	:	RS-232 interface, USB, PC Software " <b>Novalog MC</b> "



## LabMASTER-aw

*A synonym for high-precision, flexibility, versatility and measurement speed*

Well-proven laboratory instrument for reproducible, precise aw measurements under accurately controlled temperature conditions for all types of foodstuffs, cosmetics as well as dry pharmaceutical materials. The **LabMASTER-aw** is the only instrument that enables measurements under precisely controlled chamber temperature conditions, selectable in the following range: 0°C to 50°C, with an accuracy of 0.2K.

The device and its sensor are very robust and have an excellent long-term stability. The Novasina electrolytic resistive sensor delivers essentially hysteresis-free measurements. The implemented user management systems allows a simple and intuitive operation. The system is available in 3 different versions "**BASIC**" (single user), "**STANDARD**" (multi user) and "**ADVANCED**" (multi user and multi channel). This improves considerably the cost efficiency .

The large, illuminated graphic LC display gives a clear overview. The menu software is simple and intuitive.

For a connection to a printer or a PC, a RS-232 or USB interface is build in the device. The visualisation PC-Software NOVALOG MC for Win9x/2000/NT/XP is included in the delivery (except for the "BASIC" version). A recorder can be connected to the 0...10 volt analogue output.

### Examples of typical samples which can be measured :

- **All kind of pastry and baked goods**
- **Meat, sausages, fish**
- **Cheese, dairy products**
- **Fruit concentrates, dried fruit**
- **Cosmetics (skin cream, lipstick etc.)**
- **Pharmaceutical products (powders, tablets, ointments etc.)**
- **Pet food**

## Water activity instrument LabMASTER-aw :

Surface area: width 26, depth 44 cm  
Weight : 9.8 kg  
Mains supply : 90V...260V, 50/60Hz,  
wide range power supply

### **Humidity sensor:**

Electrolyte measurement cell CM-2  
Range : 0.03...1.00aw  
in the range of 0...50°C.  
Repeatability : +/- 0.002aw  
Accuracy : +/- 0.003aw at 25°C  
when fully calibrated  
Resolution : 0.001aw / 0.1°C

### **Temperature sensor:**

Precise NTC resistor  
Range : -20...80°C  
Repeatability : +/- 0.1° C  
Accuracy : +/- 0.3° C  
Resolution : 0.1°C

### **Humidity standards**

**Salt tablets SAL-T:**  
Saturated pure salt solutions based on national standards are recommended:

**!! see catalogue accessories !!**



**LabMASTER-aw**



**111 9971** LabMaster-aw  
"BASIC"

**LabMASTER-aw "BASIC"**

Robust laboratory precision measurement instrument with temperature controlled measurement chamber. With integrated pre-conditioning chamber.

Further functions:

- Stability parameter, time & date displayed on LCD screen
- Memory for the last 10 aW stable value for each data file
- Stability val time can be defined directly before measurement
- Setting of measurement alarm limits
- Calibration reminder function

**BASIC version = single-measurement & single-USER**

*Attention: No power cable included. Please order it separately.*

**Water activity instrument:**

Ground surface: 26 x 44 cm (WxL)  
Weight : 9.800 kgs

Include :

- Sensor CM-2
- 6 humidity standards SAL-T: 11, 33, 58, 75, 84 and 97% rh (incl. factory calibration certificate)
- 50 sample dishes ePW
- Operating instructions



**standard**

**111 9972** LabMaster-aw  
"STANDARD"

**LabMASTER-aw "STANDARD"**

Robust laboratory precision measurement instrument with temperature controlled measurement chamber. With integrated pre-conditioning chamber.

Further functions:

- Stability parameter, time & date displayed on LCD screen
- Memory for the last 10 aW stable value for each data file
- Stability val time can be defined directly before measurement
- Setting of measurement alarm limits
- Calibration reminder function
- Graphic display of aW measurement curve on LCD screen

**STANDARD version = single-measurement & multi-USER**

*Attention: No power cable included. Please order it separately.*

**Water activity instrument:**

Ground surface: 26 x 44 cm (WxL)  
Weight : 9.800 kgs

Include :

- Sensor CM-2
- 6 humidity standards SAL-T: 11, 33, 58, 75, 84 and 97% rh (incl. factory calibration certificate)
- 50 sample dishes ePW
- RS232 interface, PC cable 1.8m
- D-Sub 9M/9F, USB port & cable
- NovalogMC PC visual. software for Win9x/2000/NT/XP
- Operating instructions

**Accessories for LabMASTER-aw**



**Mains power cables**

*For connecting a LabMASTER-aw*

Configured with the standard instrument connector at one end and the locally required power plug at the other.

*Please order with the country code and plug type.*

- 110 8568** Power cable CH : 1
- 110 8304** EU/Schuko : 2
- 111 1748** Japan and USA : 3

**Power cable:**

Cable length : 1.5 m

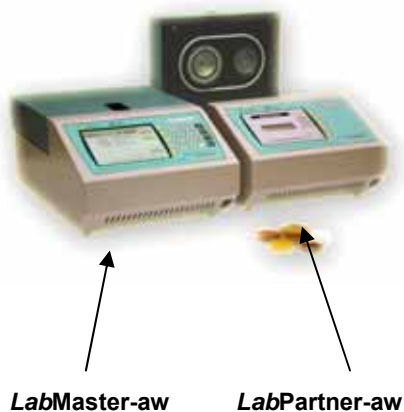
For local power systems with appropriate plugs.

Weight : 260 g each



# Multi-channel system with *LabPartner-aw*

This professional laboratory instrument system allows to run from 2 to a maximum of 10 aw (water activity) measurement devices simultaneously for measuring the aw values in foodstuff, drugs and cosmetics:



1 **LabMASTER-aw "ADVANCED"** runs from 1 to 9 **LabPARTNER-aw** units.

The temperature of each chamber can be set in the range from 0°C to 50°C.

The "ADVANCED" instrument version completes ideally the **LabMASTER-aw "BASIC"** and "STANDARD". It allows an extension at any time and offer an outstanding cost efficiency.

<b>Measuring range aw</b>	: 0.03 ... 1.00 aw
<b>Measurement chamber temperature</b>	: selectable 0 ... 50°C +/- 0.2K
<b>Sensor type</b>	: electrolyte resistive measurement cell CM-2
<b>Accuracy</b>	: +/- 0.003aw, 0.2°C at 2°C when the system is calibrated at min. 6 points
<b>Repeatability</b>	: +/- 0.002aw
<b>Communication per channel</b>	: RS-232 or USB interface, PC- Software " <b>Novalog MC</b> " for single channel monitoring

## Multi-Channel System (*LabPartner-aw*)

*Highest flexibility and cost efficiency at any time*

The **LabMASTER-aw** series is a new laboratory instrument generation with the flexibility to add single channels, depending on your needs. Each channel provides reproducible and accurate aw value measurements in various types of samples. This makes the system very flexible and versatile with the possibility of extension at any time.

**LabMASTER/LabPARTNER-aw** sensors are very robust, excel in long-term stability characteristics and have been specifically developed for continuous operation. The unique properties of the electrolytic resistive sensors with their lack of hysteresis through the complete system yield very exact and reproducible measurements.

All measured values on each channel are displayed on a large, clearly arranged illuminated LC-Display. Each channel can be configured individually and optimised using a menu-driven procedure. The **LabMASTER-aw "ADVANCED"** includes a RS-232 or USB interface for the communication with a PC. The single channel software **Novalog MC** is included in the delivery of this device.

### Examples of typical samples which can be measured :

- All kind of pastry and baked goods
- Meat, sausages, fish
- Cheese, dairy products
- Pet food
- Cosmetics (skin cream, lipstick etc.)
- Fruit concentrates, dried fruit
- Pharmaceutical products (powders, tablets, ointments etc.)

### **Multi-Channel System:**

#### **LabMASTER-aw instrument:**

Mains supply: 90V...260V, 50/60Hz,  
wide range power supply  
*LabPartner* is powered by the *LabMaster*

#### **LabMASTER / LabPARTNER-aw:**

Surface area: width 26, depth 44 cm  
Weight : 9.8 kg

#### **Humidity sensor:**

Electrolyte measurement cell CM-2  
Range : 0.03...1.00aw  
in the range of 0...50°C.  
Repeatability : +/- 0.002aw  
Accuracy : +/- 0.003aw at 25°C  
when fully calibrated  
Resolution : 0.001aw / 0.1°C

#### **Temperature sensor:**

Precise NTC resistor  
Range : -20...80°C  
Repeatability : +/- 0.1°C  
Accuracy : +/- 0.3°C  
Resolution : 0.1°C

#### **Humidity standards**

##### **Salt tablets SAL-T:**

Saturated pure salt solutions based on national standards are recommended:

**!! see catalogue accessories !!**



## Multi-Channel System



**111 9973** LabMASTER-aw  
"ADVANCED"

### LabMASTER-aw "ADVANCED"

Robust laboratory precision measurement instrument with temperature controlled measurement chamber. With integrated pre-conditioning chamber.

Further functions:

- Stability parameter, time & date displayed on LCD screen
- Memory for the last 10 aW stable value for each data file
- Stability val time can be defined directly before measurement
- Setting of measurement alarm limits
- Calibration reminder function
- Graphic display of aW measurement curve on LCD screen

ADVANCED version: multi-measurement & multi-USER

*Attention: no power cable included. Please order it separately.*

#### Water activity instrument:

Ground surface: 26 x 44 cm (WxL)  
Weight : 9.800 kgs

Include :

- Sensor CM-2
- 6 humidity standards SAL-T: 11, 33, 58, 75, 84 and 97% rh (incl. factory calibration certificate)
- 50 sample dishes ePW
- RS232 interface, PC cable 1.8m
- D-Sub 9M/9F, USB port & cable
- NovalogMC PC visual. software for Win9x/2000/NT/XP
- Operating instructions



**111 9974** LabPARTNER-aw

Additional channels:

### LabPARTNER-aw

A robust laboratory instrument with highly-sensitive humidity and temperature sensors, temperature controlled measurement chamber. With integrated pre-conditioning chamber.

*A power supply cable and a communication cable are provided to connect this instrument to the LabMASTER-aw or to another LabPARTNER-aw.*

#### Water activity instrument:

Ground surface: 26 x 44 cm (WxL)  
Weight : 9.800 kgs

Include :

- Sensor CM-2
- 6 humidity standards SAL-T: 11, 33, 58, 75, 84 and 97% rh (incl. factory calibration certificate)
- 50 sample dishes ePW
- Operating instructions

## Accessories for LabMASTER-aw & LabPartner-aw



**110 8568** Power cable CH : 1  
**110 8304** EU/Schuko : 2  
**111 1748** Japan and USA : 3

### Mains power cables

For connecting a LabMASTER-aw

Configured with the standard instrument connector at one end and the locally required power plug at the other.

*Please order with the country code and plug type.*

#### Power cable:

Cable length : 1.5 m

For local power systems with appropriate plugs.

Weight : 260 g each



**111 9979** SI Set Master

### SI, sorption isotherm set

for the LabMASTER-aw and LabPARTNER-aw

This accessory, together with the Novasina humidity standards SAL-T, makes it possible to easily determine several points of a sorption isotherm. Incl. a plastic case for transportation.

In addition, a precision balance and an oven are required.

#### SI-Set MASTER/PARTNER complete with:

- 1 large cup insert
- 1 substance basket
- 1 weighing glass
- 1 pair of tongs



- [111 1001](#) -> eVC-21
- [111 1003](#) -> eVC-26
- [111 7212](#) -> Redox
- [111 0995](#) -> eVALC
- [111 0997](#) -> eVMT-2
- [111 0999](#) -> eVMS-2

### Cell protection filters

for all *LabMASTER-aw* and *LabPARTNER-aw*.

A number of filters is available to protect the measurement cell from aggressive vapours or abrasion.

-> Please consult the appropriate datasheets

#### Filters for cell protection Against corrosive substances:

eVC-21	(10 pieces)
eVC-26	(10 pieces)
Redox	(1 piece)
eVALC	(2 pieces)
eVMT-2	(5 pieces)
eVMS-2	(5 pieces)

Weight : 30 g each filter



[111 0601](#) ePW sample dishes

### Sample dishes ePW

For all *LabMASTER-aw* and *LabPARTNER-aw*

Box with 100 sample cups.

These cups are for all Novasina aw instruments. They are disposable, intended for a single use.

#### A box contains:

100 sample cups ePW

Material : Polypropylene

Dimensions : 40mm diameter  
x 12mm depth



- [111 7440](#) -> SAL-T 4% rh
- [111 6453](#) -> SAL-T 6% rh
- [111 0930](#) -> SAL-T 11% rh
- [111 0932](#) -> SAL-T 33% rh
- [111 0934](#) -> SAL-T 53% rh
- [260 0189](#) -> SAL-T 58% rh
- [111 0936](#) -> SAL-T 75% rh
- [111 9886](#) -> SAL-T 84% rh
- [111 0938](#) -> SAL-T 90% rh
- [111 9887](#) -> SAL-T 97% rh

### SAL-T salt tablets

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with the following humidity values (at 25°C):

3.4 % colour	white	(DG see general terms of sales)
6.4 % colour	white	
11.3 % colour	white	
32.8 % colour	blue	
52.9 % colour	green	(DG see general terms of sales)
57.6 % colour	white	
75.3 % colour	purple	
84.3 % colour	white	
90.1 % colour	white	(DG see general terms of sales)
97.3 % colour	yellow	

#### Humidity values in the temperature range 15° .... 30°C:

4.3 .....	3.0% rh
6.9 .....	6.2% rh
11.3 .....	11.3% rh
33.3 .....	32.4% rh
55.9 .....	51.4% rh
60.7 .....	56.0% rh
75.6 .....	75.1% rh
85.9 .....	83.6% rh
90.9 .....	89.9% rh
97.9 .....	97.0% rh

The precision corresponds to eg. the Greenspan Report 1977 typically +/- 0.3 % rh

Weight : 50 g each



[252 5418](#) Case with 6 Stk SAL-T for *LabMaster* and *LabPartner-aw*

### Set of 6 SAL-T salt tablets

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. The set consists of a case containing one each of the following values (at 25°C):

11.3 % colour	white
32.8 % colour	blue
57.6 % colour	white
75.3 % colour	purple
84.3 % colour	white
97.3 % colour	yellow

#### Case with 6 salt tablets

SAL-T for 11 ... 97%rh.

Humidity values in the temperature range 15° .... 30°C:

11.3 .....	11.3% rh
33.3 .....	32.4% rh
60.7 .....	56.0% rh
75.6 .....	75.1% rh
85.9 .....	83.6% rh
97.9 .....	97.0% rh

The precision corresponds to the Greenspan Report 1977 typically +/- 0.3 % rh

Weight : 710 g case



### Salt tablets SAL-T/C certified with European certificate

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with the following humidity values (at 25°C):

- [111 7000](#) -> SAL-T/C 6% rh
- [111 1056](#) -> SAL-T/C 11% rh
- [111 1057](#) -> SAL-T/C 33% rh
- [111 1060](#) -> SAL-T/C 53% rh
- [260 0190](#) -> SAL-T/C 58% rh
- [111 1063](#) -> SAL-T/C 75% rh
- [260 0276](#) -> SAL-T/C 84% rh
- [111 1065](#) -> SAL-T/C 90% rh
- [111 9981](#) -> SAL-T/C 97% rh

6.4 % colour	white	
11.3 % colour	white	
32.8 % colour	blue	
52.9 % colour	green	(DG see general terms of sales)
57.6 % colour	white	
75.3 % colour	purple	
84.3 % colour	white	
90.1 % colour	white	(DG see general terms of sales)
97.3 % colour	yellow	

**Internationally accredited laboratory:**



All Novasina humidity standards are also available with an internationally recognised certificate from an accredited European laboratory (UKAS England)

Weight : 50g each



[Prices see on the pricelist](#)

### Certification

of an aw measurement instrument in an accredited European laboratory

A UKAS-laboratory will certify the instrument at two or more humidity values and at several different temperatures if required.

**Accredited lab:**



Certified instruments can also be supplied.

## Spare parts for *LabMASTER-aw* & *LabPARTNER-aw*



[111 9983](#) CM-2 measuring cell

### CM-2 replacement cell

Humidity measurement cell without temperature sensor, with active saturation protection. The measurement cell can easily be exchanged by hand. The filter surface on the top of the cell should under no circumstances be touched with the hand or hard objects.

**Advantage:** the instrument requires no recalibration after changing a cell: all data are stored in the cell memory.

#### Measurement cell CM-2:

Range	: 0.03aw...1.00aw (3...100% rh)
Op.temp.range	: 0...50°C
Storage temp.	: 0...50°C
Storage hum.	: 10...80% RH not condensing
Accuracy	: +/- 0.003aw
Accuracy	: +/- 0.3 % rh (in LabMaster when fully calibrated)
Reproducibility	: +/- 0.002a <sub>w</sub>
Weight	: ca. 2 g



- [112 0174](#) O-Ring : 1
- [112 0175](#) Metal mesh filter: 2
- [260 0210](#) Tension ring : 3

### Replacement parts for measuring chamber

- 1 O-ring seal for the measurement chamber.  
*Recommendation: exchange the O-ring periodically.*
- 2 Metal mesh filter.
- 3 Tension ring for clamping the filter.

#### Chamber replacement parts for LabMaster / Partner-aw:

- O-ring seal Weight: 1 g
- Metal mesh filter Weight: 30 g
- Tension ring Weight: 10 g



## Upgrade Kits for *LabMaster-aw*



**111 9975** License

### Upgrade License 1 “BASIC-STANDARD”

to upgrade a *LabMASTER-aw basic*  
to a *LabMASTER-aw standard*.

with functionality extension code,  
PC software NovalogMC, cable 1.8m D-Sub 9M/9F,  
and USB cable 1.8m.

#### License 1

Software code for activating the  
additional software function from

BASIC to STANDARD

- Single to multi user management system
- PC-Tool NovaLog MC Software



**111 9976** License

### Upgrade License 2 “STANDARD-ADVANCED”

to upgrade a *LabMASTER-aw standard*  
to a *LabMASTER-aw advanced*.

with functionality extension code to control up to 9  
additional *LabPARTNER-aw* units.

#### License 2

Software code for activating the  
additional software function from

STANDARD to ADVANCED

- Single chamber to multi chamber system with *LabPartner-aw*.



**112 0171** License

### Upgrade License 3 “BASIC-ADVANCED”

to upgrade a *LabMASTER-aw basic*  
to a *LabMASTER-aw advanced*.

with PC software NovalogMC, cable 1.8m D-Sub  
9M/9F, USB cable 1.8m, and with functionality  
extension code to control up to 9 additional  
*LabPARTNER-aw* units.

#### License 3

Software code for activating the  
additional software function from

BASIC to ADVANCED

- single to multi user management system
- PC-Tool NovaLog MC Software
- single to multi chamber system with *LabPartner-aw*.

## Software Update for *LabMaster-aw*



**260 0275** Update package

### Update software package for *LabMaster*

only “STANDARD” & “ADVANCED” models

Software package including update code for  
***LabMaster-aw* STANDARD & ADVANCED** models.  
Applicable for instruments sold before the year 2010  
with serial no. : 05..... to 09.....

So the *LabMaster-aw* instrument can be updated to  
the newest level and the user can benefit from the  
following extended functions.

#### Additional functions:

- Stability parameter is displayed on instrument LCD screen flashing alternately
- Actual time and date is displayed on instrument LCD screen flashing alternately
- Memory of the last 10 aW stable values for each data file (provided that the data base is used actively)
- Stable value time can be set directly before performing the measurement (faster adaptation in case of sample change)
- Selectable upper and lower alarm limits for measurement
- Calibration reminder function
- Graphical display of aW measurement curve on LCD

#### Update software package: *LabMaster-aw* :

- Software package incl. update  
activation code for extended  
functions for

**STANDARD**

and

**ADVANCED**

**models**