

HYGROLAB

Short Instruction Manual

Bench-Top Water Activity Indicator



1 GENERAL DESCRIPTION

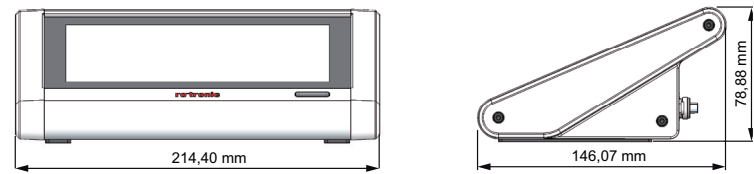
Congratulations on your purchase of the HygroLab water activity indicator. Please read these short instructions carefully before installing the device. The detailed instruction manual can be found on the internet at: www.rotronic.com or by scanning the QR code.



The HygroLab is a multifunction bench-top indicator that can read simultaneously up to 4 HygroClip2-Advanced digital humidity-temperature probes. The HygroLab is primarily designed for measuring the water activity (Aw) of foods, pharmaceuticals and cosmetics. The HygroLab can also be used in other laboratory applications that require measuring humidity and temperature.

NOTE: Make sure that the HygroLab has the newest software. For more information read the instruction below.

2 DIMENSIONS



3 POWER SUPPLY

The HygroLab requires the power AC adapter model PA 1024 – 120IB200.

INPUT: 100 – 240VAC 50 – 60Hz 0.6A

OUTPUT: 12VDC 2.0A 24W Max

NOTE: The power supply serves as a separator to disconnect the device from the electric power and this must always be easily accessible.

4 PROBE INPUTS

The HygroLab has 4 probe inputs designed for use with either HC2-AW or all standard Hygro-Clip2-Advanced probes.

5 BACK PANEL



HygroLab back panel showing:

1. Four (HC2) probe inputs
2. Two USB 2.0, two USB 3.0
3. Ethernet ports
4. Power supply

6 KEYPAD



ON/OFF key

The ON/OFF key is used as follows:

- To turn the instrument on: press the ON/OFF key
- To turn the instrument off: press the ON/OFF key

7 FIRST USE

After starting the HygroLab for the first time the system requires the user name and the password for the Administrator. By setting the password for the first time the system needs a confirmation of the password.

8 SKIPPING

In some cases, login is not wanted or necessary. The HygroLab gives that possibility to skip the login procedure. The system gives a guest account with right limits for safe usage of the HygroLab. If desired, it's also possible to define the rights for the guest account in the role management.

9 DISPLAY

The LCD touch display can be used as an input device for the whole system. The backlight of the display can be set in the device settings.

10 PERIPHERALS

If desired the HygroLab can be operated with a Mouse and Keyboard. Just plug the USB of the Mouse and the Keyboard into the USB of the HygroLab.

11 UPPER MENU

The upper menu is changing while using the HygroLab. These symbols are shown in the main menu.

admin 01.01.2020 / 12:04:20	User name / Date / time Shows the name of the current user, the actual time and date
Info button Shows the current Hardware- and the Firmware-Version	Logout Logout the current user or change to another user
These symbols are shown in the submenu on the left upper corner.	
Home button Going back to the "main menu"	Back button Going one page back

12 MAIN MENU

The main menu has the three main function of the HygroLab.

Measurement	Showing all information of the connected sensors. Temperature, relative humidity (rH%) and the water activity (aw)
Documents	All Data are saved as PDF sheet in the Documents. All docs include time stamp.
Settings	All Settings for the system. Like changing the language, units, date and time or setting the Network.

13 LOWER MENU

The lower menu is responsible for the controlling of the connected probes of the HygroLab. After the measurement is finished the probe input glows green or in case of an error it glows red.

	Start / Stop / Add Starting the measurement of the chosen probe. After starting the chosen probe can be separately stopped. By starting a new measurement again, the old measurement would be deleted.
	Measurement Data After starting the measurement, the current data (temp., rH% and aw) and a graphical diagram, measurement protocol, etc. can be seen.
	Measurement Docs Saved Documents / Protocols of all measurements of the probe. Also failed measurement are saved, no measurements would be lost.
	Start: Starting the measurement separately with the connected probe.
	Stop: Stopping the current measuring separately, which is running.
	Add: Adding a new measurement.

NOTE: By adding a new measuring the old measuring are deleted only in the current measurement data, the report of the old measurement is always saved as a document in the measurement documents.

14 MEASUREMENT SUBMENU

The measurement submenu is for the selected probe. The submenu changes only the right side of the display, the left side stays always the same with the current information of the probe.

	Graphical View Live diagram of the temperature, rH% & aw		Measurement protocol Protocol of all runs (date, time, method, etc.)
	Information Main information about the probe (Type, Version, etc.)		Measurement method Setting the method in RH, AWE & AW-Quick

15 TREND INDICATORS

While measuring the HygroLab always shows with arrows the trend for the temperature, the humidity and the water activity. The trend indicators are yellow and green arrows.

Value tends to go up	Value tends to go down	Stable value

Start all available measurements / Stop all running measurement

The HygroLab can start all available probes at ones or stopping all at ones.

16 SOFTWARE UPDATE

For the use of the HygroLab it's very important to have always the newest software-version. To check this, go *Main menu* > *Settings* > *Device settings* > *Device settings* > *Update software version* to check if a new software-version is available.



NOTE: To check and update the software-version the HygroLab needs internet access.

17 REMOTE ACCESS

The HygroLab is capable of remote control with any device with internet access (Computer, Smartphone, Tablet, etc.). Only scan the QR-Code or type in the IP address of the HygroLab into the search window of the browser.

To opening the QR-Code or the IP address of the HygroLab, go to *Main menu* > *Settings* > *Device settings* > *Network settings*.



NOTE: For remote access of the HygroLab, the device needs to be in the same network as the HygroLab. Recommended Browsers: Internet Explorer or Microsoft Edge.

18 FREQUENTLY USED SETTINGS

Unit system & language

For changing the unit and the language of the system and the keyboard, go from the *Main menu* > *Settings* > *Device settings* > *Local settings*. After changing units or language press save to adopt the settings.



WARNING: Changing the unit system does not change the numerical value of the fixed barometric pressure.

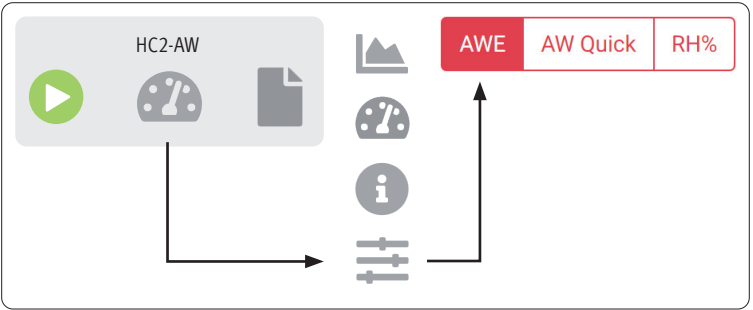
19 DATE AND TIME

For setting date and time make the same procedure as the for changing the unit system and go into local settings. From there select date and time to change it, when the HygroLab is not connected to the internet or click on the box for using time from network, when it's connected to the internet. It's also possible to change date and time format.

20 CHANGING MEASUREMENT METHOD

For changing measurement method select the wanted probe and go to *Measurement data*. From there choose in the measurement submenu the wanted *Measurement method*.

NOTE: The measurement method can only be changed when the probe is not running.



21 PRACTICAL ADVICE FOR MEASURING WATER ACTIVITY

AWE mode

The HygroLab waits for the full equilibration of the measured product and probe. For most products, this takes from 30 to 60 minutes. The HygroLab automatically detects equilibrium conditions (humidity and temperature) and ends the measurement. The HygroLab always displays a trend indicator to the left of the temperature and the AW value.

AW Quick mode

The HygroLab uses an algorithm to accelerate the water activity measurement and typically requires about 5 to 6 minutes. When temperature conditions are stable (both at the product and probe), the value measured with the AW Quick mode is generally within ± 0.005 AW of the value that would be obtained by waiting for full equilibration of the product and probe.

Using the AWE mode

Go into the measurement method and select the AWE. Then specify the tolerance of the equilibration (temperature and water activity) with the Stab.T and the Stab.AW parameters. When all these parameters are fulfilled the measurement can end.

- Define the stability of the temperature per minute
Stab.T: 0.01 (°C / °F) [/min] → *Our recommendation*
- Define the stability of the water activity per minute
Stab.AW: 0.0001 [/min] → *Our recommendation*

NOTE: Lower numbers for the Stab.T and the Stab.AW ensure more accurate results but causes measurements to take longer.

Using the AW Quick mode

To use the AW Quick mode the procedure is almost the same as the for the AWE mode. There is no setting of Stab.AW instead there is Dwell time. The value of the „Dwell“ time can be set by the user and is a tradeoff between speed of measurement and accuracy. We recommend for the Dwell time 4-5 minutes and a Stab.T of 0.01 [/min]. Generally, a longer „Dwell“ time produces more accurate results but causes measurements to take longer.

AW Setpoints

Some products have clear Setpoints of the water activity for the quality. This can be set for each product measurement, so that the HygroLab can give out the result if the product has reached the setpoint or not. This will be also stored into the reports for a complete documentation.

22 TECHNICAL DATA

Number of probe inputs	4
Probe type	HygroClip2 probes
Operating limits at probe	Depends on probe model
Operating limits at electronics	0...40 °C (32...104 °F) / 0...80 %RH
Housing material	ABS, aluminium, stainless steel
Weight	1.02 kg (2.25 lbs)

23 DELIVERY PACKAGE

- HygroLab
- Power adapter
- Pen
- Short instruction manual
- (Optional) USB WiFi stick