

## HygroLab C1

### Laboratory application

ROTRONIC provides a high-end laboratory device – the HygroLab C1 – for water activity measurements with up to four probes. Connect station probes and insertion probes for measuring water activity in cheese, meat, tobacco, building materials, animal feed, pharmaceuticals products and much more.

### Validated software

Easy-to-use and intuitive, the laboratory grade indicator can be used by anyone. HW4 running on a PC provides remote monitoring with charting and data recording functions.

### Features

- 4 input channels for HC2 station probes or HC2 insertion probes can be connected for measurement of water activity, relative humidity and temperature
- Aw Quick function for fast measurement results (typically 4-5 minutes)
- Audible alarm to indicate completed measurement
- Saves up to 2,000 data records with %RH, °C/°F, date and time



## QUOTATIONS & PRICING

Order code	HygroLab C1
Probe connections	4 x HC2 station probe or HC2 insertion probe
Parameters shown	Aw, % RH, °C, °F
Aw Quick function	Integrated and via HW4 software HW4-P-QUICK-Vx (in shipment included)
Calculations	All psychrometric calculations available or user defined calculations
Probe adjustment	Single or multiple point for relative humidity & temperature One or two point temperature
Memory	4 x 500 Aw values (2,000 Aw values)
Measurement interval	1 s
Start-up time	3 s
Power supply	8...16 VDC with AC adapter
Interfaces	Ethernet and USB
HW4 compatible	V3.1 and higher
Range of application	-10...60 °C (14...140 °F) / 0...1 Aw / 0...100 %RH
LCD	3-line alphanumeric with trend indicators
Clock	Real time clock provides a time stamp for every measurement
Current consumption	Max. 120 mA (12 VDC, backlight ON, 4 probes connected, Ethernet)
IP protection class	IP21
CE / EMC conform	EMC 2008/108/EG
FDA / GAMP	FDA 21 CFR part 11 / GAMP5
Dimensions /Weight	225 x 170 x 70 mm / 1100 g
Material	Aluminum, ABS-757



## HygroPalm23-AW-A

### Field application

The HygroPalm HP23-AW-A offers the perfect solution for on-site water activity measurements to confirm product stability and indicate shelf life. The HP23-AW-A is suitable as a mobile laboratory unit. Equal to the HygroLab C1 the HP23-AW-A is perfect as a portable analyzer with two probe inputs for any suitable HC2 probe. The HP23-AW-A can also be used in conjunction with HW4-P-QUICK-Vx.

### Portable and convenient

Handheld instrument specially configured to suit the water activity user. It includes many of the advanced features of the HygroLab C1, but in a convenient portable configuration.

### Features

- 2 input channels for HC2 station probes or HC2 insertion probes can be connected for measurement of water activity, relative humidity and temperature
- Aw Quick function for fast measurement results (typically 4-5 minutes)
- Audible alarm to indicate completed measurement
- Saves up to 10,000 data records with %RH, °C/°F, date and time
- Battery charging function

## QUOTATIONS & PRICING

<b>Order code</b>	<b>648 HP23AWA</b>
Probe connections	2 HygroClip2 or analog input 0...3.2 VDC (power supply for analog probe: 5 VDC)
Parameters shown	Aw, % RH, °C, °F
Aw Quick function	Integrated or via optional HW4 software HW4-P-QUICK-Vx
Calculations	All psychrometric calculations available
Probe adjustment	Single or multiple point for relative humidity & temperature one or two point temperature
Memory	Capture mode: 8 x 250 values Logging mode: 10,000 values
Measurement interval	1 s, 10 s, 1 min, 10 min
Start-up time	3 s
Power supply	9 V battery or USB/ mains adapter via mini USB
Interfaces	Mini USB
HW4 compatible	Yes, for all HW4 versions
Range of application	-10...60 °C (14...140 °F) / 0...1 Aw / 0...100 %RH
LCD	3-line alphanumeric with trend indicators
Clock	Real time clock provides a time stamp for every measurement
Current consumption	Max. 20 mA (backlight ON)
IP protection class	IP30
CE / EMC conform	EMC 2008/108/EG
FDA / GAMP	FDA 21 CFR part 11 / GAMP5
Dimensions /Weight	188 x 72 x 30mm / 200 g
Material	ABS

### Compatible products

Water activity probe: HC2-AW  
 Insertion probe: HC2-P05, HC2-HP28, HC2-HP50

## Aw Insertion probes

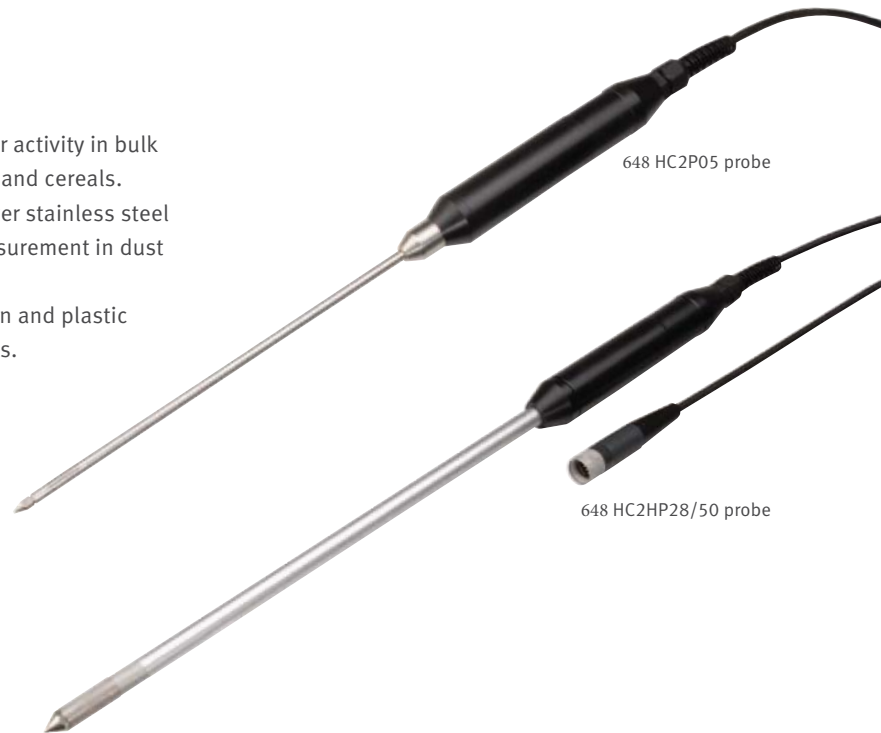
### For direct measurement

The insertion probes are for direct measurement of water activity in bulk samples. Applications include powders, granules, grain and cereals. HC2-HP insertion probes feature a robust 10 mm diameter stainless steel probe with replaceable sintered steel dust filter for measurement in dust bulk material.

For dust free applications like tablets, gel capsules, grain and plastic granules the HC2-P05 fits perfectly with its laser cut slots.

### Features

- 5 mm insertion probe for measurement in dust-free bulk materials
- 10 mm insertion probe for measurement in dusty bulk materials



## QUOTATIONS & PRICING

Order code	648 HC2P05	648 HC2HP28	648 HC2HP50
Probe length	Ø 5 x 200 mm	Ø 10 x 280 mm	Ø 10 x 500 mm
For use with	HygroLab C1, HP23-AW-A		
Accuracy at 23 °C ±5 K (73.4 °F)	±0.015 Aw / 1.5 %RH / ±0.3 K	±0.008 Aw / 0.8 %RH / ±0.1 K	
Temperature dependence	0.001 K/K, 0.02 %rh/K		
Sensor	HYGROMER® IN-1 / Pt-100, 1/3 DIN Class B		
Long term stability	<1 %RH / year		
Calculations	Dew or frost point		
Power supply	3.2...5 VDC, calibrated at 3.3 VDC, current: ~4.5 mA		
Digital interface	UART to other ROTRONIC devices or PC (HW4)		
Range of application	-40...85 °C (-40...185 °F) / 0...100 %RH		
Filter type	No filter available	Sintered steel with 5 µm pore size	
Response time τ63	<15 s	<20 s, with filter	
Measurement interval	1 s		
Start-up time	1.5 s		
IP protection	IP30	IP50	
CE / EMC conformity	2007 / 108 / EG		
FDA / GAMP	FDA CFR 21 part 11 / GAMP5		
Weight	160 g	200 g	300 g
Material	Stainless steel DIN 1.4305 (probe), POM (handle)		

## Aw-Sets

The ROTRONIC Aw starter kits include everything needed for measurement and calibration. The portable units are supplied in a robust carry case.



### Bench-top kit: QUOTATIONS & PRICING

Order code	648 HygroLabC1SET40	
Set content	Bench top display device: Including: - Power adapter AC -> DC 12V - HW4 software with Aw-Quick	HygroLab C1
	Measurement probe	HC2-AW
	USB-Cable for PC connection	AC0002
	Sample holder:	WP-40
	Disposable sample container (100 pc.)	PS-14
	Disposable sample container (100 pc.)	PS-40
	Humidity standards 0.5 %RH	EA00-SCS
	Humidity standards 10 %RH	EA10-SCS
	Humidity standards 35 %RH	EA35-SCS
	Humidity standards 50 %RH	EA50-SCS
	Humidity standards 80 %RH	EA80-SCS



### Handheld kit: QUOTATIONS & PRICING

Order code	648 HP23AWASET14 with 14 mm sample holder	
Set content	Handheld instrument	HP23-AW-A
	Measurement probe	HC2-AW
	Sample holder	WP-14-S
	Disposable sample container (10 pc.)	PS-14
	Humidity standards 10 %RH	EA10-SCS
	Humidity standards 35 %RH	EA35-SCS
	Humidity standards 50 %RH	EA50-SCS
	Humidity standards 80 %RH	EA80-SCS
	Carry case	AC1124

Order code	648 HP23AWASET40 with 40 mm sample holder	
Set content	Handheld instrument	HP23-AW-A
	Measurement probe	HC2-AW
	Sample holder	WP-40
	Disposable sample container (10 pc.)	PS-40
	Humidity standards 10 %RH	EA10-SCS
	Humidity standards 35 %RH	EA35-SCS
	Humidity standards 50 %RH	EA50-SCS
	Humidity standards 80 %RH	EA80-SCS
	Carry case	AC1124



## Aw Accessories

### Sample holders and sample containers

The sample holders provide excellent sample containment and optimum temperature stability. The WP-40TH can be attached to a water bath for additional temperature control.

The disposable sample containers ensure the optimum sample volume is introduced into the sample holders. They prevent the sample holders from coming into direct contact with the product being tested, thereby preventing soiling or cross contamination. The sample containers also provide a convenient means of collecting and storing samples.

### Sample holders

Order code	648 WP14-S	648 WP40	648 WP40TH
			
Type	Sample holder		
Use with	648 PS14	648 PS14 / PS-40	648 PS14 / PS-40
Height	14 mm	40 mm	40 mm
Material	V2A steel		Brass, nickel-plated
Weight	350 g	1250 g	1550 g

### Sample holders

Order code	648 PS14	648 PS40
		
Type	Sample container	
Use with	WP-14-S WP-40 / WP-40TH	WP-40 / WP-40TH
Height	14 mm	40 mm
Packaging unit	100 pc.	

### Clamp sealing mechanism

In the case of very dry or very moist samples additional mechanical sealing of the Aw measurement probe and sample holder may be necessary to prevent external conditions influencing the sample.

Order code	648 AWKHS
Use with	WP-40 / WP-40TH
Weight	1100 g

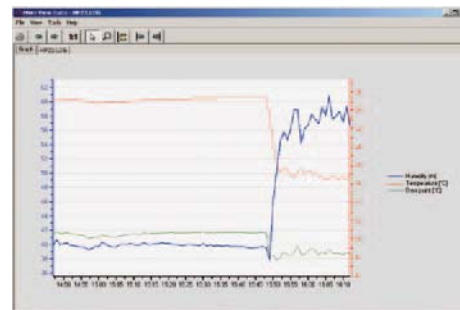


## HW4 Software

### Fully compatible

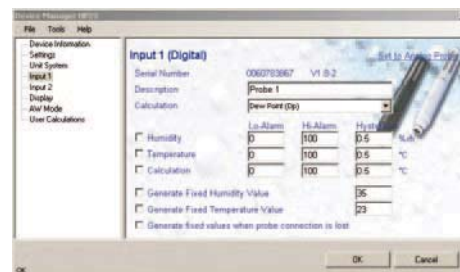
The HW4 software is compatible with all ROTRONIC products with USB, UART or Ethernet interface. The HW4 software is WINDOWS 7 compatible and runs on 64bit PC systems. It enables useful functions like:

- Live display of current measurements
- Recording of measurement data
- Instrument configuration
- Probe calibration
- Online calculation of any humidity or moisture parameter
- Alarms with notification can be sent via e-mail or SMS text
- Aw Quick function included (HW4-P-QUICK-Vx)



### Viewing of measured values/monitoring

Viewing of measured values is very easy and user-friendly. Files of any device shown in the device tree can be copied and opened directly with the HW4 explorer. The data is presented in table or graph form. The graph module can be configured by the user.



### Instrument configuration

HW4 software can be used to adjust the settings of ROTRONIC instruments and probes. The following functions and settings can be changed:

- General device settings
- Password protection of device settings
- Change of unit systems metric / english
- Aw mode settings

### Humidity standards

On-site calibration and adjustment of ROTRONIC probes. With the humidity standards, a calibration device and HW4 software running on a PC this is easily achieved. It is also possible to calibrate and adjust probes with the HygroLab C1 or HP23-AW-A.

Order code	Humidity value	Uncertainty at 23 °C (73.4 °F)
648 EA00SCS	0.5 %RH	±0.3 %RH
648 EA05SCS	5 %RH	
648 EA10SCS	10 %RH	
648 EA20SCS	20 %RH	±0.5 %RH
648 EA35SCS	35 %RH	
648 EA50SCS	50 %RH	
648 EA60SCS	60 %RH	±0.9 %RH
648 EA70SCS	75 %RH	
648 EA80SCS	80 %RH	
648 EA95SCS	95 %RH	±1.2 %RH

