HANDHELD INSTRUMENTS

THE HYGROPALM SERIES

HygroPalm handheld instruments are perfect for climatic measurements. They are precise, feature many practical functions and are extremely easy to use. Every HygroPalm is **adjusted** and **configured** on delivery and can be integrated into the operating process immediately. The instruments can further be adjusted for specific applications via **user-friendly software** or directly with the keypad.

A wide range of **interchangeable probes** enables flexible use, easy maintenance and simple calibration. All HP23 handhelds can be used for adjustment of transmitters and for system validation.
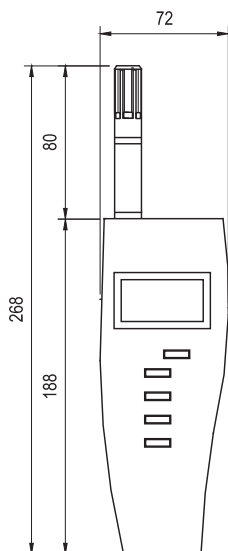
HYGROPALM21

The HP21 is the ideal instrument for humidity and temperature measurement. The fixed probe guarantees accurate measurement.

Applications

Portable inspection and spot checks in HVAC and building management systems

Features

- Fixed probe
- Range of application -10...60 °C / 0...100 %RH
- Accuracy at 23°C ±5 K: ±1 %RH, 0.2 K
- Adjusted at 23 °C and 10, 35, 80 %RH
- Service interface (UART)
- Calculation of dew/frost point

Order code	HP21
Device type	Handheld instrument with integrated probe
Probe type	IN-1 / Pt100 Class A with polyethylene filter
Response time	‹5 s, without filter
Material	ABS (device), polycarbonate (probe)
Power supply	9 V battery
Weight	200 g

INCLUDED

- Factory adjustment certificate
- Short instruction manual
- Battery

TYPICAL ACCESSORIES

• Service cable	AC3006
• Polyethylene filter, gray, 20 µm	NSP-PCB-PE
• Calibration device for HC2-S probe	ER-15
• Desktop stand	DESK-HP
• Humidity standard for calibration 35 %RH	EA35-SCS
• Humidity standard for calibration 10 %RH	EA10-SCS
• Humidity standard for calibration 80 %RH	EA80-SCS

HYGROPALM22-A

The HygroPalm22-A can be combined with all HC2 probes from ROTRONIC. It measures relative humidity and temperature, can perform all psychrometric calculations and has trend indicators as well as a hold function to freeze measured values.

Applications

Portable inspection and spot checks in HVAC, the pharmaceutical industry and building management systems

Features

- Combinable with all ROTRONIC HC2 probes
- Range of electronics: -10...60 ºC / 0...100 %RH
- All psychrometric calculations
- Service interface (UART)
- Measurement range and Accuracy: probe-dependent

Order code	HP22-A
Device type	Handheld instrument for interchangeable HC2 probes
Probe type	Compatible with all HC2 probes (order separately)
Material	ABS
Power supply	9 V battery
Weight	200 g

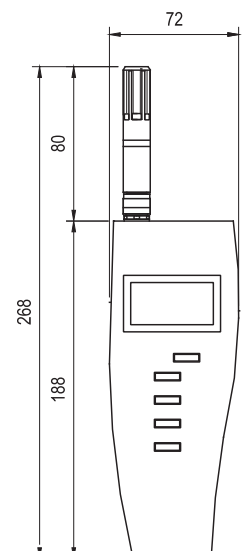| Order code	HP22-A-SET
Set consists of:	Handheld instrument, HP22-A
	Standard probe, HC2-S
	Extension cable, 2 m, E2-02A
	Calibration device, ER15
	Humidity standard for calibration 50 %RH, EA50-SCS
	Carry case, AC1127

COMPATIBLE

- With all ROTRONIC HC2 probes

INCLUDED

- Short instruction manual
- Battery

TYPICAL ACCESSORIES

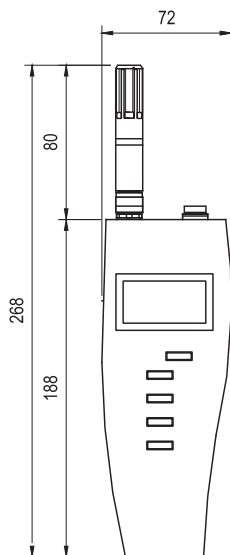|	
• Polyethylene filter, gray, 20 µm	NSP-PCB-PE
• Desktop stand	DESK-HP
• Humidity standard for calibration 10 %RH	EA10-SCS
• Humidity standard for calibration 80 %RH	EA80-SCS
• Humidity standard for calibration 35 %RH	EA35-SCS

HYGROPALM23-A

The HygroPalm23-A is the high-end product in our range of handheld instruments. In addition to measuring humidity and temperature, it also calculates all psychrometric parameters and provides a variety of additional functions. The HP23-A is a full function data logger and has the capability to record measurements with a simple push of a button. In addition, all ROTRONIC transmitters in the Airchip3000 series can be adjusted with the HP23-A via a service cable.

Applications

Portable applications in HVAC, the pharmaceutical industry, building management systems, museums and warehouses

Features

- Two probe connections for all ROTRONIC HC2 probes or analog third-party probes
- Data recording function up to 10,000 data points (with date, time, batch no.)
- Adjustment of transmitters HF3, HF4, HF5, HF7, HF8, via service cable
- All psychrometric calculations
- Integrated real time clock with time stamp for every measured value
- Battery charging function
- Service interface (USB)

Order code	HP23-A
Probe type	Compatible with all HC2 probes (order separately)
Range of electronics	-10...60 °C / 0...100 %RH
Material	ABS
Power supply	9 V battery or rechargeable battery
Weight	200 g

Order code	HP23-A-SET
Set consists of:	Handheld instrument, HP23-A
	Standard probe, HC2-S
	Extension cable, 2 m, E2-02A
	Calibration device, ER15
	Humidity standard for calibration 80 %RH, EA80-SCS
	HW4 software, HW4-E-Vx
	Service cable, AC2001
	USB-A to USB-Mini cable, AC0003
	Carry case, AC1127

72
80
268
188

INCLUDED

- Short instruction manual
- Battery

COMPATIBLE

- All ROTRONIC HC2 probes
- HF3, HF4, HF53/4/5/6, HF7, HF8 for adjustment with service cable (AC2001)
- HW4 software

Specifications handheld instruments			
Features	**HP21**	**HP22-A**	**HP23-A**
Probe type	Fixed probe	HC2-xx	HC2-xx or analog third-party probe (with cable A-02XX)
Probe interchangeable	No	Yes	Yes
Humidity / Temperature sensor	HYGROMER® IN-1 Pt100 Class A	Probe-dependent	
Number of probe inputs	N/A	1	2
Measurement range (probe)	-10...60 °C 0...100 %RH	Probe-dependent (chapter Probes, page 4)	
Accuracy, at 23 °C ±5 K	±1 %RH / ±0.2 K	Probe dependent (Chapter Probes, page 4)	
Long-term stability	‹1 %RH / year		
Response time humidity sensor	‹15 s t63	Probe dependent (Chapter Probes, page 4)	
Initialization time	‹2 s		
Range of electronics	-10...60 °C / 0...100 %RH		
Display resolution	2 decimals		
Illuminated display	Yes		
Alarm indicators	No	No	Yes
Battery indicator	«Battery Low» indicator		Battery status indicator
Real time clock	No	No	Yes
Functions			
Trend indicators	Yes		
Probe adjustment via HW4 software	Service cable AC3006		USB cable AC0003
Adjustment of a HF transmitter possible	No	No	Yes
Adjustment via keypad	Single-point %RH & °C	Single & multi-point %RH & °C	
Probe adjustment with dew point reference	No		Yes
Calculations	Dew point / Frost point	All psychrometric parameters	
Data logging	No		20,000 data records (2 x 10,000 pairs of measured values)
User information	Via service cable & HW4 software		
Password protection	Via service cable & HW4 software		
Electrical specifications			
Power supply	9 V battery or rechargeable battery		
Rechargeable battery charge	No		Yes
Current consumption (without backlight)	~5 mA	~6 mA	~10 mA
Supply for third-party probe	No		Yes, 5 VDC
Communication interfaces	UART, service cable AC3006		Mini USB, service cable AC0003
Max. length probe cable	5 m		
Mechanical specifications			
Housing material	ABS (device), polycarbonate (probe)		
Dimensions	274 x 72 x 35 mm	196 x 72 x 35 mm (without probe)	
Weight	200 g		
CE / EMC directives	EMC 2004/108/EC		
FDA/GAMP compatibility	Conforms to 21 CFR Part 11 and GAMP5		
IP protection	IP40		

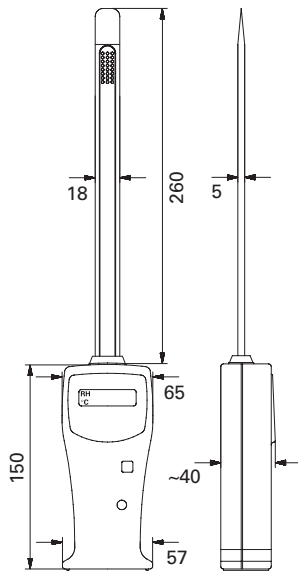# MEASURING INSTRUMENTS FOR THE PAPER INDUSTRY

The GTS from ROTRONIC is a proven instrument for measurement of equilibrium relative humidity and temperature in stacks of paper and cardboard.

Applications
Humidity measurements in stacks of paper, cardboard and textiles. Perfect for paper and textile technicians and printers.

Features

- Measurement range: 0…50 °C / 5…99.9 %RH
- Accuracy at 23 °C ±5 K: 1.5 %RH, 0.3K
- Adjusted at 23 °C and 35, 80 %RH

Order code	GTS
Device type	Handheld instrument with sword probe for measurements in stacks of paper
Sensors	HYGROMER® IN-1 / Pt100 Class A
Display	LCD, 3-digit
Response time	<15 s t63
Material	ABS (device), aluminum (probe)
Power supply	9 V battery
Dimensions	420 x 70 x 40 mm (device), 260 x 18 x 5 mm (probe)
Weight	400 g

Order code	GTS set
Set consists of:	GTS handheld instrument with sword probe
	Calibration device EGS
	SCS humidity standard, EA50-SCS (5 ampoules, 50 %RH with SCS certificate)
	Adjustment screwdriver
	Carry case, AC1102

INCLUDED

- Factory adjustment certificate
- Short instruction manual
- Battery

TYPICAL ACCESSORIES

• Calibration device for sword probes	EGS
• Humidity standard for calibration 10 %RH	EA10-SCS
• Humidity standard for calibration 35 %RH	EA35-SCS
• Humidity standard for calibration 80 %RH	EA80-SCS

MEASURING INSTRUMENT WITH FOLDING PROBE

This precision instrument with folding probe is widely used in the paper industry. It measures relative humidity and temperature and shows the results directly on its display.
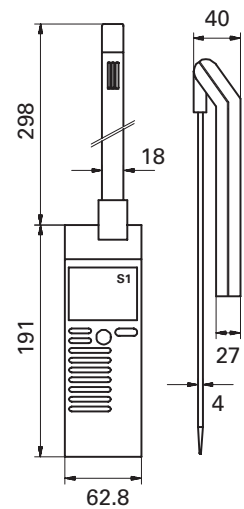
Applications
Humidity measurements in stacks of paper and cardboard for paper technicians and printers

Features

- Folding sword probe
- Measurement range: -25...75 °C / 5...99.9 %RH
- Accuracy at 23 °C ±5 K: 1.5 %RH, 0.3K
- Battery indicator
- Adjusted at 23 °C, 35 %RH, 80 %RH
- Auto power off

Order code	S1
Device type	Handheld instrument with folding sword probe
Sensor	HYGROMER® IN-1
Display	LCD, 3-digit
Response time	‹15 s
Material	ABS (device), aluminum (probe)
Power supply	9 V battery
Dimensions	191 x 63 x 26 (device), 280 x 18 x 4 (probe)
Weight	350 g

Order code	S1-SET
Set consists of:	S1 handheld instrument with folding sword probe
	Calibration device EGS
	SCS humidity standard, EA50-SCS (5 ampoules, 50 %RH with SCS certificate)
	Carry case, AC1115

INCLUDED

- Factory adjustment certificate
- Battery
- Short instruction manual

TYPICAL ACCESSORIES

• Calibration device for sword probes	EGS
• Humidity standard for calibration 10 %RH	EA10-SCS
• Humidity standard for calibration 35 %RH	EA35-SCS
• Humidity standard for calibration 80 %RH	EA80-SCS