

# MULTIFUNCTION HAND-HELD

## OMNIPOINT 20

To measure various climate and processes values with a hand-held, user-friendly instrument requires extraordinary measurement technology. The hand-held meters of the OMNIPOINT 20 series meet these multiple demands.

The selection of the appropriate sensing probe and accordingly the configuration of the hand-held meter allow for displaying the following values with the highest accuracy:

- relative humidity (RH),
- temperature (T),
- dew point temperature (Td),
- absolute humidity (dv),
- mixing ratio (r),
- air velocity (v),
- water activity (aw),
- water content in oil (x)

The robust housing of the OMNIPOINT 20 allows usage in harsh industrial environments. The readability of the large illuminated display is excellent. The easy to understand menu and the practical thumbwheel navigation offer outstanding comfort.

An optional carrying case can accommodate the display unit, up to 5 sensing probes as well as accessories such as cables and calibration kits.

### Typical Applications

- HVAC control
- Industry and process control
- Clean room control
- Water activity and moisture contest in oil
- Humidity measurement in walls and floors

### Features

- Measurands: RH, T, Td, dv, r, v, aw, x
- Large, illuminated display
- HOLD / MIN / MAX / AVG readout
- Real time clock
- SI/US units selectable
- Recalibration by user

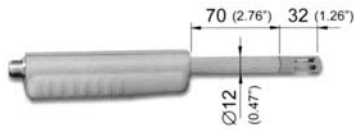
### Technical Data OMNIPOINT 20

#### General

Resolution	<ul style="list-style-type: none"> <li>- humidity / temperature probe (HA040201, HA040202, HA040203): humidity measurement: 0.1% RH; g/m<sup>3</sup>; Td [°C, °F]; g/Kg; gr/lb</li> <li>- temperature measurement: 0.1°C; 0.1°F</li> <li>- passive temperature probe (HA040101, HA040102, HA040104): 0.1°C; 0.1°F</li> <li>- air velocity probe (HA040401, HA040402, HA040403): air velocity measurement: 0.01 m/s; 1ft/min</li> <li>- temperature measurement: 0.01°C; 0.01°F</li> <li>- moisture in oil measurement (HA040204, HA040206): moisture measurement: aw: 0.001[ ] or 0.01...1ppm (depending on measuring range)</li> <li>- temperature measurement: 0.1°C; 0.1°F</li> </ul>		
Supply voltage	4x 1.5V AA alkali-manganese battery		
Battery lifetime	with PT100 probe:	300h	
	with RH/T or aw/x probe:	200h	
	with v probe:	40h	
Working temperature range	Handheld and grip of sensing probe: 0...50°C (32...122°F)		
CE compatibility according	EN50081-2	EN50082-2	EN55011
	EN61000-4-2	EN61000-4-3	
Housing / protection class	ABS / IP40		CE
Dimensions (HxWxD)	145 x 85 x 37 mm (5.7 x 3.3 x 1.5")		
Weight	ca. 400g (1lbs)		
Display	LC display, 90 x 50 mm (3.5 x 2"), illuminated		

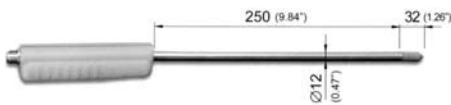


## Humidity / Temperature Probes: RH/T HVAC probe



Application	Humidity and temperature measurement in HVAC applications
Working range	0...100% RH / -20...70°C (-4...158°F)
Accuracy	±2% RH (0...90% RH), ±3% RH (90...100% RH), ±0.2°C / ±0.36°F (20°C / 68°F), ±0.5°C / ±0.9°F (-20 resp. 70°C / -4 resp. 158°F),
Response time $\tau_{90}$	≤ 7sec.
Measurand	channel 1: T [°C / °F] channel 2: RH [%], dv [g/m <sup>3</sup> ], Td [°C / °F], r [g/kg, gr/lb]
Order code	<b>HA040201</b>

## RH/T high temperature probe



Application	Humidity and temperature measurement in industrial process applications
Working range	0...100% RH / -40...180°C (-40...356°F) 1)
Accuracy	±2% RH (0...90% RH), ±3% RH (90...100% RH), ±0.2°C / ±0.36°F (20°C / 68°F), ±0.5°C / ±0.9°F (-40°C/-40°F), ±0.6°C / ±1.1°F (180°C/356°F)
Response time $\tau_{90}$	≤ 30 sec.
Measurand	channel 1: T [°C / °F] channel 2: rF [%], dv [g/m <sup>3</sup> ], Td [°C / °F], r [g/kg, gr/lb]
Temperature dependence	RH: ±0.03% RH/°C (% RH/°F)
Order code	<b>HA040202</b>

## RH/T miniature probe



Application	Humidity and temperature measurement in small places, Humidity measurement in boreholes
Working range	0...100% RH / -40...100°C (-40...212°F)
Accuracy	±2% RH (0...90% RH), ±3% RH (90...100% RH), ±0.2°C / ±0.36°F (20°C / 68°F), ±0.7°C / ±1.26°F (-40 resp. 100°C / -40 resp. 212°F),
Response time $\tau_{90}$	< 15 sec.
Measurand	channel 1: T [°C / °F] channel 2: RH [%], dv [g/m <sup>3</sup> ], Td [°C / °F], r [g/kg, gr/lb]
Temperature dependence	RH: ±0.03% RH/°C (% RH/°F)
Order code	<b>HA040203</b>

## Temperature Probes: PT100 cut-in probe



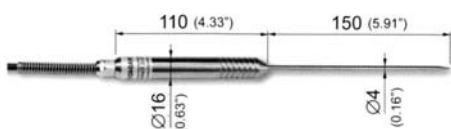
Application	Temperature measurement in solid, liquid and powdery media
Working range	-40...400°C (-40...752°F) 1)
Accuracy	PT100 class B, basic device: ±0.5°C (±0.9°F)
Response time $\tau_{90}$	10 sec
Measurand	1M (3.28ft)
Order code	<b>HA040101</b>

## PT100 immersion probe



Application	Temperature measurement in gaseous, liquid and powdery media
Working range	-40...400°C (-40...752°F) 1)
Accuracy	PT100 class A, basic device: ±0.5°C (±0.9°F)
Response time $\tau_{90}$	10 sec
Measurand	1M (3.28ft)
Order code	<b>HA040102</b>

## PT100 cut-in food probe



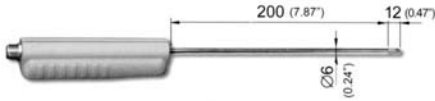
Application	Temperature measurement in solid, liquid and powdery food
Working range	-40...400°C (-40...752°F) 1)
Accuracy	PT100 class A, basic device: ±0.5°C (±0.9°F)
Response time $\tau_{90}$	10 sec
Measurand	1M (3.28ft)
Order code	<b>HA040104</b>

1) attend to working temperature range of grip of sensing probe!

# MULTIFUNCTION HAND-HELD

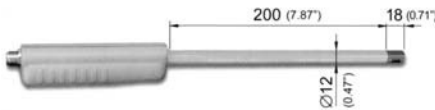
## Air Velocity Probes:

### Air velocity probe Ø6mm (0.24")



Application	air velocity measurement in small places and for high accuracy requirements	
Working range	0...2m/s (0...400ft/min) -20...70°C (-4...158°F)	0...20m/s (0...4000ft/min) -20...70°C (-4...158°F)
Accuracy (0...50°C / 32...122°F)	±(0.04m/s/8ft/min+1% of m.v.) ±0.7°C (±1.26°F)	±(0.2m/s/39ft/min+2% of m.v.) ±0.7°C (±1.26°F)
Response time $\tau_{90}$	≤ 1.5 sec.	
Measurand	channel 1: v [m/s, ft/min] channel 2: T [°C / °F]	channel 1: v [m/s, ft/min] channel 2: T [°C / °F]
Temperature dependence	v: typ. ±0.1% of m.v./°C (±0.03% of m.v./°F)	
Order code	<b>HA040401</b>	<b>HA040402</b>

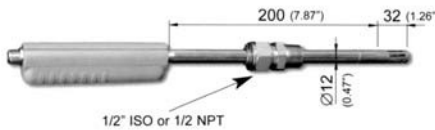
### Air velocity probe Ø12mm (0.47")



Application	air velocity measurement in HVAC applications	
Working range	0...20m/s (0...4000ft/min) / 0...50°C (32...122°F)	
Accuracy	± (0.2m/s / 39ft/min + 3% of m.v.) / ± 1°C (±1.8°F)	
Response time $\tau_{90}$	≤ 1.5 sec.	
Measurand	channel 1: [m/s, ft/min] channel 2: T [°C / °F]	
Temperature dependence	v: typ. ±0.1% of m.v./°C (±0.03% of m.v./°F)	
Order code	<b>HA040403</b>	

## Oil Probe:

### Oil probe Ø12mm (0.47")



Application	measurement of moisture in mineral und synthetic oil	
Working range	0...1 aw / 0.20000ppm / -40...120°C (-40...248°F)	
Accuracy	± 0.02 aw (0...0.9 aw), ± 0.03 aw (0.9...1 aw) ± 0.2°C / ±0.36°F (20°C / 68°F), ± 0.5°C / ±0.9°F (-40 resp. 120°C / -40 resp. 248°F),	
Response time $\tau_{90}$	≤ 10 min (in still oil)	
Pressure range	0.01...10bar (0.15...145psi)	
Measurand	channel 1: T [°C / °F] channel 2: aw[] order x[ppm] oil specific parameters are adjustable at the basic device	
Temperature dependence	aw: ± 0.0003 aw /°C (aw /°F)	
Order code	1/2 ISO: <b>HA040204</b> 1/2 NPT: <b>HA040206</b>	

## Ordering Guide OMNIPOINT 20

Model	Probes	Accessories
Basic device (OMNIPOINT 20)	RH/T HVAC probe (HA040201)	Stainless steel sintered filter (for ø12mm RH/T probe) (HA010103)
	RH/T high temperature probe (HA040202)	PTFE - filter (for ø12mm RH/T probe) (HA010105)
	RH/T miniature probe (HA040203)	Metal grid filter (for ø12mm RH/T probe) (HA010106)
	PT 100 cut-in probe (HA040101)	Carrying case (for basic device + 5 probes + accessories) (HA040902)
	PT100 immersion probe (HA040102)	Ball valve set for oil probe (HA050101)
	PT100 cut-in food probe (HA040104)	
	Air velocity probe ø6mm (0.24") - 0...2m/s (0...400ft/min) (HA040401)	Humidity standards: 5 ampoules 5% RH, 5 textile discs (HA010405)
	Air velocity probe ø6mm (0.47") - 0...20m/s (0...4000ft/min) (HA040402)	5 ampoules 10% RH, 5 textile discs (HA010410)
	Air velocity probe ø12mm (0.47") (HA040403)	5 ampoules 35% RH, 5 textile discs (HA010435)
		5 ampoules 50% RH, 5 textile discs (HA010450)
		5 ampoules 80% RH, 5 textile discs (HA010480)
		5 ampoules 95% RH, 5 textile discs (HA010495)
	Oil probe - 1/2 ISO (HA040204)	Calibration device for sensor probes 12mm (0.47") - horizontal mounting (HA010401)
Oil probe - 1/2 NPT (HA040206)	ISO standard calibration package (refer to data sheet "OEKD Calibration Laboratory")	

## Order Example

**OMNIPOINT 20, HA040201, HA040202, HA040401, HA010401, HA040902**

Model: basic device OMNIPOINT 20

Probes: RH/T HVAC probe, RH/T high temperature probe, air velocity probe ø6mm (0.24") - 0...2m/s (0...400ft/min)

Accessories: calibration device for sensor probes 12mm (0.47") - horizontal mounting, carrying case