

HP101A Series – Humidity Temperature Probes



W Probe



K Probe



P Probe



S Probe



- High accuracy, fast response probes, ideal for use with Rotronic indicators
- Measurements to 300°F/150°C (K probe only)
- 0..100 %RH humidity measuring range
- Durable, stable sensors with low maintenance requirements
- 4 different basic configurations to suit most applications
- Special compensation permits up to 330ft (100m) from indicator
- Linear voltage outputs

ro-tronic
instrument corp

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SPECIFICATIONS

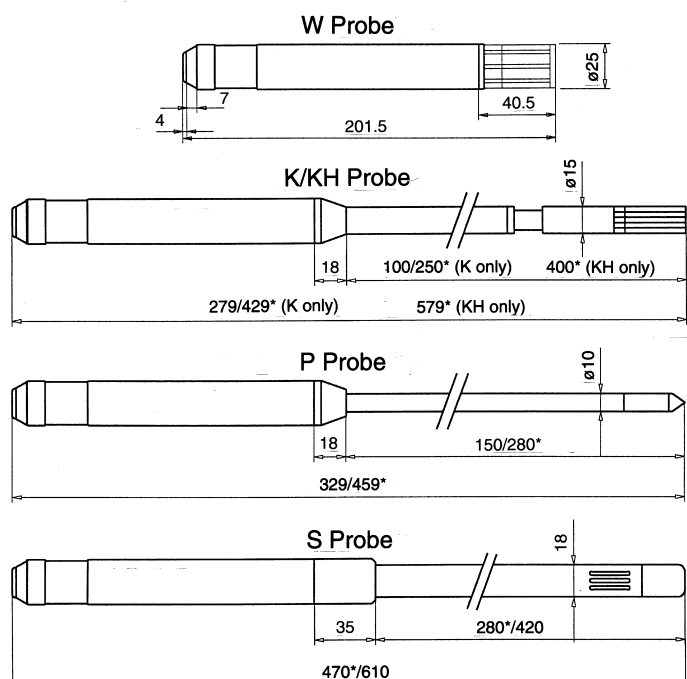
Humidity Sensor	all probes, except KH	Rotronic Hygromer C80
	KH probe	Rotronic Hygromer C92
Temperature Sensor		Pt100 RTD
Humidity Measuring Range		0..100 %RH
Temperature Measuring Range		See limits at sensors
Temperature Limits at Sensors		K Probe: -40..+150°C (-40..+300°F) KH Probe: -50..+200°C (-60..+390°F) W Probe: -20..+60°C (-5..+140°F) P Probe: -20..+60°C (-5..+140°F) S Probe: -20..+60°C (-5..+140°F)
Operating Temperature at Electronics		-20..60°C (-5..140°F)
Humidity Output Signal (linear)		0..1 VDC = 0..100%RH
Temperature Output Signal (linear)		-0.5..2.0 VDC = -50..200°C* 0..1.0 VDC = -30..70°C (option)
Minimum Load per Output		1000 Ω
Accuracy (at 20..25°C)		±1 %RH from 0 to 100 %RH** ±0.3°C
Repeatability		±0.3 %RH and ±0.1°C
Humidity Sensor Stability		better than 1 %RH over a year
Response Time (without filter)		10 seconds (%RH and temperature)
Calibration Potentiometers		35, 80 %RH and Low %RH*** Tmin and Tmax
Supply Voltage		4.8 to 26.5 VDC
Max. Current Consumption		10 mA
Connector		LEMO, 5-pin
Sensor Protection	K and W Probe	slotted cap (standard), filter (optional)
	P Probe	filter
Weight		70..150g (0.15..0.33lb)

*) ROTRONIC indicators provide conversion to °F.

**) When calibrated against highest quality reference standards. Both factory calibration and field calibration with ROTRONIC standards result in ±1.5%RH accuracy or better.

***) Calibration with the %RH min potentiometer can be done at any value between 0%RH and 10%RH.

OUTLINE DRAWINGS



*Standard Probe Length

All Dimensions in mm

General Information

The HP101A humidity and temperature probes were designed to operate with the ROTRONIC indicators A2 and AM3. These probes are available in 4 basic configurations that cover typical requirements for humidity measurement:

- **W Probe (HP101A-W):** Compact air probe for measurement in rooms under stable temperature conditions.

- **K Probe (HP101A-K and HP101A-KH):** Fast response air probe with extended tube for measurement in rooms (clean rooms, research laboratories, manufacturing areas), air ducts, dryers, incubators, environmental chambers, etc. For more demanding applications, a special version of this probe (HP101A-KH) was designed to survive temperatures at the sensors within the range of -60..390°F (-50..200°C).

- **P Probe (HP101A-P):** Tubular probe for the measurement of hygroscopic materials in bulk (powders, granules or pellets). Typical areas of application include pharmaceutical powders, powdered sugar, dried foods, beverages in powder form, coffee and cocoa beans, tea leaves, cereals, seeds, etc.

- **S Probe (HP101A-S):** Sword probe for the measurement of paper stacks and rolls.

All probes feature a compensation that eliminates potential errors resulting from cable resistance for lengths up to 330 ft (100 meters).