Probes

PC33 & 52
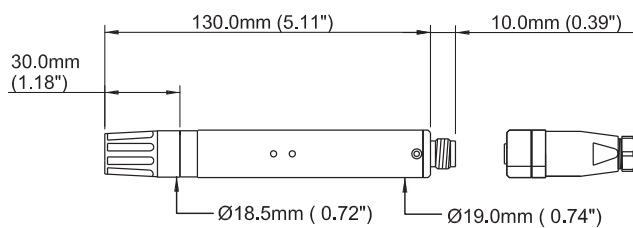## Analog Relative Humidity and Temperature Probe

The PC33 & 52 series offers a comprehensive range of relative humidity probes for accurate, stable and repeatable measurements. Available with analog output signals, the PC series can be installed in a wide variety of applications.

Highlights

- Low cost PC33 with analog output is designed for HVAC applications

- PC52 with analog output is designed for accurate measurement in controlled environments

- Analog zero and span adjustment

Dimensions

130.0mm (5.11")
10.0mm (0.39")
30.0mm (1.18")
Ø18.5mm (0.72")
Ø19.0mm (0.74")

Technical Specifications

Performance

Measurement range (RH)	0–100% RH
Measurement range (T)	-20 to +80°C (-4 to +176°F)
Accuracy @ 23°C (73°F) humidity	PC52: <±2% RH (10–90% RH) PC33: <±3% RH (30–80% RH)
Accuracy @ 23°C (73°F) temperature	PC52: ±0.2°C (±0.36°F) PC33: ±0.3°C (±0.54°F)
Stability – RH Sensor	±1% RH / year
Response time – RH Sensor	<10 sec typical (for 90% of the step change)

Electrical Specifications

Output signal options	4–20 mA, 0 to 1, 0 to 5, 0 to 10 V
Supply voltage	14 to 30 V DC (for 0 to 5 / 0 to 10 V output) 5 to 30 V DC (0 to 1 V & mA output)

Operating Specifications

Operating temperature Probe, Housing Storage	 -30 to +85°C (-22 to +185°F) -40 to +85°C (-40 to +185°F)

Mechanical Specifications

Ingress protection	IP65 (NEMA 4 level)
Housing material	Molded polymer or stainless steel (ordering option)
Dimensions	L=130mm, ø19mm (L=5.11", ø0.74")
Weight	30g (1.06oz) without cable (molded polymer version)
Electrical connections	M12

Accessories and Spare Parts

19mm (0.75") slotted protection cap black	A000002
19mm (0.75") PVDF filter	A000014
19mm (0.75") PVDF filter with protection cap black	A000015
19mm (0.75") Mesh filter with protection cap, black	A000021
19mm (0.75") Arrow SS sintered filter 5µm / 10µm / 20µm	A000025/26/27
19mm (0.75") Connector, no cable, with screw terminals	A000030
19mm (0.75") Connector with cable (customer spec length: X = meters of cable)	A000030-XM
19mm (0.75") Connector with 2m (6.5') cable*	A000031
19mm (0.75") Connector with 5m (16') cable*	A000032
19mm (0.75") Foil filter 2µm with protection cap black	A000040
19mm (0.75") Oleophobic foil filter 0.7µm with protection cap black	A000042
19mm (0.75") Foil filter 1.5µm w/protection cap black	A000044
3/4" NPT SS adj. fitting for SS probes	A000100
Al mounting flange for ø19.0mm (ø0.75") SS probe	A000110
ø90.0mm (ø3.54") Wall mount weather protection cap	A000120
ø120.0mm (ø4.72") Wall mount weather protection cap	A000125
Mini flange for ø19.0mm (ø0.75") molded polymer probe	A000150
Non-saturated salt solution kit (refer to technical datasheet)	HKC

*Non standard cable length available upon request

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Electrical Connections

Voltage Output		
Mating Cable		**Pin**
White	Power Supply V +	1
Yellow	Output temperature +	2
Brown	Common ground	3
Green	Output RH +	4

4-20 mA Output 2-wire		
Mating Cable		**Pin**
White	Output RH +	1
Yellow	Output temperature -	2
Brown	Output RH -	3
Green	Output temperature +	4

Ordering Codes

To construct the order code, select the relevant feature from the tables below, starting with the base model, which is {Feature A} and then add on options to create a string: {Feature A} + {Feature B} + {Feature C} + {Feature D} + {Feature E} + {Feature F}

Order example: PC33 + 4 + XX + T3 + CA + F02
Relative humidity and temperature probe with 1 pt calibration PC33, 0 to 5 V output, molded polymer body, temperature range 0 to +50°C (+32 to +122°F), no cable, 19mm (0.75") slotted protection cap

Order example: PC52 + 4 + XX + T3 + CA + F02
Relative humidity and temperature probe with 2 pt calibration PC52, 0 to 5 V output, molded polymer body, temperature range 0 to +50°C (+32 to +122°F), no cable, 19mm (0.75") slotted protection cap

PC33	4	XX	T3	CA	F02

Base Model {Feature A}	
Relative humidity and temperature probe	PC33

Signal Output {Feature B}	
4–20 mA	2
0 to 10 V	3
0 to 5 V	4
0 to 1 V	5

Body {Feature C}	
Stainless steel	SX
Molded polymer	XX

Temperature {Feature D}	
No T output RH only	X
-20 to +80°C (-4 to +176°F)	T1
0 to +50°C (+32 to +122°F)	T3
Other output scaling available on request	TX

Cable {Feature E}	
No cable	CA
19mm (0.75") Connector, no cable, with screw terminals	CB
19mm (0.75") Connector with 2m (6.5') cable	CC
19mm (0.75") Connector with 5m (16') cable	CD

Filter {Feature F)	
19mm (0.75") slotted protection cap black	F02
19mm (0.75") PVDF filter with protection cap black	F15
19mm (0.75") Mesh filter with protection cap, black	F21
19mm (0.75") Arrow SS sintered filter 5µm	F25
19mm (0.75") Arrow SS sintered filter 10µm	F26
19mm (0.75") Arrow SS sintered filter 20µm	F27
19mm (0.75") Foil filter 2µm with protection cap black	F40
19mm (0.75") Oleophobic foil filter 0.7µm with protection cap black	F42
19mm (0.75") Foil filter 1.5µm w/protection cap black	F44

PC52	4	XX	T3	CA	F02

Base Model {Feature A}	
Relative humidity and temperature probe	PC52

Signal Output {Feature B}	
4–20 mA	2
0 to 10 V	3
0 to 5 V	4
0 to 1 V	5

Body {Feature C}	
Stainless steel	SX
Molded polymer	XX

Temperature {Feature D}	
No T output RH only	X
-20 to +80°C (-4 to +176°F)	T1
0 to +50°C (+32 to +122°F)	T3
Other output scaling available on request	TX

Cable {Feature E}	
No cable	CA
19mm (0.75") Connector, no cable, with screw terminals	CB
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