

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.



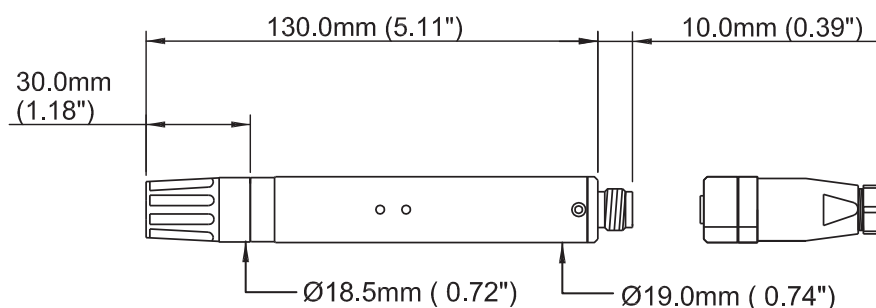
Highlights

- 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

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	-30 to +85°C (-22 to +185°F)
Storage	-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

Dimensions



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

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Michell Instruments adopts a continuous development programme which sometimes necessitates specification changes without notice.
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Order Codes

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+A+02

Relative humidity and temperature probe with 1 pt calibration PC33, 0-5 V output, molded polymer body, temperature range 0 to +50°C, no cable, 19mm slotted protection cap

Base Model {Feature A}	
Base unit with voltage output	PC33
Base unit with 4-20 mA output	PC33-2

Signal Output - Only available with PC33 {Feature B}	
0-10 V	3
0-5 V	4
0-1 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

PC33	4	XX	T3	A	02
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Filter {Feature F}	
19mm (0.75") slotted protection cap black	02
19mm (0.75") PVDF filter with protection cap black	15
19mm (0.75") Mesh filter with protection cap, black	21
19mm (0.75") Arrow SS sintered filter 5µm	25
19mm (0.75") Arrow SS sintered filter 10µm	26
19mm (0.75") Arrow SS sintered filter 20µm	27
19mm (0.75") Foil filter 2µm with protection cap black	40
19mm (0.75") Oleophobic foil filter 0.7µm with protection cap black	42
19mm (0.75") Foil filter 1.5µm w/protection cap black	44

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

Order example: PC52+4+XX+T3+A+02

Relative humidity and temperature probe with 2 pt calibration PC52, 0-5 V output, molded polymer body, temperature range 0 to +50°C, no cable, 19mm slotted protection cap

Base Model {Feature A}	
Base unit with voltage output	PC52
Base unit with 4-20 mA output	PC52-2

Signal Output - Only available with PC52 {Feature B}	
0-10 V	3
0-5 V	4
0-1 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

PC52	4	XX	T3	A	02
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Filter {Feature F}	
19mm (0.75") slotted protection cap black	02
19mm (0.75") PVDF filter with protection cap black	15
19mm (0.75") Mesh filter with protection cap, black	21
19mm (0.75") Arrow SS sintered filter 5µm	25
19mm (0.75") Arrow SS sintered filter 10µm	26
19mm (0.75") Arrow SS sintered filter 20µm	27
19mm (0.75") Foil filter 2µm with protection cap black	40
19mm (0.75") Oleophobic foil filter 0.7µm with protection cap black	42
19mm (0.75") Foil filter 1.5µm w/protection cap black	44

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

Accessories and Spare Parts

Item	Product / Description
A000002	19mm (0.75") Slotted protection cap black
A000014	19mm (0.75") PVDF filter
A000015	19mm (0.75") PVDF filter w/ protection cap black
A000021	19mm (0.75") Mesh filter w/ protection cap black
A000025	19mm (0.75") Arrow 5µm SS sintered filter
A000026	19mm (0.75") Arrow 10µm SS sintered filter
A000027	19mm (0.75") Arrow 20µm SS sintered filter
A000030	19mm (0.75") connector, no cable, w/screw terminal
A000030-XM	19mm (0.75") Connector with cable (XM= total length in meters i.e. A000030-20M)
A000031	19mm (0.75") connector with 2m (6.5') cable
A000032	19mm (0.75") connector with 5m (16') cable
A000040	19mm (0.75") Foil filter 2µm w/protection cap black
A000042	19mm (0.75") Oleophobic foil filter 0.7µm (w/protection cap black)
A000044	19mm (0.75") Foil filter 1.5µm w/protection cap black
A000100	3/4" NPT SS adj. fitting for SS probes
A000110	Al mounting flange for ø19mm (0.75") SS probes (outside ø80mm (3.15"))
A000120	ø90mm (3.54") WM weather prot. cap (for ø19mm (0.75") probes)
A000125	ø120mm (4.72") WM weather prot. cap (for ø19mm (0.75") probes)
A000150	Mini flange for ø19mm (0.75") polymer probe
HKC	Control Kit for relative humidity