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USER GUIDE

SPH20

Vaisala · Authorized Partner

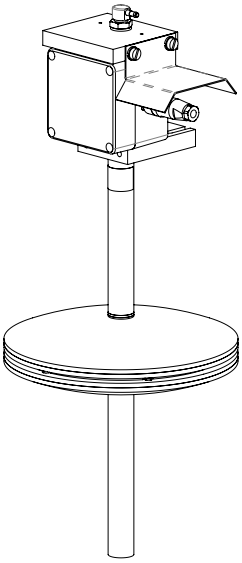
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Quick Guide | Static Pressure Head SPH20

Static Pressure Head SPH20

SPH20 is a heated static pressure head. The SPH20 model is wired in the factory by default for a 12 V DC power supply. Additionally, the SPH20-24V variant is available, it comes prewired for a 24 V DC power supply.
SPH20 provides an effective elimination of pressure variations in the barometer caused by the wind. The heated plates offer an excellent outdoor performance in cold, icy, and wet conditions. You can integrate SPH20 with a Vaisala barometer or any other barometer.



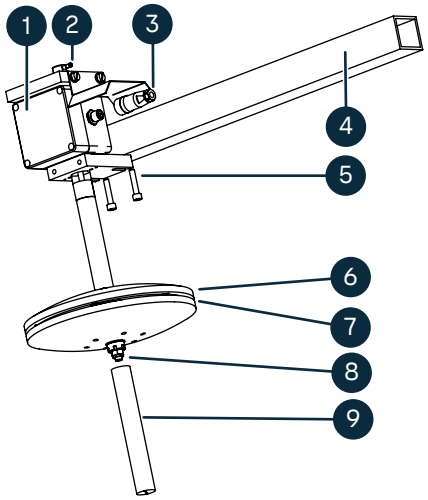


Figure 1 SPH20 parts

1 Electrical unit enclosure
2 Threaded nipple for barometer connector
3 Quick connector
4 Pole (not included)
5 Fixing screws and washers
6 Upper plate
7 Lower plate
8 Threaded sleeve
9 Lower bar

Assembling

1. Screw the lower bar to the threaded sleeve of the lower plates (with 6 holes).

Mounting

Select an open location, preferably a place higher than the surroundings, with no buildings or trees nearby.

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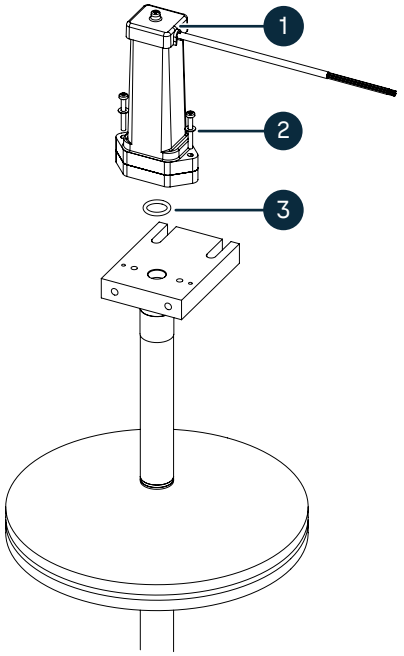
VAISALA

Vaisala recommends mounting the static pressure head at least 1 m (39.37 in) from the vertical pole.

1. Mount the static pressure head to a pole mast with a horizontal support arm, such as Vaisala support arm DKP12SUP1 and a mounting plate with 2 pieces of M6 screws in a distance of 41 mm (1.61 in). You may use any other horizontal pole.

Connecting to PTB210

1. Detach the threaded nipple and the gasket.
2. Place the O ring into the barometer groove.

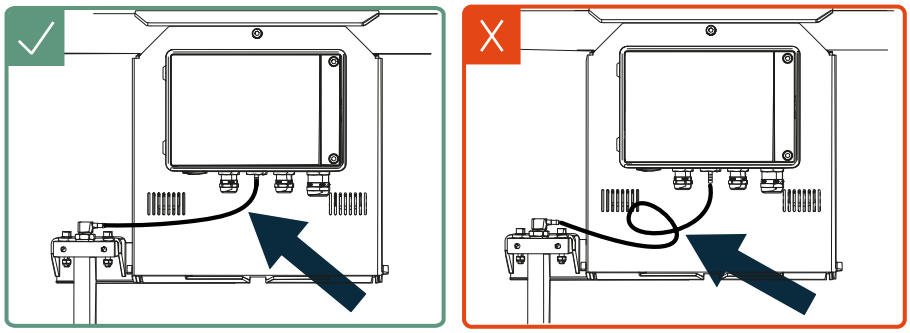


1 Barometer PTB210
2 Fixing screw and washer (included in PTB210)
3 O-ring (included in PTB210)

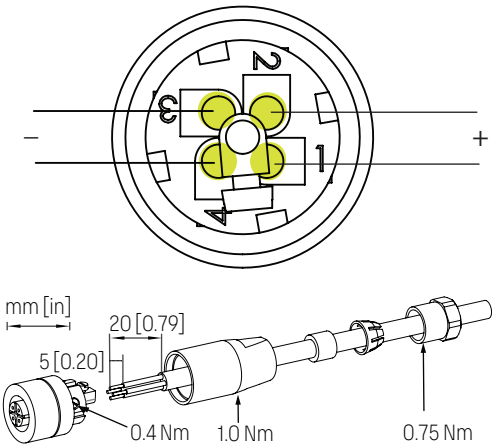
3. Attach PTB210 to SPH20 with 2 fixing screws.

Connecting to other barometers

1. Connect the barometer to the threaded nipple with a flexible, airtight tube with an inner diameter of 4 mm. To prevent condensation water from accumulating in the tube, make sure that the entire length of the tube goes downwards from the barometer to SPH20.



Wiring



Input +	Terminals 1 and 2
Input -	Terminals 3 and 4

Always connect both inputs.

Cable requirements:

- Max. 0.75 mm^2 (AWG 18)
- Cable jacket Ø 4.0-6.0 mm

Heating control

The thermostat-controlled heating elements switch on at +4 °C (42 °F) and switch off at +13 °C (55 °F).

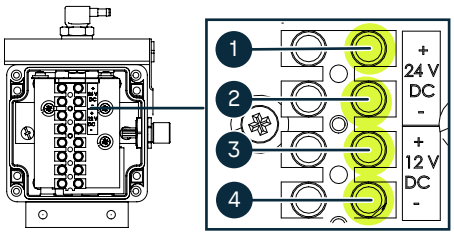
Making shunt in thermostat

If you need your own heating control, you can make a shunt in the thermostat.

WARNING! Surface temperature of a heated plate can be +60 °C (+140 °F).

1. Open the electrical enclosure cover.
2. To remove the connecting board, unscrew the 3 screws.
3. Detach the wires from the thermostat.
4. Join the detached wires.
5. Replace the connecting board and close the cover.

Changing power supply wiring



1 24 V DC + terminal
2 24 V DC - terminal
3 12 V DC + terminal
4 12 V DC - terminal

1. To change the power supply wiring from 12 V to 24 V, open the enclosure.
2. Disconnect the white and brown wires from the + terminal (12 V).
3. Disconnect the blue and black wires from the - terminal (12 V).
4. Connect the white and brown wires to the + terminal (24 V).
5. Connect the blue and black wires to the - terminal (24 V).

Maintenance

To clean the net, blow pressurized air to the opening between the plates.

Technical data

Table 1 Mechanical specifications

Property	Description/Value
Weight	1360 g (3.0 lb)
Materials	Polycarbonate (PC) plastic, offshore aluminum
Mounting	M6×30 DIN912 (2 pcs), M6x20 DIN912 (2 pcs), M6 spring lock washer DIN127 (2 pcs) M6 flat washer DIN125 (2 pcs)
Hose connection	Barbed fitting for 4 mm I.D. hose or Rp1/4 thread (parallel)

Table 2 Operating environment

Property	Description/Value
Operating temperature	−60 ... +80 °C (−76 ... +176 °F)

Table 3 Inputs and outputs

Property	Description/Value
Electrical connections	M12 connector
Maximum power consumption	SPH20: 12 V / 70 W SPH20-24V: 24 V / 35 W
Thermostat switching temperature	
On	+4 °C ±3 °C (+39.2 °F ±4.4 °F)
Off	+13 °C ±3 °C (+55.4 °F ±4.4 °F)

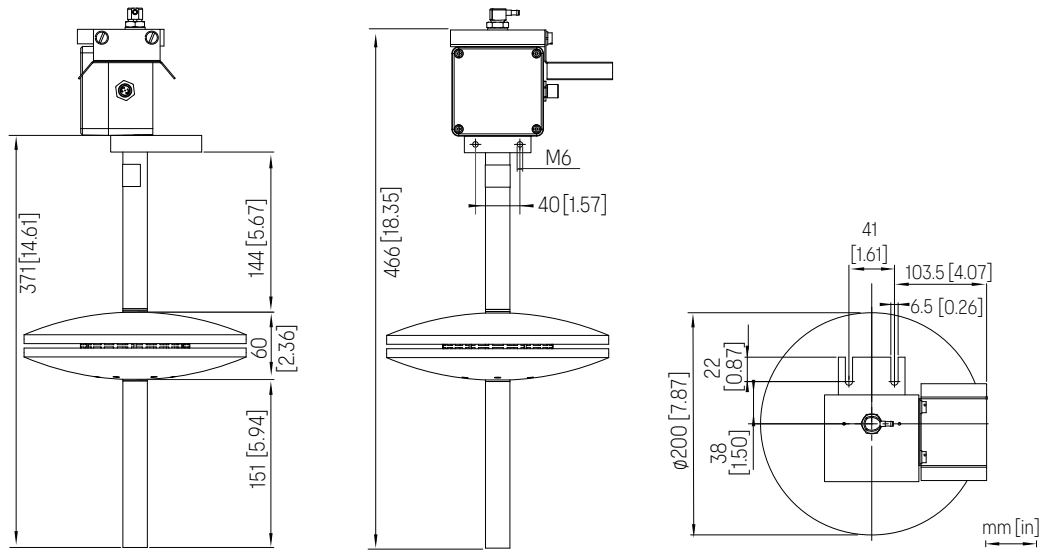


Figure 2 SPH20 / SPH20-24V dimensions