

## Pt100 probe

Product code: 002417



### Main features

- Precise temperature measurement
- 4 wires
- In accordance with WMO recommendations
- Easy to calibrate

**The Pt100 probe** is a probe dedicated to the measurement of the air temperature under shelter. It can be coupled in the same shelter with a hygrometer. Easy to install and very accurate, it has all the necessary features to meet the expectations of meteorological services.

**The Pt100** probe measure precisely the temperature of the air under shelter.

### Measurement principle

**The Pt100 probe** is based on the principle of platinum's electrical resistance varying with temperature. It uses a platinum resistance element whose resistance varies linearly with temperature. Thus, by measuring the electrical resistance of the PT-100 probe, it is possible to

obtain an accurate indication of the temperature .

### 4 Wires

PULSONIC uses 4-wire **Pt100 probe** to minimize measurement errors.

Several **Pt100 probe** can be connected to the PULSONIC central unit (P4-100). Similarly, PULSONIC offers probes for measuring ground or above-ground temperatures.

### Calibration

**The Pt100** probe can be calibrated in an oven. Being waterproof, it can also be calibrated in an oil bath, which is generally a cheaper and more accurate solution.

### Automatic

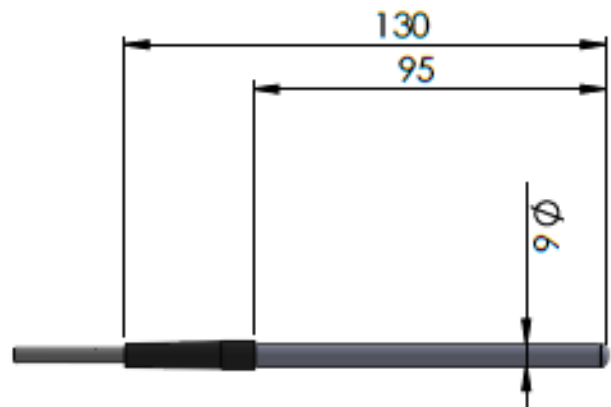
The P4-100 central unit regularly takes temperature measurements, centralizes them and communicates them.

## Technical characteristics

General	
Resolution	< 0.01°C (CAN-18 bit)
Accuracy	±0.1°C
Range of measurements	-40°C to +70°C
Sensitive element	Platinum wire
Platinum characteristics	80.31±0.05Ω (±0.06°C) @-50°C
	84.27±0.04Ω (±0.05°C) @-40°C
	92.16±0.04Ω (±0.04°C) @-20°C
	100.00±0.03Ω (±0.03°C) @0°C
	107.79±0.04Ω (±0.04°C) @+20°C
	115.54±0.04Ω (±0.05°C) @+40°C
	123±0.06Ω (±0.06°C) @+60°C
153.58±0.08Ω (±0.1°C) @+140°C	
Measurement principle	Platinum resistor, 4 wires
Control unit interface	Binder M5
Protection class	IP67

Data generated* (WMO compliant)
Instantaneous temperature (°C)
Minimum temperature (°C)
Average temperature (°C)
Maximum temperature (°C)
Minimum temperature over 24h (°C)
Maximum temperature over 24h (°C)

\*Data generated by the data logger P4-100



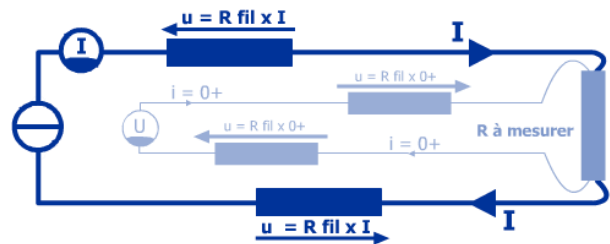
## Accessories

Accessories
1 Weather shelter Y



## Wiring

Color	Description
Red	Wires of the Pt100 with the same potential
Blue	
Black	Wires of the Pt100 with the same potential
White	



**Did you know that?**

The 4 wires assembly allows to get rid of the unknown resistances induced by the cables and the connections in order to bring the best accuracy

