

## Probes and interchangeable boards for class 310 sensors

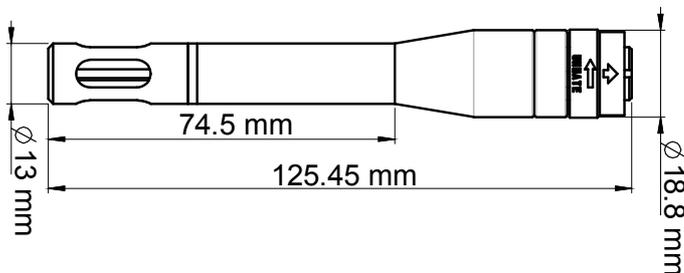


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### AMBIENT HYGROMETRY/TEMPERATURE PROBES

#### ➤ Stainless steel hygrometry/temperature probes

Interchangeable hygrometry and ambient temperature probe in stainless steel with stainless steel filter. Standard mounting probe 120 mm length with a watertight connector of 1/4 turn. In option: protective tips, filters. Supplied with adjustment certificate. Ref: **SHSI**



Parameter	Measuring range	Accuracy*	Resolution
Temperature Pt100 (°C, °F)	From -20 to +80°C	±0.3% of reading ±0.25°C	0.1°C
Wet temperature <sup>1</sup> (°C <sub>tw</sub> , °F <sub>tw</sub> )	From -50 to 100°C <sub>tw</sub>	-	0.1°C <sub>tw</sub>
Dewpoint <sup>1</sup> (°C <sub>td</sub> , °F <sub>td</sub> )	From -50 to +100°C <sub>td</sub>	-	0.1°C <sub>td</sub>
Relative humidity (%RH)	From 0 to 100%RH	<b>Hygrometry:</b> - <b>Accuracy (Repeatability, linearity, hysteresis):</b> ±1.5%RH (from 15°C to 25°C and from 5 to 95%RH) - <b>Factory calibration uncertainty:</b> ±0.88%RH - <b>Temperature dependence:</b> ±0.04 x (T-20) %RH (if T<15°C or T>25°C)	0.1%RH
Absolute humidity <sup>1</sup> (g/m <sub>3</sub> )	From 0 to 600 g/m <sup>3</sup>	-	0.1 g/m <sup>3</sup>
Enthalpy <sup>1</sup> (kJ/kg)	C310/CA310: from 0 to 15 000 kJ/kg CPE310: from 0 to 9999 kJ/kg	-	C310/CA310: from 0 to 9999.9: 0.1 kJ/kg from 10 000 to 15 000: 1 kJ/kg CPE310: from 0 to 999.9: 0.1 kJ/kg from 1000 to 9999: 1 kJ/kg
Combination ration <sup>1</sup> (g/kg)	C310: from 0 to 10 000 g/kg CA310: from 0 to 9999.9 g/kg CPE310: from 0 to 9999 g/kg	-	C310/CA310: 0.1 g/kg CPE310: from 0 to 999.9 g/kg: 0.1 g/kg from 1000 to 9999 g/kg: 1 g/kg

\*All the accuracies indicated in this technical datasheet were stated in laboratory conditions, and can be guaranteed for measurements carried out in the same conditions, or carried out with calibration compensation.

<sup>1</sup>Calculated value

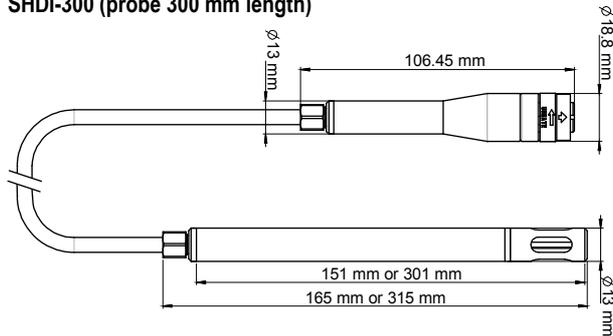
## REMOTE HYGROMETRY/TEMPERATURE PROBES

### ➤ Stainless steel hygrometry/temperature probes

Interchangeable hygrometry and temperature probe in stainless steel with stainless steel filter. Remote probe 150 mm length or 300 mm, 13 mm diameter. White silicone cable 2 m length with watertight connector 1/4 turn. In option : protection socket, filters. Supplied with adjustment certificate.

Ref: SHDI-150 (probe 150 mm length)

SHDI-300 (probe 300 mm length)

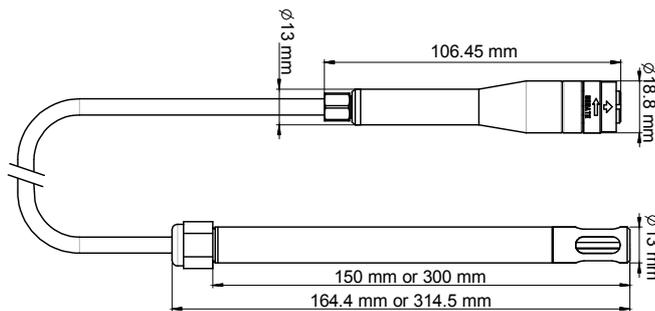


### ➤ Polycarbonate hygrometry / temperature probe

Interchangeable hygrometry and temperature probe in polycarbonate with stainless steel filter. Remote probe 150 mm length or 300 mm, 13 mm diameter. White silicone cable 2 m length with watertight connector 1/4 turn. In option : protective tips, filters. Supplied with adjustment certificate.

Ref: SHDP-150 (probe 150 mm length)

SHDP-300 (probe 300 mm length)



Parameter	Measuring range	Accuracy*	Resolution
Temperature Pt100 (°C, °F)	From -20 to +80°C	±0.3% of reading ±0.25°C	0.1°C
Wet temperature <sup>1</sup> (°C <sub>tw</sub> , °F <sub>tw</sub> )	From -50 to 100°C <sub>tw</sub>	-	0.1°C <sub>tw</sub>
Dewpoint <sup>1</sup> (°C <sub>td</sub> , °F <sub>td</sub> )	From -50 to +100°C <sub>td</sub>	±0.6% of reading ±0.5°C <sub>td</sub>	0.1°C <sub>td</sub>
Relative humidity (%RH)	From 0 to 100%HR	<b>Hygrometry:</b> - Accuracy (Repeatability, linearity, hysteresis): ±1.5%RH (from 15°C to 25°C and from 5 to 95%RH) - Factory calibration uncertainty: ±0.88 %RH - Temperature dependence: ±0.04 x (T-20) %RH (if T<15°C or T>25°C)	0.1%RH
Absolute humidity <sup>1</sup> (g/m <sub>3</sub> )	From 0 to 600 g/m <sup>3</sup>	-	0.1 g/m <sup>3</sup>
Enthalpy <sup>1</sup> (kJ/kg)	C310/CA310: from 0 to 15 000 kJ/kg CPE310: from 0 to 9999 kJ/kg	-	C310/CA310: from 0 to 9999.9: 0.1 kJ/kg from 10 000 to 15 000: 1 kJ/kg CPE310: from 0 to 999.9: 0.1 kJ/kg from 1000 to 9999: 1 kJ/kg
Combination ration <sup>1</sup> (g/kg)	C310: from 0 to 10 000 g/kg CA310: from 0 to 9999.9 g/kg CPE310: from 0 to 9999 g/kg	-	C310/CA310: 0.1 g/kg CPE310: from 0 to 999.9 g/kg: 0.1 g/kg from 1000 to 9999 g/kg: 1 g/kg

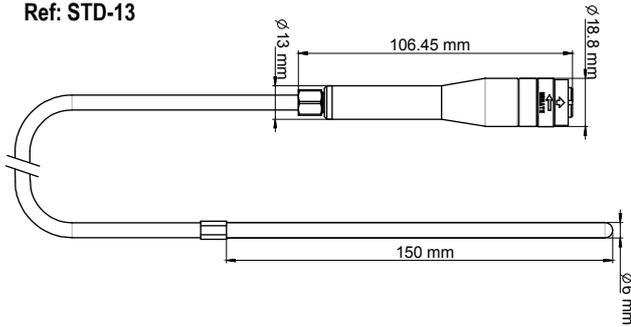
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<sup>1</sup>Calculated value

## TEMPERATURE PROBES

Interchangeable temperature probe Pt100 1/3 DIN of general use, contact tip 6 mm diameter, 150 mm length, IP65. Grey silicone cable 2 m length with watertight connector 1/4 turn. Supplied with adjustment certificate.

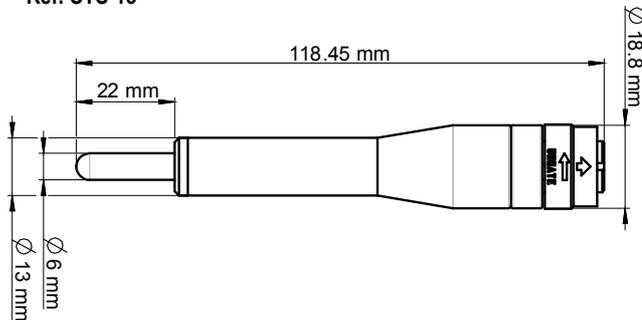
Ref: STD-13



<b>Measuring ranges</b>	From -50 to +180°C
<b>Accuracy*</b>	±0.3% reading ±0.25°C
<b>Resolution</b>	0.1°C

Interchangeable temperature probe of general use Pt100, 1/3 DIN type STS-13, contact tip 6 mm diameter, 22 mm length. Range from -20 to +80 °C. Direct output on connector for C310 sensors, CPE310 (with adapter) and large display CA310. Supplied with adjustment certificate.

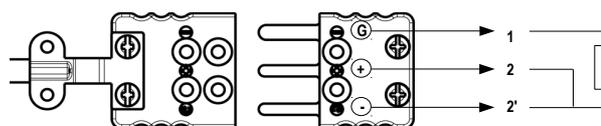
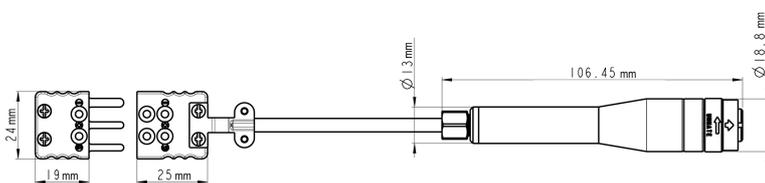
Ref: STS-13



<b>Measuring ranges</b>	From -20 to +80°C
<b>Accuracy*</b>	±0.3% reading ±0.25°C
<b>Resolution</b>	0.1°C

Interchangeable adapter for 3-wire Pt100 temperature probe. Allows to plug a 3-wire Pt100 probe to a class 310 sensor. PVC cable, 10 cm length with connector 1/4 turn and 3-point terminal to screw for Pt100 wires output probe.

Ref: STA-13



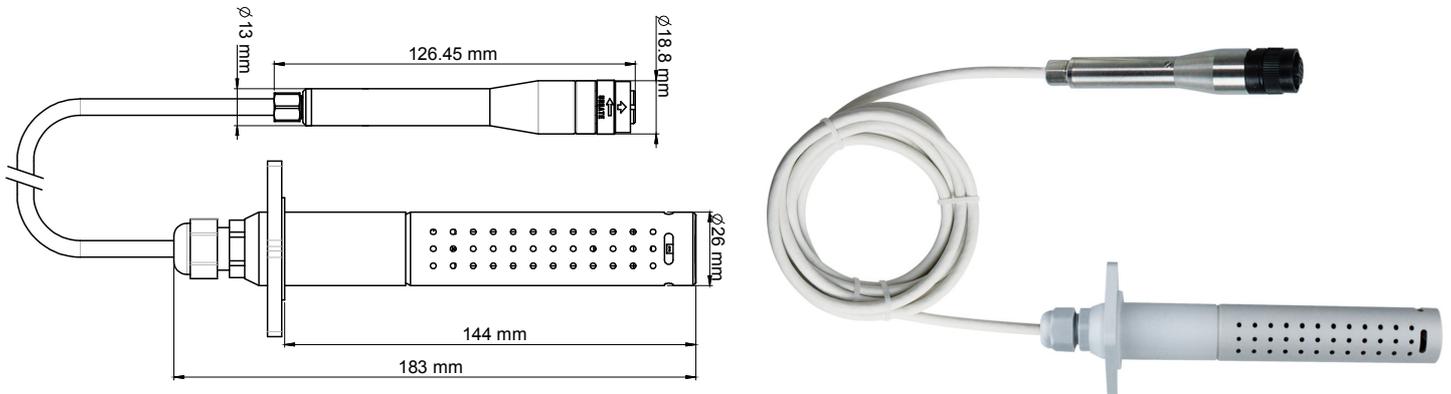
<b>Measuring range</b>	According to the probe (maximum measuring range in temperature: from -100 to 400°C)
<b>Accuracy*</b>	According to the probe
<b>Resolution</b>	0.1°C

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## CO<sub>2</sub> PROBES / TEMPERATURE AND CO/TEMPERATURE

Interchangeable CO<sub>2</sub> and temperature probe or CO and temperature in ABS V0. Remote probe 160 mm length, 26 mm diameter. White PVC cable 2 m length with watertight connector 1/4 turn. Supplied with mounting flange and adjustment certificate.

Ref: SCO2 / SCCO



CO2 Probe – temperature

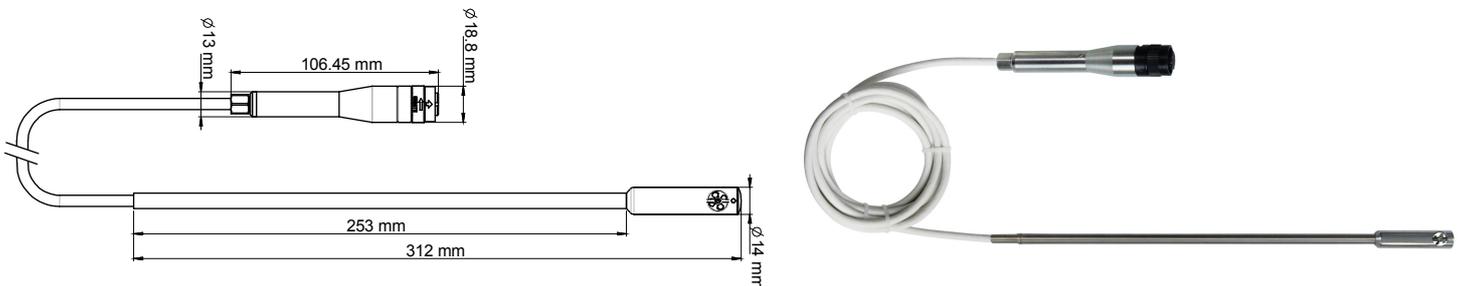
CO Probe – temperature

	CO2 Probe – temperature	CO Probe – temperature
<b>Measuring ranges</b>	From 0 to 5000 ppm and from 0 to 50°C (other range available in CO <sub>2</sub> : from 0 to 20 000 ppm)	From 0 to 500 ppm and from 0 to 50°C
<b>Accuracy*</b>	CO <sub>2</sub> : from 0 to 5000 ppm : ±3% of the reading ±50ppm from 0 to 20 000 ppm : ±5% of the reading ±100 ppm Temperature CTN : ±0.3°C	CO: ±3 ppm or 3% of the measured value Temperature CTN: ±0.3°C
<b>Resolution</b>	0.1 ppm 0.1°C	0.1 ppm 0.1°C

## AIR VELOCITY AND TEMPERATURE PROBES

### ➤ SVH-14 : Ø14 mm vane probe

Interchangeable air velocity and temperature remote with Ø14 mm vane, 300 mm length, white PVC cable 2 m length with watertight connector 1/4 turn.

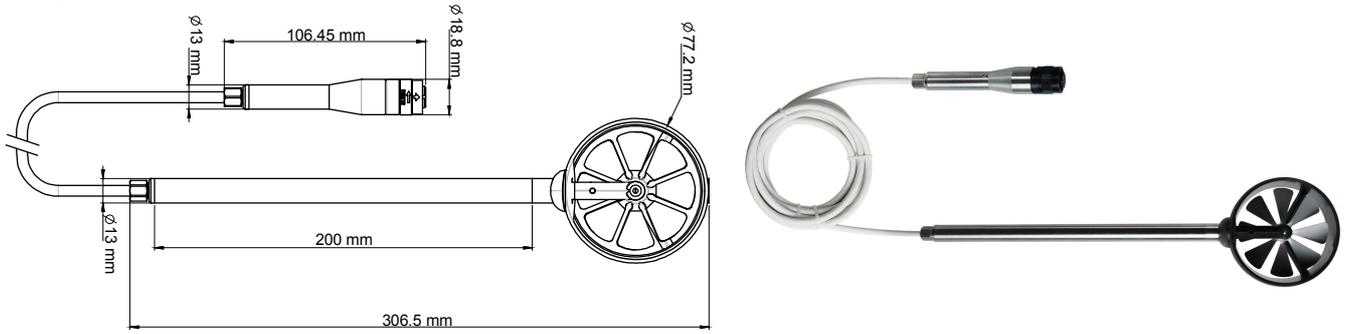


<b>Measuring ranges</b>	From 0 to 25 m/s From -20 to +80°C From 0 to 99999 m <sup>3</sup> /h
<b>Accuracy*</b>	<b>Air velocity:</b> from 0.8 to 3 m/s : ±3% of the reading ±0.1 m/s from 3.1 to 25 m/s : ±1% of the reading ±0.3 m/s <b>Temperature Pt100:</b> ± 0.4% reading ± 0.3°C <b>Flow :</b> ± 3% reading or ± 0.03* sheath surface (cm <sup>2</sup> )
<b>Resolution</b>	0.1 m/s 0.1°C 0.1 m <sup>3</sup> /h

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➤ SVH-70 : Ø70 mm vane probe

Interchangeable air velocity and temperature remote probe with Ø 70 mm vane, 200 mm length, white PVC cable 2 m length with watertight connector 1/4 turn.



<b>Measuring ranges</b>	From -5 to 35 m/s From -20 to +80 °C From 0 to 99999 m³/h
<b>Accuracy*</b>	<b>Air velocity:</b> from 0.4 to 3 m/s: ±3% of the reading ±0.1 m/s from 3.1 to 35 m/s: ±1% of the reading ±0.3 m/s <b>Temperature Pt100:</b> ± 0.4% reading ± 0.3 °C <b>Flow:</b> ± 3% reading or ± 0.03* sheath surface (cm²)
<b>Resolution</b>	0.1 m/s / 0.1 °C / 0.1 m³/h

➤ SVH-100 : probe Ø100 mm wind vane

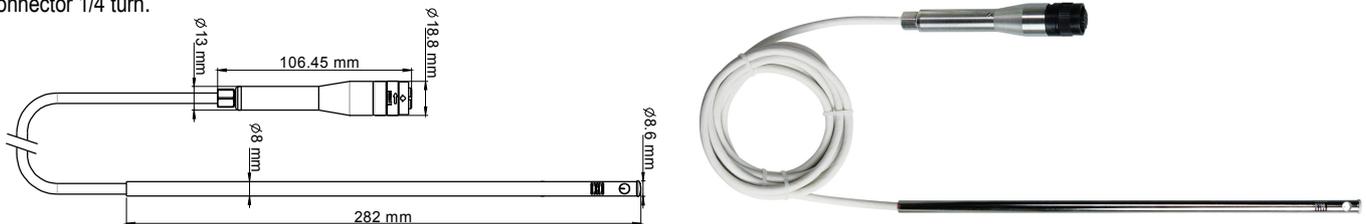
Interchangeable air velocity and temperature remote probe with Ø 100 mm vane, 200 mm length, white PVC cable 2 m length with watertight connector 1/4 turn.



<b>Measuring ranges</b>	From -5 to 35 m/s From -20 to +80 °C From 0 to 99999 m³/h
<b>Accuracy*</b>	<b>Air velocity:</b> from 0.3 to 3 m/s: ±3% of the reading ±0.1m/s from 3.1 to 35 m/s: ±1% of the reading ±0.3 m/s <b>Temperature Pt100:</b> ± 0.4% reading ± 0.3C <b>Flow:</b> ± 3% reading or ± 0.03* sheath surface (cm²)
<b>Resolution</b>	From -5 to -3 m/s: 0.1 m/s; from -3 to 3 m/s: 0.01 m/s; from 3 to 35 m/s: 0.1 m/s 0.1 °C 0.1 m³/h

➤ SVS : hot-wire probe

Interchangeable air velocity and temperature remote hot-wire probe in stainless steel 300 mm length, 8 mm diameter, white PVC cable 2 m length with watertight connector 1/4 turn.

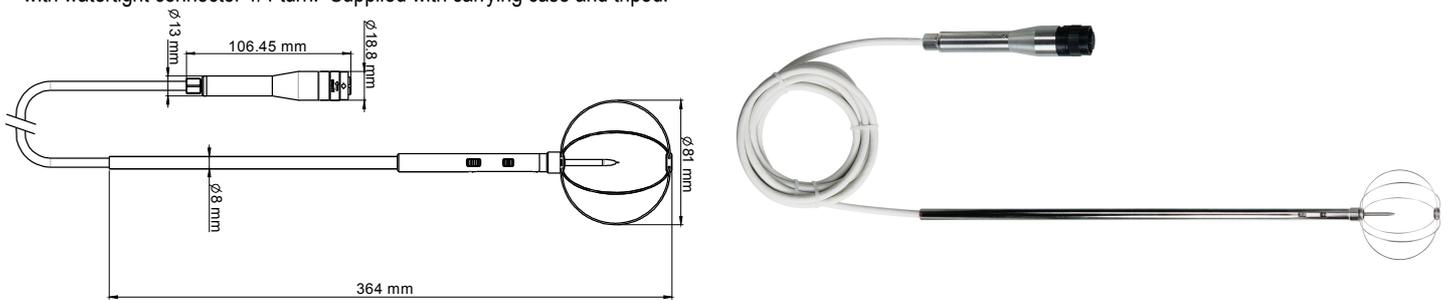


<b>Measuring ranges</b>	From 0 to 30 m/s From -20 to +80 °C From 0 to 99999 m³/h
<b>Accuracy*</b>	<b>Air velocity:</b> from 0 to 3 m/s: ±3% of the reading ±0.03 m/s from 3.1 to 30 m/s : ±3% of the reading ±0.1 m/s <b>Temperature Pt100:</b> ± 0.3% reading ± 0.25 °C <b>Flow:</b> ± 3% reading or ± 0.03* sheath surface (cm²)
<b>Resolution</b>	From 0 to 3 m/s: 0.01 m/s; from 3 to 30 m/s: 0.1 m/s 0.1 °C 0.1 m³/h

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➤ **SVO : omnidirectional probe**

Interchangeable air velocity and temperature remote omnidirectional hot-wire probe in stainless steel 300 mm length, 8mm diameter, white PVC cable 2 m length with watertight connector 1/4 turn. Supplied with carrying case and tripod.



<b>Measuring ranges</b>	From 0 to 5 m/s From 0 to +50 °C
<b>Accuracy*</b>	<b>Air velocity:</b> ± 3% reading ± 0.05 m/s <b>Temperature Pt100 1/3 DIN:</b> ± 0.3% reading ± 0.25 °C
<b>Resolution</b>	0.01 m/s 0.1 °C

**EXTENSIONS FOR PROBES**



**R310-5:** Extension of **5 m** for interchangeable probes class 310

**R310-10:** Extension of **10 m** for interchangeable probes class 310

**INTERCHANGEABLE BOARDS**

➤ **Pressure boards SPI-2**

Interchangeable pressure board with electro-valve and terminal for K thermocouple probe for C310 and CA310 sensors. Supplied with pressure fitting and silicone tubes.

- Ref: SPI2-100**  
**SPI2-500**  
**SPI2-1000**  
**SPI2-10000**

• **Pressure**

<b>Measuring ranges</b>	<b>SPI2-100:</b> from -100 to +100 Pa <b>SPI2-500:</b> from -500 to +500 Pa <b>SPI2-1000:</b> from -1000 to +1000 Pa <b>SPI2-10000:</b> from -10000 to +10000 Pa
<b>Accuracy*</b>	<b>SPI2-100:</b> ±0.2% of the reading ±0.8Pa <b>SPI2-500:</b> ±0.2% of the reading ±2Pa <b>SPI2-1000:</b> ±0.2% of the reading ±2Pa <b>SPI2-10000:</b> ±0.2% of the reading ±10Pa
<b>Admissible removal</b>	<b>SPI2-100 / SPI2-500 / SPI2-1000:</b> 21 000 Pa <b>SPI2-10000:</b> 69 000 Pa
<b>Units and resolution</b>	1 Pa 0.1 mmH <sub>2</sub> O 0.01 mbar 0.01 inWG 0.01 mmHG 0.1daPa 0.001 kPa 0.01 hPa

• **Temperature K thermocouple**

<b>Measuring ranges</b>	From -200 to +1300 °C (according to the probe)
<b>Accuracy*</b>	±1.1 °C or ±0.4% of the read value <sup>1</sup>
<b>Units and resolution</b>	0.1 °C 0.1 °F

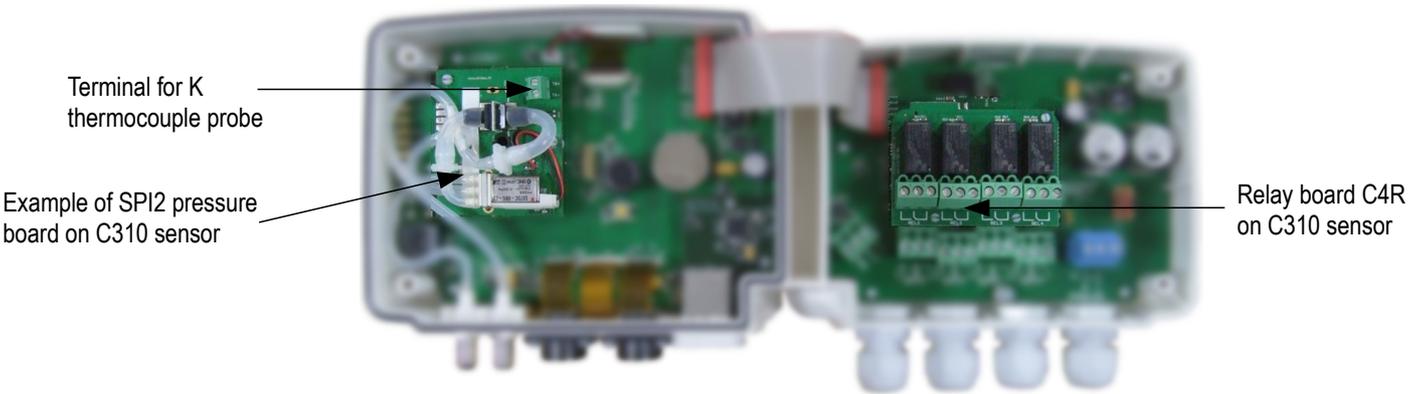
<sup>1</sup>All the accuracies indicated in this technical datasheet were stated in laboratory conditions, and can be guaranteed for measurements carried out in the same conditions, or carried out with calibration compensation.  
<sup>2</sup>The accuracy is expressed by a gap in °C, or by a percentage of the read value. Only the bigger value is held.

These pressure boards SPI2 for C310 and CA310 sensors have a temperature compensation of the gain from 0 to 50 °C and an auto-calibration process which guarantee over time an excellent stability and a perfect reliability of the measurement as much in low as high range. Auto-calibration principle : the microchip of the sensor manages an electro-valve which compensates possible remotes of the sensitive element over time. The compensation is insured by a permanent adjustment of the zero. The differential pressure measurement is then independent from the environmental conditions of the sensor.

**Electro-valve lifetime:** 100 millions of cycles

**Advantage:** no zero remote

**Periodicity of the auto-calibration:** detachable or from 1 to 60 min.



Interchangeable atmospheric pressure board for **C310 and CA310 sensors**, range 800-1100 hPa. Supplied with pressure fitting and silicone tube.

**Ref: SPI2-ATMO**

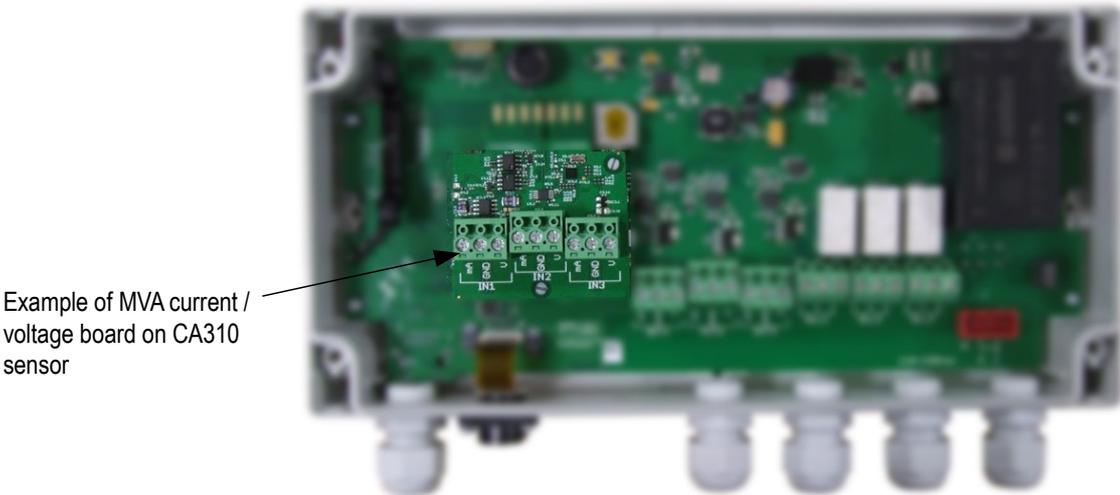
<b>Measuring ranges</b>	From 800 to 1100 hPa
<b>Accuracy*</b>	±2 hPa
<b>Units and resolution</b>	0.1mbar 0.1mmHG 0.1hPa

➤ **Current / Voltage boards**

Interchangeable board, 3 current / voltage analogic input: 0-20 mA / 4-20 mA et 0-2,5 V / 0-5 V / 0-10 V, with terminal, **CA310 sensor**.

**Ref: MVA**

<b>Measuring ranges</b>	0 – 20 mA 4 – 20 mA 0 – 2.5 V 0 – 5 V 0 – 10 V
<b>Accuracy*</b>	0 – 20 mA : ± 0.01 mA 4 – 20 mA: ± 0.01 mA 0 – 2.5 V: ± 0.002 V 0 – 5 V: ± 0.005 V 0 – 10 V: ± 0.010 V



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Once returned to KIMO, required waste collection will be assured in the respect of the environment in accordance with European guidelines relating to WEEE.

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