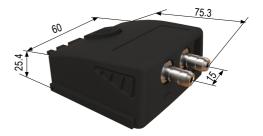


# Specifications for probes and modules for classes 210 and 310 portables

#### PRESSURE / TEMPERATURE MODULE

PRESSURE



Reference	Measuring units	Measuring ranges	Accuracy*	Resolution	Compatible devices
MPR 500	Pa, mmH <sub>2</sub> O, In WG, mbar, hPa, mmHg, daPa, kPa	From 0 to ±500 Pa From 2 to 28 m/s**	From -100 to +100 Pa : ±0.2% of reading ±0.8 Pa Beyond : ±0.2% of reading ±1.5 Pa	From -100 to +100 Pa : 0.1 Pa Beyond : 1 Pa	MP 210 AMI 310
MPR 2500	Pa, mmH <sub>2</sub> O, In WG, mbar, hPa, mmHg, daPa, kPa	From 0 to ±2500 Pa From 2 to 60 m/s**	±0.2% of reading ±2 Pa	1 Pa	MP 210 AMI 310
MPR 10000	Pa, mmH <sub>2</sub> O, In WG, mbar, hPa, mmHg, daPa, kPa	From 0 to ±10000 Pa From 4 to 100 m/s**	±0.2% of reading ±10 Pa	1 Pa	MP 210 AMI 310
MPR 500 M	mmH <sub>2</sub> O, In WG, mbar, hPa, mmHg, daPa, kPa, PSI	From 0 to ±500 mbar From 9 to 100 m/s**	$\pm 0.2\%$ of reading $\pm 0.5$ mbar	0.1 mbar	MP 210 AMI 310
MPR 2000 M	bar, In WG, mbar, hPa, mmHg, kPa, PSI	From 0 to ±2000 mbar From 18 to 100 m/s**	±0.2% of reading ±2 mbar	1 mbar	MP 210 AMI 310

Response time in pressure t<sub>63</sub>: 0.5 s

#### • THERMOCOUPLE TEMPERATURE

Measuring units	Measuring ranges	Accuracy*	Resolution	Compatible devices
°C, °F	K : From -200 to +1300°C J : From -100 to +750°C T : From -200 to +400°C S : From 0 to 1760°C N : From -200 to 1300°C	K, J, T, N : From -200 to 0 °C : ±0.4°C ±0.3 % of reading From 0 to 1300 °C : ±0.4°C S : ±0.6 °C	0.1 °C	MP 210 AMI 310

#### PITOT TUBE



Reference	Measuring units	Measuring ranges	Accuracy*	Resolution	Compatible devices
See associated	Air velocity : m/s, fpm, km/h, mph	From 2 à 5 m/s From 5.1 à 100 m/s	±0.3 m/s ±0.5% of reading ±0.2 m/s	0.1 m/s	MP 210
data sheet	Airflow : m <sup>3</sup> /h, cfm, l/s, m <sup>3</sup> /s	From 0 to 99999m <sup>3</sup> /h	±0.2% of reading ±1% FS	1 m³/h	AMI 310

\*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.
\*\*According to the airflow device coefficient connected to the device.

## DEBIMO MEASUREMENT WINGS



Reference	Measuring units	Measuring ranges	Accuracy*	Resolution	Compatible devices
See associated	Air velocity : m/s, fpm, km/h, mph	From 3 to 20 m/s From 21 to 100 m/s	$\pm 0.3$ m/s $\pm 1\%$ of reading $\pm 0.1$ m/s	0.1 m/s	MP 210 AMI 310
data sheet	Airflow : m³/h, cfm, l/s, m³/s	From 0 to 99999m3/h	$\pm 0.2\%$ of reading $\pm 1\%$ FS	1 m³/h	AIVII 3 TU

## THERMOCOUPLE MODULE



Refe	erence	Measuring units	Measuring ranges	Accuracy*	Resolution	Compatible devices
M	4TC	°C, °F	K : From -200 to +1300°C J : From -100 to +750°C T : From -200 to +400°C S : From 0 to 1760°C N : From -200 to 1300°C	K, J, T,N : From -200 to 0 °C : ±0.4°C ±0.3 % of reading From 0 to 1300 °C : ±0.4°C S : ±0.6 °C	0.1 °C	HQ 210 MP 210 VT 210 TM 210 AMI 310

## U COEFFICIENT MODULE



Reference	erence Measuring units Measuring ranges		Accuracy*	Resolution	Compatible devices
MCU	°C, °F W/m²	T Thermocouple : From -20 to +80°C	±0.3°C	0.1 °C	TM 210 AMI 310

Please refer to "U coefficient module explanatory note" for more details about the U coefficient module (document available upon request)

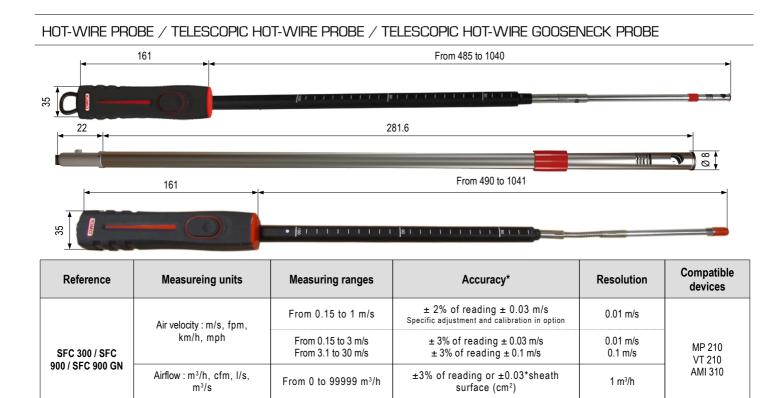
## CLIMATIC CONDITIONS MODULE



Reference	Measuring units	Measuring ranges	Accuracy*	Resolution	Compatible devices
	Temp. : °C, °F	From 0 to +50°C	±0.4% of reading ±0.3°C	0.1 °C	
	Atmospheric pressure : hPa	From 800 to 1100 hPa	±3 hPa	1 hPa	HQ 210
мсс	Hygro : %RH	From 5 to 95%RH	Accuracy (Repeatablility, linearity, Hysteresis) : ±1.8%RH (from 15°C to 25°C) 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	VT 210 AMI 310

Response time  $t_{_{63}}$ : hygrometry 50 s / temperature 25 s / atmospheric pressure 0,5 s.

\*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.
\*\*Specific adjustment and calibration in option



Response time  $t_{63}$ : air velocity and airflow 0.6 s / temperature 5 s

Temperature : °C, °F

## AIR VELOCITY MEASUREMENT PROBE FOR LABORATORY HOOD

From -20 to +80°C



±0.3% of reading ±0.25°C

0.1 °C

	Reference	Measureing units	Measuring ranges	Accuracy*	Resolution	Compatible devices
		Air velocity : m/s, fpm,	From 0.15 to 3 m/s	$\pm$ 5% of reading $\pm$ 0.02 m/s	0.01 m/s	
		km/h, mph	From 3.1 to 5 m/s	± 5% of reading ± 0.02 m/s	0.1 m/s	MP 210
	SFC 300 S**	Airflow : m³/h, cfm, l/s, m³/s	From 0 to 99999 m <sup>3</sup> /h	±5% of reading or ±0.02*sheath surface (cm²)	1 m³/h	VT 210 AMI 310
		Temperature : °C, °F	From 0 to +50°C	$\pm 0.3\%$ of reading $\pm 0.25$ °C	0.1 °C	

Response time  $t_{_{\rm 63}}$  : air velocity and airflow 0.6 s / temperature 5 s

\*\* Meets the EN 14175-3 standard.

#### OMINIDIRECTIONAL TELESCOPIC PROBE

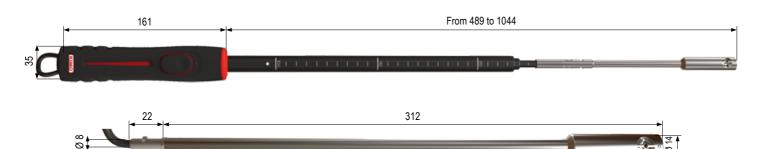


Reference	Measuring units	Measuring ranges	Accuracy*	Resolution	Compatible devices
SOM 900	Air velocity : m/s, fpm, km/h	From 0.00 to 5.00 m/s	$\pm$ 3% of reading $\pm$ 0.05 m/s	0.01 m/s	
	Relative humidity :%RH	From 5 to 95%RH	Accuracy (Repeatability, linearity, Hysteresis) : ±1.8%RH (from 15°C to 25°C) 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	HQ 210 AMI 310
	Temperature : °C, °F	From -20 to +80°C	±0.3% of reading ±0.25°C	0.1 °C	

Response time  $t_{s3}$ : air velocity and airflow 0.6 s / temperature 5 s

\*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.

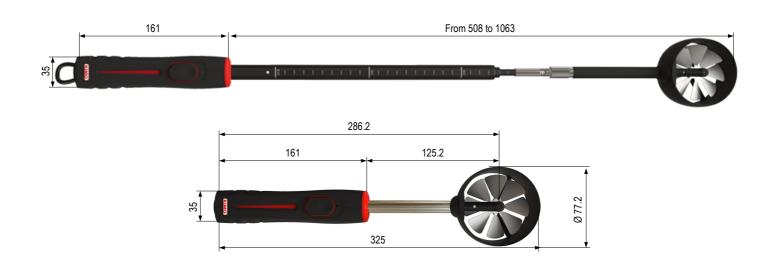
## Ø14 MM VANE PROBE / Ø14 MM TELESCOPIC VANE PROBE



Reference	Measuring units	Measuring ranges	Accuracy*	Resolution	Compatible devices
	Air velocity : m/s, fpm, km/h, mph	From 0 to 3 m/s From 3.1 to 25 m/s	From 0.8 to 3 m/s : $\pm$ 3% of reading $\pm$ 0.1m/s From 3.1 to 25 m/s : $\pm$ 1% of reading $\pm$ 0.3 m/s	0.1 m/s	MP 210
SH 14 / SHT 14	Airflow : m³/h, cfm, l/s, m³/s	From 0 yo 99999 m <sup>3</sup> /h	$\pm 3\%$ of reading or $\pm 0.03$ *sheath surface (cm <sup>2</sup> )	1 m³/h	VT 210 AMI 310
	Temperature : °C, °F	From -20 to +80°C	$\pm 0.4\%$ of reading $\pm 0.3$ °C	0.1 °C	

Response time  $t_{_{\rm 63}}$  : air velocity and airflow 0.6 s / temperature 5 s.

#### Ø70 MM VANE PROBE / Ø70 MM TELESCOPIC VANE PROBE

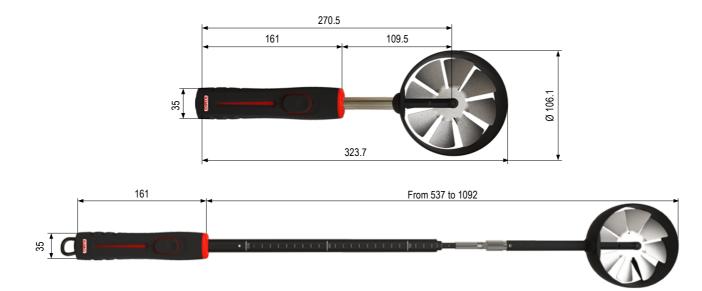


Reference	Measuring units	Measuring ranges	Accuracy*	Resolution	Compatible devices
	Air velocity : m/s, fpm, km/h, mph	From -5 to 3 m/s From 3.1 to 35 m/s	From 0.4 to 3 m/s : ±3% of reading ±0.1m/s From 3.1 to 35 m/s : ±1% of reading ±0.3 m/s	0.1 m/s	
SH 70 / SHT 70 SHF 70 <sup>1</sup>	Airflow : m³/h, cfm, l/s, m³/s	From 0 to 99999 m <sup>3</sup> /h	$\pm 3\%$ of reading or $\pm 0.03$ *sheath surface (cm <sup>2</sup> )	1 m³/h	MP 210 VT 210 AMI 310
	Temperature : °C, °F	From -20 to +80°C	$\pm 0.4\%$ of reading $\pm 0.3$ °C	0.1 °C	

Response time  $t_{_{63}}$ : air velocity, airflow and temperature 0.8 s.

<sup>1</sup>Radiofrequency model : maximum range between the probe and the device of 10m in free field without obstruction. \*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.

#### Ø100 MM VANE PROBE / Ø100 MM TELESCOPIC VANE PROBE



Reference	Measuring units	Measuring ranges	Accuracy*	Resolution	Compatible devices
	Air velocity : m/s, fpm, km/h, mph	From -5 to 3 m/s From 3.1 to 35 m/s	From 0.3 to 3 m/s : ±3% of reading ±0.1m/s From 3.1 to 35 m/s : ±1% of reading ±0.3 m/s	0.1 m/s	MP 210
SH 100 / SHT 100 SHF 100 <sup>1</sup>	Airflow : m³/h, cfm, l/s, m³/s	From 0 to 99999 m³/h	$\pm 3\%$ of reading or $\pm 0.03$ *sheath surface (cm <sup>2</sup> )	1 m³/h	VT 210 AMI 310
	Temperature : °C, °F	From -20 to +80°C	±0.4% of reading ±0.3°C	0.1 °C	

Response time  $t_{_{\rm 63}}$  : air velocity, airflow and temperature 1 s.

## MULTIFUNCTION PROBE

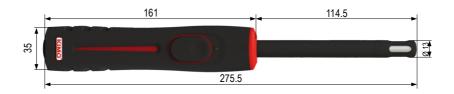


Reference	Measuring units	Measuring ranges	Accuracy*	Resolution	Compatible devices
	Air velocity : m/s, fpm, km/h, mph	From 0.15 to 3 m/s From 3.1 to 30 m/s	$\pm$ 3% of reading $\pm$ 0.03 m/s $\pm$ 3% of reading $\pm$ 0.1 m/s	0.01 m/s 0.1 m/s	
	Airflow : m³/h, cfm, l/s, m³/s	From 0 to 99999 m <sup>3</sup> /h	±3% of reading or ±0.03*sheath surface (cm <sup>2</sup> )	1 m³/h	
SMT 900	Relative humidity :%RH	From 5 to 95%RH	Accuracy (Repeatability, linearity, Hysteresis) : ±1,8%RH (from 15°C to 25°C) 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	VT 210 AMI 310
	Temperature : °C, °F From -20 to +80°C		±0.3% of reading ±0.25°C	0.1 °C	

Response time  $t_{63}$  : air velocity and airflow 0.6 s / temperature 5 s

<sup>1</sup>Radiofrequency model : maximum range between the probe and the device of 10m in free field without obstruction. \*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.

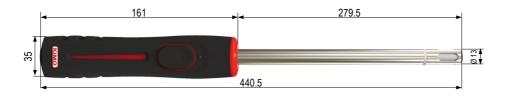
#### HYGROMETRY PROBE



Reference	Measuring units	Measuring ranges	Accuracy*	Resolution	Compatible devices
	Relative humidity :%RH From 3 to 98%RH		Accuracy (Repeatability, linearity, Hysteresis) : ±1.5%RH (from 15°C to 25°C) 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 : g/m <sup>3</sup> From 0 to 600 g/m <sup>3</sup>		0.1 g/i	0.1 g/m <sup>3</sup>	
SHR 110 SHRF 110 <sup>1</sup>	Enthalpy : kJ/kg	From 0 to 10000 kJ/kg		0.1 kJ/kg	HQ 210 VT 210
SHAFTIN	Combination ratio : g/kg	From 0 to 10000 g/kg	-	0.1 g/kg	AMI 310
	Wet temperature : °C, °F	From -50 to +100 °C		0.1 °C	
	Dew-point : °C <sub>td</sub> , °F <sub>td</sub> From -50 to +100°C <sub>td</sub>		$\pm 0.6\%$ of reading $\pm 0.5$ °C <sub>td</sub>	0.1 °C <sub>td</sub>	
	Temperature : °C, °F	From -20 to +80°C	±0.3% of reading ±0.25°C	0.1 °C	

Response time  $T_{_{63}}$  : relative humidity <10 s / temperature 7 s.

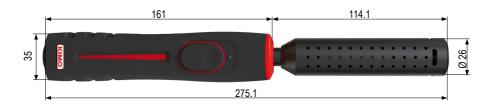
## HYGROMETRY HIGH TEMPERATURE PROBE



Reference	Measuring units	Measuring ranges	Accuracy*	Resolution	Compatible devices
	Relative humidity :%RH	From 3 to 98%RH	Accuracy (Repeatability, linearity, Hysteresis) : ±1.5%RH (from 15°C to 25°C) 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 : g/m³     From 0 to 600 g/m³       Enthalpy : kJ/kg     From 0 to 10000 kJ/kg			0.1 g/m <sup>3</sup>	
SHR 300 SHRF 300 <sup>1</sup>				0.1 kJ/kg	HQ 210 VT 210
51111 500	Combination ratio : g/kg	From 0 to 10000 g/kg	-	0.1 g/kg	AMI 310
	Wet temperature : °C, °F	From -50 to +100 °C		0.1 °C	
	Dew-point : °C <sub>td</sub> , °F <sub>td</sub>	From -50 to +100°C <sub>td</sub>	$\pm 0.6\%$ of reading $\pm 0.5$ °C $_{td}$	0.1 °C <sub>td</sub>	
	Temperature : °C, °F From -40 to +180°C		±0.3% of reading ±0.25°C	0.1 °C	

Response time  $T_{_{63}}$  : relative humidity <10 s / temperature 7 s.

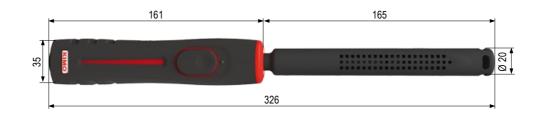
## CO / TEMPERATURE PROBE



Reference	Measuring units	Measuring ranges	Accuracy*	Resolution	Compatible devices
SCO 110	Temperature : °C, °F	From -20 to +80°C	$\pm 0.3\%$ of reading $\pm 0.25$ °C	0.1 °C	HQ 210
	CO : ppm	From 0 to 500 ppm	From 0 to 50 ppm : ±2 ppm	0.1 ppm	MP 210
			From 51 to 200 ppm : ±3 ppm		AMI 310
			From 201 to 500 ppm : ±1.5% of reading		

Response time t<sub>63</sub> : 10 s

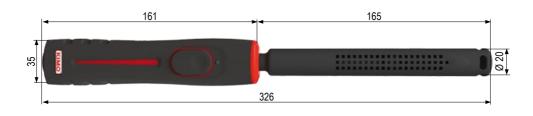
# $CO_{p}$ / TEMPERATURE PROBE



Reference Measuring units		Measuring ranges	Accuracy*	Resolution	Compatible devices
SCO 112	Temperature : °C, °F	From -20 to +80°C	$\pm$ 0.3% of reading $\pm$ 0.25°C	0.1 °C	HQ 210
	CO <sub>2</sub> : ppm	From 0 to 5000 ppm	$\pm$ 3% of reading $\pm$ 50 ppm	1 ppm	AMI 310

Response time t<sub>63</sub> : 30 s

# CO<sub>2</sub> / TEMPERATURE / HYGROMETRY PROBE



Reference	Measuring units	Measuring ranges	Accuracy*	Resolution	Compatible devices
SCOH 112	Temperature:°C, °F CO <sub>2</sub> :ppm Hygrometry:%RH	From -20 to +80°C From 0 to 5000 ppm From 5 to 95%RH	± 0.3% of reading ± 0.25°C ±3% of reading ±50ppm Accuracy (Repeatability, linearity, Hysteresis) : ±1,8%RH (from 15°C to 25°C) Factory calibration uncertainty : ±0,88 %RH Temperature dependence : ±0.04 x (T-20) %RH (if T<15°C or T>25°C)	0.1 °C 1 ppm 0.1%RH	HQ 210 AMI 310

Response time t<sub>63</sub> : 30 s

\*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>Radiofrequency model : maximum range between the probe and the device of 10m in free field without obstruction.

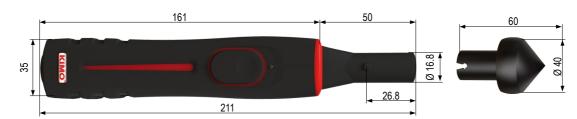
#### GAS LEAK PROBE



Reference	Measuring units Measuring ranges		Accuracy*	Resolution	Compatible devices
SFG 300	ppm %LEL %VOL	From 0 to 10 000 ppm (GPL : 0-1800) From 0 to 20%LEL From 0 to 1%VOL	$\pm 20\%$ of full scale	1 ppm 0.01%LEL 0.001%VOL	MP 210 AMI 310

Response time  $t_{_{63}}$  : 10 s.

#### OPTICAL TACHOMETRY PROBE / TACHOMETRY CONTACT PROBE

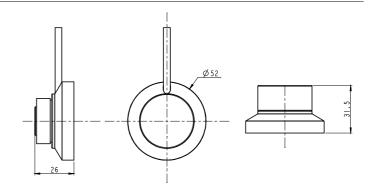


Reference	Probe	Measuring units Measuring ranges		Accuracy*	Resolution	Compatible devices	
STA	Optical	tr/min, rpm	From 60 to 10 000 tr/min From 10 001 to 60 000 tr/min	± 0.3% of reading ± 1 tr/min ± 30 tr/min	1 tr/min	MP 210 VT 210	
	Contact	tr/min, rpm	From 30 to 20000 tr/min	$\pm$ 1% of reading $\pm$ 1 tr/min	1 tr/min	AMI 310	

Response time t<sub>63</sub>: 2 s.

LIGHT PROBE



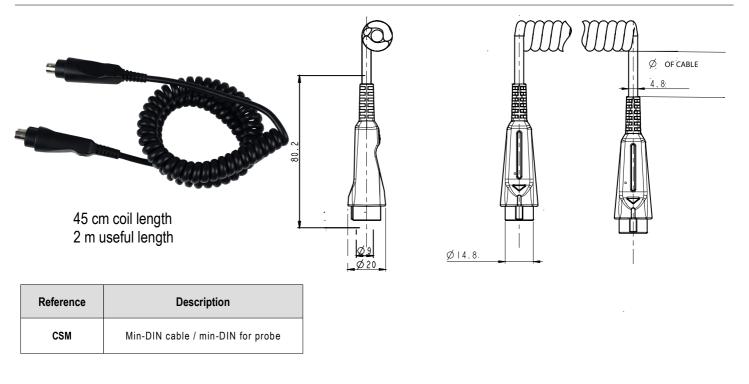


Linearity Compatible devices Measuring Spectral range Directional Measuring Ref. Accuracy\* Resolution (f1)1 (f3)1 sensitivity (f2)1 units ranges Compliant with From 0 to From 0 to 999.9 lx : 0.1 lx ±1 % of the standard 150 000 lx From 1000 to 9999 lx : 1 lx HQ 210 SLU lx, klx, fc reading or photopic curve V <2 % <1 % From 0 to From 10.00 to 99.99 klx : 0.01 klx AMI 310 (λ) NF C 42-710 ±2 lux 13935 fc From 100.0 to 150.0 klx : 0.1 klx C class

Response time  $t_{63}$  : <1 s.

\* 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> The f2 and f3 coefficients are defined according to the French NF C 42-710 standard.

## CABLE





All dimensions specified on this document are in millimetres. All handles are made in ABS with a -40 to +85  $^\circ$ C operating temperature.





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