KIMO®
CONSTRUCTEUR

Air velocity | Pressure | Humidity | Air flow | Temperature

CLASS 300

TECHNICAL DATA SHEET

New

CE

SMART MULTI-FUNCTION INSTRUMENTS AMI 301 and 301 PRO

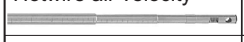
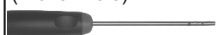
SUPPLIED Calibration Certificate WITH

Pressure sensor from 0 to 1000 Pa

- Intuitive menu with control knob
- Ergonomic housing with Elastomer protection
- Display of 5 parameters
- Display of battery life level
- Interchangeable Smart Pro probes
- Automatic recognition of the probes
- Display of calibration date
- 4-channel thermometer
- Data-logging capabilities
- PC and printer interface
- Selection of languages

SPECIFICATIONS

The AMI 301 is a multi-function instrument, compatible with all SMART PRO probes, and with all thermocouple K temperature probes. The SMART PRO probes are supplied with calibration or adjusting certificate (last calibration date display when connected). They are automatically recognized when connected, and are fully interchangeable.

		Measuring units	Measuring ranges	Accuracy*	Resolutions
MICROMANOMETER	Pressure	mmH_2O, Pa, Wg	0 to ±1000Pa	±0,5% of reading ±1Pa	0,1Pa
	Air velocity with Pitot	m/s, fpm	2 to 40m/s	±3% of reading ±0,1m/s	0,1m/s
	Air velocity with Debimo	m/s, fpm	2 to 40m/s	±3% of reading ±0,1m/s	0,1m/s
	Airflow with Pitot	m^3/h, cfm, l/s, m^3/s	0 to 65000m^3/h	±3% of reading ±10m^3/h	1m^3/h
	Airflow with Debimo	m^3/h, cfm, l/s, m^3/s	0 to 65000m^3/h	±3% of reading ±10m^3/h	1m^3/h
THERMO ANEMO WITH VANE	Vane probe Ø100 mm 	m/s, fpm	0,20 to 3m/s 3,1 to 35m/s	±2% of reading ±0,06m/s ±2% of reading ±0,2m/s	0,01m/s 0,1m/s
	Vane probe Ø70 mm 	m/s, fpm	0,3 to 35m/s	±2% of reading ±0,1m/s	0,1m/s
	Vane probe Ø16 mm	m/s, fpm	0,6 to 40m/s	±2% of reading ±0,1m/s	0,1m/s
	Ambient temperature (except vane Ø 16 mm)	°C,°F, K	-20 to +80°C	±2% of reading ±0,1°C	0,1°C
	Airflow	m^3/h, cfm, l/s, m^3/s	0 to 65000m^3/h	±3% of reading ±10m^3/h	1m^3/h
THERMO ANEMO WITH HOTWIRE	Hotwire air velocity 	m/s, fpm	0 to 3m/s 3,1 to 30m/s	±3% of reading ±0,03m/s ±3% of reading ±0,1m/s	0,01m/s 0,1m/s
	Telescopic hotwire air velocity	m/s, fpm	0 to 3m/s 3,1 to 30m/s	±3% of reading ±0,03m/s ±3% of reading ±0,1m/s	0,01m/s 0,1m/s
	Ambient temperature	°C,°F, K	-20 to +80°C	±2% of reading ±0,1°C	0,1°C
	Airflow	m^3/h, cfm, l/s, m^3/s	0 to 65000m^3/h	±3% of reading ±10m^3/h	1m^3/h
THERMO HYGRO	Humidity 	%RH, g/kg	3 to 98%RH	±1% of reading ±1,5%RH	0,1%RH
	Dew point	°C, °F, K	-20 to +80°C	±2% of reading ±0,1°C	0,1°C
	Ambient temperature	°C,°F, K	-20 to +80°C	±2% of reading ±0,1°C	0,1°C
THERMOMETER	Pt 100 temperature (2 channels) 	°C, °F, K	-100 to +400°C	±2% of reading ±0,1°C	0,1°C
	Thermocouple K** (2 channels) 	°C,°F, K	-200 to -40°C -39 to +999°C +1000 to +1300°C	±1% of reading ±1,2°C ±0,5% of reading ±0,8°C ±1% of reading ±1,2°C	0,1°C 0,1°C 1°C
TACHO	Optical 	tr/min, rpm, m/min, ft/min, In/min	60 to 50000tr/min	±0,5% of reading ±1tr/min	1tr/min
	Contact 		4 to 2500m/min 30 to 20000tr/min	±2% of reading ±1m/min	0,1m/min 1 tr/min

* Performed in laboratory conditions, all the above accuracies mentioned in this document will be guaranteed, provided that you use the calibration compensation data or identical calibration conditions.

** The thermocouple K probes are not part of SMART PRO probes.

HYGROMETRY PROBE :

Maximum interval guaranteed* :

EMG (GAL) = ±2,70 %RH between 18 and 28°C (general field)

Range of measurement : 3 to 98%RH
Drift at short time : better than 1%RH / year
Response time : 10 seconds

* EMG = Et + Ehl + k ($uet^2+ur^2+ud^2+us^2$)1/2
As per the 2000/2001 hygrometer chart :
uet : uncertainty of calibration = ± 0,55%RH
ur : uncertainty of resolution = ± 0,003%RH
ud : uncertainty of manufacturing = ± 0,17%RH
us : repetition of comparison = 0,11%RH
Et : difference due to thermical deflection= ± 0,28%RH
Ehl : difference due to hysteresis and linearity = ± 1,25%RH
k : expansion factor = 2%RH

FUNCTIONS

MICRO-MANOMETER :

- Autocalibration system and autozero
- Positive, negative and differential pressure
- Integration of the pressure (0 to 10)
- Point /point average
- Automatic point/point average
- Automatic average
- Air velocity and airflow with Pitot : point/point average, automatic point/point average , temperature balancing, manual or automatic
- Air velocity and airflow with Debimo : automatic average, temperature balancing : manual or automatic
- Temperature : thermocouple K (channel C2 in option)

HOTWIRE THERMO-ANEMOMETER :

- Air velocity
- Airflow in ducts and with cones
- Automatic average
- Point/point average
- Automatic point/point average
- Pt100 temperature inside the probe
- Pt100 temperature (channel C2 in option)

VANE PROBE THERMO-ANEMOMETER :

- Air velocity
- Airflow
- Automatic average
- Point/point average
- Automatic point/point average
- Pt100 temperature inside the probe (except vane probe Ø 16 mm)
- Pt100 temperature (channel C2 in option)

THERMOMETER :

- Pt100 temperature : 2 channels, dynamic delta T
- Thermocouple K temperature : 2 channels, dynamic delta T

THERMO-HYGROMETER :

- Hygrometer : relative humidity, absolute humidity, ambient temperature, dew point, Pt100 temp. (channel C2 in option)
- Psychrometer : dry and wet temperature, relative humidity, absolute humidity, enthalpy.
- Surface dew point : contact dew point, contact temperature, relative humidity, ambient temperature

TACHOMETER :

- Optical revolution counter
- Contact revolution counter

DATALOGGER :

- Multi-parameters recording
- Manual and automatic storage
- Memory : 8000 pts and 40 measuring campaigns
- Simple to use, with printing of customized report
- Management of instrument fleet, and follow-up of the calibration periods.

SECONDARY FUNCTIONS :

Hold, min. and max. values, standard deviation, printing, adjustable automatic shut-off, selection of languages.

TECHNICAL FEATURES

DISPLAY :
Graphic, with automatic backlighting. Size 66 x 33 mm.

HOUSING :
Shock-proof, made of ABS/PC, with Elastomer edges.

KEYPAD :
Made of Elastomer : 4 keys and one control knob.

CONNECTIONS :
Pressure connectors : Ø 5,2 mm, made of nickelled brass
Connectors : mini-DIN secured plugs.
Thermocouple K connectors : compensated miniature plugs
Numeric connection output : USB.

COMMUNICATION MODE :
RS 232.

MEASURING ELEMENTS :
Pressure : piezo-resistive sensor (linearity : 0,25%FS, response time : 500 µs, stability (long term) : 0,25%FS)
Overpressure allowed : 250 mbar
Vane anemometer : Hall effect sensor
Hotwire anemometer : thermistance with negative temperature factor.
Hygrometry : capacitive element
Pt 100 temperature : Pt 100 class A
Thermocouple temperature : Thermocouple K class 1
Optical tachometry : optical detection (phototransistor)
Contact tachometry : ETC type adaptor fitting optical tachometry probe.

CONFORMITY :
Electromagnetical compatibility (norm NF EN 61326-1)

POWER SUPPLY :
4 Alcaline batteries 1,5 V LR6

WORKING ENVIRONMENT :
Neutral gas

WORKING TEMPERATURE :
From 0 to 50°C.

STORAGE TEMPERATURE :
From 0 to 50°C.

DIMENSIONS :
183 x 100 x 40 mm

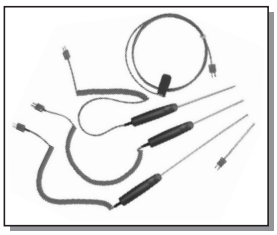
WEIGHT :
450 g

LANGUAGES AVAILABLE :
French, English, Spanish, Portuguese, Italian, German, Dutch.

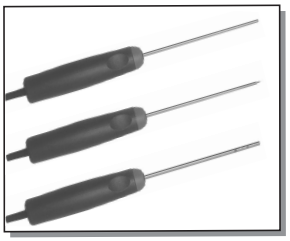
Supplied with...

O Optionnal X Included

	AMI 301 PRO	AMI 301
Pressure sensor 0 to ± 1000 Pa	X	X
Pitot tube Ø 6 mm, length 300 mm	X	X
Vane probe Ø 100 mm, length 310 mm	X	O
Vane probe Ø 70 mm, length 310 mm	O	O
Vane probe Ø 16 mm, telescopic length 720 mm	O	O
Hotwire probe Ø 8 mm, length 300 mm	O	O
Telescopic hotwire graduated, Ø 10 mm, length 900 mm	X	O
Hygrometry probe Ø 13 mm, lg. 110 mm	X	O
Pt 100 temperature probes	O	O
Thermocouple K temperature probes	O	O
Optical tachometry probe Ø 17 mm, length 195 mm	O	O
Contact tachometry probe length 200 mm	O	O
Printer	O	O
Software for PC	O	O
Silicone tube 2 x 1 m + stainless steel tip Ø 6 mm, length 100 mm	X	X
Transport case	X	X
Calibration certificate	X	X

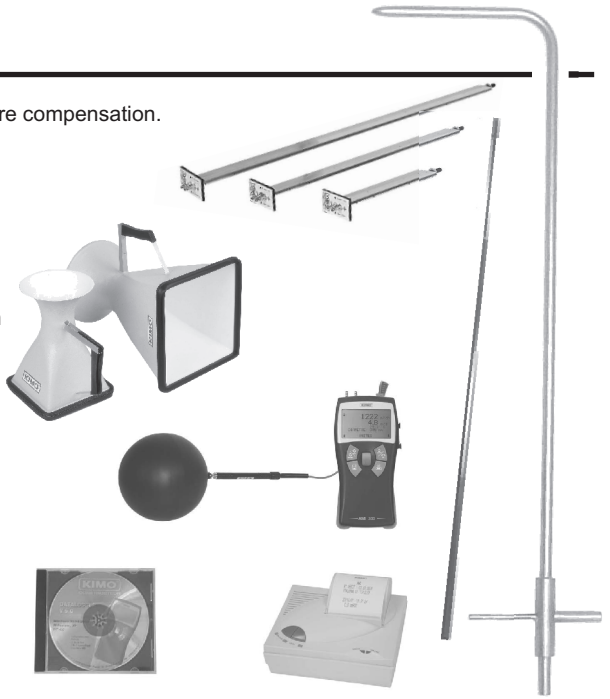


Large choice of thermocouple K and Pt100 probes: ambient, wire probe, general use, penetration, contact, high precision... (For more details, you can refer to the technical data sheets of the probes for portable instruments).



Accessories

- Pitot tube available in many lengths Ø 3 / 6 or 8 mm, with or without temperature compensation.
- Airflow cones : several sizes and ranges of measurement.
- Debimo airflow blades of many sizes
- Black ball Ø 150 mm with union for temperature probe Ø 4,5 mm.
  Further dimensions available on request.
- Hotwire extension / to be clipped / straight or angled, Ø 10 mm, length 300 mm
- Telescopic extension, length 1m bent at 90° for probe.
- Hands-free protection cover
- Printer
- Software for PC
- Hotwire cleaning spray
- Silicone heat-conductive grease for temperature probes
- Adaptor for power supply 230 Vac



After-sales service

Kimo performs the calibration, the adjusting and maintenance of all their instruments to guarantee a constant level of quality of your measurements.
Within the Quality Insurance norms, we recommend that the instruments are checked once a year.

www.kimo.fr

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