CE

Supplied with Calibration certificate

MP 200
Manometer

°F
°C

Mem.: 0.0 % 00:00

208

ΔP   Pa

◄ Hold   Config   AutoZ ►

OK

ESC

ON/OFF

MP 200

Table of contents

Technical features

Pressure module

Piezoresistive sensor
Overpressure allowed ±500 Pa : 250 mbar
Overpressure allowed ±2,500 Pa : 500 mbar
Overpressure allowed ±10.000 Pa : 1,200 mbar
Overpressure allowed ±500 mBar : 2 bar
Overpressure allowed ±2,000 mBar : 6 bar

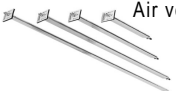### MP200 Connection (See p.6)

Display

Graphic display 128x128 pixels
Dim. 50 x 54 mm, blue blacklit,
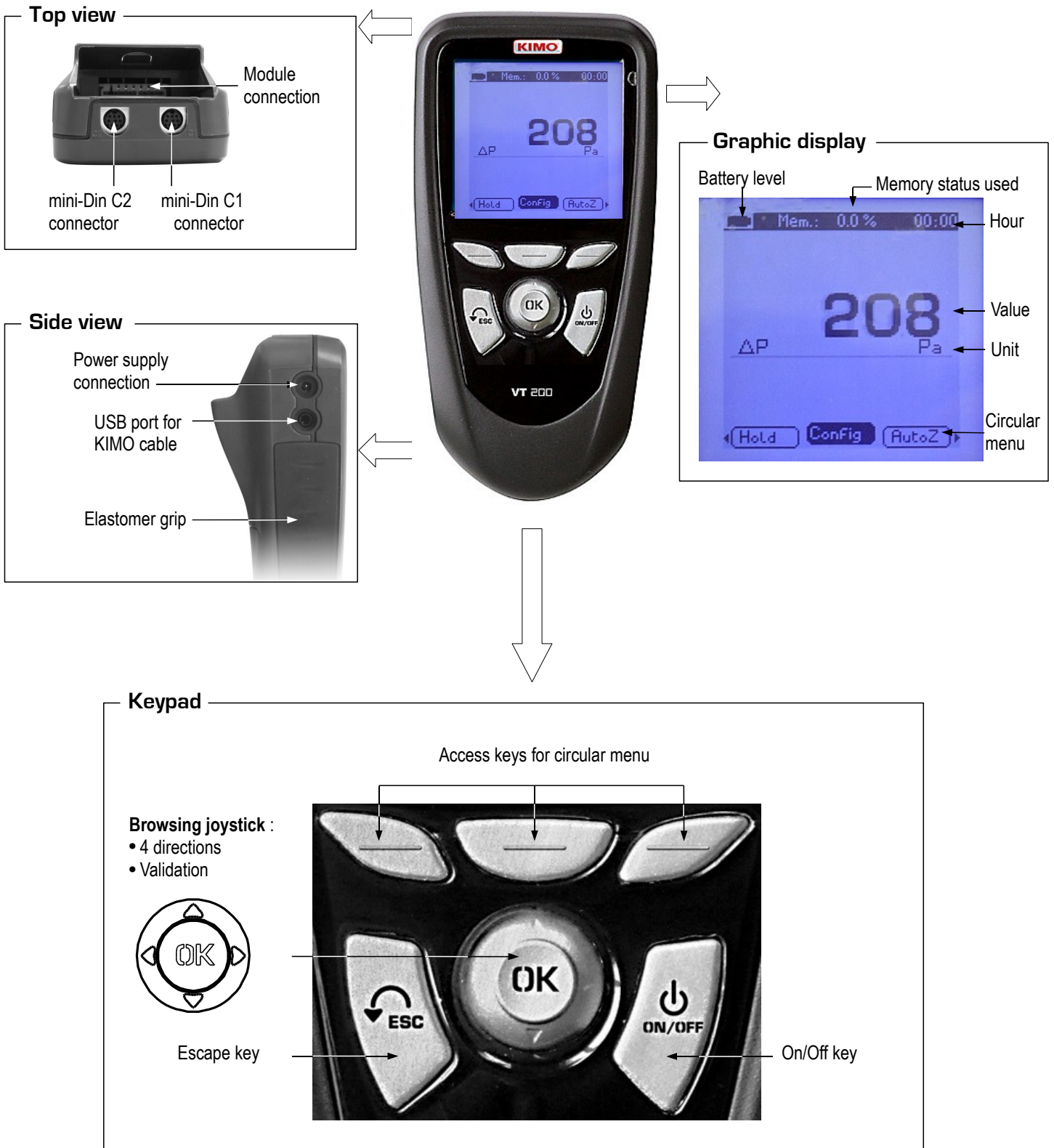Display of 6 measurements (including 4 simultaneously)

Housing..................ABS shock-proof
                          IP54
Keypad...................Metal-coated, 5 keypads, 1 joystick
Conformity.............Electromagnetic compatibility
                          (as per NF EN 61326-1)
Power supply.........4 alcalines batteries 1,5V LR6
Ambient...................Neutral gas
Operating temp.....from -20 to +80°C
Storage temp.........from 0 to +50°C
Auto shut-off..........adjustable from 0 to 120 min
Weight.....................340g
Languages............French, english

Specifications

	Measuring units	Measuring range	Accuracy*	Resolutions
PRESSURE				
	Pa, mmH$_2$O, In WG, mbar, hPa, mmHg, DaPa, kPa, bar, PSI	From 0 to ±500 Pa	± 100 Pa : ±0.2% of reading ±0.8Pa, beyond ±0.2% of reading ±1.5Pa,	0.1 Pa from -100 to + 100 Pa, 1 Pa beyond
		From 0 to ±2,500 Pa	±0.2% of reading ±2Pa	1Pa
		From 0 to ±10.000 Pa	±0.2% of reading ±10Pa	1Pa
		From 0 to ±500 mbar	±0.3% of reading ±0.5mbar	0.1mbar
		From 0 to ±2,000 mbar	±0.3% of reading ±2mbar	1mbar
PITOT TUBE				
Air velocity	m/s, fpm, Km/h, mph	From 2 to 5 m/s	±0.3 m/s	0.1 m/s
		From 5.1 to 100 m/s	±0.5% of reading ±0.2m/s	0.1 m/s
Airflow	m^3/h, cfm, l/s, m^3/s	From 0 to 99,999m^3/h	±0.2% of reading ±1% PE	1 m^3/h
DEBIMO BLADES				
Air velocity	m/s, fpm, Km/h, mph	Frpm 4 to 20 m/s	±0.3 m/s	0.1 m/s
		From 21 to 100 m/s	±1% of reading ±0.1m/s	0.1 m/s
Airflow	m^3/h, cfm, l/s, m^3/s	From 0 to 99,999m^3/h	±0.2% of reading ±1% PE	1 m^3/h
CURRENT / VOLTAGE				
	V, mA	From 0 to 2.5 V	±2mV	0.001 V
		From 0 to 10 V	±10mV	0.01 V
		From 0 to 4/20 mA	±0.01mA	0.01 mA
THERMOCOUPLE (See related datasheet)				
	°C, °F	K : From -200 to 1,300°C	±1.1°C or ±0.4% Reading value**	0.1 °C
		J : From -100 to 750°C	±0.8°C or ±0.4% Reading value**	0.1 °C
		T : From -200 to 400°C	±0.5°C or ±0.4% Reading value**	0.1 °C
CO / Temperature				
Temp.	°C, °F	From -20 to +80°C	±0.4% of reading ±0.3°C	0.1 °C
CO	ppm	From 0 to 100 ppm	±5ppm	0.1 ppm
		From 100 to 1000 ppm	±3% of reading ±5ppm	1 ppm

*All accuracies indicated in this document were stated in laboratory conditions and can be guaranteed for measurements carried out in the same conditions, or carried out with required compensation.
** The accuracy is expressed either by a deviation in °C or by a percentage of the value concerned. Only the bigger value is considered.

Description

Top view

Module connection

mini-Din C2 connector

mini-Din C1 connector

Side view

Power supply connection

USB port for KIMO cable

Elastomer grip

KIMO

208
ΔP   Pa

Hold   Config   AutoZ

VT 200

Graphic display

Battery level

Memory status used

Mem.:   0.0 %   00:00   Hour

208
ΔP   Pa   Value
                              Unit

Hold   Config   AutoZ   Circular menu

Keypad

Access keys for circular menu

Browsing joystick :
• 4 directions
• Validation

OK

ESC

OK

ON/OFF

Escape key

On/Off key

Connections

Interchangeable measurement module

Interchangeable modules with Smart-plus system are automatically recognized when connected to the instrument.

1. Current / Voltage module

It allows current or voltage measurements on **V/A1** or **VA/2** channels with current/voltage input cables or ammeter clamps.

2. Pressure module

It allows differential pressure, air velocity or airflow measurements with **Pitot tube** or **Debimo** on two pressure inputs (**-** and **+**) and thermocouple temperature measurement on **Tc1** channel with wire thermocouple probes equipped with a miniature male connector.

3. Air velocity with Pitot tube :
   Pressure module + Pitot tupe *(optionnal)*

(+) Static pressure PS

(-) Static pressure PT

Dynamic pressure = PT - PS
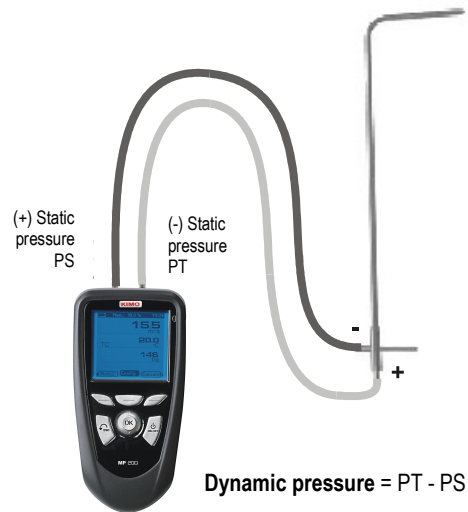
Wire probes with Smart-plus system

Wire probes with Smart-plus system are automatically recognized when connected to the instrument.

CO/temp probe is connected on min-DIN connectors **C1** and / or **C2**

mini-Din **C2** connector

mini-Din **C1** connector

Secured Mini-Din Connector

Retractable cable lg. 450 mm, up to 2.4 m.

Power-up

Enter code

0 . 0 0 0

OK

Enter key code with directional pad.
(if the locking is activated)

◄ ► and ▲ ▼

Homepage display

KIMO®
INSTRUMENTS
MP200
Plug probe

Infos ◄─► Probe ◄─► Params

OK
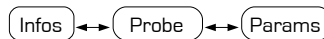
Select a sub menu with access keys
or with arrow keys ◄ ►

Probe connection

Probe display

Module

Press. 2500Pa
08.06.0004
Adjusted on :
03/07/2008
Version: 4.50
✔ ↕Enabled
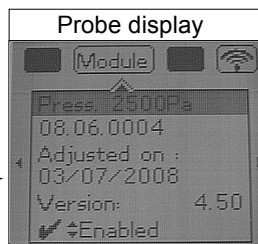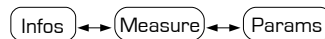
Select a connection with right and left keys ◄ ►
Connections can be activated or deactivated with ▲ or ▼

Return to
previous screen

Infos ◄─► Measure ◄─► Params

Select a sub function with access keys
or with arrow keys ◄ ►

Measurement

PRESSURE Display

208
ΔP   Pa

⟺

AIRFLOW display

891
Flow   m³/h
24.7
Veloc   m/s
367
ΔP   Pa
S : 100 x 100 mm

⟺

AIR VELOCITY display

23.3
Veloc   m/s
327
ΔP   Pa
20.0
Tcomp   °C

Select a sub function
with access keys
or with arrow keys

◄ ►

Rec. ◄─► Probe ◄─► Hold ◄─► Config ◄─► AutoZ
Alarms ◄─► Params ◄─► Airflow ◄─► Veloci. ◄─► Avg.

Rec. ◄─► Probe ◄─► Hold ◄─► Config ◄─► AutoZ
Alarms ◄─► Params ◄─► Veloci. ◄─► Press ◄─► Area — Avg.

Rec. ◄─► Probe ◄─► Hold ◄─► Config ◄─► AutoZ
Alarms ◄─► Params ◄─► Airflow ◄─► Press ◄─► Avg.

OK
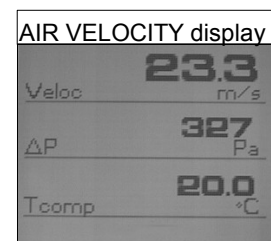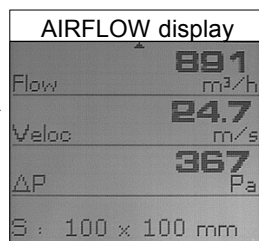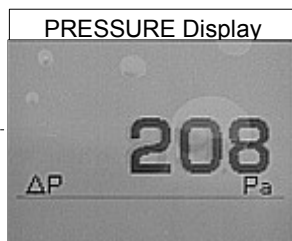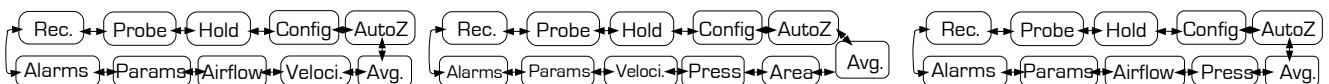
Communication interrupted
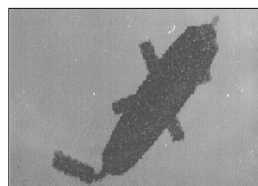
Check probes connection

Probe menu

Wire probes and modules with Smart-plus system are automatically recognized from first connection.
The "**Probe**" menu only appears when probes or module are connected. This menu allows to view probe
information plugged to **C2, Module, C1** or **wireless connections**.
(See « Connections » p 6 for more information about connections).

Available information are :
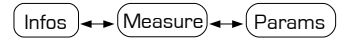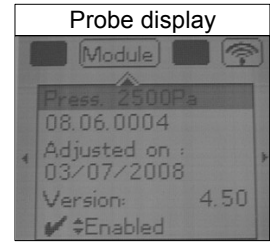• Sensor type, Serial number, Date of last calibration or adjustement, Probes Status (enabled ou disabled).
On enabled mode, the probe is connected, the measurement is carried out and the value is displayed.
On disabled mode, the probe is connected, the measurement is not carried out and the value is not
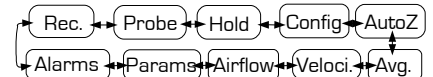displayed.

Probe display

Functions

Pressure

Access **Pressure** function by means of (Pressure) key. With **Pressure** function, you can
access to following sub-functions
    - **Hold** - see Air velocity
    - **Config.** (Configuration) - see Air velocity
    - **Params** (Parameters) - see Air velocity
    - **Avg.** (Average) - see Air velocity
   - **Rec** (Recording) - see Air velocity

PRESSURE display

AutoZ

This sub-function allows to compensate for any long-term drifts of the sensing element by a manual adjustment of the zero.
For the ±500 Pa measurement module, self-calibration is performed by the solenoid valve. Once pressing **Autoz** key, the zero is readjusted.
This function can also be automatically performed by using the solenoid valve function.
For others measurement modules, self-calibration is performed by disconnecting the two pressure inlets of the sensor, then by pressing **Autoz** key.

AIRFLOW

Access **Airflow** function by means of (Airflow) key. With **Airflow** function, you can access to following sub-functions
    - **Hold –** see Air velocity
    - **Area**
    - **Config.** (Configuration) - see Air velocity
    - **Params** (Parameters) - see Air velocity
    - **Avg.** (Average) - see Air velocity
    - **Rec** (Recording) - see Air velocity

AIRFLOW display
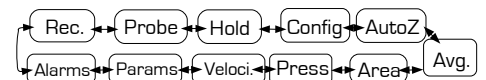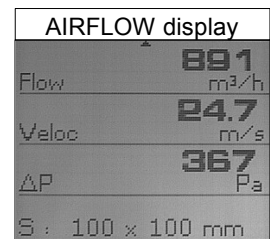
Area

• *Duct type*

To select vent **Type** press **OK** or ▶.
Select **Lx W** or **Diam** or **K factor** with arrow buttons ▲ and ▼. Confirm with **OK**. If K factor is
selected, you must enter value. You can choose a K factor already registered by selecting with ▲
and ▼. Confirm with **OK**. This factor can be modified by selecting with ▲ and ▼, then confirm
with **OK** or ▶. Select **Modify** with **OK** or ▶. Enter factor by means of arrow keys ▲ and ▼ .
Confirm with **OK** or ▶.

• *Sizes*

Press ▶ or **OK** to enter into **sizes** sub function. You can choose an air vent already registered by selecting it with arrow keys ▲   and ▼ .
Confirm with **OK** or ▶. This air vent can be modified by selecting it with arrows keys ▲ and ▼, then Confirm with **OK** or ▶. Select **Modify**
with **OK** or ▶. Enter sizes by means of arrow keys ▲ and ▼ . Confirm with **OK** or ▶.

• *K2 factor*

Press ▶ or **OK** to enter into the **K2 factor** sub function. Select respectively **ON** or **OFF** with ▲ and ▼ in order to enable or disable this function. Confirm with **OK** .

• *Units*

To select the unit press **OK** or ▶.
Select **mm** or **in** with arrow buttons ▲ and ▼ . Confirm with **OK**.

COmax

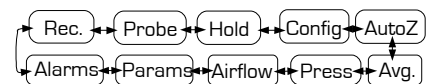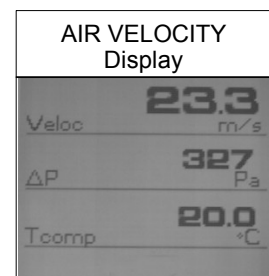*The CO mode is available when a CO/Temperature probe is connected.*
You can access this function selecting COmax with the access key (CO max)
The CO is measured on an adjustable period, the maximum value measured in this period is called **CO max** . When CO peak is selected, the period is diplayed (30 seconds by default). Press **Valid.** to launch the measurement. When the countdown is finished, the CO max is displayed.
To modify the period, press **Period** with the access key. Modify time with arrows keys ▲ and ▼.
Confirm with **OK** or ▶.

Air velocity

Access **Air velocity** function by means of (Veloci.) key. With **Air velocity** function, you can access to following sub-functions
- **Hold**
- **Config.** (Configuration)
- **Params** (Parameters)
- **Avg.** (Average)
- **Rec** (Recording)

```
         AIR VELOCITY
           Display
Veloc       23.3
              m/s
ΔP          327
              Pa
Tcomp       20.0
              °C
```

Hold - Min./Max.

Press 1x in order to select **HOLD** function : measurement holding on display.
Press 2x in order to select **Min-Max** function : display of minimum and maximum values.
Press 3x : back to the continuous measurement.

```
Rec. ↔ Probe ↔ Hold ↔ Config ↔ AutoZ
Alarms ↔ Params ↔ Airflow ↔ Press ↔ Avg.
```

Average

Press ▶ or **OK** to enter Average sub function. With ▲ and ▼, you can select : **point/point average, auto, point/point automatic**. Confirm with **OK** or ▶.

• *Point / point average*

This function allows to calculate the average value of various points that you can select.
Numbers of selected points and **parameter** for which calculation is carried out, are displayed
For adding a new measuring point to this calculation, press **OK** to confirm.
If you click on **average icon**, max. and min. values, standard deviation, average of each channel and e numbers of measuring points will be displayed. If you want to see all values, select **Visu.** and scroll with ▲ and ▼.

• *Automatic average*

This function allows to calculate an average value that the device measured in an interval chosen time.
Timer is displayed. Select **Start** with access key for launching measurement.
If you click on **average icon**, max. and min. values, standard deviation, average of each channel and time chosen will be displayed.

• *Automatic point/point average*

This function allows to calculate the average value of various points, calculated themselves on a duration beforehand defined.
You must enter duration : click on the **Period** icon. Select **minutes** or **seconds** with arrow buttons ▲ and ▼ .
Scroll digits with▲ and ▼. Confirm with **OK**. The numbers of points is displayed. Press **Ok** for launching measurement.
If you click on **average** icon, max. and min. values, standard deviation, average of each channel and numbers of measuring points will be displayed.
You can view each measuring points if you click on **Visu.**

Configuration

⚠ **If you use thermocouple probes, you must enter type into the Configuration sub-function.**

Configuration sub-function allows to:

• *Select thermocouple type*
Click on **OK** or ▶ to enter into sub function : a list of thermocouple available (K, J or T type) appears .
Select type with ▲ and ▼. Confirm with **OK**.

• *Select display*
Click on **OK** or ▶ to enter into sub function. Select channel or display type required (Digital, Bargraphs or Curves) with ▲ and ▼. Confirm with **OK**. Select the configuration of display required.

• *Select units*
Click on **OK** or ▶ to enter into sub function : a list of units available appears. Select unit required with ▲ and ▼. Confirm with **OK**.
Click on **Esc** to return to previous screen.

• *Select integration*
The coefficient of integration allows to smooth the measure, to avoid variations. Click on **OK** or ▶ to enter into sub function : a list of coefficient (From 0 to 9) appears. Select coefficient required with ▲ and ▼. Confirm with **OK**.
Coefficient 0: no integration, important fluctuation in the shown measure.

• *Select compensation*
It is possible to modify the value of the compensation in temperature. Indeed, the velocity and the airflow with Pitot's tube and with Debimo blades are calculated from a temperature of use in +20°C. It is thus necessary to enter the real temperature of use to obtain more precise results.
Click on **OK** or ▶ to enter into the sub function. Select + or – signs with ▲ and ▼ with ▲ and ▼ then pass on the first digit with ▶. Enter the first digit then move to the next one with ▶. Confirm with **OK**.

• *Select pressure system (only available for Air velocity and Airflow functions)*
Click on **OK** or ▶ to enter into sub function : a list of pressure systems available appears (Pitot tube L, S, Debimo or Other). Select your system with ▲ and ▼. Confirm with **OK**.
If **Other** is selected, you must enter a value. Click on **OK** or ▶ to enter into sub function. With ▲ and ▼ , enter the first digit then move to the next one with ▶. Confirm with **OK**.

• *Solenoid valve (available with the ± 500 Pa module)*
Click on **OK** or ▶ to enter into the sub function. Select respectively **ON** or **OFF** with ▲ and ▼   in order to enable or disable the solenoid valve function. Confirm wih **OK** or ▶. When the solenoid valve is enabled, it runs every minute.

Recording

The Recording menu allows a measurement dataset. You can choose between a planned or a continuous dataset.

1. Create or launch a continuous dataset

Select dataset

LOGGING

Dataset   Auto.
Name   Manual
Delete   Ponct.
↑Back

A continuous dataset can be carried out using MP200 and is composed of several dated measuring points. The operator can choose an automatic or a manual dataset, with an instant value or an average. This datasets can't be set using Datalogger-10 Software.
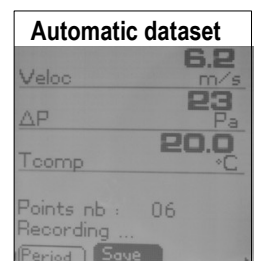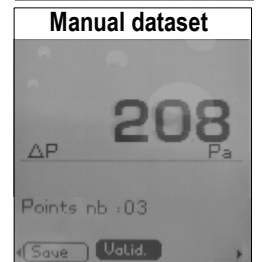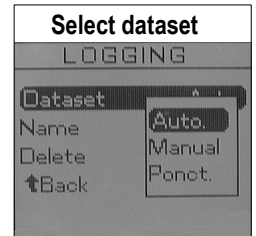
1.1 Manual dataset

Select name

Name:

A B C D E F G H I J
K L M N O P Q R S T
U V W X Y Z 0 1 2 3
4 5 6 7 8 9   – ok ↑

A **manual dataset** is composed of measuring points selected by the operator.
a. Click on **OK** or ▶ to enter into sub function.
b. Select **Manual** with ▲ and ▼. Confirm wih **OK**.
c. Select **Name** with ▲ and ▼. Confirm wih **OK** or ▶. Enter dataset name with arrow keys ◀ ▶ and ▲ ▼. Confirm wih **OK**.
d. For measurement launching, click on **OK** with the access key. The number of points selected and the parameter are displayed.
e. To save your dataset click on **Save** with the access key.

Manual dataset

208

ΔP   Pa

Points nb :03

◀ Save   Valid.   ▶

1.2 Automatic dataset

An **automatic dataset** is composed of measuring points with interval of time.
a. Click on **OK** or ▶ to enter sub function.
b. Select **Auto.** with ▲ and ▼. Confirm wih **OK**.
c. Select **Name** with ▲ and ▼. Confirm wih **OK** or ▶. Enter dataset name with the arrow keys ◀ ▶ and ▲ ▼.
Confirm wih **OK**.
d. Enter dataset time and interval of time between 2 measurements by selecting **Period** with access key. Select **Duration** or **Interval** with ▲ and ▼. Confirm wih **OK**. Enter minutes and seconds with arrow keys ▲ and ▼ (from 1 minutes to 24 hours for the duration and from 5 seconds to 10 minutes for the interval). Confirm with **OK**.
e. Select **Start** for dataset launching.

Automatic dataset

Veloc   6.2
                     m/s
ΔP   23
                     Pa
Tcomp   20.0
                      °C

Points nb :   06
Recording ...
Period   Save

2. Launch a planned dataset

A planned dataset is composed of several locations. For each location, the operator can enter a theorical value and a tolerance for the parameter to be controlled. Planification must be made via the software.

a. Click on **OK** or ▶ to enter into sub function.
b. Select **Planned** with ▲ and ▼. Confirm wih **OK**.
c. Choose dataset name with ▲ and ▼. Confirm wih **OK**.
d. Select the location with ▲ and ▼. Confirm wih **OK**.

3. Delete all datasets

Select **Delete** with ▲ and ▼. Confirm wih **OK**.

Parameters

• *Language*

Click on **OK** or ▶ to enter and a list of languages available appears.
Select language with arrow keys ▲ and ▼ and Confirm wih **OK**.

• *Date / time*

Click on **OK** or ▶ to enter into sub function. Enter the day with ▲ and ▼ then move to the next digit with ▶. Repeat this operation for the month, year, hour and minute. Confirm wih **OK**.

• *Beep*

This sub-function allows to enable or disable the keypad beep. Click on **OK** or ▶ to enter into the sub function. Select respectively **ON** or **OFF** with ▲ and ▼ in order to enable or disable the beep.
Confirm wih **OK**.

• *Extinction*

This sub-function allows to enable the automatic shut-off and to select the delay in minute. Click on **OK** or ▶ to enter into the sub function.
Select, with ▲ and ▼, **OFF** in order to disable the automatic shut-off or enter the delay (from 15 to 120 minutes).
Confirm wih **OK**.

• *RF logging*

This sub-function allows to enable or disable the **RF Logging**. Click on **OK** or ▶ to enter into the sub function. Select respectively **ON** or **OFF** with ▲ and ▼ in order to enable or disable this function.
Confirm wih **OK**.

• *Contrast*

This sub-function allows to modify the contast. Click on **OK** or ▶ to enter. Select your contrast level (from 0 to 9 or **AUTO**) with ▲ and ▼.
Confirm wih **OK**.

• *Backlit*

This sub-function allows to modify the backlit. Click on **OK** or ▶ to enter. Select your backlit level (from 0 to 9 or **AUTO**) with ▲ and ▼.
Confirm wih **OK**.

If you select AUTO, the MP200 adjuts automatically the backlit according to the room brightness.

• *Key locking*

This sub-function allows to enable or disable the **key lock**. Click on **OK** or ▶ to enter into sub function. Select respectively **ON** or **OFF** with ▲ and ▼ in order to enable or disable this function.
Confirm wih **OK**.
If the locking is enabled, the code menu appears

• *Code*

This sub-function allows to enter the **security code**. Click on **OK** or ▶ and the code appears. Enter the first digit of the code with ▲ and ▼ then move to the next one with ▶. Confirm wih **OK**.

Downloading data

see DataLogger-10 user manual chapter **III – Read device** page 6.

Info menu

This menu allows to view the serial number of instrument and firmware version.

Battery

When battery indicator flashes it is recommended to change the batteries:

1. Remove the front part at the back of the instrument.
2. Remove batteries
3. Insert new batteries (AA-LR6 1,5V) in accordance with proprer polarity drew inside the housing.
4. Replace the front.

Maintenance

KIMO performs calibration, adjustment and maintenance of all your instruments to guarantee a constant level of quality of your measurements. In regards of Quality insurance norms, we recommend that the instruments are checked once a year.

Warranty

KIMO Instruments have 1-year guarantee for any manufacturing defect (return to our After-Sales Service required for appraisal).

www.kimo.fr

NTang – MP 200 – 12/08 B – We reserve the right to modify the characteristics of our product

AFAQ
ISO 9001
VERSION 2000