

Manometer type PM111

Software version 3.X

Instruction manual

Type approval
mark:

TSK
173/16 – 018

Version 1.2



1. Operating of BAP 2 with buttons on the front panel

It is possible to set all basic functions of the manometer with buttons on the front panel. The manometers equipped with recording function - datalogger can control and set all the parameters needed for record function also with help of superordinate program DATA designed for PC, or with help of application for ANDROID. Communication with manometer and reading out of stored data is possible wirelessly with help of Bluetooth communication, or via Mini USB interface, alternatively through another agreed serial interface. It is possible to examine recorded data also with help of the buttons on the front side of the manometer. With these buttons you can set also display contrast, number of decimal places, filtration, to do calibration, to select the unit depicted on display, to change password, to set the interval of automatic manometer turn off, or to display illumination, or as the case may be, switch to permanent turn on mode, or permanent display illumination, to set all functions of datalogger, filling up of the recording memory, to erase memory and to see information related to manometer software.

Display of the manometer is during sampling of the measured pressure turned off, while in the process of sampling, measuring and writing of the measured data to the memory is uninterrupted. In case the manometer is turned on and the measured pressure is on display, there appears notice

Saved!

for a short time always in time of writing to memory.

Software designed for PC or ANDROID enable to set all functions of datalogger, transmit the samples from memory to PC, their archiving and graphical display depiction. The program enable also export of data to XLS format, or ASCII, for their subsequent processing with appropriate database program. The program is delivered to customer as an option.





EXTREME

There will be notice on display in case of failure of the sensor, measuring the pressure of the manometer range, or at another failure state.

If the manometer is in set up menu, or at setting of the contrast, and approximately 30 seconds after pressing the last button is no button pressed, in such a case the manometer will be automatically switched over to the measuring mode.

If the time of last pressing of a button is longer than the set time of turn on and the manometer is not in state of continuous turn on mode, it will be automatically turned off.

If the manometer is equipped with recording function – datalogger, and after switching the manometer to the display mode, there will be notice Bad time on display and after that requirements for entering the date and time. The interval date and time was lost and it is necessary to adjust this.

The buttons  and  are designated for movement between respective items of the setting menu and for setting or changing of readjustable parameters of the manometer. If we hold these buttons pressed, the relevant value will change quicker in required direction. The button  **ENTER** serves for entering to individual items of the setting menu and for confirmation of adjusted values. The button **ESC**  serves for leaving of the setting menu, or for leaving of individual items in the setting menu.

Meaning of LED diodes located on front panel

LED 1	blue	Bluetooth communication is turned on, if manometer is equipped with this function
LED 2	orange	connecting of power adaptor or communication cable
LED 3	green	end of internal batteries charging
LED 4	red	charging of internal batteries

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Charging of internal manometer battery with external power adaptor, or via USB port, can be done only if ambient temperature do not exceed 40 °C.

2. Setting of BAP 2 with software version 3.x

Setting of BAP 2 with software version 3.x enable to set or display following functions with help of the buttons:

Basic functions of the manometer – chapter 3

- Switching the manometer to the display mode – point 3.1
- Quick turn off of the display mode – point 3.2


Standard functions of the manometer – chapter 4

- Setting of display contrast – point 4.1
- Setting of decimal place number, which appears on the display – point 4.2
- Setting of filtration – point 4.3
- Calibration of the manometer – point 4.4
- Description and setting of the AutoZero function – point 4.5
- Setting of the displayed unit on display – point 4.6
- Changing of the password – point 4.7
- Setting of time to manometer turn off and time to display illumination turn off – point 4.8
- Information related to highest (maximal) and lowest (minimal) measured pressure value – 4.9
- Information related to the device – point 4.10

Functions accessible for the manometer with recording function – chapter 5





- Terminology – 5.1
- Display of internal clock set time – 5.2
- Setting of internal clock time – 5.3
- Setting of date and time of the first sample – 5.4
- Setting of sampling interval – 5.5
- Switching off of the sampling – stop to save the samples to the datalogger memory – 5.6
- Viewing of the saved samples in the memory – 5.7
- Deleting of the saved samples from the memory – 5.8
- Filling up of the datalogger memory information – 5.9

Functions accessible for the manometer with Bluetooth communication – chapter 6

 Wireless Bluetooth communication switching on or off – 6.1

Operation of the manometer equipped with recording function with help of PC – chapter 7

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-  Archive viewing and handling – 7.1
-  Saving of the archive data to the disc – 7.2
-  Log in / out – 7.3
-  Settings – 7.4

The items which need password have an influence on function and accuracy of the device, and therefore these functions can change only acquainted or experienced person!

3. Basic functions of the manometer

3.1. Switching the manometer to the display mode – switching the manometer on

If the manometer is in display mode, it displays instantaneous measured pressure and enables to set the parameters of the manometer depending on the software.

The manometer is switched to the display mode by longer holding the button  ENTER pressed. In this mode there is the measured pressure together with chosen pressure unit depicted on display.

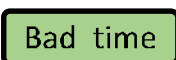
If it is not possible to display required value of the pressure at the same time together with the physical unit because of lack of the digit positions, in such a case only the value of the pressure is displayed without the unit. If we want to display also the unit of the pressure, it is necessary to readjust the number of decimal places, or to choose different physical unit of the pressure. If the required number of displayed digits together with plus / minus sign and decimal point is greater than 8, than the display shows



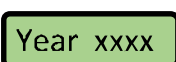
If the connected pressure is outside the manometer range, or the input sensor is damaged, there is notice on the display






If the manometer is equipped with recording function and internal time and date of the datalogger is not set, or the data are missing (drop-out), than the display shows






after elapsing cca 2 s, there appears the notice on the display



– year.

With help of  or  the year is set and then we press the button  . Following inscription appears on the display.




Month xx – month.

With help of  or  the number of a month in the year is set and the button  is pressed. The following inscription appears on the display




Day xx – day.

With help of  or  the day in month is set and the button  is pressed. There is inscription on the display



Hour xx – hours.

With help of  or  the hour is set in 24 hour regime and the button  is pressed. There appears inscription on the display

Min. xx – minutes.

With help of  or  the minutes are set and button  is pressed. There is inscription on the display

Sec. xx – seconds.

With help of  or  the seconds are set and button  is pressed. After that the measured value will be shown on the display.

Warning:

After setting of internal time and date of the datalogger, or after drop-out, it is necessary to set also functions „Wake up “ and „Interval “ .

Notice

MemFull! on display immediately after switching to the display mode for time cca 2s signalizes, the memory of the datalogger is full minimally to 90 %.

Flat battery, (discharged battery) or insufficient voltage from adaptor, is indicated on display by flashing the notice

Battery with measured value.

Short flashing of the notice


Saved!

on display, in the display mode indicates saving of the sample to the memory.







63.2. Quick turn off of the display mode – switching off the manometer

If the button  is pressed in time of display mode, there will be notice on display

PowerOff

Confirmation of this requirement by  button the manometer BAP is switched off, and at the same time, if the manometer is equipped with recording function and saving of the data to the memory of the datalogger was activated in the process, this continue in adjusted interval.

4. Set up of standard functions of the manometer

It is possible to enter to the set up mode by simultaneous pressing of the buttons marked as  and . The buttons  and  serve for motion through individual items of the set up menu and for setting or changing of readjustable parameters of the manometer. If we hold these buttons pressed, the value will be changed quicker in required direction. The button  is used for entering to individual items of the set up menu and for confirmation of the set values. The button  serves for leaving of set up menu, or for leaving of individual items of set up menu.

4.1. Setting of display contrast

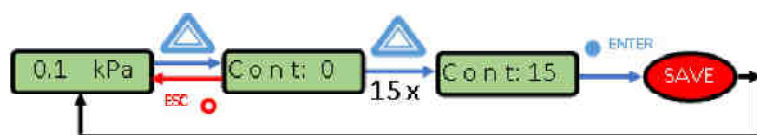
Cont: xx

This function of the set up menu serves for setting of the display contrast so that it should be as good as possible to read. Level of the contrast can depend on surrounding lighting and temperature.

It is possible to enter into the contrast setting by pressing the button 

When the contrast is set improperly, the display can be read incorrectly or can be unreadable.

Example: Readjustment of the display contrast from 0 to 15.



4.2. Setting the number of decimal places, which are displayed on the display

F. point

This function of set up menu serves for setting or adjusting the number of decimal places, which are displayed on the manometer display. The number can be from 0 to 3.

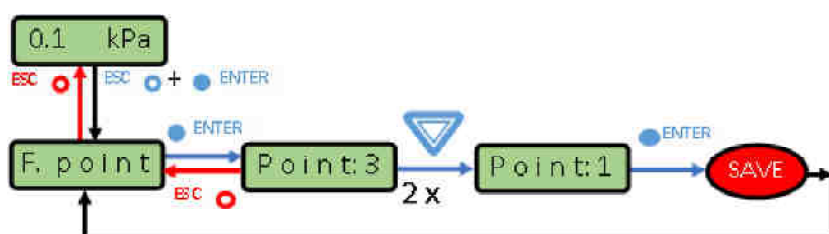
If the number of displayed digits together with the plus / minus sign and decimal point is greater than 8, after ending of set up mode, the display will show following information



If it is not possible to display required value of the pressure together with physical unit at the same time, there will be shown on display only the value of the pressure without the unit. If we want to display also the pressure unit, it is necessary to readjust the number of decimal places, or to choose different pressure unit.

Before setting of the calibration it is convenient to readjust the number of decimal places for necessary minimum.

Example: Readjusting the number of decimal places on display from 3 to 1.



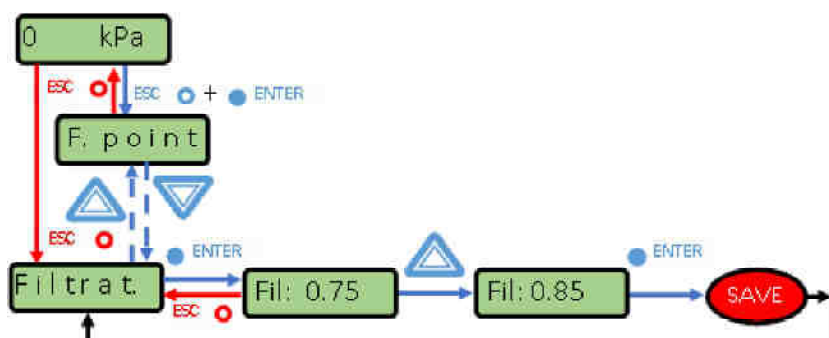
4.3. Setting of decimal places number, which are displayed on the display



Filtration means mathematical adaptation of the measured values according to the conventional agreed algorithmic rule. This function is blocking unacceptable step changes of the measured quantity. The filtration is possible to change from 0,01 to 1,00 and if the value set to 1,00 the filtration is the smallest – it is turned off.

When the value of filtration is high (close to 0,01), response of the instrument for change of pressure can slow down.

Example: Readjustment of the filtration value from 0.75 to 0.85.




4.4. Calibration of the manometer with the Calib function

Calib.

8 Changing of the set parameters has influence on function and accuracy of the device and therefore these parameters can be changed only by acquainted and experienced person! When entering to this function it is necessary to input the password. The access password set by the manufacturer is „1111“. This password is recommended to change by user with the function „Set pass“ – description is stated in the point 4.7.

This function serves for calibration of the manometer in the range stated by the manufacturer.

After entering of the password and it's confirmation with  **ENTER** button the submenu is accessible:

Minimum

calibration of the minimal range of the manometer

Maximum

calibration of the maximal range of the manometer

Offset

setting of the offset of the manometer

Default

setting of the calibration parameters of the manometer at manufacture




AutoZero




turning on/off of automatic resetting of the manometer – **description is in point 4.5**

It is possible to calibrate the manometer at any pressures in the range stated by the manufacturer, where it is suitable to use in the process values of the pressure closest to minimal and maximal range of the manometer with help of the functions **Minimum** a **Maximum**.


If a deviation of the manometer is in the whole of the measured pressure range constant, or if we want to move the displayed pressure by a constant, we can use the Offset function. This function can be used also in case, if we know to generate only one pressure from the whole range of the manometer, for instance, setting 0 at measuring an over pressure.

It is suitable before calibration of the manometer to set the item Offset with help of Minimum and Maximum functions to 0, turn off the item AutoZero, to choose convenient number of displayed decimal places with F.point function and to select appropriate unit with help of Unit function.

After entering of the access password and moving through **Minimum** and **Maximum** items, the display shows actual pressure, which is measured by the manometer. With help of the buttons marked with  and  we set real value of the pressure on the display, which is generated on the input of the manometer. After setting correct value of the measured pressure, this will be confirmed by pressing the button  **ENTER** .

When entering the item **Offset**, the display will show actual set value of the offset. With help of the buttons marked  and  we can set required value of the offset. After setting correct value of the offset, this will be confirmed by pressing the button  ENTER.

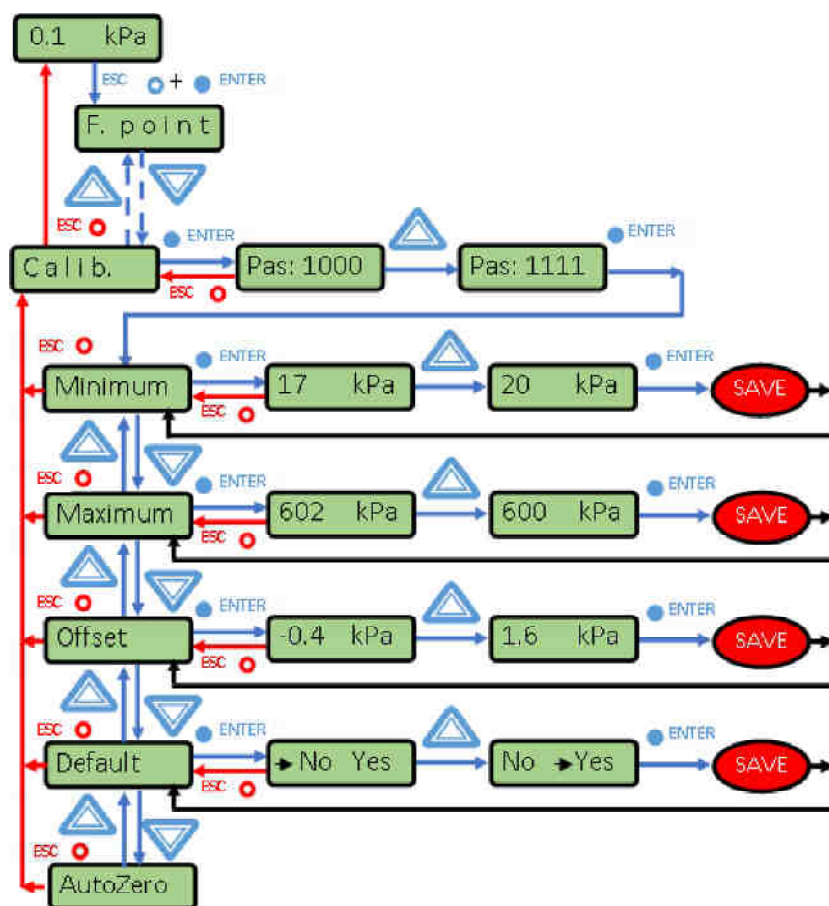
The value of the offset is added to the measured pressure and then displayed on the display.

In other words that means if we want to subtract from the displayed value of the pressure for instance 0,7 kPa, in such a case we subtract 0,7 kPa from the offset value displayed after entering into the Offset item, even if we should set negative value of the offset. After leaving the menu with help of the button  ESC, there will be shown the pressure lowered by 0,7 kPa.

Returning of the manometer parameters to the level set by the manufacturer is possible any time with help of the **Default** function.

Example: Manometer was set by the manufacturer for the range from 0 to 600 kPa

- Setting of the minimum at the pressure 20 kPa, while the value on the manometer display is 17 kPa
- Setting of the maximum at the pressure 600 kPa, while the value on the manometer display is 602 kPa
- Readjusting of the offset by +2 (the value on the manometer display was in the whole range by 2 kPa lower).
- Setting the parameters of the manometer range by the manufacturer



4.5. Description and setting of the AutoZero function

AutoZero

10 The AutoZero function serves for elimination to display very short pressure changes at the pressure close to 0. It is convenient to turn off this function before calibration of the manometer with help of the functions Calib. – Minimum, Maximum and Offset.

After entering into the item AutoZero there will be shown individual items of the submenu on the display:

Enable

turning on or off of the AutoZero function

Value

setting of the pressure interval, where the AutoZero function is used

Time

setting of the time interval

AutoZero function serves for elimination of undesirable instability at displaying the zero value of the manometer. For correct AutoZero function it is necessary to set also the menu items Value and Time.

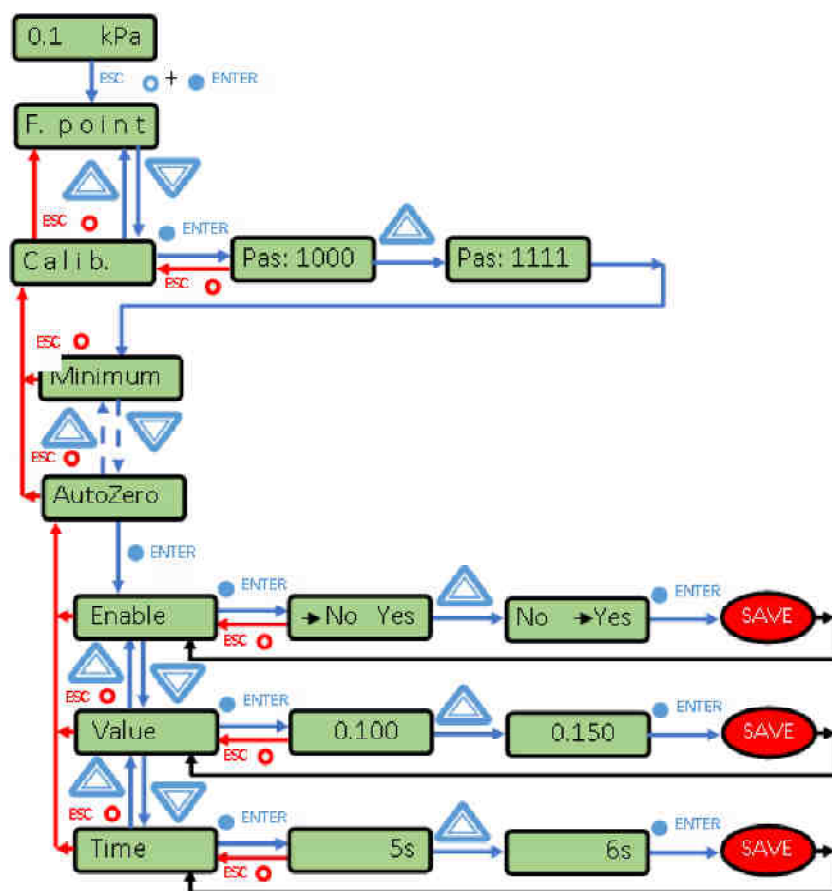
With the Value item amplitude of the pressure interval close to zero is set, where the AutoZero function is used. The amplitude of the interval is given in % of the manometer range set by the manufacturer. It is suitable to select smaller amplitude of the interval as is the accuracy of the manometer stated by the manufacturer. For instance, if the accuracy of the manometer is 0,25, the amplitude of the interval should not exceed the value 0,2.

With the item Time the length of minimal time interval in seconds is set, during which the amplitude of the pressure displayed on display must be smaller than the interval set by the Value function.

If the AutoZero function is turned on and value of the pressure is smaller than the length of time interval set by the Time function, in such a case the manometer is automatically calibrated and reset.

Example:

- 01 Turning on the AutoZero function
- 01 Readjusting the Value interval from 0.100 % to 0.150 %
- 01 Readjusting the length of time interval Time from 5 seconds to 6 seconds



4.6. Setting of the displayed unit

Unit

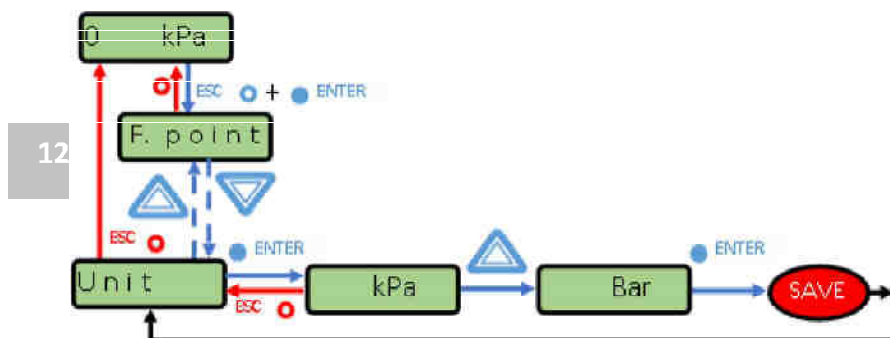
The Unit function serves for choosing or readjusting of the unit depicted on the manometer display, where the old pressure unit on the display is automatically readjusted and transformed to new one. The new unit will be displayed after leaving the set up menu.

The following units can be selected in the device:

m ; psi ; mmHg ; torr ; atm ; mbar ; bar ; MPa ; kPa ; hPa ; Pa

Note: It is required to enter density of medium when unit m (meter) is selected!

Example: Change of the display unit from kPa to bar.

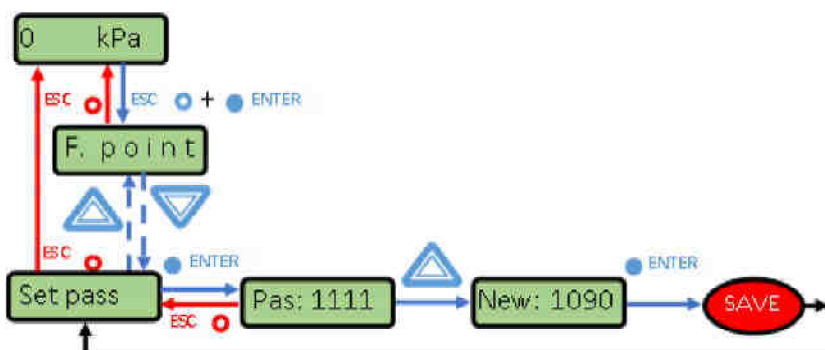


4.7. Change of the access password

Set pass

The Set pass function serves for change of the access password, which is needed for setting of the functions requiring to enter access password. The access password set by manufacturer is 1111. This Access password can be up to 4-digit long (can take only 4 digit places).




Example: Change of the access password from 1111 to 1090.



4.8. Setting of the time to turn off of the manometer display mode and time to turn off of the display illumination

Power

This function was built in the manometer with aim to economise and optimally save the energy from the power supply. It serves for setting of time interval, where the manometer is switched to display mode and time interval, in which the illumination of the display is turned on, and it is also possible to set continuous turn on of the manometer, or illumination of the display.

After setting this function with the buttons  or  and after confirmation with the button  the submenu will be accessible:


Off time

setting of the time to turn off the manometer display mode

Led time

setting of the turn on time of the display illumination

Setting of the time to turn off the manometer display mode**Off time**

The term Setting of the time to turn off the manometer display mode means the time of switching the manometer to the display mode with the button  **ENTER**. The display time is possible to enter in seconds, and that is from 5 to 60 s.

Pressing the button , if the display indicates **Time:60s**, the display will be overwritten to

Still on

, it means continuous (permanent) turn on of the manometer.

With help of the buttons  or  we set the notice on display

Off time. Then we will press the button  **ENTER**. There will be either the inscription**Time: xxs**



, where time xx is the time in seconds, during this the manometer is switched to display mode, or the notice

Still on

, the manometer is in permanent display mode.

With help of the buttons  or  we set required turn on time and acknowledge this with the button  **ENTER**. By pressing the button **ESC**  repeatedly, we will return back to the display mode.

Setting of the turn on time of the display illumination**Led time**

The term Time of turn on the display illumination means, when the display is illuminated after switching of the manometer to the display mode with the button  **ENTER**. The time when the display illumination is turned on is possible to enter in seconds that is from 0 to 60 s. By pressing the button , if the notice on display is

Time: 60s

, the display will be overwritten to

Still on

, that means, the display is continuously illuminated.

Pressing the button  , if the notice on display is

14 Time: 0 s


, the display will be overwritten to

Time: off

, that means permanent turn off of the display illumination.

With help of the buttons  or  we set entry

Led time

. This entry we confirm by the button  ENTER . There can be another entry on the display:

Time: xx s





, where xx is time in seconds during which the illumination of the display is turned on, or

Time: off

, the illumination of the display is permanently turned off, or


Still on

, the illumination of the display is continuously turned on.

With help of the buttons  or  we set required time of turn on and we confirm it with the button  ENTER . By pressing the button  ESC repeatedly we return to the display mode.

4.9. The memory (information related to max and min value of the sample)

Memory

The memory function serves for display of the highest and the lowest measured pressure by the manometer from their last deleting, with help of the **Clear** function of the submenu. After selecting the entry Memory and its confirmation by the button  ENTER , the submenu will be accessible:

MinValue

the lowest measured pressure

MaxValue

the highest measured pressure

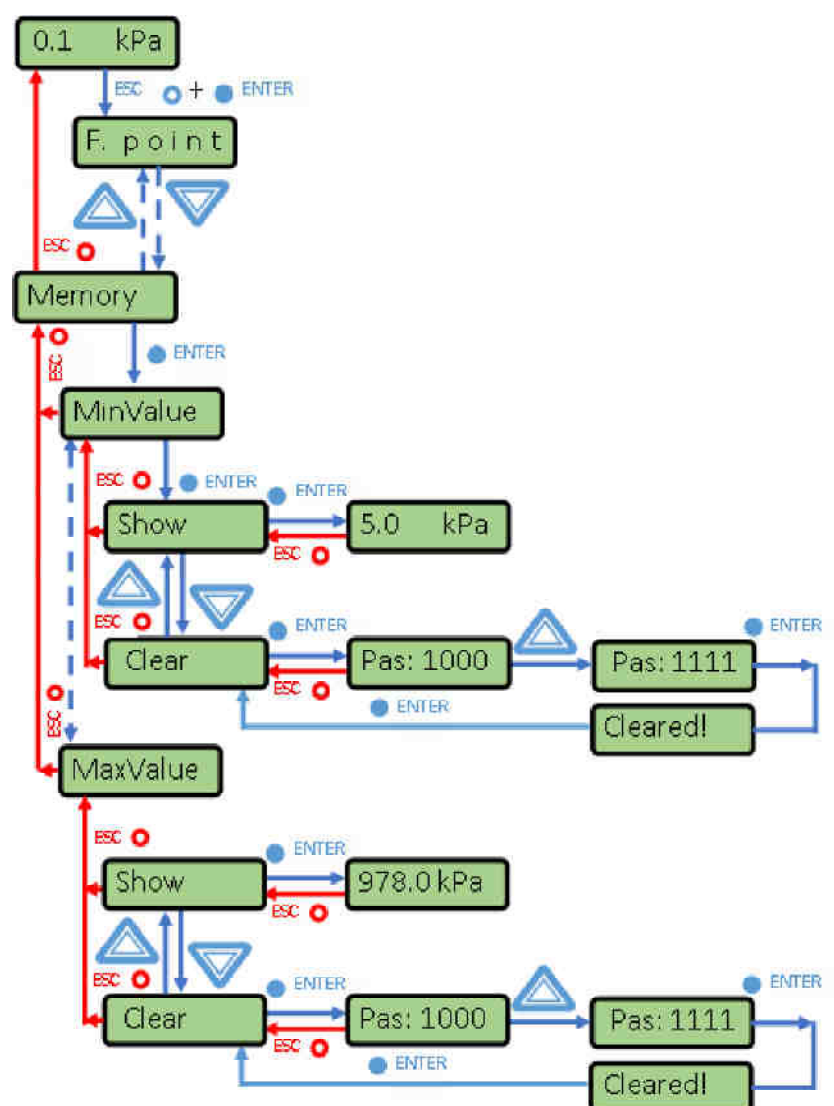
Show

display of the above mentioned pressures

Clear

deleting of the stated pressures

Example: Display of the smallest and the biggest measured pressure and their deleting with help of the **Clear** function



4.10. The device information

Info

Serial number information, the date of the last configuration and actual version of used software.

VendorId

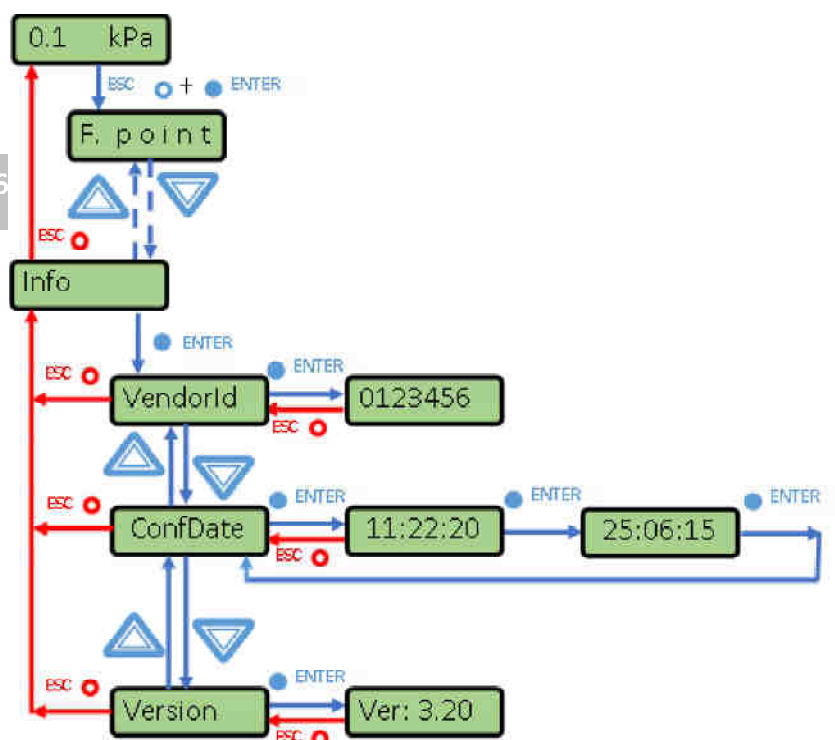
serial number

ConfDate

date of the last configuration by the manufacturer, or authorized person

Version

current (up-to-date) version of the manometer software



5. The functions accessible for manometer with the record function

Record

These functions of the manometer are accessible in menu only if the manometer is equipped with the recording function of measured pressure – datalogger – optional accessories.

When entering to this function the access password is required. The access password set by the manufacturer is „1111“. This password we recommend to change by the user of the device with help of the „Set pass“ function – description is stated in part 4.7.

With help of the buttons  or  in the set up menu the function is set

Record

, confirm with the button . After entering of the password and confirmation by the button , the submenu will be accessible.

ShowTime

- checking of internal time and date of the datalogger

Set time

- setting of internal time and date of the datalogger

Wake up

- setting of required time and date of the first sample

Interval

- setting of interval for saving the samples to the memory

- turn off the sampling

Samples

- overlooking of the samples saved in the memory

Clear

- deleting of the samples from the memory

Mem info

- information related to filling of the datalogger memory with recordings

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For setting of all entries for submenu function „ Record “ it is possible to use also software for PC or Android – optional accessories.

5.1. Terminology of the datalogger

Sampling of the datalogger

The term sampling of the datalogger means saving of measured value of the pressure to the memory of the datalogger in set intervals. The interval is possible to set in range from 250 milliseconds to 24 hours. See chapter 5.5.

Date and time of the first sample

Date and time of the first sample enable to synchronise recording of more dataloggers. **That simplifies comparison of the measured data. This date and time is set with help of the function „ Wake up “ and it must be always greater than actual date and time, otherwise the datalogger will not take the samples.**

Internal date and time of the datalogger


Internal date and time of the datalogger is saved into the memory together with measured value of the pressure. From this date and time is derived also the sampling period and date and time of the first sample.

It is necessary to check the hours always at the beginning of the recording function activation according to point 5.2 or as the case may be to set according to point 5.3, otherwise the datalogger may not save the samples to the memory. The hours can be set also with help of PC – chapter 7.

Sleeping mode of the datalogger



The term Sleeping mode of the datalogger means, the datalogger is powered from battery or adaptor, while there is no readout on the display. If the sampling is set, the datalogger will wake up in selected intervals, turns the supply voltage on, measure the instantaneous value of the pressure and save it to the memory together with the date of the sample and then will „fall asleep“, while there is no piece of information on the display.

Display mode of the datalogger

The term Display mode of the datalogger means, the datalogger was switched to the display mode with the button  ENTER . See chapter 3.1. In this mode the instantaneous value of the pressure is displayed and the parameters of the datalogger are possible to set with the appropriate buttons.

185.2. Check of internal time and date of the datalogger



ShowTime

With help of the buttons  or  in the datalogger submenu we will set on display the entry

Set time




and confirm it with the button  ENTER .

There will be the inscription on the display This entry of the submenu serves for checking of internal time and date of the datalogger.

With the help of the buttons  or  in the datalogger submenu we will set the entry

ShowTime

and confirm it with the button  ENTER .

There will be displayed internal time of the datalogger on display in the form „HH:mm:ss“ (hours : minutes : seconds). After repeated pressing of the button  ENTER internal date of the datalogger will be displayed in the form „ dd:MM:rr “ (days : months : years). After repeated pressing of the button  ESC  we will return to the display mode.


5.3. Setting of internal time and date of the datalogger

Set time

This entry of the submenu serves for setting of internal time and date of the datalogger




Year xxxx

– year.

With help of  or  we will set year and press  ENTER . There will be the inscription on the display



Month xx

– month.

With help of  or  we will set number of month in the year and press  ENTER . There will be the inscription on the display

Day xx

– day.

With help of  or  we will set actual day of the month and press  ENTER . There will be the inscription on the display

Hour xx – hours.

With help of  or  we will set current hour in 24 hour regime and press  ENTER . There will be the inscription on the display

Min. xx – minutes.

With help of  or  we will set current minutes and press  ENTER . There will be the inscription on the display

Sec. xx – seconds.

With help of  or  we will set current seconds and press  ENTER . There will be the inscription on display

Set time

Warning:

When setting the interval time and data of the datalogger, or at its drop-out, it is necessary to set also the functions „Wake up “ and „Interval “ .

5.4. Setting of required time and date of the first sample

Wake up



This entry serves for setting of time and date, from which the datalogger will save the samples into the memory in the set sampling period with the help of the item „Interval “. This enables to synchronise measurements of more dataloggers.

The sampling interval or time of the first sample is possible to change also without reading out of the previously stored samples, or deleting them from the datalogger memory. At readjusting the sampling interval or the time of the first sample, the samples saved in the memory will be preserved.


Warning:

The submenu items „Wake up “ and „Interval “ is necessary to set always when we want the datalogger to make samples, or there was drop-out of internal time of the datalogger, or their changing with the item „Set time “ .

The time and date of the first sample must be always greater than present (actual) time and date of internal time of the datalogger, otherwise it will not take samples.

With help of the buttons  or  in the datalogger submenu function we set the entry Wake up on the display

Wake up

and confirm it with the button  ENTER .

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There will be the inscription on the display

Month xx

– month.

With help of the buttons  or  we set the number of required month in the year when first sample will be taken and press the button  ENTER . There will be the inscription on the display




Day xx

– day.

With help of the buttons  or  we set required day in the month when the first sample will be taken and press the button  ENTER . There will be the inscription on the display




Hour xx

– hours.

With help of  or  we set required hour when the first sample will be taken in 24 hour regime and press the button  ENTER . There will be the inscription on the display




Min. xx

– minutes.

With help of the buttons  or  we set required minute when the first sample will be taken and press the button  ENTER . There will be the inscription on the display

Sec. xx

– seconds.

With help of the buttons  or  we set required second when the first sample will be taken and press the button  ENTER . There will be the inscription on the display

Wake up

For setting of required time and date of the first sample it is possible to use also software for PC or Android – optional accessories.

5.5. Setting of required time and date of the first sample

Interval



This item of the submenu serves for setting or readjusting of the interval for saving the samples into the datalogger memory, while the shortest and the longest interval of sampling is 0,25 seconds and 24 hours. **If we set the sampling interval to „ 0 “ hours, minutes, seconds and milliseconds, saving of the samples to the memory will be turned off.**

The sampling interval or time of the first sample is possible to change even without reading out of the saved samples, or to be deleted from the datalogger memory. After readjusting of the sampling interval or time of the first sample, the samples saved in the memory will be preserved.

Warning:

The items of the submenu „ Wake up “ and „ Interval “ is necessary to set always, if we want the datalogger to take samples, or there was drop-out of the interval time of the datalogger, or as the case may be their readjustment with the help of the item „ Set time “ .

Time and date of the first sample must be always greater than actual time and date of the datalogger internal time, otherwise the samples will not be taken.

With help of the buttons  or  in submenu of the datalogger function we set on display entry



Interval

and confirm it with the button  ENTER .

There will be the inscription on the display




Hour xx

– hours.

With help of the buttons  or  we set hours of the required interval in 24 hour regime and press the button  ENTER . There will be the inscription on the display




Min. xx

– minutes.

With help of the buttons  or  we set minutes of the required interval and press the button  ENTER . There will be the inscription on the display

Sec. xx

– seconds.

With help of the buttons  or  we set seconds of the required interval and press the button . If we set the hours, minutes and seconds on the display to „0 “, in such a case there will be the inscription on the display

msec. xxx – milliseconds.

With help of the buttons  or  we set milliseconds of the required interval in multiples of 250 and then we press the button . There will be on display the inscription

Wake up

For setting of the required sampling interval it is possible to use also software for PC or Android – optional accessories.



5.6. Turn off the sampling – stop to save the samples into the memory

Sampling will be turned off, if all items of the submenu „Interval “ - hours, minutes, seconds and milliseconds we will set to „0 “.





5.7. Examination of the samples saved in the memory

Samples

This submenu item serves for examination of the samples which are already saved in the memory of the datalogger.

With help of the buttons  or  in the submenu of the datalogger function we will set on display the entry

Samples

and confirm it with the button . The last saved sample in the memory will be displayed on the display. By further pressing of the button  there will be displayed on the display consecutively time and date, when the sample was saved into the memory. With the help of the buttons  or  it is possible to switch between individual samples, times or dates saved in the memory.

Samples

If there is displayed the inscription

Empty !

, on the display, in such a case there is no sample saved in the memory.

For examination of the samples saved in the memory it is possible to use also software for PC or Android – optional accessories.

5.8. Deleting of samples from the memory



Clear

Warning:

Deleting of samples from the memory of the datalogger will cause permanent removal of all saved samples from the memory and there is no possibility of their restoration.

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This item of the submenu serves for permanent deleting of all samples from the content of the datalogger memory.

With help of the buttons  or  in submenu of the datalogger function we set on display the entry

Clear

and confirm it with the button  ENTER . There will be on display the inscription

→ No Yes

With help of  or  we set on the display

No →Yes

and confirm it with the button  ENTER . There will be on display the description

Clear



Warning:

Deleting of samples from the memory of the datalogger will cause permanent removal of all saved samples from the memory and there is no possibility of their restoration.

5.9. Information about filling of the datalogger saving memory

Mem info

This item of the submenu serves for examination of filling the records memory in percent.

With help of the buttons  or  in submenu of the datalogger function we set on the display inscription

Mem info

and confirm it with the button  ENTER . There will be on the display the inscription

Mem: xx%

where xx express filling of the memory in %.

By repeated pressing of the button  we will return into the display mode.

Inscription

MemFull!

on the display signalizes, the memory of the datalogger is filled minimally to 90 %.

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6. Functions accessible for the manometer with Bluetooth communication

Wireless

This item of the submenu serves for turning off or on of the wireless communication. This enable better managing with the energy and subsequently saving of the power supply batteries. The manufacturer recommends turning on the communication only for necessary time.

For pairing with PC, the PC operating system will ask for PIN code. So if prompted, please type in number **"1234"**

For turning on the wireless communication we proceed as follows:

With help of the buttons  or  in submenu of the datalogger function we set on the display the inscription

Wireless

and confirm it with the button  **ENTER** . There will be on display the inscription

→ Off On

With help  of  we set on the display

Off → On

and confirm it with the button  **ENTER** . There will be on display the inscription

Wireless

For turning off the communication we proceed in the same way.

Warning:

This function is standardly set by the manufacturer as turned off.

7. Operation of the manometer equipped with record function with the help of PC

Program MERET ArchiveReader

version 1.5.4.14

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The Program MERET ArchiveReader is designated for communication with the devices of the MERET company, for their configuration and setting, reading out of the archives and configuration of the devices equipped with the possibility of recording - dataloggers , reading out and sampling of current values of the devices to the PC and export of data to the CSV format.

Warning:

The program is necessary to copy to the PC, where is the possibility to choose from Slovak or English version.

After copying to PC and activation of the application the main window will be displayed:



1. Setting of the communication parameters and reading out the device

For reading out the device it is necessary to enter to the lower part of the window the right parameters as the Port and the address of the device. These parameters vary in most cases because they depend on your requirements and on PC, the device will be communicate with.



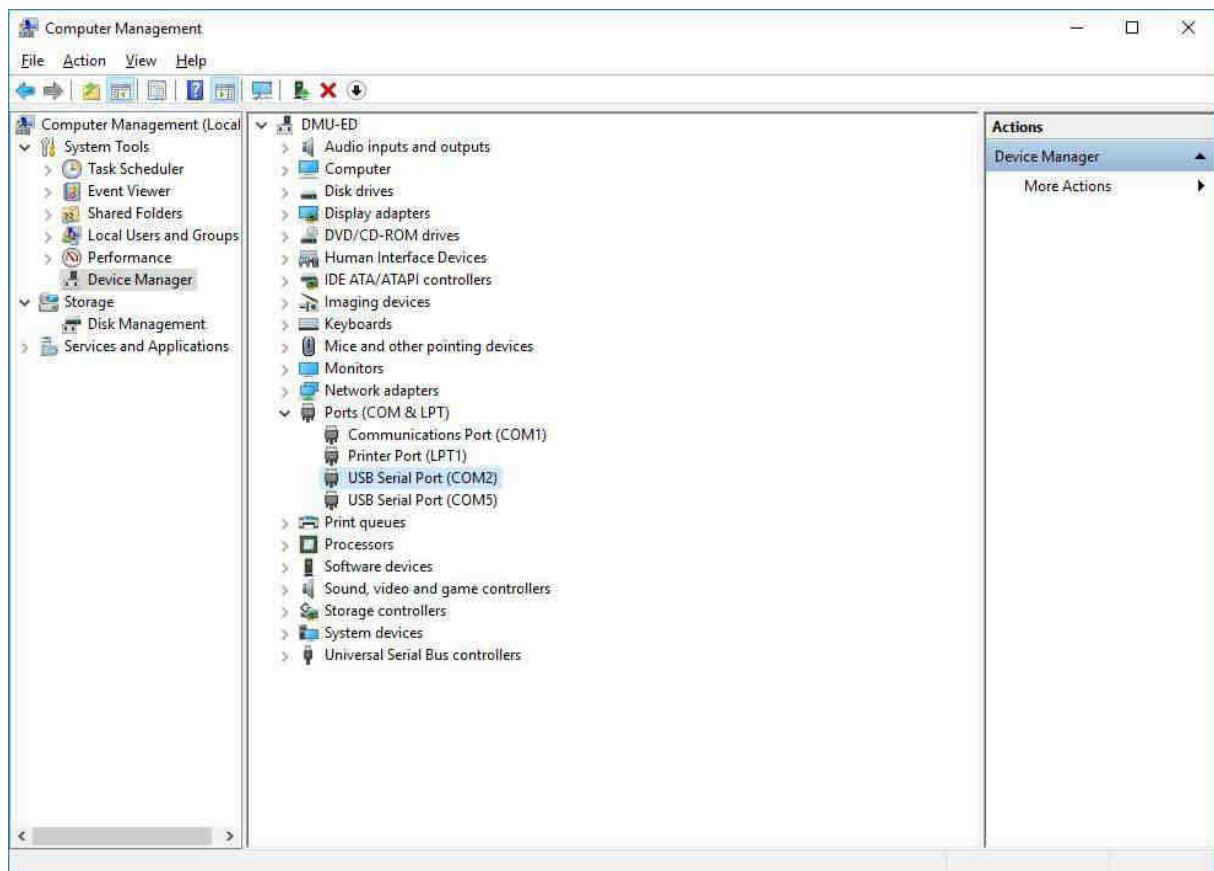
a) Procedure how to find out the number of the COM port:

What COM port the PC had assigned we will find out as follows:

On keyboard we press the combination of the keys  and key "R".

After that we will enter "devmgmt.msc" (without quotation marks). The administrator of the devices will open.

Then we unpack the item Ports and after connection of the device the number of the port will appear, which we then enter to the program MERET ArchiveReader.



b) Speed, Parity, Data bits, Stop bits :

If there was not specified in the order in different way, these values stay preset (default):

115200 / Even / 8 / One


For Bluetooth version:

115200 / None / 8 / One (PIN code for pairing with PC is "1234")

c) The address of the device:

The address of the device is set according to your order, it communicates also on the universal address with the value zero "0".

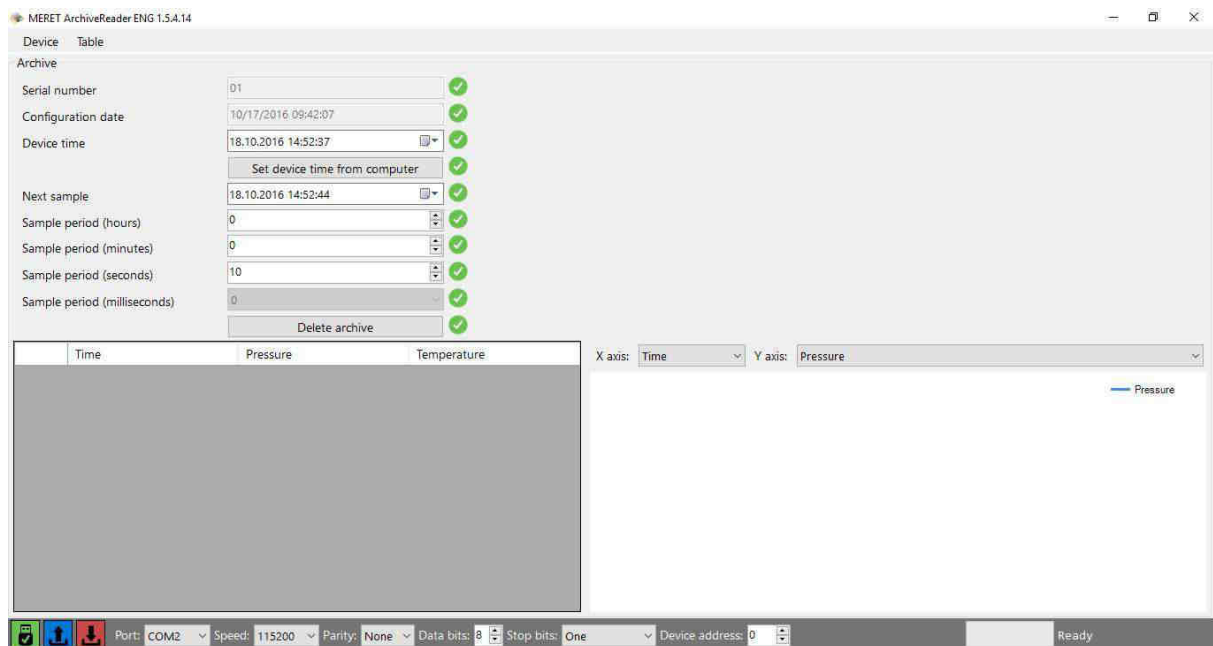
d) Reading out the device:

After entering of the right communication parameters we click on the green icon  on the right down. If the program detects the device correctly, it will read all the data saved in the device (like the serial number, configuration date, and so on).

In case the device was not read out correctly, we will help You with pleasure.

Do not hesitate to contact us either by means of electronic mail on the address support@meret.eu or on tel. number +421 (0)2 44 88 44 62

2. Setting of the sampling, reading and deleting of the archive



The window is divided into 3 parts.

On the left up there is information displayed which is related to the connected device. As for instance serial number, the date of setting the device, setting of current (actual) time and setting of the sampling time.



This symbol says the setting in line corresponds with the setting in the device.



This symbol on the contrary says, the setting in line do not corresponds with saved setting in the device. It will be displayed if we are overwriting some data in line and it persists until we do not save this setting into the device.

On the left down there is a list of the values read out of the archive. In the columns there are time of sample entry, further the values as pressure and temperature.

On the right down there is a diagram derived from the values of the left part. It is possible to set the diagram according to your need from accessible values of the pressure, temperature and time. Every value can be set for vertical or horizontal axis and to draw in the shape, which is the most acceptable for us. The values will be distinguished by the colour.

a) Setting of the sampling

For setting of the sampling it is necessary to set current time in the device. This we set simply by clicking on the button "Set time from the computer".

Device time	18.10.2016 14:52:37	
	Set device time from computer	

The device will take over the current time from PC this way. If the date and time is for some reason incorrect, it is possible to set the values in the entry "Device time" manually, directly by writing.

Then we set date and time to the item "Next sample", when the sampling will be activated.

Next sample	18.10.2016 15:04:04	
-------------	---------------------	--

In the items "Sample" we will set the period how often the sample should be created. On the illustration picture is this period set for 1 hour. It means, the device will save the current scanned value every hour into the archive.

Sample period (hours)	0	
Sample period (minutes)	0	
Sample period (seconds)	10	
Sample period (milliseconds)	0	


In case we want to set the sampling quicker than 1s, we set to the items hours, minutes and seconds the value zero "0". By this the unpacking menu will be accessible for milliseconds.

Warning:


For taking samples under 1 s, the manometer must be switched to the display mode.

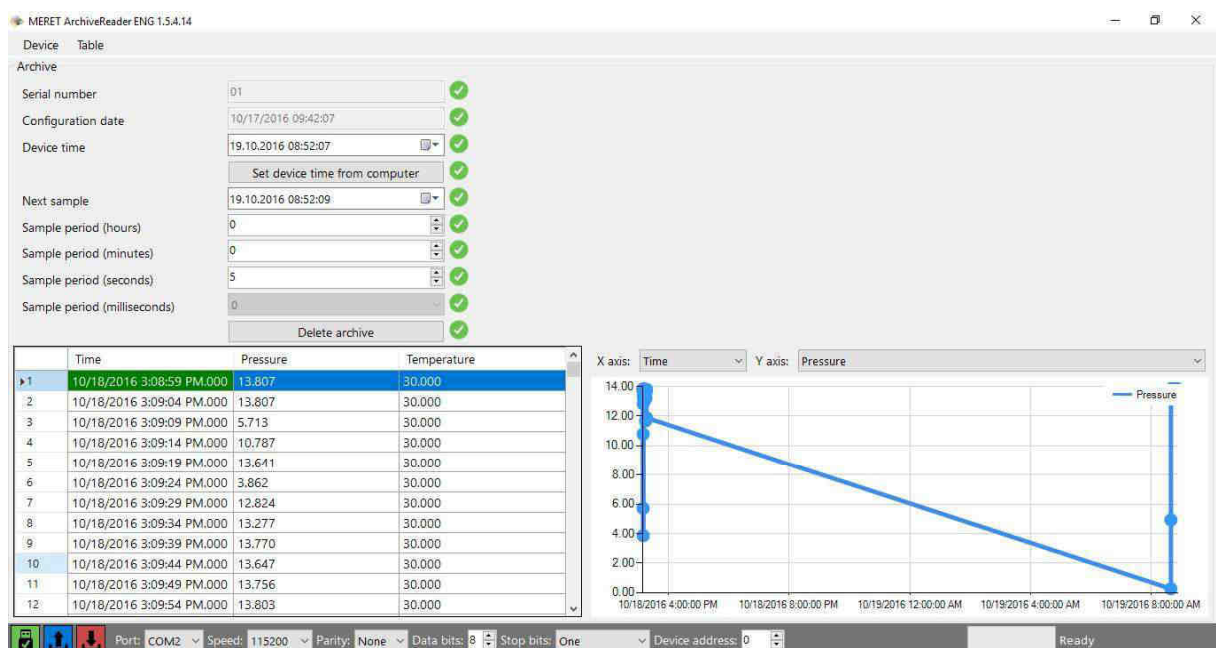
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When the batteries are discharged, there will be the inscription on the display „Battery!“ and the device will stop to take samples. The samples saved in the memory will be preserved.

After setting the time of the first sample and the sampling period, we click on the icon  and save the setting into the device. The sampling is active also when the display mode is turned off (i.e. there are no values displayed on the display).

b) Reading of the archive

The samples saved in the memory we can read from the manometer by clicking on the blue icon , what will fulfill the left down and right down part of the program.

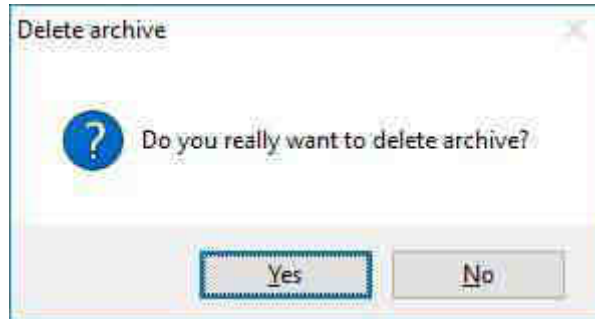


!ATTENTION! The time of reading of the archive grows exponentially with the number of samples in the archive.

c) Deleting of the archive in the device

Deleting of the archive in the device is possible also with help of the button „Delete archive“ and the confirmation question. This button we recommend to use after saving of the loaded archive into the corresponding directory of the PC, or alternatively after their export.

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Warning:

After pressing the button “Delete archive” and by confirmation “Yes”, you will irretrievably lose all content of the archive!

3. Export of the archive from the device to disc

There is a possibility to export the archive on the memory medium of the computer for whatever needs of the user.

You only have to click on the context menu “Table” which is located up and to select “Export”. Then we enter the name we want to name the file of the archive and confirm it. Archive file will be created in the form selected_name.csv.

This kind of the file is possible to open for instance with the Microsoft Office Excel, where we can work with it (graphs, summaries and so on.).

4. The most frequent questions and answers

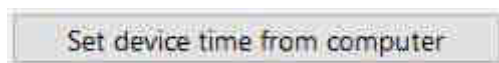
a) The device is not communicating even after entering of the right communication parameters

Please, make sure the device is turned on in the time of attempt for communication, i.e. the data are displayed on the display.

Please, make sure the port You had entered is correct and also the address of the device.

b) The device is not sampling

Please, make sure the time You had entered with the button “Set device time from computer”



Please, make sure in the same way the time of the first sample is correctly written (if it is not for instance moved by a year)

