

INSTRUCTION MANUAL

Temperature data logger
with text message notifications



RT 2014

Caution:

Before using the device first read carefully this manual!



Manufacturer:

POL-EKO-APARATURA sp.j.

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1 SAFETY PRECAUTIONS



All warnings included in this instruction manual, especially these which appear next to the warning or informative symbols, should be obeyed at all times to ensure the safety of the user and to maintain the proper operation of the unit!

The manufacturer does not take any responsibility for any damage which results from disobeying the instruction manual and misuse!

To guarantee your security and the longest efficiency of the unit, please comply with the following rules:

1.	<p><u>The unit cannot be installed:</u></p> <ul style="list-style-type: none"> • outside, • in damp places or places which can be easily flooded, • near flammable or volatile substances, • near acids or in corrosive environments.
2.	<p><u>It's forbidden to:</u></p> <ul style="list-style-type: none"> • operate the device with wet hands
3.	<p><u>You should:</u></p> <ul style="list-style-type: none"> • unplug the power cable holding the protective cover and not the cable itself, • protect the power cable and the plug from any damage and do not use the plug if it is improperly plugged in or if the cable is laid incorrectly, • disconnect the unit and protect it from reconnecting if it has any visual faults.

2 ENVIRONMENTAL PROTECTION AND DISPOSAL OF THE UNIT



The packaging protects the unit from any damage during transportation. The packaging is harmless to the environment and can be recycled. Please handle it according to the environmental protection regulations or dispose it. The unit itself can be recycled in order to save the resources. The unit is marked according to European Union directives on waste electrical and electronic equipment (WEEE). This directives determine the return and recycling conditions and are valid in all European Union member states.

PLEASE HELP US PROTECT THE ENVIRONMENT!

We would like to inform you that we have taken all the necessary steps to make sure that the unit will meet your requirements and will work reliably. Due to the fact that we constantly improve our products and extend their range, we invite you to provide us with any feedback. All opinions are welcome! Visit us at: www.polekolab.com

3 PREDESTINATION OF THE DEVICE

RT2014 device is used to measurement and registration of temperature/humidity. Recording is hold on microSD card. Saved data can be readed by LabDesk software or directly by opening files located on microSD card.

The device is equipped with GSM or WiFi module which allows to send text message notification on mobile phone, in case of alarm situations. The following notifications alarms are available:

- Low temperature alarm, with adjustable delay function
- High temperature alarm, with adjustable delay function
- Power failure 230V AC, with adjustable delay function
- Status – scheduled status info or on request
- Open door alarm with possibility to set delay,
- Measurement of pressure,
- Additional 2 x binary input/output

These notifications and functions relate to the most extended version of the RT2014. All devices are equipped with batteries capable to operate after a power failure.

Standard version of data loggers:

- RT2014_1T- single channel data logger for registration of temperature/humidity with GSM or WiFi module, possibility to connect temperature or humidity sensor.
- RT2014_2T- double channel data logger for registration of temperature/humidity with GSM module, possibility to connect two temperature sensors or humidity sensor and temperature sensor.

RT 2014 data logger complies with requirements in monitoring devices for vaccines storage. It is possible to provide the device with a calibration certificate issued by an accredited laboratory. Detailed info of accreditation is available on our website: www.polekolab.com





Examples of use: Independent temperature / humidity monitoring in thermostatic devices or climatic chambers, allowing you to send text messages in emergency situations, providing work regardless of power failures.

4 DESCRIPTION OF THE UNIT

Picture below shows the essential parts of the data logger.

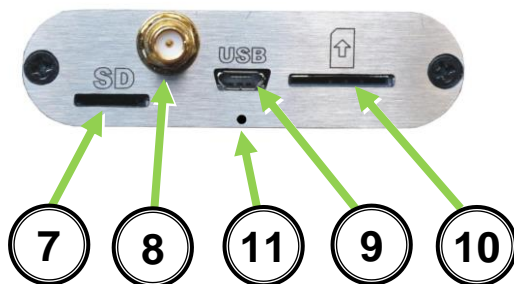
Front



- 1) GSM or WiFi Antenna,
- 2) OLED Display,
- 3)  ESC, cancel button,
- 4)  down button,
- 5)  up button, switching on of the device,
- 6)  ENTER, accept button ,

- 7) microSD card, socket,
- 8) GSM/WiFi Antenna socket,
- 9) USB socket,
- 10) SIM card socket,
- 11) Reset button*

Upper part



*for older versions reset button is located under top cover. In this purpose you have to:

- 1) Unscrew 2 black screws visible on the photo,
- 2) Take off the cover (the button is located under microUSB slot,
- 3) Proceed according to part 6.3 'Reset of the device',
- 4) In the reverse order assemble the device.

5 BEFORE THE FIRST USE



Before you connect the logger to the computer, charge the battery.



Before the first start-up or complete battery discharge, connect the device to the power source for at least 60 min before the use.

5.1 Contents of the package

- RT2014 Data logger equipped in temperature sensor (in option: couple of sensors, humidity sensor, limit switch sensor),
- GSM or WiFi antenna,
- micro USB – USB cable,
- charger,
- DVD with software,
- microSD card,
- user manual.



When receiving the delivery, visually check the package in the presence of the courier. For any damage caused during the transport responsible is courier company.

5.2 Installation

The place of installation of the unit should meet the following conditions:

- ambient temperature: 10°C...+40°C,
- relative humidity max 70%,
- This unit may not be exposed to direct sunlight and should be placed away from heat sources,

The place of installation of the unit should meet the following conditions:

- temperature: cannot exceed the range specified on the sticker and placed on the sensor
- relative humidity: max 70%, (applies to PT100)

Handling of sensors:

- sensors wires should be distanced from GSM or WiFi antenna at least 20cm,
- sensors wires cannot be bended or coiled in the loop,
- temperature sensor placed on the end of the wire is a sensitive element and should be handling with care (to protect against: impact, crushing, etc.)

If you don't comply with the above recommendations, the sensor may get broken or may show faulty indications.

The device is equipped with a backup battery which enables you to operate after a power failure.



The device is powered by a 5V DC. During operation it must be connected to a 230V using the supplied AC adapter.

5.2.1 Installation of SIM card



SIM Card, microSD card and GSM or WiFi antenna should be installed on the switched off device.

If you don't comply with the above recommendation, the unit or installed component may get broken!

After switching on the device, install the active SIM card. It is recommended to use licensed SIM card than pre-paid because of possibility of depletion of resources which can cause expiration of outgoing calls or the text message will not be sent. Choosing a mobile network operator you should consider outreach of the network - the device should be located in a sufficient conditions for network connection.

The first point is to activate the SIM card.

To activate the SIM card you should supply a mobile phone and using it you should:

1. turn off the mobile phone,
2. insert the SIM card in and turn on the mobile phone,
3. according to mobile instruction manual disable the PIN code on SIM card, recommended to deactivate the card PIN,
4. activate the SIM card according to the recommendations of the network operator,
5. delete all contacts and all text messages from the SIM (according to instruction manual of the mobile phone),
6. turn off the voice mail option,
7. if you use pre-paid card, make sure there are sufficient funds on the card and the validity of outgoing calls is active,
8. turn off the mobile and take out the SIM card.

The second point is SIM card installation

Switch of the RT2014. SIM card should be inserted to SIM card slot according to the symbol placed on the device. Push the card till you hear 'click' – then the card is installed properly. Switch on the RT2014.



5.2.2 Installation of microSD card

Insert the microSD card till you hear 'click' then the card is installed properly.

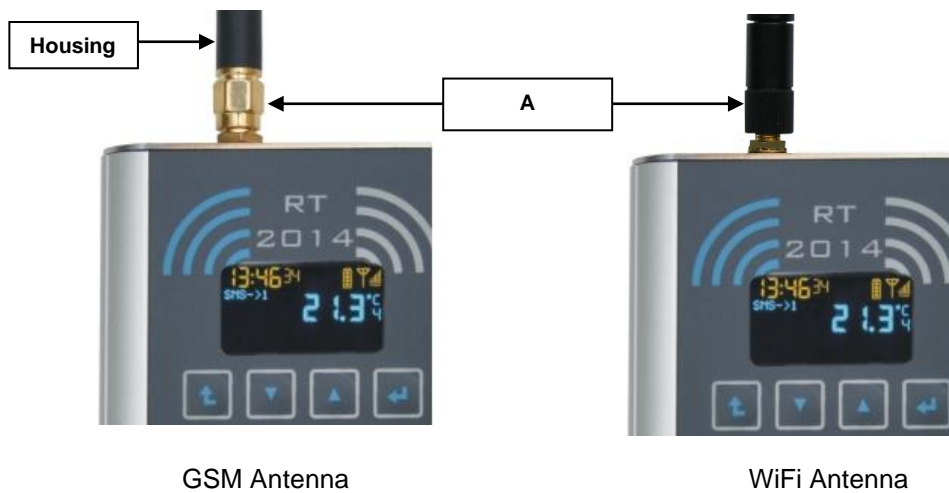
Supplied memory card is formatted and ready to use.

Supported cards are up to 8GB. Recommended file system is „FAT16”.



5.2.3 Installation of GSM or WiFi antenna


GSM or WiFi Antenna has right-handed thread and installation is done by screwing the nut antenna (A) to antenna socket GSM / Wi-Fi (see Chapter 4). The antenna screw on "fingers". Not allowed turn the a black plastic antenna housing.





	<p>Not allowed turn the a black plastic GSM antenna housing. It is recommended to control if the antenna does not unscrew itself during use. Unscrewing the antenna may damage the device.</p>
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5.2.4 Start-up of the unit

	<p>Before use you should:</p> <ul style="list-style-type: none"> • put active SIM card in the slot, • put microSD card in the slot, • screw the GSM or WiFi antenna, • charge the battery
--	--

After switching on the unit (switching on is made by clicking and holding  button), GSM module will try to connect to mobile operator.

 icon informs about looking for network and trying to connect. After about a minute, the module should already be connected to the mobile network - the icon will change to . The device is ready for operation.

If the GSM module does not connect to the mobile network, use a different card operators or if possible, move the device closer to the window.

All devices in WIFI version should be first configured in AVIA software which can be downloaded from the manufacturer's website and installed on the computer (<https://www.pol-eko.com.pl/download-english/> → software → AVIA 1.16 ZIP.exe) in order to be connected to the local network. You can find more information in the AVIA user manual.


Lack of or too weak signal of any mobile network in the installation place of the device as well as inability to use the text message option is not a product defect and cannot be the basis for any claims directed to the manufacturer of the RT 2014 - the company POL-EKO-APPARATURA.


5.2.5 Roaming

In a cross-border areas it may happens that the device will be communicated to the foreign operator networks (using roaming). It will cause higher costs for sending text message / making calls. The letter 'R' instead of the range icon, informs about operation of the device in roaming. To prevent your device from foreign operators it's recommended to disable roaming by contacting the GSM network operator. Likewise, when roaming is off, the device operating in the border areas of the domestic operator signal may be too weak to reliably operation. In this case, we it's recommended that you enable roaming services in GSM network.

The device does not distinguish domestic and abroad roaming. For boarder areas the manufacturer is not responsible for not distinguishing of domestic and foreign roaming.

6 OPERATION OF THE DEVICE

To startup push and hold  button for 4 second (till the main view appears). Enabling and disabling RT 2014 signaled by an is audible signal.

To enter menu, press  button. On display the following options will show:

- Standby – switching off the unit.
- Ac. balance – option available after set parameter USSD in AVIA software - program it activates USSD code (mostly used to check account's balance) – reading can last up to 1 minute,
- Upgrade – software actualization (see point 6.2),
- Restart – restart of the device, resets date and time,
- Clock – setting date and time,
- Info – information of the version, software.

To exit the menu, press .

Setting the date and time occurs while connecting with PC application and selecting "Send to device".

In WIFI version the time setting takes place during the connection to the AVIA server.

In the devices equipped with more sensors, switching between them takes place by pressing .



Adjusting the operating parameters of data logger (for example: emergency situations telephones numbers) can be set only in AVIA software.

6.1 Display

Main view of the RT2014



In order to reduce power consumption, while running on battery after 1min screensaver activates which will alternately displays temperature and time in different locations of the display.



On the display the following icons can be shown:



– the device is not logged in GSM / WIFI network. The cause could be: no SIM card, damaged SIM card, out of range, wrong settings WIFI network,



– the device is logged in GSM network. Quantity of vertical lines shows the strength of signal



– no SIM card,



– no typed or incorrect PIN code,



– temperature for a given sensor has risen above the value set in the application ('High'),



– temperature for a given sensor has decreased below the value set in the application ('Low'),



– signalling of alarm event,



– the device is connected to a power source,



– battery status, growing symbols indicates battery charging,



– flashing icon indicates lack of microSD card



– micro SD card icon: continuous light – card is inserted, light flashes – saving data to the card



– sending text messages in progress. Index after icon @ indicates, on which emergency number



– calling in progress. Index after icon @ indicates on which emergency number



– sensor number



– temperature value



– Time / Date.

6.2 Actualization of the software



Actualization of all loggers has to be made only with microSD card with a capacity of 2GB!

Software actualization should be made in the following order:

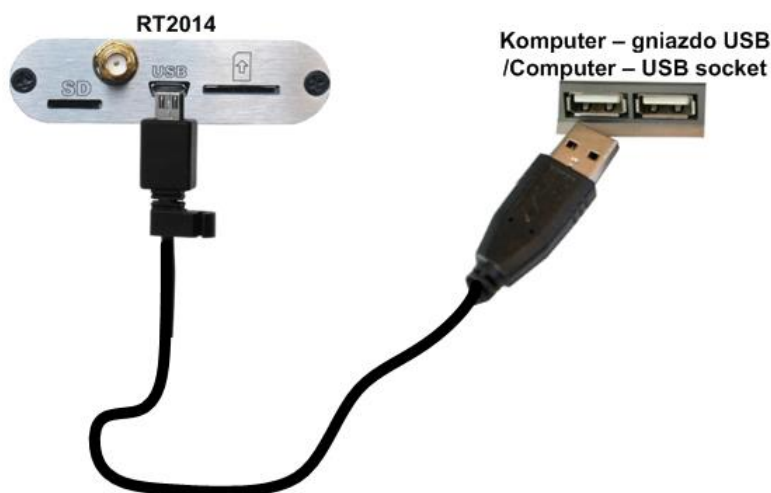
1. Make sure that the battery is charged,
2. Copy the proper files (FWRT2014.bin) to microSD card (the file with program has to be located in the main folder on microSD card),
3. From the MENU choose option UPGRADE (or UPGRADE\Firmware) and approve,
4. Update can last up to several seconds – during that time the display will be switched off,
5. After finishing the upgrade erase the files (FWRT2014.bin) from microSD card.

6.3 *Reset of the device*

Reset of the device should be made in the following order:

1. Plug micro-USB cable to the charger,
2. Plug the charger to the mains,
3. If the device is completely discharged, leave it to charge for 60min (it's forbidden to push any button during charging!),
4. Push RESET button one time (location of the button – see point 4),
5. Test the device by entering MENU and checking the operation.

6.4 *Connection the device to the computer*



The logger can be only connected to the computer only if battery is charged!



It is not recommended to connect the data logger to USB 3.0 socket (blue one). Such a connection may be unstable and manifest as undetected or interrupted communication.

Connect the device to the computer using microUSB-USB cable. In order to handle a data logger through the computer, the Avia application is needed (to be downloaded from the manufacturer's website <https://www.pol-eko.com.pl/download-english/> → software → AVIA 1.16 ZIP.exe).

7 INSTALLATION OF THE PROGRAM

Should be installed:

- AVIA Software (to be downloaded from the manufacturer's website <https://www.pol-eko.com.pl/download-english/> → software → AVIA 1.16 ZIP.exe) - used for parameterization of RT2014 unit, enables data exchange between the RT2014 and PC and synchronize files,
- LabDesk Software - enables creation of graphs/charts and has the function to generate reports of recorded .plk data files.

8 READING THE DATA

Registered data on the microSD card you can read by the following:

- Remove microSD card from the recorder and use SD card adapter using memory card reader in your computer. Before you remove the card, turn off the recorder,
- Using the application AVIA.

The data on a memory card is stored in a folder which corresponds to the name of the data logger.

There are the following files:

- *.plk format - supported by supplied LabDesk software,
- In text format with extension *.txt – you can import it and analyze it in a spreadsheet program.

The name of the file depends on chosen type of registration and is created according to the scheme below:

- daily – rrrrmmdd, where: rrrr – year, mm - month, dd – day. For example: 20140401 responds to 1th April 2014.
- Weekly – rrrrWww, where: rrrr – year, ww – week number. For example. 2014W14 responds 14th week of 2014.
- Monthly – rrrrMmm, where: rrrr – year, mm – month. For example: 2014M04 responds to April 2014.

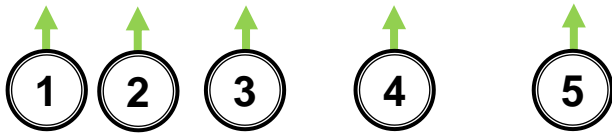
It's recommended to copy the file with data on other recordable memory before reading or editing the file.

In the text file (.txt) the following data are saved:



```

2015-05-12 06:22 T#1: 24.4 °C, Vbat: 4097 mv, Zasilanie: OK,
2015-05-12 06:23 T#1: 24.4 °C, Vbat: 4100 mv, Zasilanie: OK,
2015-05-12 06:25 T#1: 24.4 °C, Vbat: 4105 mv, Zasilanie: OK,
2015-05-12 06:26 T#1: 24.3 °C, Vbat: 4107 mv, Zasilanie: OK,
2015-05-12 06:27 T#1: 24.3 °C, Vbat: 4110 mv, Zasilanie: OK,
2015-05-12 06:28 T#1: 24.2 °C, Vbat: 4115 mv, Zasilanie: OK,
2015-05-12 06:30 T#1: 24.2 °C, Vbat: 4119 mv, Zasilanie: OK,
2015-05-12 06:31 T#1: 24.2 °C, Vbat: 4122 mv, Zasilanie: OK,
2015-05-12 06:32 T#1: 24.2 °C, Vbat: 4123 mv, Zasilanie: OK,
2015-05-12 06:33 T#1: 24.2 °C, Vbat: 4123 mv, Zasilanie: OK,
    
```



- 1) date,
- 2) time,
- 3) measurement from 1 sensor (T1),
- 4) battery voltage,
- 5) power supply,
- 6) name of file

9 ALARMS

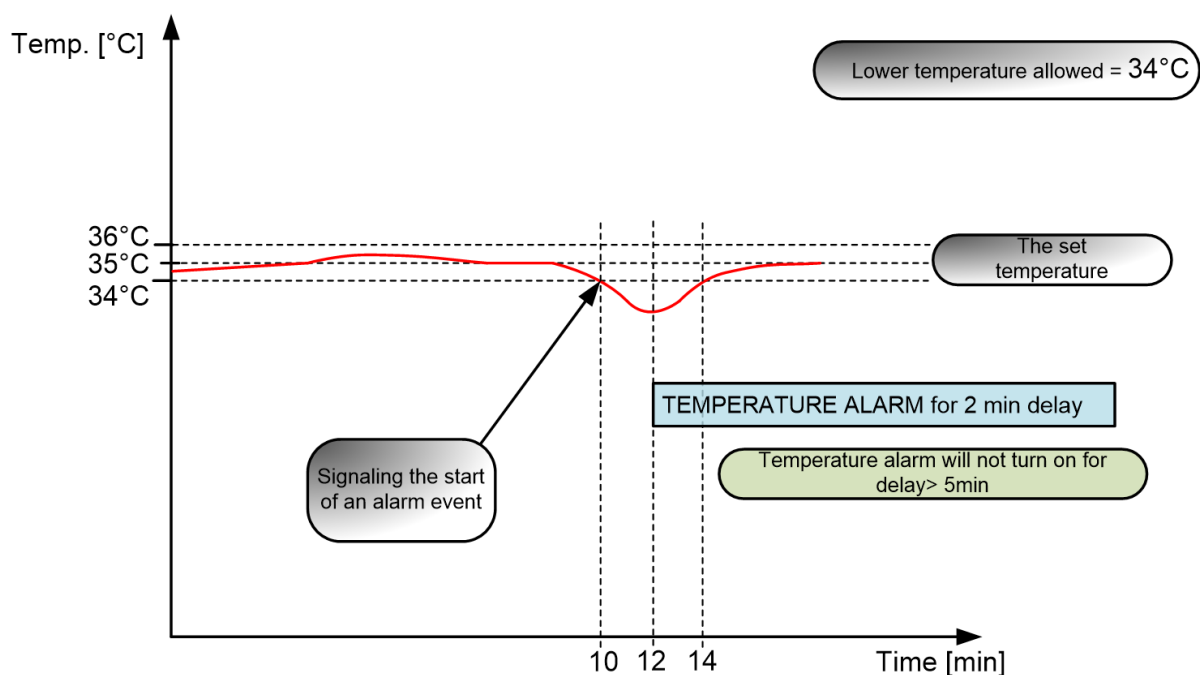
Type of alarms depends on set parameters set in application AVIA

9.1 Temperature / humidity

User will be notified in case of:

- Damage of sensor 1 or sensor 2 (indications transcend over the acceptable operating range of sensor),
- Values from sensor 1 or 2 transcend over the acceptable operating range set in parameters-alarms event and the time set in column 'delay' passed by.
- Return of the value on sensor 1 or 2 to the set temperature and acceptable range.

If the 'delay' is set e.g to 5 min (in case temperature will exceed), the alarm will not turn on if the temperature value will return to acceptable range in faster than 5 minutes (see chart below).





By setting the delay properly you can prevent unnecessary alarms caused by e.g opening the door to load the samples or defrosting function in the refrigerator.

9.2 Door

If the logger is equipped with 'Door' option, the user will be informed about:

- Opening of door.
- Closing of door.

9.3 Power

User will be notified about:

- When power failure occurs.
- When power will be restored.



By setting the delay properly you can prevent unnecessary alarms caused by short power breakage.

Data logger can inform the User about power failure of the data logger as well as monitored unit, if the AC/DC adapter of both devices will be plugged in the same power socket.



9.4 Examples of text message notifications

Over temperature alarm specified in the column "Low" for the primary sensor:

```
RT2014
2014-04-18 12:53
ALARM
low limit
T#1: 9.5 0C
```

Cancellation of the over temperature alarm specified in the column "Low" for the primary sensor:

```
RT2014
2014-04-18 12:55
End of ALARM
low limit
T#1: 10.5 0C
```


The alarm is signaled also by the device itself RT2014, in the form of a blinking symbol alarm  and sound signal. If the monitor saver is on, the unit will show inscription 'ALARM' on yellow background and sound signal. Calling of sound signal can be made by pushing  button or it will call off itself after the alarm event is finished.

10 REMOTELY REQUESTED STATUS OF THE DEVICE

The user can request to obtain the information about the status of the recorder. To do this, call your SIM card installed in the Data logger and after one signal disconnect. After a while, the device will send information about the status. Message with status of the device cannot be sent more often, like every 2 minutes.

The recorder will only accept calls from one of the two phone numbers selected in the data logger. It's recommended to check if presentation number on your phone is not locked. If the function is activated CLIR (lock of phone number display) the recorder does not verify the caller and does not send status. When you enter a new phone number, it's recommended to check the availability of remote functionality device status request by calling to SIM card number installed in the recorder, as described above. When these conditions are fulfilled and the text message still will not be received it could mean a failure of measurement chain or data logger controller failure. It is recommended to check the data logger.

RT2014
2015-04-18 12:58
T#1: 11.5 0C
Vbat: 4161 mV
Power: OK

Where:

Vbat – is a battery voltage in millivolts (mV) and it responds to battery charge status. Values above 3650 signalize 1 line in battery on the display, values above 4000 signalize 4 klines in battery on the display.

Message of the unit status cannot be sent more often than every 3 minutes.






The recorder will only accept incoming phone numbers stored on the data logger. You should also check whether your phone is not locked Identification Presentation (CLIR). If the CLIR function is activated (lock your phone number appearance) then the recorder does not verify the caller and does not send the status.

After entering a new phone number the User is advised to check availability of a remote request functionality of the device status by calling the phone's SIM card number installed in the logger, as described above. In case these conditions are met and the text (SMS) message does not come, This may indicate a path fault notification, or fault of the logger.

11 ACCESSORIES

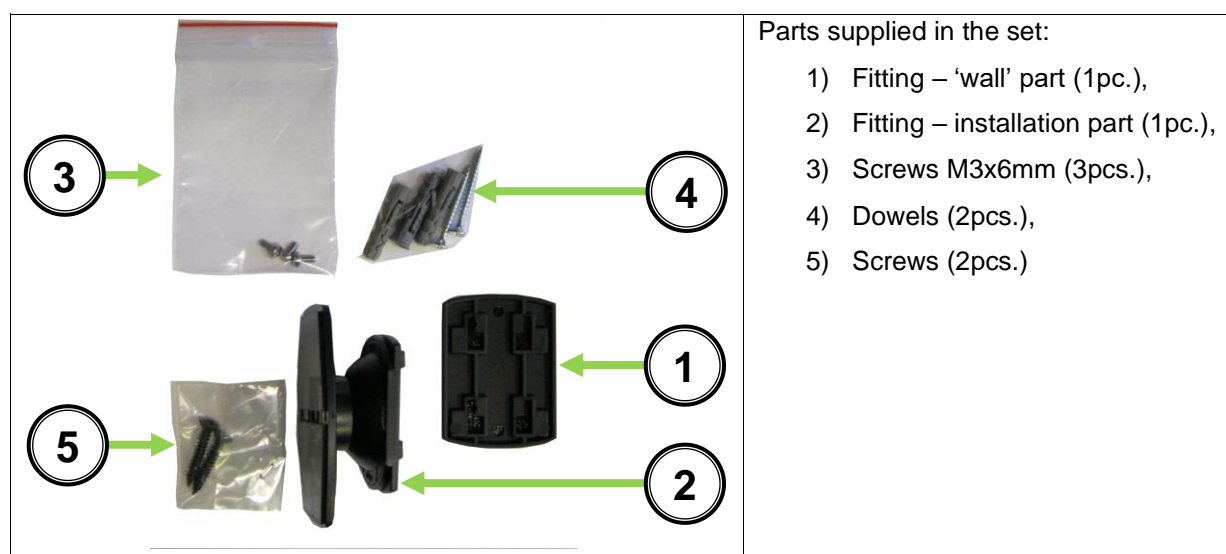
11.1 Measurement sensors

Parameters of RT2014 sensor:

Name	Appearance	Description	Measurement range	Cable length [m]
PT100 H		Sensor for high temperatures (recommended for CL, SL)	temp.:0...+400°C	2,5
PT100 S		Standard temperature sensor (recommended for KK, ST, IL, CHL)	temp.: -40...+180°C	2,5
PT100 L		Sensor for low temperatures (recommended for ZL)	temp.: -110...+120°C	2,5
RH_STD		Humidity and temperature sensor (recommended for ST, IL)	RH: 0...80% temp.: -0...+60°C	2,5
RH_PREM		Humidity and temperature sensor (recommended for KK)	RH: 0...100% temp.: -50...+60°C	2,5
HP	-	Internal pressure sensor	-	-

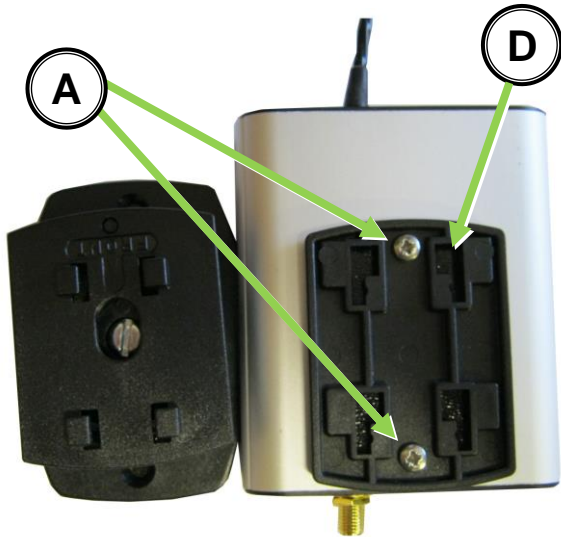
11.2 Fitting

Fitting enables to install the data logger RT2014 to any flat surface.

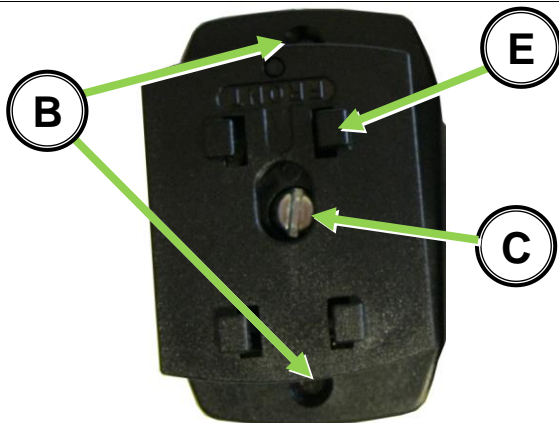


ATTENTION: using longer screws than 6mm (different than supplied) will cause permanent damage of the device!

Stages of fitting installation:



Installation part should be screwed to console using M3 screws (6mm long) (A) to prepared holes in the data logger(D).



Wall part should be installed to the flat surface using screws, dowels or in different way (according to surface). Holes (B) should be drilled. Installation with glue should be performed on a dry surface.

Handle adjustment mechanism allows to tilt the data logger. Tilt adjustments should be performed by setting the recorder at the desired position and then tighten screw (C).



To install the data logger to fitting, assemble outlet (E) to holes (D), pressing and moving down.

12 CLEANING AND MAINTENANCE

To keep the aesthetic appearance of the device, it must be occasionally cleaned. Painted elements and the panel should be cleaned with a wet cloth. Do not allow the passage of water into the device and SIM card slot and microSD. Keep the water out of the interior and SIM card slot and microSD card slot.

When the unit will not be used for longer time

If you are not going to use the unit for longer time, turn it off by choosing Standby in the menu. Before starting the recorder after long term shutdown connect the power supply for at least 60 minutes.

12.1 Handling with battery

The device is equipped with a maintenance-free lithium-polymer battery providing return of operation after power failure.

Replacing the battery should be made of authorized service of POL-EKO-APARATURA.

The battery is a consumable part and cannot be exchanged under the warranty repair.



The battery contains substances harmful to health and the environment. Used or damaged battery should be returned to a collection point for this type of waste. Most often used battery will be collected and exchanged for a new one.

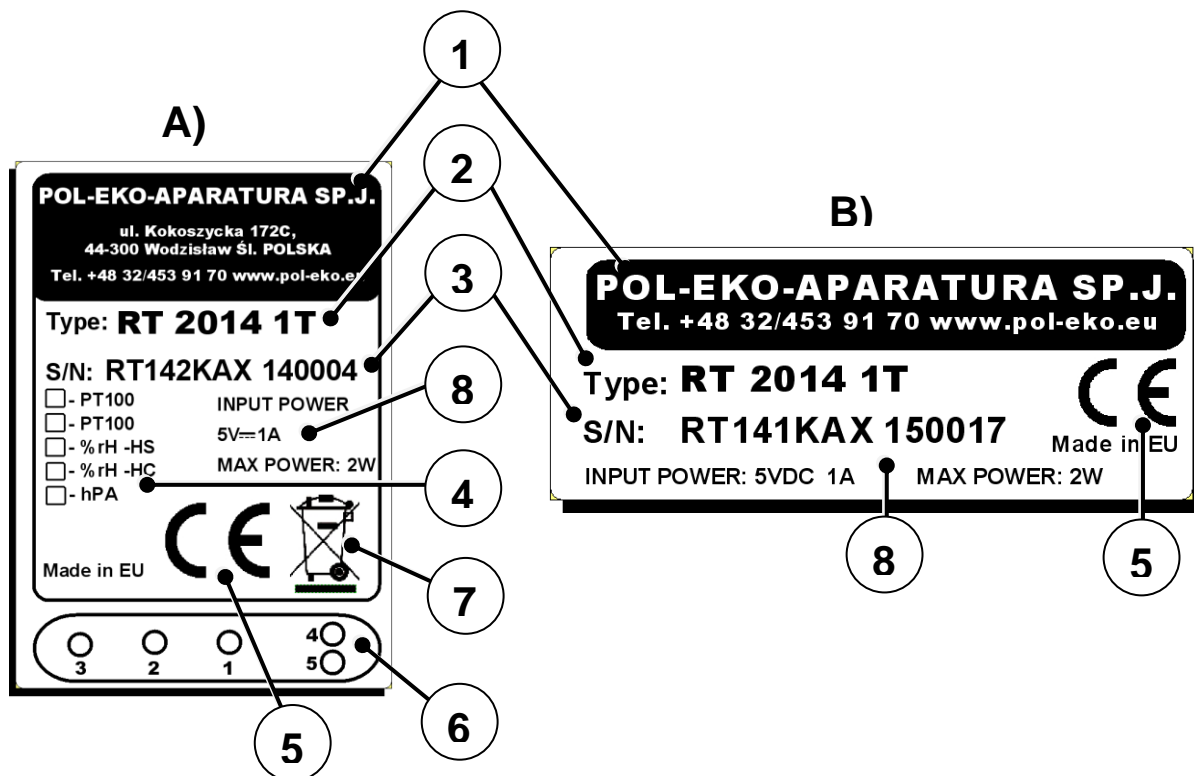
13 RATING PLATE

Rating plate is located on the back side of the device.

Here is an example of rating plates:

A) without bracket,

B) with fitting bracket.



Where:

1. Manufacturer
2. Type of unit
3. Serial number
4. Type of used sensors
5. CE mark
6. Scheme of located sensors in the bottom part of the unit
7. WEEE mark
8. Allowable range of supply voltage and frequency

TECHNICAL DATA

Parametr	RT2014
Temperature measurements	2 x external Pt100
Temperature range (depending on sensor) [°C]	-110 ... 400 (depending on type of sensor)
Temperature accuracy [°C]	0,1 / +/- 0,2
Humidity measurement	zewnętrzny RH_STD/RH_PREM
Humidity range [%]	RH_STD 0...80 RH_PREM 0...100
Humidity accuracy [%]	1% / RH_STD: 1,8; RH_PREM 0,8
Atmospherical pressure measurement	internal
Pressure range [hPa]	300 - 1100
Pressure accuracy [hPa]	1 / 1,5
Sensor cable length [m]	2,5
Current time	yes
interval [min]	1/5/15/30/60
Internal memory	Max 50 000 measurement data
Additional memory	microSD card up to 8GB
interface	Micro USB
Power	5 VDC ; 1A
Ambient conditions	10°C to 40°C up to 70 % RH
Battery working time	48 h
display	OLED 128x64 px
External dimensions (w x d x h) [mm]	72 x 20 x 85 (140 with antenna)
weight [g]	165
Frequency band GSM	850/900/1800/1900
Quantity of phone numbers for sending SMS notification (ringing)	5
warranty	24 miesiące

* in the table are the parameters for the most extended version of the model

14 TROUBLESHOOTING

Fault	Cause	What to do
Device does not turn on	power cable is bended or damaged	Replace the cable or AC/DC adapter
	Device is not connected to the power source	Connect the unit to the AC/DC adapter
	completely discharged	turn off the logger, charge the battery, turn on the logger,
Power supply / charging icon flashes	Device is connected to USB socket which has low charging efficiency	In order to ensure a stable power supply / charging data logger should be connected supplied power adapter.
Lack of measurement of temperature/ humidity/ pressure sensor, or faulty sensor indications	Wrong placement of sensor's cable	See point 5.2 (Installation place and handling with sensors))
	Probably damaged sensor or measurement chain	Contact service to check and replace broken element.
Despite the alarm, notification (text message, call or both) has not been made	No sources on SIM card placed in the unit	Check the remaining amount of the card (if the card is pre-paid)
	Out of network range	check the signal level on the main screen check whether the GSM antenna is properly mounted move the recorder closer to the window
	Damaged measurement chain	Check if the SIM card is inserted
no connection to the network WIFI	Out of network range	to check WIFI network coverage with another device with an access to this network (e.g. smartphone, tablet)
	wrong settings in application AVIA	Check LAN settings in application AVIA
No notification in case of power failure	Probably discharged battery	Check if after disconnecting the plug data logger works properly
computer it's unable to connect to the data logger	USB drivers haven't been installed	Install USB drivers, see Attachment 1 or Attachment 2

If the above steps do not result should be reset the device - see section 13.2 (Reset device)

Before you contact the service:

- Make sure you cannot remove the failure by yourself.
- Turn the unit off and on again to make sure it is not working properly. If this is the case, disconnect the unit from the mains and repeat the procedure after an hour,

If the unit is still not working properly, contact the service giving the following information:

- type and serial number of the device,
- date of purchase,
- type of damage (detailed description),
- full address and place where the unit has been installed,
- time when we can contact you.

WARRANTY CONDITIONS

1. The warranty does not cover any damage resulting from inappropriate transport.
2. In case of a justified warranty repair, the user/buyer covers the cost of transporting the unit to the service, and the warrantor covers the cost of transporting the unit to the user/buyer. In case of an unjustified claim the user/buyer covers the cost of transporting the unit in both ways.
3. Justified faults and damage of the unit will be repaired free of charge within 20 days of delivering the unit to the service.
4. The warranty period for the user/buyer is extended for the time the unit has spent at the service.
5. Warranty covers data carriers delivered along with the equipment; warranty does not cover data saved on any additional data carriers plugged to the equipment by the User, like e.g. memory card or pendrive. Manufacturer recommends to make additional copy of significant data.
6. Warranty does not cover parts that are being exploited during equipment normal use, e.g. battery.
7. The term "repair" does not cover the installation and conservation of the unit, or improving the mechanical-electrical connections.
8. The only entity approved to carry out all warranty repairs is the POL-EKO-APARATURA service or other party authorized by POL-EKO-APARATURA to provide service.
9. Warranty does not cover any damage to the glass parts and any mechanical damage.
10. The user loses the warranty rights if during the warranty period:
 - they use the unit contrary to the instruction manual,
 - **does not perform the maintenance and inspection works, or does not comply to the recommendations (see point "Maintenance...")**,
 - they carry out the repairs or modifications of the unit on their own or have them made by others, not authorized by POL-EKO-APARATURA
 - the warranty seal is torn,
 - they use their guarantee rights in the first year of using the device (counting from the date of sale),
 - there are no anti-surge protections in the building which may result in a damage to the unit (e.g. due to an atmospheric discharge),

Warranty conditions shall be subject to Polish law

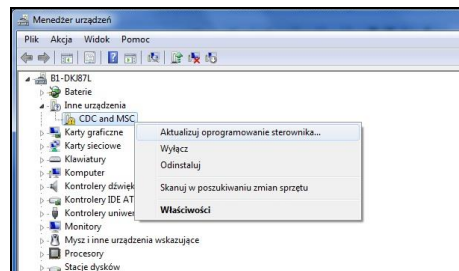


The drivers installation should be carried out automatically during the installation of the AVIA software. In case of any problems occurred while connecting RT 2014 to the computer, refer to the following attachments describing how to install the drivers.

ATTACHMENT 1 INSTALLATION OF USB DRIVERS FOR WINDOWS 7

When you connect your device to your computer via USB, the computer detects the new hardware. If the USB drivers have not been previously installed, go through the installation process. Here is the example installation on Microsoft Windows 7.

Go to Device Manager (right click on My Computer icon/Properties/Device Manager), choose position 'CDC and MSC' (right click) and go to 'Update driver software'.



Mark the location where are the files:

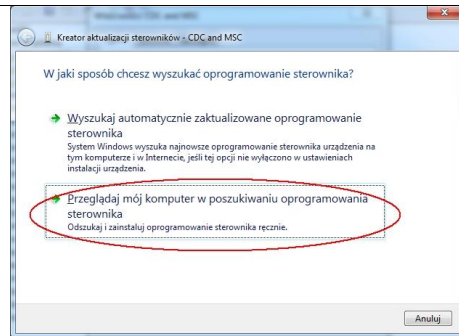


atmel_devices_cdc
Wykaz zabezpieczeń
9 KB

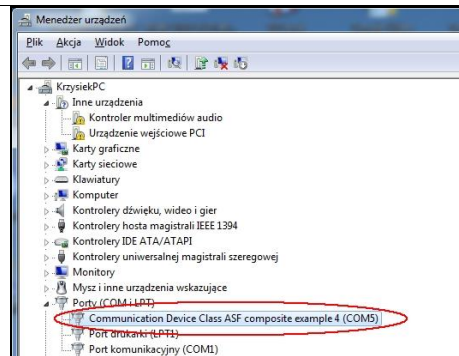


atmel_devices_cdc
Informacje Instalatora
9 KB

atmel_devices_cdc. – the location is on delivered DVD in Driver folder. Copy the files to the PC on the local hard disc (e.g C:) and indicate the correct patch.



Correctly installed port to operate the device - in brackets will display the COM port number (in this case, COM5) to which the device is connected.



After doing the point above, you are ready to use the device.

ATTACHMENT 2 INSTALLATION OF USB DRIVERS FOR WINDOWS 8



Installation of USB drivers for Windows 8 is made in two stages:

STAGE 1 Disable the verification of digital signatures for Win8

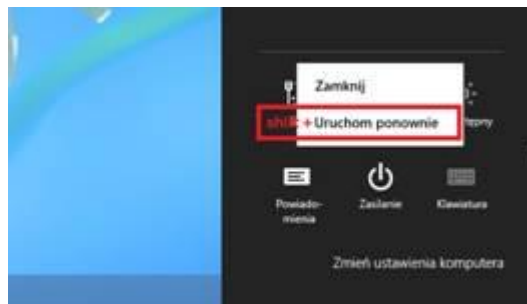
Variant 1 (pic.1)

Move the cursor to the bottom right corner of the desktop. Go to the power options and click on the 'Restart' while pressing SHIFT.

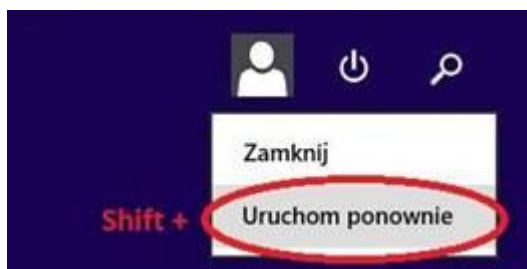
Variant 2 (pic.2)

Click 'Start'  and click in the right upper corner icon  and then choose 'Restart' while pressing SHIFT.

For Win8 with Win7 overlay Start → turn off → Restart (with SHIFT).

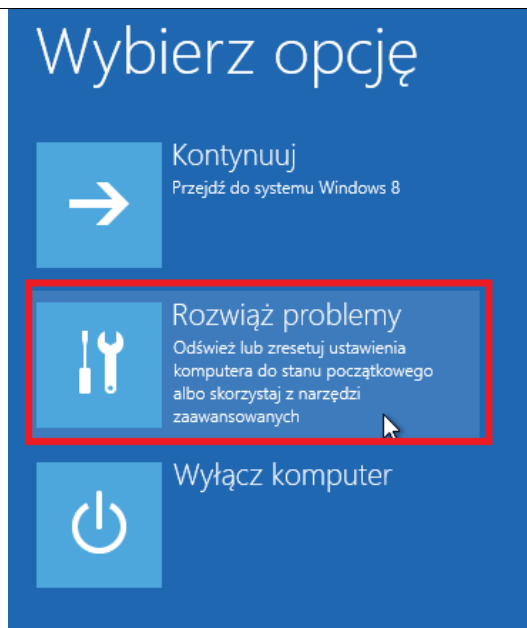


Pic.1

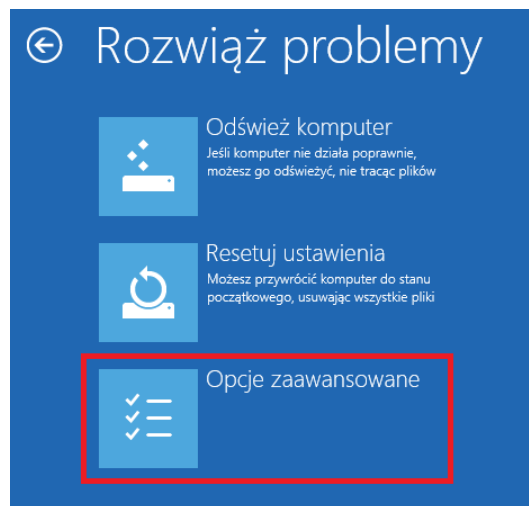


Pic.2

Choose 'Solve problems'.



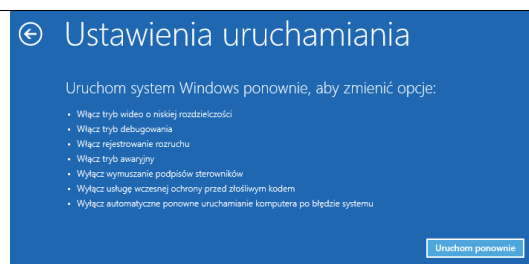
Choose 'Advanced options'.



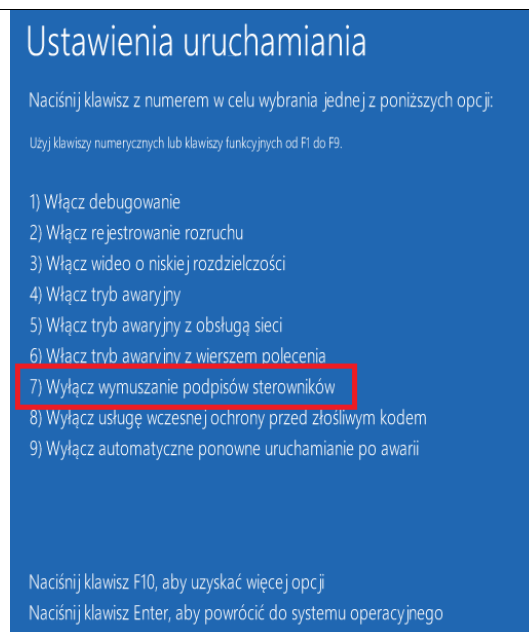
Choose 'Restart options'.



Choose 'Restart'.

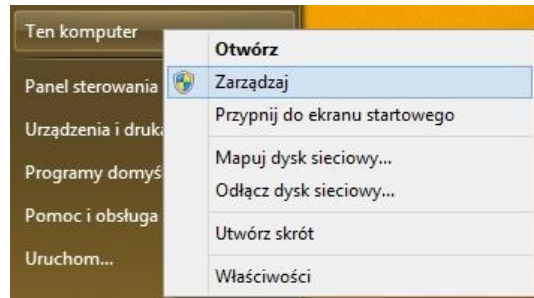


The PC will boot and show options – choose and click F7 button. Windows 8 will launch with disabled verifications of drivers.

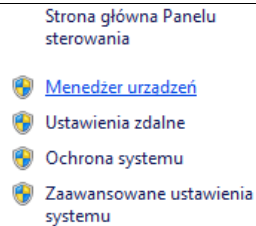


STAGE 2 Drivers installation

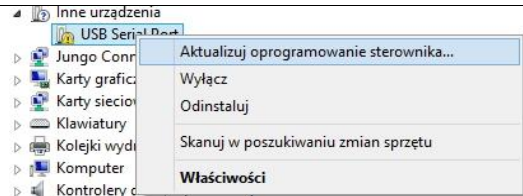
Click 'Start', right-click on 'This computer' and choose 'Manage'.



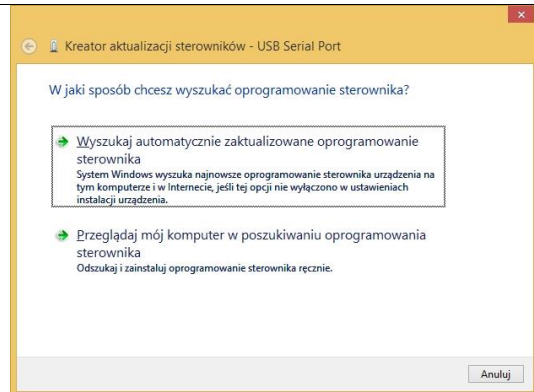
From the list choose 'Device manager'.



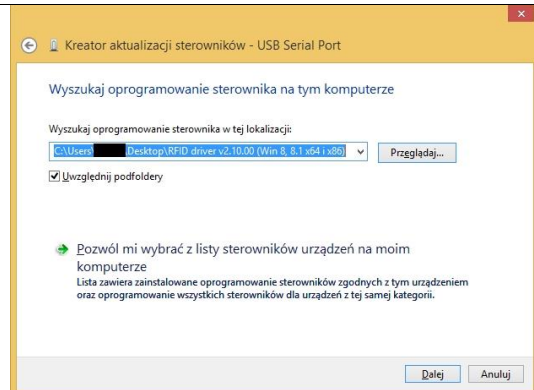
Now choose 'Other devices', right-click on 'USB Serial Port' and choose 'Update driver software'.



Click on 'Browse my computer for driver software'.



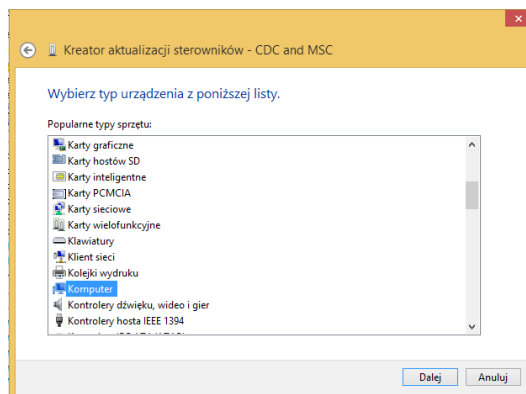
Now 'Let me choose from the list of device drivers on my computer'. Then go 'Next'.



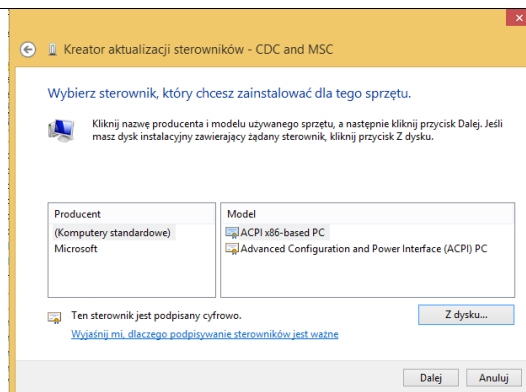
From the list choose the drivers location on DVD (folder Driver: atmel_devices_cdc).



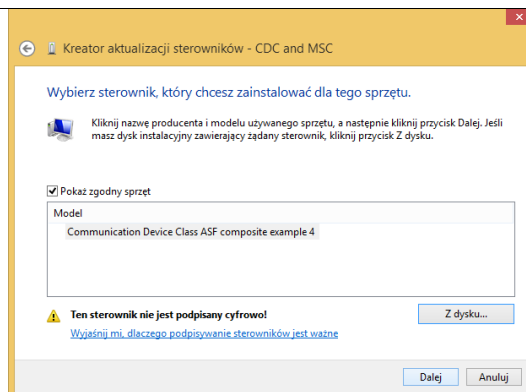
Copy them on local disc (e.g C:). Then choose localization – ‘Computer’ and go ‘Next’.



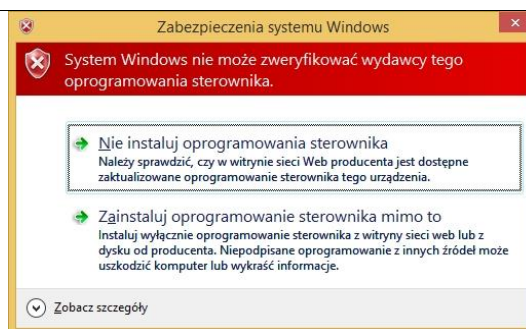
Choose ‘from hard disc’ and choose localizations where drivers (atmel_devices_cdc). Click ‘Open’ and ‘OK’.



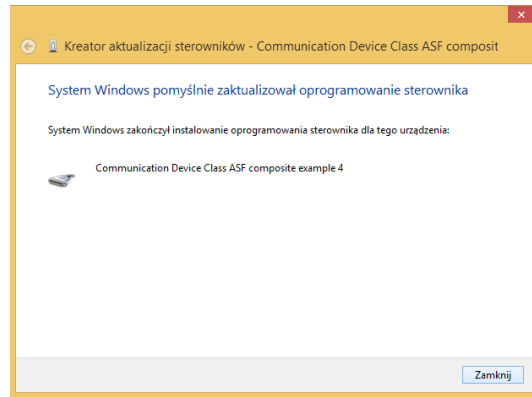
Choose ‘from hard disc’ and choose localizations where drivers (atmel_devices_cdc). Click ‘Open’ and ‘OK’.



The window will appear. ‘Windows security’. Click ‘Install this driver software anyway’.

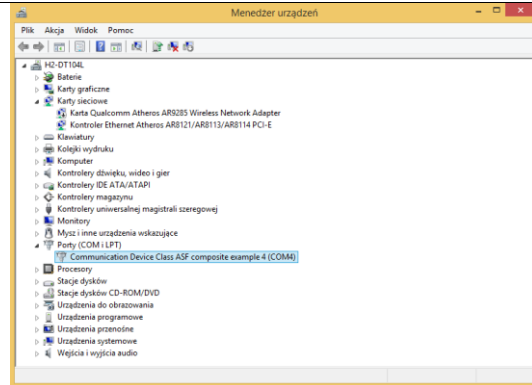


After approval, the driver will be installed. Then 'Finish' the installation



In order to verify the proper operation of the controller open window "Device Manager" (as earlier in the manual).

Unroll 'Ports (COM and LPT)' and check if the new COM port has appeared. If not, perform the installation again. Close the 'Device manager'.



Re-inclusive computer can be carried out in normal mode.

Directives and Standards

BGS2-E/BGS2-W is designed to comply with the directives and standards listed below.

It is the responsibility of the application manufacturer to ensure compliance of the final product with all provisions of the applicable directives and standards as well as with the technical specifications provided in the "BGS2-E/BGS2-W Hardware Interface Description".¹

Table 1: Directives


1999/05/EC	Directive of the European Parliament and of the council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity (in short referred to as R&TTE Directive 1999/5/EC). The product is labeled with the CE conformity mark CE 0682
2002/95/EC	Directive of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) 

Table 2: Standards of North American type approval¹

CFR Title 47	Code of Federal Regulations, Part 22 and Part 24 (Telecommunications, PCS); US Equipment Authorization FCC
UL 60 950-1	Product Safety Certification (Safety requirements) 
NAPRD.03 V5.11	Overview of PCS Type certification review board Mobile Equipment Type Certification and IMEI control PCS Type Certification Review board (PTCRB)
RSS132 (Issue2) RSS133 (Issue5)	Canadian Standard

1. Applies for the quad band module variant BGS2-W only.

Table 3: Standards of European type approval

3GPP TS 51.010-1	Digital cellular telecommunications system (Phase 2); Mobile Station (MS) conformance specification
ETSI EN 301 511 V9.0.2	Candidate Harmonized European Standard (Telecommunications series) Global System for Mobile communications (GSM); Harmonized standard for mobile stations in the GSM 900 and DCS 1800 bands covering essential requirements under article 3.2 of the R&TTE directive (1999/5/EC) (GSM 13.11 version 7.0.1 Release 1998)
GCF-CC V3.45	Global Certification Forum - Certification Criteria

1. Manufacturers of applications which can be used in the US shall ensure that their applications have a PTCRB approval. For this purpose they can refer to the PTCRB approval of the respective module.


Table 3: Standards of European type approval

ETSI EN 301 489-1 V1.8.1	Candidate Harmonized European Standard (Telecommunications series) Electro Magnetic Compatibility and Radio spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common Technical Requirements
ETSI EN 301 489-7 V1.3.1	Candidate Harmonized European Standard (Telecommunications series) Electro Magnetic Compatibility and Radio spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) standard for radio equipment and services; Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS)
EN 60950-1:2006/ A11:2009	Safety of information technology equipment

Table 4: Requirements of quality

IEC 60068	Environmental testing
DIN EN 60529	IP codes

Table 5: Standards of the Ministry of Information Industry of the People's Republic of China

SJ/T 11363-2006	"Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products" (2006-06).
SJ/T 11364-2006	<p>"Marking for Control of Pollution Caused by Electronic Information Products" (2006-06).</p> <p>According to the "Chinese Administration on the Control of Pollution caused by Electronic Information Products" (ACPEIP) the EPUP, i.e., Environmental Protection Use Period, of this product is 20 years as per the symbol shown here, unless otherwise marked. The EPUP is valid only as long as the product is operated within the operating limits described in the Cinterion Wireless Modules Hardware Interface Description.</p> <p>Please see Table 6 for an overview of toxic or hazardous substances or elements that might be contained in product parts in concentrations above the limits defined by SJ/T 11363-2006.</p> 



DEKLARACJA ZGODNOŚCI UE
EU DECLARATION OF CONFORMITY



Produkt: Rejestrator RT 2014	Product: RT 2014 data logger
Model: RT 2014	Model: RT 2014
w wersjach: RT 2014_1T, RT 2014_2T, RT 2014_1T_WiFi, RT 2014_2T_WiFi	in version: RT 2014_1T, RT 2014_2T, RT 2014_1T_WiFi, RT 2014_2T_WiFi
Nazwa i adres producenta: POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.	Name and address of the manufacturer: POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.
Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.	This declaration of conformity is issued under the sole responsibility of the manufacturer.
Wymieniony powyżej przedmiot niniejszej deklaracji jest zgodny z odnośnymi wymaganiami unijnego prawodawstwa harmonizacyjnego:	The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:
LVD 2014/35/UE EMC 2014/30/UE RoHS 2011/65/UE WEEE 2012/19/UE	LVD 2014/35/EU EMC 2014/30/EU RoHS 2011/65/EU WEEE 2012/19/EU
Odniesienia do odnośnych norm zharmonizowanych, które zastosowano, lub do innych specyfikacji technicznych, w stosunku, do których deklarowana jest zgodność:	References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:
LVD	PN-EN 60529:2003/A2:2014-07
EMC	PN-EN 61326-1:2013-06
RoHS	PN-EN 63000:2019-01

Wodzisław Śl. 23.12.2019

POL-EKO-APARATURA sp.j.
DYREKTOR
Sebastian Kowalski
(Director)

Notes:



**Producer of basic and indispensable laboratory equipment
as well as continuous measurement equipment.
Authorized dealer of:
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