



OPERATING MANUAL

USER MANUAL

Room Unit **POL822**

General Information

Thank you for purchasing a **Ratherm** product.

This manual is an integral part of the unit. It contains instructions and explanations necessary for the safe and intended use of the unit. Before carrying out any work or operations involving the unit, the entire manual must be read carefully. Reading only selected sections of this manual is not sufficient.

The manufacturer shall not be liable for any damage or errors resulting from failure to comply with the instructions contained in this manual. The manufacturer reserves the right to reject warranty claims if it is determined that the damage or malfunction covered by the claim resulted from failure to follow the instructions provided herein.

If any part of this manual is unclear or raises any doubts, the manufacturer must be contacted for clarification.

The manufacturer also specifies the document version, the number of which can be found on the reverse side of the title page.



Note!

The manufacturer reserves the right to make corrections and changes to this operating manual at any time and without prior notice, as well as to make modifications to the unit that do not affect its operation.

Manufacturer

This manual is provided by:

Ratherm sp. z o.o.

Address: ul. Agrestowa 3, 83-010 Rekcin, Poland

Phone: +48 575 918 800

E-mail: info@ratherm.pl

Tax Identification Number (NIP): 5892036517

REGON (National Business Registry Number): 368303273

Document Version Identification

The manufacturer uses a three-digit document versioning system, as described below.

Version of the document: **4.0.2**

File Version: **20260622_POL822_Ratherm_v402-ENG**

If you no longer have access to the document supplied with your unit, you may contact Ratherm to obtain the version applicable to your unit or refer to the latest version available on the manufacturer's website.

As Ratherm continuously develops its products, always check the document version number before using the latest documentation.

Table of Contents

General Information	2
Manufacturer	2
Document Version Identification	2
Table of Contents.....	3
Information on the Electronic Version.....	3
1. Keyboard description	4
2. Description of the display and operating modes	5
3. Operation.....	6
3.1. Setting the date and time	6
3.2. Setting the time programme	6
4. Alarm list	7
4.1. Alarm Identification	7
4.2. Procedure in the event of an alarm	9
5. Service Mode.....	10
6. Connecting the panel to the controller.....	11

Information on the Electronic Version

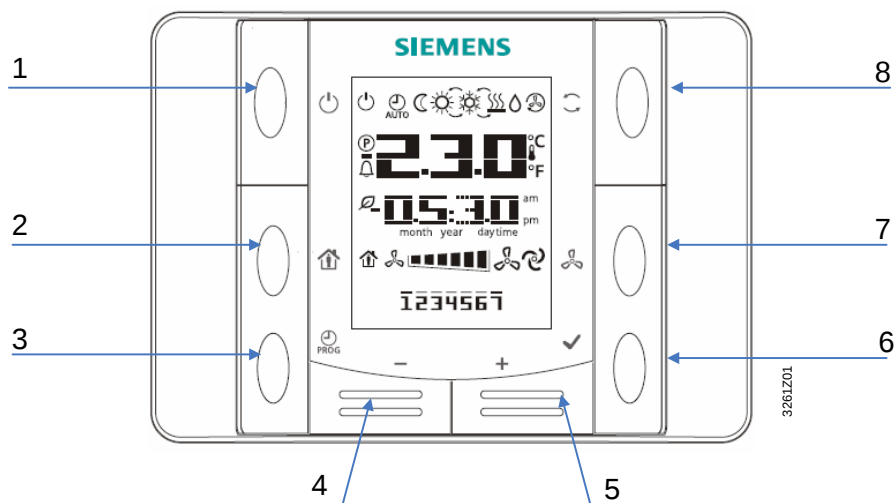


To open and/or download this manual, scan the **QR code provided**.

The QR code links to the **latest version of this document**.

This manual is also available in electronic form on the manufacturer's website: www.ratherm.pl

1. Keyboard description



POL822.60

No	Symbol	Name	Function description
1		Power Supply	ON/OFF button for the air handling unit
2		Locking	Pressing and holding for 5 seconds locks/unlocks the room unit ("HMI OPEN" message)
3		Programme	The time programme button, used to set the date and time, press and hold for 5 seconds to enter the time programme
4		Minus	Button to change the set temperature, each time the Minus (-) button is pressed, the set temperature is reduced by 0.5°C
5		Plus	Button to change the set temperature, each time the Plus (+) button is pressed, the set temperature is increased by 0.5°C
6		OK	Button to confirm the date, time or time programme settings
7		Fan	Fan speed change button
8		Tryb/Mode	Button for selecting one of 3 operating modes: Auto, Comfort and Economy

2. Description of the display and operating modes

LCD display showing room temperature, current operating mode, fan gear, time and day of the week, etc. The figure below shows all the symbols that can appear on the display.



Description of symbols:

No	Symbol	Meaning
1		Room temperature/humidity* value or change in set temperature/humidity. Room temperature/humidity in °C/% (resolution 0.1)
2		Time or alarm code is displayed, e.g. A0:01
3		Fan speed
4		Day of the week number
5		ON/OFF = Stop mode active
6		Auto mode active = Time programme
7		Economy mode active
8		Comfort mode active
9		Cooling
10		Heating
12		Changing the fan speed
13		Active exchanger recovery
14		Alarm

Comfort Mode - The air handling unit operates at speed III, at 100% airflow capacity, and maintains the temperature/humidity setpoints specified by the user. This mode is recommended during periods of full building occupancy/activity.* The air handling unit operates at speed I, with the airflow capacity reduced by 15% and the user-defined temperature setpoint decreased by 2°C in winter or increased by 2°C in summer. The humidity setpoint remains unchanged. This mode is intended to reduce energy consumption. It is recommended for use during the hours preceding periods of full building occupancy/activity.*

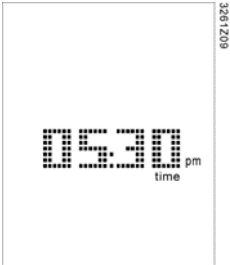
Economy Mode - the air handling unit operates at speed I, with the airflow capacity reduced by 15% and the user-defined temperature setpoint decreased by 2°C in winter or increased by 2°C in summer. The humidity setpoint remains unchanged*. This mode is intended to reduce energy consumption. It is recommended for use during the hours preceding periods of full building occupancy/activity.

Stop Mode - the air handling unit is not operating; only the protective functions that prevent equipment failure remain active. This mode is recommended during extended periods when the building is not in use.

3. Operation

3.1. Setting the date and time

Pressing the **PROG** button enters the date and time setting mode. Use the **PLUS** and **MINUS** buttons to adjust the selected (flashing) value. Press **OK** to confirm the setting and automatically proceed to the next value.

- a.  First, set the clock by entering the hour and minutes. The hour flashes first. Use the **PLUS** and **MINUS** buttons to adjust the hour, then press **OK** to confirm and proceed to the minute setting.
- b.  After setting the display format, the POL822 room unit proceeds to the calendar settings. The year is edited first.
- c.  The next step is to set the month and day.

Note: The POL822 does not have a built-in clock. The time is transmitted to the room unit from the controller.

3.2. Setting the time programme

The HMI-SG is integrated with the time schedule function. The time schedule operates on a 7-day cycle and allows up to 6 switching points per day. For each switching point, the user defines the event time and the system operating mode. The time schedule is active only in **Auto** mode..

Press and hold the  button for approximately 2 seconds to enter the time schedule mode.

A flashing number 1, indicating Monday, appears at the bottom of the screen. Use the  button to select or deselect a day. When a day is selected, the corresponding number remains continuously displayed and only the indicator above it flashes. When a day is deselected, both the number and the indicator flash.

After selecting a day, press the  button to proceed to the next day. Use the  button to return to the previous day.

Repeat the above procedure for the remaining days of the week. Multiple selected days can be programmed with the same settings.

1. After selecting the required days, confirm the selection. To do this, press the  button after setting Sunday, or press the  button after setting Monday. The indicators above all selected days will start flashing. Press the  button to confirm the selection.

2. After selecting the days, all previously configured switching points will be displayed. To set a new mode switching point, use the  and  buttons, select an empty field and confirm by pressing the  button.
3. Use the  and  buttons to set the required switching time, then confirm it by pressing the  button.
4. Use the  and  buttons to set the required switching minute, then confirm it by pressing the  button.
5. Use the  and  buttons to select the number corresponding to the required operating mode, then confirm by pressing the  button. The mode numbers are: **1 – Stop, 2 – Economy, 3 – Comfort**.
6. To delete a particular switch, set -- as either the minute or the hour in the respective switch.

The button  in this mode serves as the RETURN key.

Factory settings, applies to every day of the week:

4.00-6.00 – Economy Mode

18.00-22.00 – Economy Mode

6.00-18.00 – Comfort Mode

22.00-4.00 – Stop Mode

4. Alarm list

Note: Alarms are cumulative. Refer to the entire “Alarm List” section.

4.1. Alarm Identification

Alarm conditions are indicated by the  icon displayed next to the temperature. In addition, an alarm or error code is displayed in place of the time. To reset the fault, first eliminate its cause, then press and hold the  button. Once the fault has been reset, the time will reappear in place of the error code and the  icon will disappear.

The list of alarm codes depends on the number of units installed.

1 unit, refrigerant circuit:

A0:01 Dirty filter

A0:02 Fire

A0:04 Rotary exchanger drive

A0:08 Fan drive

A0:16 Anti-freeze/Gas burner alarm/Electric heater alarm

A0:32 Thermal overload relay or compressor pressure

A0:64 Condenser fan

Note: Defrost mode is an automatic, temporary, and cyclic operating state of the unit during winter conditions. Once the defrost cycle is complete, the unit automatically returns to normal operation. The defrost process is not a unit fault and does not require service intervention.

Any other alarm code represents the sum of the overlapping alarm codes listed above.

For example, if the sum of the alarm codes is **114**, the room unit displays **A1:14**, indicating that the following alarms are active: unit 2 (**64**), unit 1 (**32**), electric heater (**16**), and fire protection (**2**).

Similarly, if **B0:08** is displayed, the sum of the alarm codes is **1008**, indicating that the following alarms are active: unit 2 defrost (**512**), unit 4 defrost (**256**), unit 3 (**128**), unit 2 (**64**), unit 1 (**32**), and electric heater (**16**).

2 units:

A0:01 Dirty filter
A0:02 Fire
A0:04 Rotary exchanger drive
A0:08 Fan drive
A0:16 Anti-freeze/Gas burner alarm/Electric heater alarm
A0:32 Unit 1 alarm
A0:64 Unit 2 alarm
A1:28 Unit 1 defrost
A2:56 Unit 2 defrost

Note: Defrost mode is an automatic, temporary, and cyclic operating state of the unit during winter conditions. Once the defrost cycle is complete, the unit automatically returns to normal operation. The defrost process is not a unit fault and does not require service intervention.

Any other alarm code is the sum of the individual alarm codes listed above. If the sum of the alarm codes is **114**, the room unit displays **A1:14**, indicating that the following alarms are active: Unit 2 alarm (**64**), Unit 1 alarm (**32**), Electric Heater Alarm (**16**), and Fire Protection Alarm (**2**).

For example, if **B0:08** is displayed, the sum of the alarm codes is **1008**, indicating that the following alarms are active: Unit 2 defrost (**512**), Unit 4 defrost (**256**), Unit 3 alarm (**128**), Unit 2 alarm (**64**), Unit 1 alarm (**32**), and electric heater alarm (**16**).

3 agregaty:

A0:01 Dirty filter
A0:02 Fire
A0:04 Rotary exchanger drive
A0:08 Fan drive
A0:16 Anti-freeze/Gas burner alarm/Electric heater alarm
A0:32 Unit 1 alarm
A0:64 Unit 2 alarm
A1:28 Unit 3 alarm
A2:56 Unit 1 defrost
A5:12 Unit 2 defrost
B0:24 Unit 3 defrost

Note: Defrost mode is an automatic, temporary, and cyclic operating state of the unit during winter conditions. Once the defrost cycle is complete, the unit automatically returns to normal operation. The defrost process is not a unit fault and does not require service intervention.

Any other alarm code is the sum of the individual alarm codes listed above. If the sum of the alarm codes is **114**, the room unit displays **A1:14**, indicating that the following alarms are active: Unit 2 alarm (**64**), Unit 1 alarm (**32**), Electric Heater Alarm (**16**), and Fire Protection Alarm (**2**).

For example, if **B0:08** is displayed, the sum of the alarm codes is **1008**, indicating that the following alarms are active: Unit 2 defrost (**512**), Unit 4 defrost (**256**), Unit 3 alarm (**128**), Unit 2 alarm (**64**), Unit 1 alarm (**32**), and electric heater alarm (**16**).

4 agregaty:

A0:01 Dirty filter
A0:02 Fire
A0:04 Rotary exchanger drive
A0:08 Fan drive
A0:16 Anti-freeze/Gas burner alarm/Electric heater alarm
A0:32 Unit 1 alarm
A0:64 Unit 2 alarm
A1:28 Unit 3 alarm
A2:56 Unit 4 alarm
A5:12 Unit 1, 2, 3, 4 defrost

Note: Defrost mode is an automatic, temporary, and cyclic operating state of the unit during winter conditions. Once the defrost cycle is complete, the unit automatically returns to normal operation. The defrost process is not a unit fault and does not require service intervention.

Any other alarm code is the sum of the individual alarm codes listed above. If the sum of the alarm codes is **114**, the room unit displays **A1:14**, indicating that the following alarms are active: Unit 2 alarm (**64**), Unit 1 alarm (**32**), Electric Heater Alarm (**16**), and Fire Protection Alarm (**2**).

For example, if **B0:08** is displayed, the sum of the alarm codes is **1008**, indicating that the following alarms are active: Unit 2 defrost (**512**), Unit 4 defrost (**256**), Unit 3 alarm (**128**), Unit 2 alarm (**64**), Unit 1 alarm (**32**), and electric heater alarm (**16**).

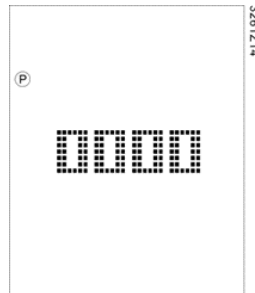
4.2. Procedure in the event of an alarm

In the event of an alarm, follow the steps below in the order specified:

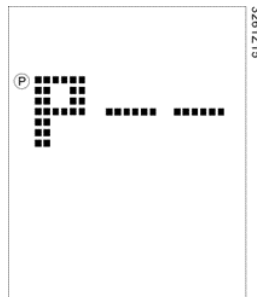
- Identify the source of the alarm using the lists provided in **Section 4.1**
- Attempt to reset the alarm according to the instructions in **Section 4.1**.
- Wait 3 minutes
- If the same alarm occurs again or remains continuously active, contact the **Ratherm Service Department** (www.ratherm.pl - Service section). W przypadku jakichkolwiek problemów z realizacją powyższej procedury, należy skontaktować się z serwisem HVAC Ratherm.

5. Service Mode

- To switch between **Operator Mode** and **Service Mode**, press and hold the **PLUS**, **MINUS**, and **MODE** buttons simultaneously. The HMI-SG will enter **Service Mode**, and the password entry screen will appear. Use the **POWER** button to cancel and the **MODE** button to confirm.



- After entering the password using the **PLUS** and **MINUS** buttons and confirming with the **MODE** button, the **parameter group selection screen** will appear..



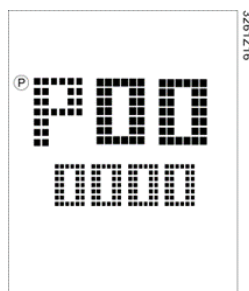
Groups A and E - operating parameter display groups (password: 2000),

Group B - parameter configuration group allowing selected system settings and parameters to be modified,

Group C - diagnostic group allowing sensor readings to be corrected and automation components to be tested.

Note: If no parameter groups are available for any reason, or if an incorrect password is entered, "----" will reappear on the screen.

- Select the parameter group using the **PLUS** and **MINUS** buttons and confirm your selection with the **MODE** button. The figure below shows the display of the selected parameter. The **parameter number** is shown on the first line, and its **value** is shown on the second line..



- Use the **PLUS** or **MINUS** button to change the parameter number. Press the **MODE** button to edit its value.
- If the current access level has write permission, the flashing value can be modified.
- Use the **PLUS** or **MINUS** button to adjust the value, then press the **MODE** button to confirm the change.

Note: Pressing the **POWER** button returns to the previous menu level or exits Service Mode. Service Mode is also exited automatically after 1 minute of user inactivity.

Note: Parameter E1 indicates the unit serial number. If no serial number is displayed, it must be taken from the air handling unit nameplate.

6. Connecting the panel to the controller

The connection should be made with an unshielded twisted pair. The maximum cable length between two units is 700m. Communication is via the same cables as the power supply. On the controller side, the panel should be connected to the CE+/CE- terminals. On the panel side, under the + and - terminals, respectively. The interface is the KNX bus. Speed 9.6kbps.

The room unit is powered by the PLC controller with SELV 21-30VDC. The protection rating of the room unit is IP30.

The room unit is equipped with a temperature sensor that can be used as a leading sensor in the temperature regulation process. Characteristics of the NTC10k sensor.

