

Instructions manual

SMS-GSM notification module for incubators



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Table of contents

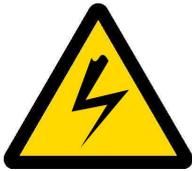
1. General safety instructions
 - 1.1. Electrical safety
 - 1.2. Operation safety
2. Product description
3. Preparations for use
 - 3.1. UPS power supply
 - 3.2. UPS status LED indicator
 - 3.3. Notification module settings
 - 3.4. Keyboard
 - 3.5. SMS module settings
 - 3.6. Temperature settings menu
 - 3.7. Humidity setting menu
 - 3.8. SMS sending settings
 - 3.9. SMS reports phone number settings
 - 3.10. SMS manual sending
4. Notifications
5. Status notifications and error codes
6. Waste disposal and environmental protection
7. Warranty



1. General safety instructions

Before first use read the manual carefully and follow the instructions contained therein. The manufacturer is not liable for damage caused by equipment used inappropriately or by incorrect handling.

1.1. Electrical safety



1. The electrical supply system must be fitted with a residual-current circuit breaker with rated tripping current not higher than 30mA. Performance of the circuit breaker should be checked periodically.
2. Periodically check the condition of the power cord. Replace the power cord if damaged. Replacing the power cord can only be performed by the manufacturer or by qualified personnel. Do not use the device if the power cord is damaged!
3. Make sure that the main switch is in „0” position before plugging the unit in.
4. Connect the device only to a socket with voltage specified on the rating plate of the product.
5. Carefully connect the plug into the mains socket. Make sure your hands and the floor surface in the room are dry!
6. Do not pull the power cord. Keep the power cord away from heat sources and sharp edges to ensure its good condition.



1.2. Operation safety

1. The device is not intended for use by persons (including children) with limited physical, sensory or mental abilities, or by inexperienced users, unless under supervision or with instructions given by an accountable party. This device is not a toy, and shouldn't be used as one. Children should not to play with it.
2. In the event of damage to the device, to avoid any health and safety risks, repairs should be carried out only by qualified personnel.
3. Never carry out any maintenance or repairs during operation
4. Do not use the device near flammable materials.
5. For indoor use only. The device is not suitable for outdoor use.

6. If the device has been moved from a cold room to a room with a higher temperature, before switching on wait until it reaches room temperature.

2. Product description

SMS-GSM notification module is designed for remote control of the incubator work parameters. Thanks to the SMS notifications we have information about temperature and humidity parameters inside the incubator.



Features

1. SMS-GSM communication module
2. Communication cable
3. UPS power supply socket
4. UPS power supply

3. Preparations for use

3.1. UPS power supply

- Make sure that the battery protection film is removed, if not, remove it.
- connect the power supply unit to a power outlet socket, after a while the power supply unit will start up

Use a button located above the status indication LED of the UPS to switch it off or on.

A short press of the button turns the power supply on, a long press of the button (more than 5 seconds) turns the UPS off.

Use the button on the UPS casing to switch it on and off. Unplugging the UPS from the mains socket does not switch it off but it triggers the UPS to go into an emergency back-up mode and its batter starts to get drained.

3.2. UPS status LED indicator

- green, continuous light - device on, battery full
- green, slow flashing - device on, battery charging
- **green, quick flashing** - device on, no 230VAC power supply, battery draining
- **red, continuous light** - UPS failure - disconnect the power supply from the SMS-GSM module and then reset the power supply by pressing and releasing the button after more than 1 second.

3.3. Notification module settings

- Unscrew the casing cover and tilt it away with extra care of the cabling.
- Insert the active SIM card into the SIM slot on the device's PCB.
- Replace the cover and the fastening screws.
- connect the signal cable (2) to the incubator controller
- turn on the incubator's controller
- Connect the switched on UPS to the socket (3) of the GSM notification module.

3.4. Keyboard

The device is operated by 4 buttons located below the display:



MINUS (decreasing selected value)



PLUS (increasing selected value)



SELECT (switching/selecting menu screens)



ENTER (activating or confirming values)

3.5. SMS module settings

After the power supply is connected, the device display shows the start screen:

LYSON GSM-M1
fw. x.x.xx.x

Where x.x.xx.x indicates the current software version of the device.

After approx. 3 seconds, a message appears to set the PIN code for the SIM card. If the SIM card is PIN protected, press ENTER to enter the PIN setting screen. Otherwise, wait for approx. 4 seconds or skip the message with SELECT button.

PRESS ENTER TO
SET PIN CODE

When the pin code setting is selected (ENTER button pressed), the following screen is displayed:

PIN CODE
- - - -

To change the setting, position the cursor on the selected field by pressing ENTER (The flashing cursor will appear in the first position). When the PIN entering is complete, move the cursor to the starting position (bring the cursor to the end so that it disappears). Confirm and exit the screen by pressing SELECT.

Note: It is not possible to exit any screen with the SELECT button until the flashing cursor is removed from the editable fields (first get the flashing cursor to the starting position - so that it is not visible on the screen).

After entering the PIN code on the edit screen or after skipping/passing the message when you enter your PIN, the first status screen is displayed:

STATUS 1

T: - - . - °C H: - - %
SMS-ON HH:MM .ll

Where:

T:--.-°C - indicates the incubator's temperature (Celcius)

H:--% - indicates relative humidity in the incubator (%)

T: 25.3 °C H: 41%
SMS-ON 18:00 .ll

SMS-ON – indicates the SMS notification status(ON or OFF)

HH:MM - current time (synchronised with the GSM network)

.ll – indicates the signal quality

SMS notification options can be altered directly on this screen.

Press ENTER to switch between SMS-OFF and SMS-ON.

SMS-OFF - No SMS messages sent from the device.

SMS-ON - The device sends messages according to the schedule.
 If an alarm occurs, the word "ALARM" is displayed instead of the current time.

Press SELECT button to go to the second status screen.

STATUS 2

T:25.3°c H:41%
 S: 11-OK

T:Range H:Error
 S: COM Error

This screen shows the current temperature (T) and humidity (H) inside the incubator and the state of the device (S). In case of exceeding of any set parameters or a sensor error, an appropriate message is displayed. The pictogram above is a sample of an error message. A list of possible status messages is provided at the end of the manual.

Press SELECT button to go to the third status screen

STATUS 3

CARRIER .ll
 DD-MM-YYYY HH:MM

T-MOBILE .ll
 01-05-2020 18:00

Where:

- CARRIER** -indicates the GSM network operator
- .ll – indicates the quality of signal
- DD-MM-YYYY** – indicates current date (synchronised with the GSM network)
- HH:MM** - current time (synchronised with the GSM network)

Press SELECT button to access the temperature configuration screen.

3.6. Temperature settings menu

Tmax = 40.0°c
 Tmin = 20.0°c

The temperature menu allows to define the range within which the temperature should be maintained. If the temperature value is outside the set range, an alarm will occur.
 To change the values of the temperature range, set the flashing cursor on the desired field by pressing ENTER.

Then use PLUS and MINUS buttons to set the value. Press ENTER to move to the next field. To exit the edit mode, remove the flashing cursor from the screen by pushing ENTER until it disappears. You can exit the temperature setting menu only if the cursor is not visible on the screen.

Press SELECT button to move to the humidity configuration screen.

3.7. Humidity setting menu

Hmax = 80%
 Hmin = 40%

The humidity menu allows to define the range within the humidity should be maintained. If the humidity value is outside the set range, an alarm will occur.

To change the values of the humidity range, set the flashing cursor on the desired field by pressing ENTER. Then use PLUS and MINUS buttons to set the value.

Press ENTER to move to the next field. To exit the edit mode, remove the flashing cursor from the screen by pressing ENTER until it disappears. You can exit the humidity setting menu only if the cursor is not visible on the screen.

Press SELECT button to move to the SMS sending setting screen.

3.8. SMS sending settings

SMS REPORT
 --:-- --:--

SMS REPORT
 9:00 18:00

Two different hours can be set in which SMS notifications will be sent. The default values are 9:00 and 18:00. To change the time, set the flashing cursor on the desired field by pressing ENTER. Then set the value using the PLUS and MINUS buttons. To disable any of the instances, set the time value to below 0:00. Disabling is indicated by dashes: --:--

Press ENTER to move to the next field. To exit the editing mode, remove the flashing cursor from the screen by pressing ENTER until it disappears. You can exit the time setting menu only if the cursor is not visible on the screen.

Press SELECT to move to the SMS report phone number setting screen.

3.9. SMS reports phone number settings

REPORT RECIPIENT

REPORT RECIPIENT
+00 123 456 789

The phone number setting screen for SMS reports allows to set the phone number to which the scheduled reports and alert notifications will be sent.

To set the number, set the flashing cursor on the initial field by pressing ENTER. Each field allows you to use PLUS and MINUS buttons to set the number from 0 to 9 and leave a blank space (between 0 and 9). The first field also allows you to set the + symbol to enter the area code prefix.

Move the cursor with ENTER and use the PLUS and MINUS buttons to enter the phone number.

Press ENTER to move to the next field. To exit the editing mode, remove the flashing cursor from the screen by pressing ENTER until it disappears. You can exit the phone number setting menu only if the cursor is not visible on the screen.

Press SELECT to move to the SMS-forcing screen.

3.10. SMS manual sending

PRESS ENTER TO
SEND SMS REPORT

Press ENTER to manually send a message summarising the status of the device to the previously set phone number. This action will also reset the sent messages counter (up to 10 per day).

Press the SELECT button to go back to the first status screen.

The device is set and ready for operation. During operation, the controller's screen does not go out and continuously displays the last selected screen.

SMS messages

The device will send an SMS message to the specified telephone number according to the set schedule, in case of an alarm or at the user's request.

Message contents

DD-MM-YYYY HH-MM
T: tt.t – st
H: hh – st
S: xx – st
GSM: gg%

01-05-2020 18-00
T: 25.3 – Range
H: 45 – OK
S: 3 – OK
GSM: 65%

Where:

DD-MM-YYYY HH-MM - indicates the time and date of the message

T: tt.t – st – indicates the temperature at the time of the message

H: hh – st – indicates the humidity at the time of the message

S: xx – st – indicates the device's status

GSM: gg% - indicates the signal quality (%)

To manually send a message of the current status of the device, press the SELECT button until you get the manual SMS sending screen or send a #info or #INFO SMS message to the phone number of the SIM card installed in the controller.

4. Notifications

T: 25.3°C H: 41%
SMS-ON ALARM
.ll

Alert notification - one or more parameters out of range.

SMS RECEIVED

SMS message received by the device.

SENDING SMS...

The controller is in the process of sending SMS messages to the set phone number.

GSM Connecting...

Attempting to connect to the GSM network.

Please wait...

Processing a task.

SIM CARD ERROR
SIM not found

SIM card error - SIM card not found. Please check if the SIM card is correctly installed in the device.

SIM CARD ERROR
PIN is incorrect

SIM card error - The installed sim card secured with a PIN number. Incorrect PIN number not entered or entered incorrectly.

5. Status notifications and error codes

The device status is contained within the SMS message and on the second status screen (STATUS 2).

For temperature (T) and humidity (H) values:

Error – readout error/sensor error (triggers the alarm message)

Range – readout outside the set range (triggers the alarm)

OK – readout in range

For the status (S) value:

PWR Error – no power supply or too low voltage

COM Error – communication error with the incubator

DEV Error – internal incubator's error

6. Waste disposal and environmental protection

The used product must be disposed in accordance with the local regulations. Return the device to a collection point from where it can be submitted for environmentally compatible recycling.

The consumer has the right to return used equipment directly to the manufacturer's distribution network, free of charge, while replacing it with a new unit as long as the used device is of the same kind and same application as the newly purchased device.

7. Warranty

The product purchased from the Lyson Company is covered by a manufacturer's warranty. The warranty period is 24 months from the date of purchase.

All purchased products come with receipts or VAT invoices.

Warranty details at:

www.lyson.com.pl

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