



User Manual

School Bell Control System

Version 1.1.0 · 2026

Contents

1. Overview

- 1.1 Main functions
- 1.2 Factory schedule
- 1.3 What each interface can do
- 1.4 Terminology
- 1.5 Access levels

2. Initial setup

- 2.1 What you need
- 2.2 Where to mount it
- 2.3 First power-up
- 2.4 Step 1 of 3: language
- 2.5 Step 2 of 3: PIN
- 2.6 Step 3 of 3: Wi-Fi
- 2.7 Creating the school account
- 2.8 What to do next

3. Configuring the schedule

- 3.1 Structure of the schedule
- 3.2 Editing the default schedule
- 3.3 Creating a named template
- 3.4 Assignment by day of the week
- 3.5 Working days
- 3.6 Ring duration
- 3.7 Configuration example

4. Exceptions and non-teaching days

- 4.1 Exceptions
- 4.2 Precedence where periods overlap
- 4.3 Changing an individual day within a period
- 4.4 Importing official non-teaching days
- 4.5 Automatic check in December

5. Day-to-day operation

- 5.1 Ringing the bell by hand
- 5.2 Emergency mode
- 5.3 Changing what today runs

5.4 Cancelling the change for the current day

5.5 Auto on / off

6. Touchscreen

6.1 Status bar

6.2 Dashboard screen

6.3 Operating buttons

6.4 Schedule screen

6.5 Settings screen

6.6 Info screen

6.7 Sleep mode

6.8 Changing the Wi-Fi network

7. Web interface

7.1 Access

7.2 Dashboard

7.3 Schedule

7.4 Settings

8. Messages and indications

8.1 Bell status

8.2 Day type

8.3 Warning messages

8.4 Clock backup battery state

9. Clock and synchronisation

9.1 When the bells stop

9.2 Synchronising by hand

9.3 Time zone

10. Browser security warning

10.1 Why it appears

10.2 Removing the warning

11. Fault finding

11.1 The bell does not ring at the scheduled time

11.2 FAULT state

11.3 The screen does not come on

11.4 The address ringy.local does not open

11.5 No connection to the Wi-Fi network

11.6 Sign-in refused although the password is correct

11.7 Forgotten PIN

11.8 Forgotten web interface password

11.9 A day without bells even though a schedule exists

12. Maintenance

12.1 What and when

12.2 Software updates

12.3 Restarting

12.4 Resetting the schedule

12.5 Factory reset

12.6 Clock backup battery

13. Reference data

13.1 Limits and defaults

13.2 Data required when contacting support

1. Overview

RiNGY runs your school's bell circuit. It rings the bell at the times you set, follows the weekly schedule and skips the non-teaching days.

You operate it in two ways: from the touchscreen on the device itself, and from a web interface that opens in any browser on the school network.

1.1 Main functions

- Rings the bell to the schedule you enter.
- Observes public holidays, school vacations and one-off exceptions.
- Keeps working without an internet connection, because it holds its own clock with a backup battery.
- Rings continuously in emergency mode.
- Rings the bell once when you want to test the installation.

1.2 Factory schedule

The unit arrives with a complete working schedule already loaded. If it matches your school's own schedule, RiNGY is ready for service as soon as you power it on.

Parameter	Value
Working days	Monday to Friday
Lessons	7, of 40 minutes, first starting at 07:30
Breaks	10 minutes; 15 minutes after lesson 3
Number of bells	14 (start and end of each lesson)
First bell	07:30
Last bell	13:15
Ring duration	5 seconds

To change it, see [section 3](#).

1.3 What each interface can do

The two are not equivalent. Some settings can be reached from one of them only.

Function	Touchscreen	Web interface
Ringing the bell by hand	Yes	Yes, and with the red button on the front panel
Ignoring the schedule entirely	No	No, the AUTO ON/OFF selector only
Emergency mode	Yes	Yes
Declaring a day off or a working day	Yes	Yes
Applying a template to the current day	Yes	Yes
Viewing the schedule for the day	Yes	Yes
Changing the PIN	Yes	Yes
Changing the Wi-Fi network	Yes	No
Screen language and screen sleep	Yes	No
Entering and editing the schedule	No	Yes
Exceptions and non-teaching days	No	Yes
Working days, time zone, ring duration	No	Yes
Restarting and resetting the schedule	No	Yes
Software updates	No	Yes, with a service account
Factory reset	No	Yes, with a service account
Error log	No	Yes, with a service account

The touchscreen covers day-to-day operation. The web interface is where you do the initial setup and maintain the schedule.

TWO SETTINGS ARE NOT WHERE YOU WOULD LOOK FOR THEM

Working Days is set in **Settings** → **General**, not in Schedule → Week. **Restart**, **Reset Schedule** and **Factory Reset** are in **Settings** → **Software**, not in System.

1.4 Terminology

Bell

One ring of the bell circuit at a set time. You give it a name, for example **08:10 - Lesson 1 ends**.

Template

A list of bells for one type of day. The unit holds one default schedule (the ordinary school day) and up to five templates of your own, for example "Short day" or "Exam period". The web interface calls this tab

Templates.

Working day

A day of the week on which the bell rings to the schedule. Normally Monday to Friday.

Exception

A date, or a range of dates, for which the weekly schedule does not apply: a vacation, a non-teaching day, or a day with a different schedule.

Override for the current day

A change that applies to today only and lapses at midnight.

1.5 Access levels

The web interface distinguishes two types of account.

School account. You create it during initial setup, and school staff work with it. It gives access to the schedule, exceptions, overrides for the current day, the PIN, the time zone, restarting the unit and resetting the schedule.

Service account. Held by RiNGY support. Needed for software updates, factory reset and access to the error log.

When you are signed in with a school account, those functions are either hidden or refused. Support performs them.

2. Initial setup

Setup runs in two stages: three steps on the device screen, and creating an account through a browser. It takes about ten minutes.

2.1 What you need

- The name and password of the school Wi-Fi network.
- A computer, tablet or telephone connected to the same network.
- Your school's bell schedule.

2.2 Where to mount it

Mount the unit where the touchscreen can be reached and the Wi-Fi signal is stable. Thick walls, metal cabinets and lift shafts weaken the signal.

Wiring it to the bell circuit and to the mains is an electrician's job and is described in the **RiNGY Technical Reference**.

2.3 First power-up

As soon as you apply power, the RiNGY logo appears, followed by the initial setup wizard. The wizard has three steps, marked by an indicator at the bottom of the screen.

THE FIRST START IS SLOWER

On first power-up the unit generates a security certificate, and that takes longer than a normal start. Do not interrupt the power while it does.

2.4 Step 1 of 3: language

Choose **Български** or **English**. This choice sets the language of the touchscreen.

The web interface has its own language: it follows the browser and you change it from the button in the top bar. That choice is kept in the browser, not in the unit.

You can change the screen language later from **Settings** → **Език / Language**.

2.5 Step 2 of 3: PIN

Choose a PIN length - 4, 5 or 6 digits - and enter the code twice to confirm it.

The PIN protects actions taken from the touchscreen. Viewing the status and the schedule does not ask for it.

After three wrong entries in a row the keypad locks for 30 seconds and shows the time remaining.

WRITE THE PIN DOWN

A forgotten PIN cannot be recovered. The only way to clear it is a factory reset, which erases the schedule and is carried out by support. Write the PIN down and keep it somewhere the responsible staff can get to it.

2.6 Step 3 of 3: Wi-Fi

1. Press **Scan**.
2. Choose your network from the list. Each name appears once; where several access points share a name, the unit connects to the strongest signal.
3. Type the password. **Show password** reveals what you have typed.
4. Press **Connect**.

For a hidden network, use **Enter SSID manually**.

What the markings mean. A padlock marks a network with a password. A dimmed row marks a network the unit does not support, and shows "Unsupported security (enterprise/WEP)". Enterprise networks with an individual user name and certificate are not supported, and neither is WEP. You need a WPA2 network.

You can skip this step with **Skip**. Without a network, though, the clock cannot be synchronised, the bells stay suspended and the web interface is unreachable.

2.7 Creating the school account

Once the unit is on the network:

1. From a computer on the same network, open <https://ringy.local> . If that address does not open, use the numeric address from the **Info** screen on the unit.
2. The browser will warn you about the connection. That is expected; see [section 10](#). For now choose *Advanced*, then *Proceed*.
3. On the sign-in page, below the sign-in button, there is a **Create account** link.
4. Enter a user name and a password of at least 8 characters, confirm the password and press **Create account**.
5. Sign in with the account you have just created.

DO THIS STRAIGHT AWAY

Until an account exists, anyone on the network can create it. Once the school account is made, the **Create account** link is gone for good, and any later change to the account goes through support. So the responsible member of staff should do this before the unit goes into service.

2.8 What to do next

The unit is already running the factory schedule from [section 1.2](#). Do the following on the same day:

1. Enter your school's schedule - [section 3](#).

2. Import the non-teaching days for the school year - [section 4.4](#).
3. Test the bell installation with the **Activate bell** button on the touchscreen.

3. Configuring the schedule

The schedule is entered from the web interface: open <https://ringy.local>, sign in and choose **Schedule**.

3.1 Structure of the schedule

Three levels decide which bells apply on a given day. They are applied in this order:

1. **Working days** decide whether that day of the week rings at all.
2. **The weekly assignment** decides which template each day of the week uses.
3. **Exceptions** override the weekly assignment for particular dates.

Above all three sits the override for the current day, which you set from the touchscreen or from the **Today** tab, and which lasts until midnight.

In short: an exception beats the weekly assignment, and the override for the current day beats the exception.

3.2 Editing the default schedule

The default schedule is the ordinary school day. Every working day you have not given another template uses it.

1. Open **Schedule** → **Templates**.
2. The default schedule sits at the top and holds the factory bells.
3. Delete the bells you do not need and add new ones with **+ Add Bell**.
4. Give each bell a time and a name.
5. Press **Save**.

The bells sort themselves by ring time, so the order you type them in does not matter.

The names appear on the touchscreen and in the list of the day's schedule.

One template holds at most 60 bells.

3.3 Creating a named template

Named templates are for days with a different schedule. You can have up to five.

1. Open **Schedule** → **Templates** → **Custom templates**.
2. Choose a free slot and give it a name.
3. Enter the bells.
4. Press **Save templates**.

Duplicate from... copies the contents of an existing schedule into the chosen slot, so you can edit it from there.

Above your five slots sit two built-in templates that cannot be edited: **Day Off** means silence all day, and **Working day** means follow the default schedule. You point dates at them exactly as you would at any other template.

Once created, a template can be applied to a day of the week, to an exception, or to the current day.

DO NOT CLEAR A TEMPLATE THAT IS STILL IN USE
If an exception or a day of the week points at the template, change those references first. A missing template is treated as a day off and the days concerned are left without bells. Before you clear one, the interface shows you how many exceptions use it.

3.4 Assignment by day of the week

In **Schedule** → **Week** you set the schedule for each day of the week.

Setting	What it applies
Default schedule	The default schedule from section 3.2
A named template	The template you choose
Custom for this day	A list of bells for this day of the week only, independent of the templates

Confirm with **Save week**. Days that are not working days appear as "Not a working day" and do not accept a schedule.

3.5 Working days

Working days are set from **Settings** → **General** → **Working Days**.

DO NOT LOOK FOR THEM UNDER SCHEDULE
Working days are set under **Settings**, not in **Schedule** → **Week**. The Week tab shows the current state but will not change it.

On a day that is not a working day the bell does not ring, whatever the weekly assignment and the templates say. For a one-off exception, see [section 5.3](#).

3.6 Ring duration

Set from **Settings** → **General** → **Bell Ring Duration**, between 1 and 30 seconds. The factory value is 5 seconds.

It applies to every scheduled bell and to **Activate bell**, on the touchscreen and in the web interface alike.

3.7 Configuration example

A school with 6 lessons of 45 minutes from 08:00, breaks of 10 minutes, and a short day on the last Friday of the month:

1. **Settings** → **General**: choose working days Monday to Friday and a ring duration of 5 seconds. Save.
2. **Schedule** → **Templates**: edit the default schedule down to 12 bells - 08:00/08:45, 08:55/09:40, 09:50/10:35 and so on. Save.
3. **Schedule** → **Templates** → **Custom templates**: create a "Short day" template with **Duplicate from...** and edit it. Save.
4. **Schedule** → **Week**: leave every working day on the default schedule. Save.
5. **Schedule** → **Exceptions**: for each short Friday, add an exception with the action **Use template** → **Short day**.
6. **Schedule** → **Exceptions** → **Import holidays**: import the public holidays and vacations for the year.

4. Exceptions and non-teaching days

4.1 Exceptions

Exceptions are set from **Schedule** → **Exceptions**. You can have up to 40.

Each exception has a start date, an optional end date, a label and an action.

Action	What happens on those dates
Day Off	The bell does not ring
Use template	A named template of your choice is applied
Custom Schedule	A list of bells defined for this exception only is applied

Examples:

- 2026-12-24 → 2027-01-05 · "Christmas vacation" · **Day Off**
- 2026-05-20 · "Sports day" · **Use template** → **Short day**
- 2026-06-15 → 2026-06-19 · "Exam week" · **Use template** → **Exams**

Exceptions disappear on their own once their dates have passed.

4.2 Precedence where periods overlap

Where two exceptions cover the same date, the order is:

1. The exception with the earlier start date wins.
2. If both start on the same date, the shorter one wins.

If you enter an exception that overlaps an existing one, the interface warns you.

A SINGLE DAY INSIDE A PERIOD DOES NOT OVERRIDE THE PERIOD

A one-day exception created inside an existing longer period does not override it, because the longer period has the earlier start date. To change one day inside a period, use [section 4.3](#).

4.3 Changing an individual day within a period

Make the change on the day itself - from the touchscreen, or from **Schedule** → **Today**.

The unit splits the longer exception around today's date. The periods before and after it remain, and today's date becomes a record of its own.

The split cannot be undone: the resulting records are not merged back together.

4.4 Importing official non-teaching days

The unit can fetch the official Bulgarian public holidays and school vacations for a chosen year and turn them into exceptions.

1. Open **Schedule** → **Exceptions** → **Import holidays**.
2. Choose the year and press **Fetch**.
3. The list shows counts for *Total*, *Selected*, *Already imported* and *Conflicts*.
4. Clear the tick for any day that does not apply to your school.
5. For conflicts, choose **Skip**, **Overwrite** or **Keep both**.
6. Press **Apply**.

Imported records carry a marking of their own and stay distinguishable from the ones you entered by hand.

AN INTERNET CONNECTION IS NEEDED

The data comes from an external public holiday service, so the unit has to be online.

4.5 Automatic check in December

On 1 December the unit fetches the non-teaching days for the next calendar year and tells you in the web interface.

Nothing is applied automatically. You review and confirm as in [section 4.4](#).

The check only happens if there is an internet connection on that date and the non-teaching days for the next year have not been imported already.

5. Day-to-day operation

Actions taken from the touchscreen need the PIN. After you enter it correctly you have 30 seconds during which the unit does not ask again.

5.1 Ringing the bell by hand

Where	Control	Duration
Touchscreen	Activate bell	As configured
Web interface	Dashboard → Activate Bell	As configured
Front panel	Red button	As wired

Both software controls ring for the duration set in **Settings → General** (see [section 3.6](#)).

While emergency mode is on, the software controls do nothing. The red button on the front panel is independent of them - see [section 5.5](#).

5.2 Emergency mode

Emergency mode rings continuously. You turn it on with the **PANIC** button on the touchscreen, from the sleep screen, and from the web interface.

Turning it on asks for confirmation, because it does not stop by itself.

Stop it with **STOP** on the touchscreen or from the web interface.

PANIC SURVIVES A POWER CUT

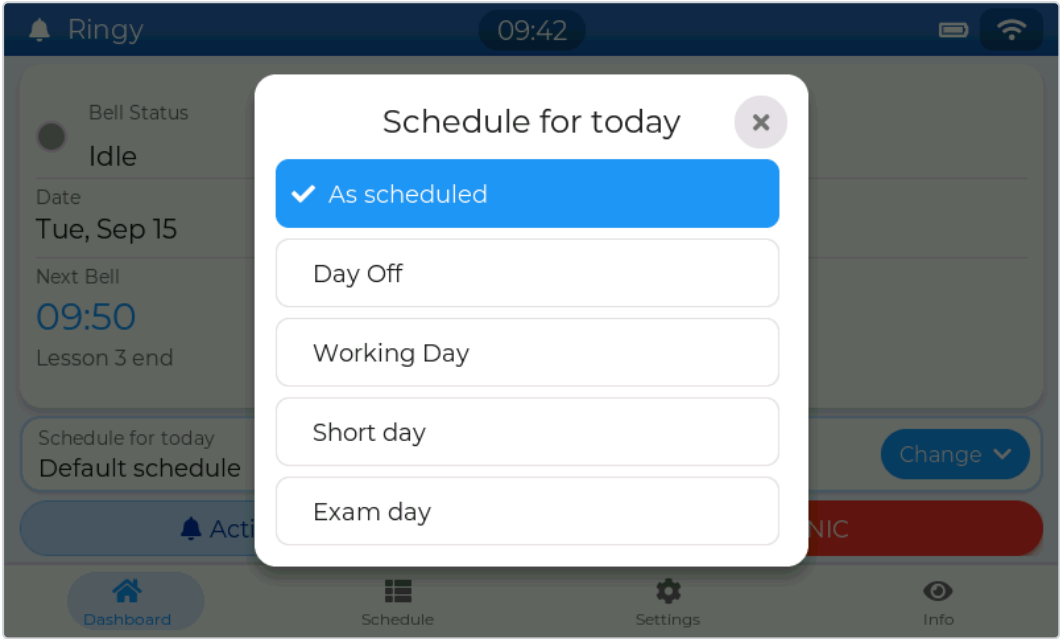
Emergency mode comes back when the power returns. Cutting the power does not stop it.

While emergency mode is on, scheduled bells do not ring.

5.3 Changing what today runs

Everything that changes the current day is in one place on the touchscreen. Press the row above the two buttons - it is headed **Schedule for today**, shows whatever is running now underneath that heading, and carries a **Change** button on the right - and choose from the list:

Choice	What it does
As scheduled	Removes any change and returns the day to its normal schedule
Day off	Silences the bells for the rest of the day
Working day	Turns a non-teaching day back into a normal one
<i>your templates</i>	Runs that named template for today



The day picker lists every choice for the current day; the one in effect is ticked.

The choice in effect is ticked. Any change applies to today only and lapses at midnight; tomorrow returns to the normal schedule on its own.

To close the list without changing anything, press the round **X** button at the top right, or touch the dimmed area outside the list.

Templates that have no bells in them are not offered, because choosing one would produce a day with no bells under a name that suggests otherwise.

In the web interface the same choices are under **Schedule → Today**.

5.4 Cancelling the change for the current day

Where	Control
Touchscreen	Schedule for today row → As scheduled
Web interface	Schedule → Today → Cancel today's override

5.5 Auto on / off

The front panel carries a rotary selector marked **AUTO ON/OFF** and a red button beneath it.

Selector	What happens
ON	Normal operation. The schedule rings the bell
OFF	The schedule is ignored. The bell rings only when someone presses the red button

This is wiring, not software. In the **OFF** position the unit keeps running normally - the screen, the clock, the web interface and the schedule all carry on, and the display still shows the next bell - but nothing the schedule does reaches the bell.

OFF IS THE FALLBACK WHEN THE AUTOMATION CANNOT BE TRUSTED

If bells stop at the right times, or ring when they should not, turn the selector to **OFF** and ring the periods by hand with the red button. Lessons continue while the fault is investigated. Turn it back to **ON** once the cause is found.

The red button rings the bell whatever the screen shows, including while the device is starting up. It does not need the PIN.

6. Touchscreen

6.1 Status bar

The bar across the top of the screen carries four indications. From left to right: the bell, the clock, the backup battery and Wi-Fi.

Indication	What it means
Bell, white	The bell is idle
Bell, green, pulsing	The bell is ringing
Bell, white on a red badge	Emergency mode is on
Bell, amber	FAULT, see section 11.2
Clock	The current time
Battery, white	The backup battery needs no attention
Battery, amber	The battery is due for replacement
Battery, red, pulsing	The battery has failed
Wi-Fi, white	Connected, with an address
Wi-Fi, amber	Connected to the network, but with no address
Wi-Fi, struck through	No connection

The bell states are set out in full in [section 8.1](#), the battery states in [section 8.4](#).

Press the Wi-Fi icon to open the network settings. It is the only part of the bar that responds to a press.

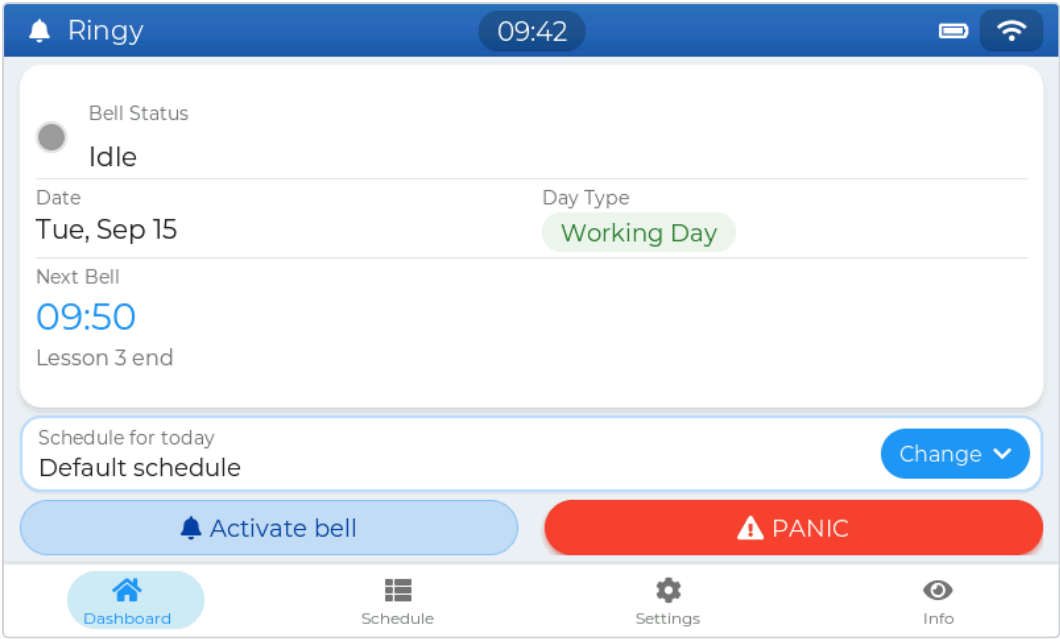
The bar across the bottom switches between the **Dashboard**, **Schedule**, **Settings** and **Info** screens.

6.2 Dashboard screen

This is the main working screen. From top to bottom it shows:

- A warning message, if there is one, see [section 8.3](#).
- One card for the bell and the day. **Bell Status** and the current state come first, see [section 8.1](#); below them **Date** and **Day Type** side by side, see [section 8.2](#); and last **Next Bell**, the time and name, or "No upcoming bells".
- The **Schedule for today** row that opens the day picker.
- The two operating buttons, last.

Everything fits on the screen without scrolling, warning message included.



The dashboard: bell status, the date and day type, next bell, the row for the current day and the two buttons.

6.3 Operating buttons

The dashboard has two buttons:

Button	What it does
Activate bell	Rings the bell once, for the configured duration
PANIC	Turns on emergency mode. Asks for confirmation. While active it reads STOP

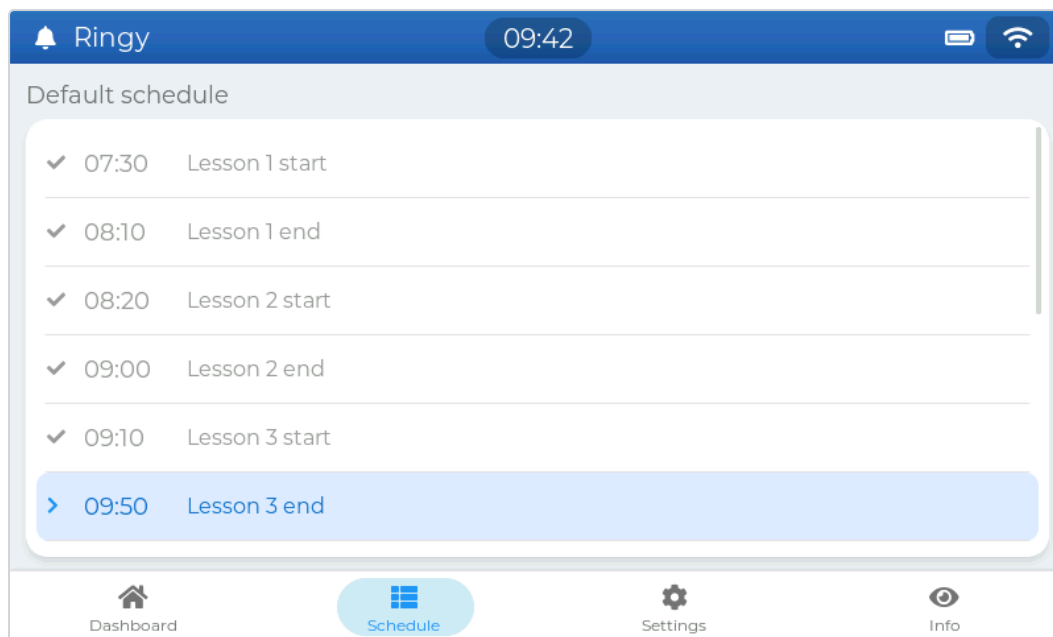
Everything that changes the current day is in the **Schedule for today** row above them, which opens the day picker described in [section 5.3](#).

Activate bell and the day picker need the PIN. **PANIC** does not - in an emergency nobody should have to remember a code - but it does ask for confirmation.

THE RED BUTTON IS NOT ON THE SCREEN
The red button on the front panel is wired to the bell directly and works regardless of what the screen shows. See [section 5.5](#).

6.4 Schedule screen

Lists the bells for today's date, in time order, with their names. The screen is read-only; the schedule is edited from the web interface.



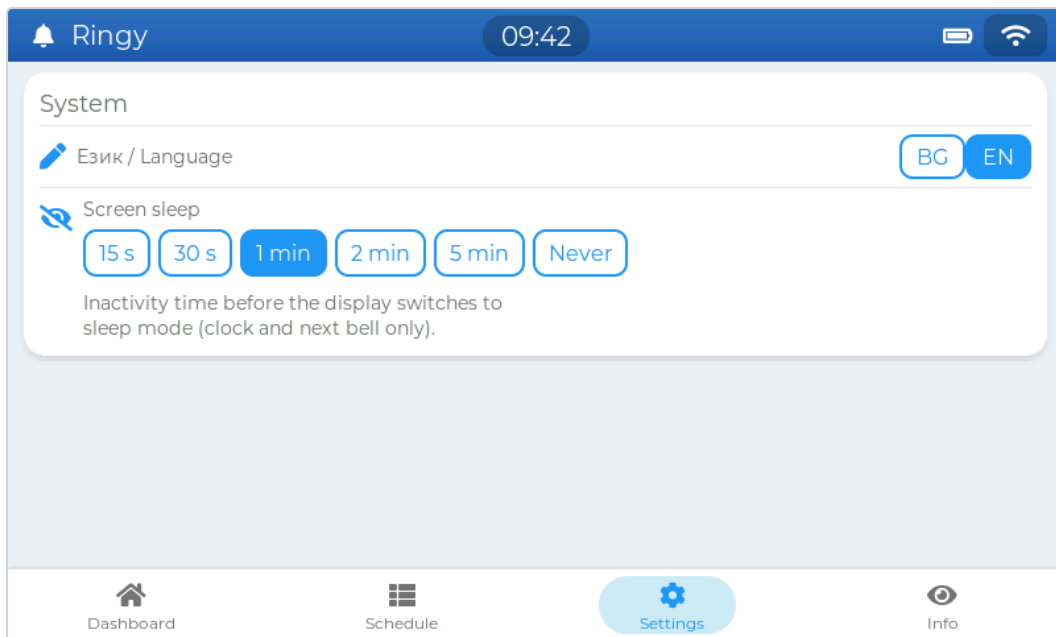
The Schedule screen lists the bells in force for the current date.

6.5 Settings screen

The screen holds two settings:

Setting	What it does
Език / Language	Changes the language of the touchscreen
Screen sleep	How long without activity before the screen sleeps: 15 or 30 seconds, 1, 2 or 5 minutes, or Never

The network, the schedule summary and the time of the last clock synchronisation are on the Info screen, not here.

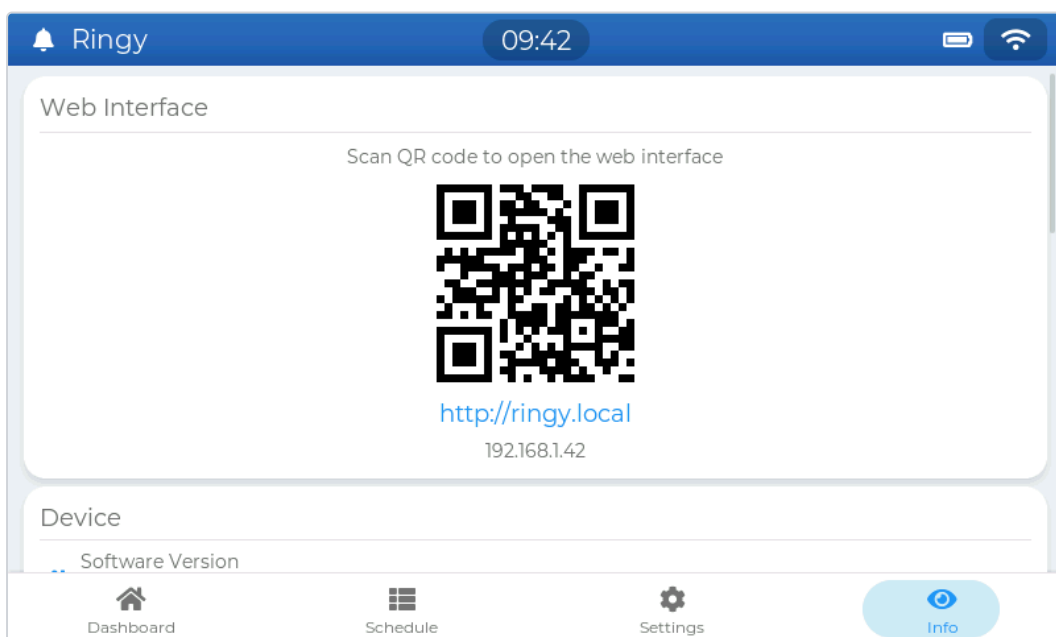


The Settings screen holds two controls: language and screen sleep.

6.6 Info screen

Shows the state of the unit and the data support will ask you for:

- **Software Version** and **MAC Address**.
- The chip and board type.
- The state of the clock backup battery and its replacement date.
- The current network and IP address.
- The working days and the time zone, for viewing only.
- **NTP Sync**, the time of the last clock synchronisation.
- The web address of the unit, and a QR code that opens it on a phone.



The Info screen, with the web address and the QR code that opens it.

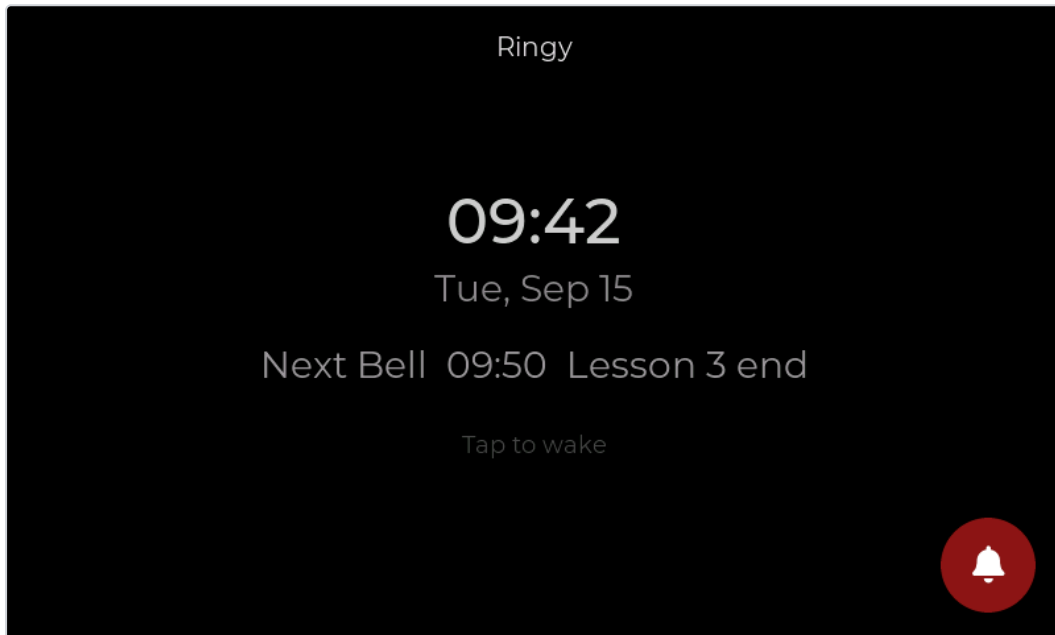
6.7 Sleep mode

If you do not touch the screen for the time you have set, it goes to sleep and shows a clock, the date and the bell status at reduced brightness.

To wake it, touch the screen and enter the PIN.

The emergency-mode button stays reachable in sleep mode. Turning it on asks for confirmation; stopping it asks for neither confirmation nor the PIN.

Never keeps the main screen on permanently.



Sleep mode: the clock, the date and the bell status at reduced brightness.

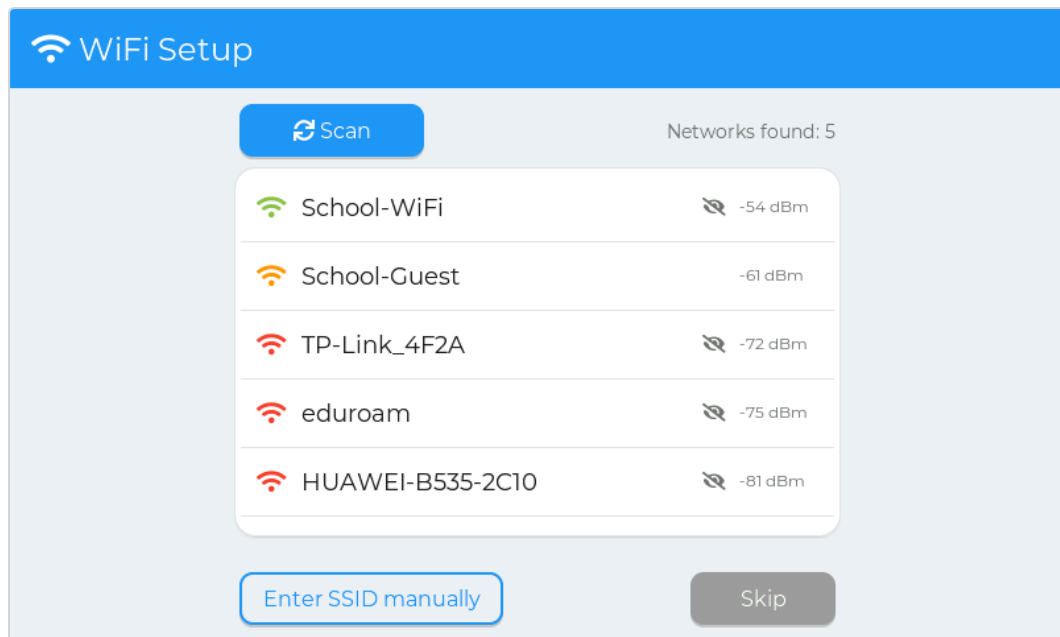
6.8 Changing the Wi-Fi network

No factory reset is needed.

1. Press the Wi-Fi icon in the status bar.
2. Enter the PIN.
3. Press **Scan**, choose a network, type the password and press **Connect**.

IF THE CONNECTION FAILS

The unit falls back to the network connection it had before.



Selecting the school network and entering the password.

7. Web interface

7.1 Access

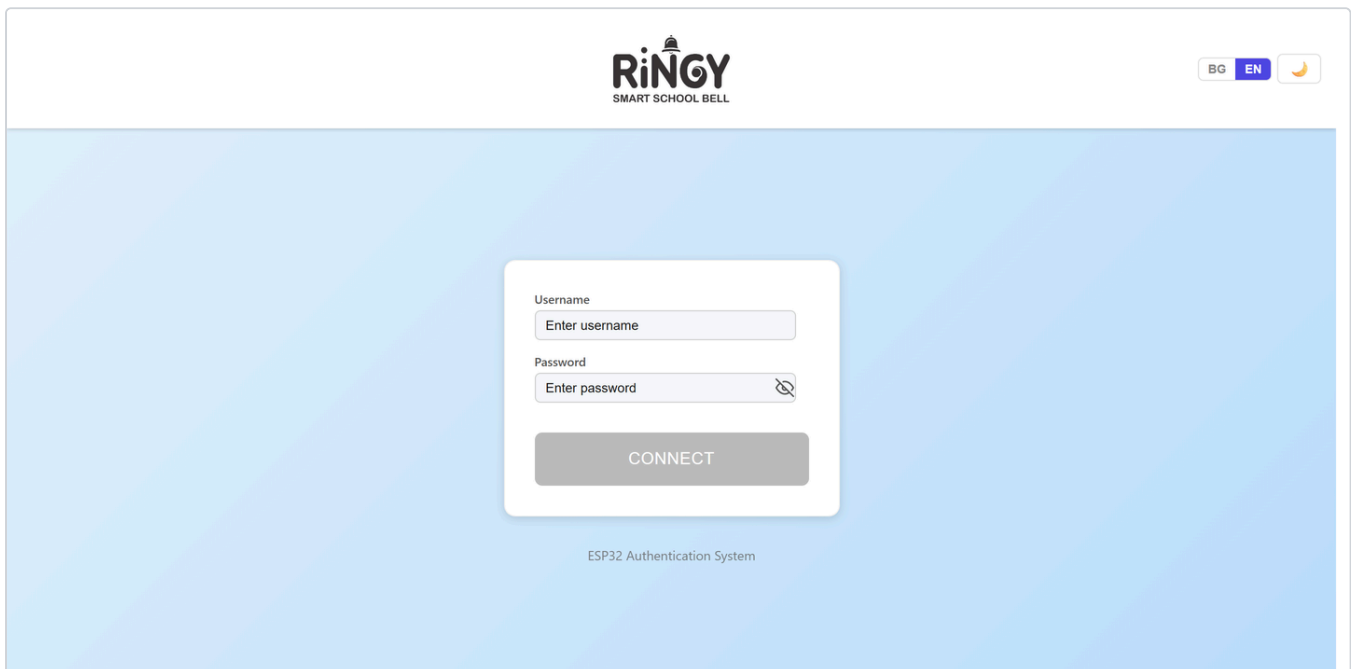
Open `https://ringy.local` from a browser on the school network. The numeric address from the **Info** screen works too, as does the QR code on the same screen. You need to sign in with a school account.

The first time you open it, the browser warns you about the connection; see [section 10](#).

The interface has three tabs: **Dashboard**, **Schedule** and **Settings**.

ONE PERSON AT A TIME

RiNGY allows a single session. If someone else signs in, you are signed out without warning. That is not a fault.

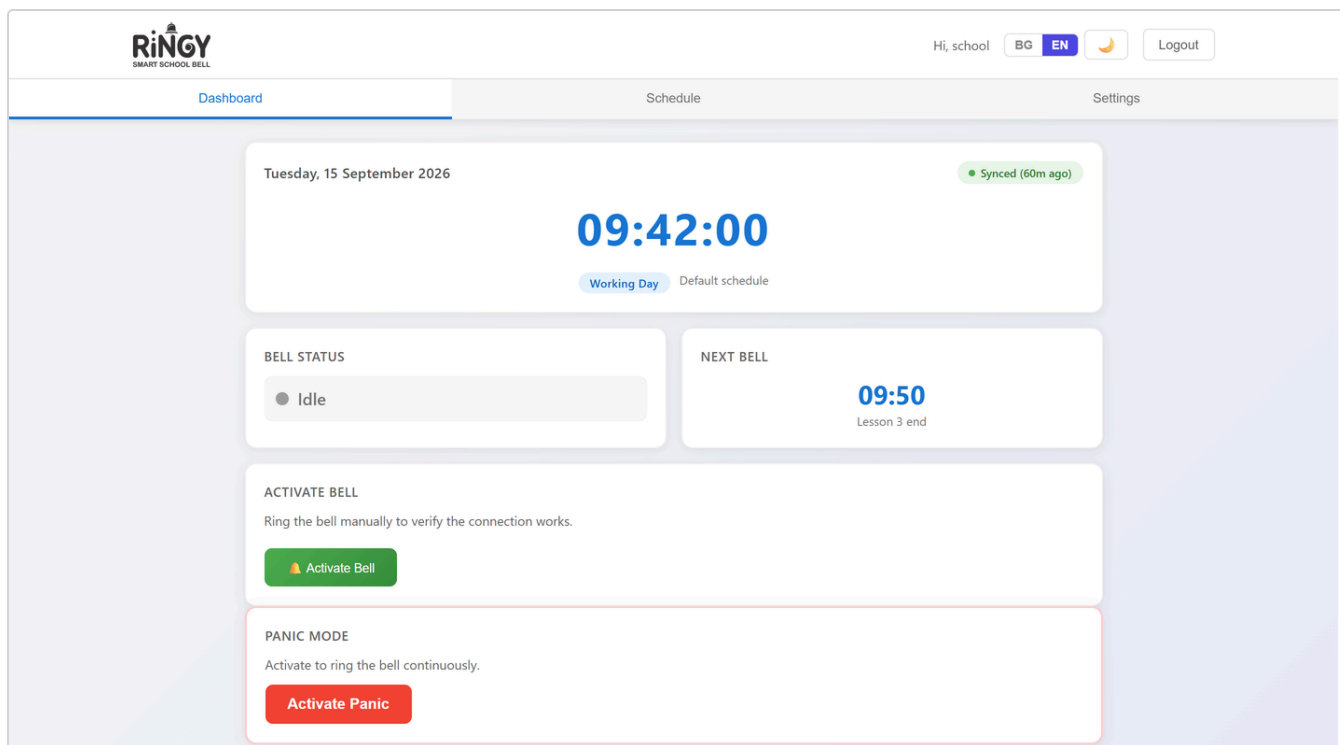


The sign-in screen of the web interface.

7.2 Dashboard

Shows the bell status, the next bell, the day type, the schedule in effect for today and the time held by the unit.

It also carries the **Activate Bell** and **Emergency mode** controls.

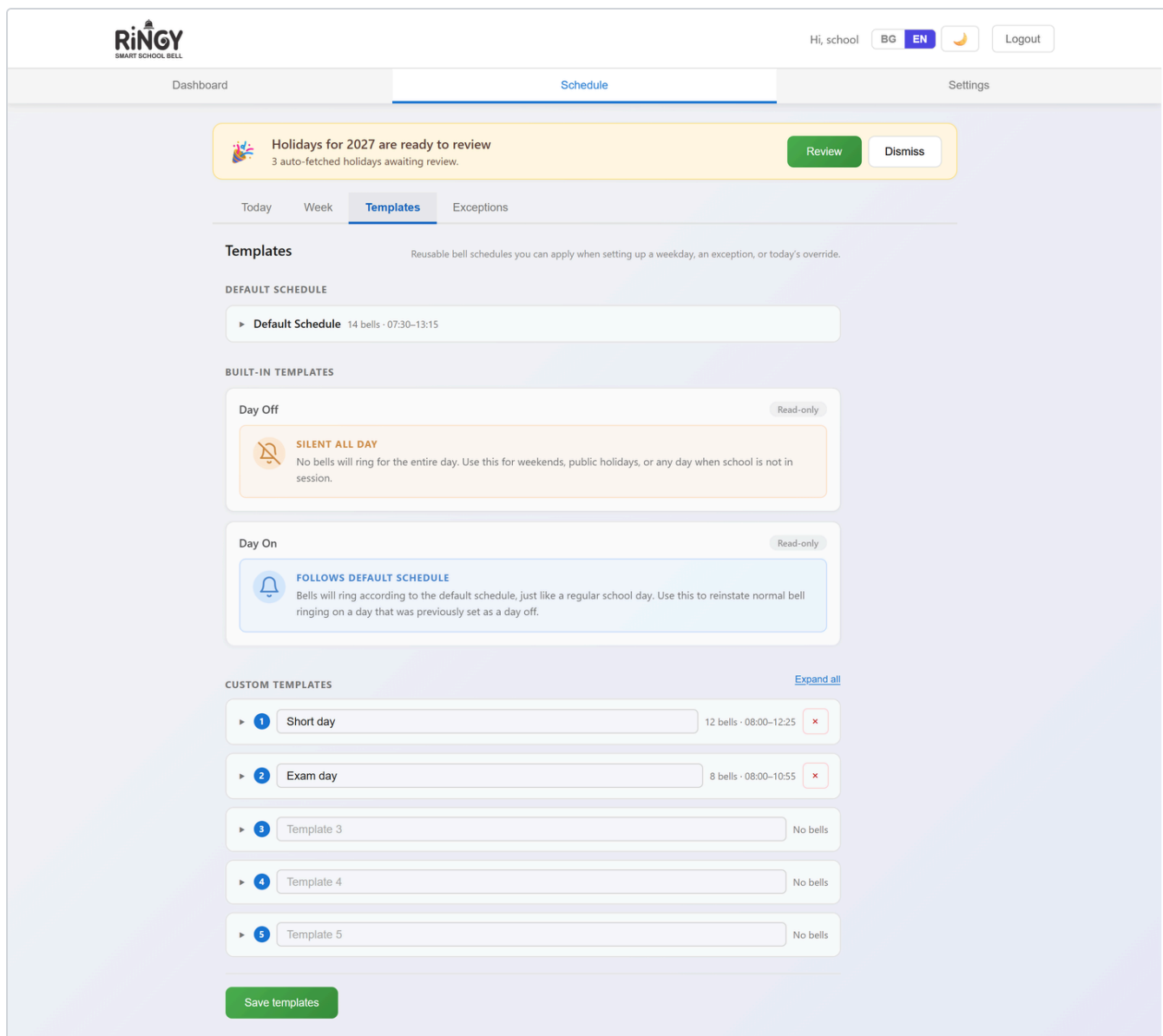


The web dashboard shows the same state as the panel, from any browser on the school network.

7.3 Schedule

Tab	What it is for
Today	Changes that apply to today's date only
Week	Which template each day of the week uses
Templates	The default schedule and up to five named templates
Exceptions	Exceptions by date, and importing the non-teaching days

In detail: sections [3](#) and [4](#).



The Templates tab, where the default schedule and the named templates are built.

7.4 Settings

The tabs run in this order:

Tab	What it holds
General	Working days, time zone, ring duration
Software	Version and updates; Restart , Reset Schedule , Factory Reset
Users	Account management; shown only for a service sign-in
Security	The touchscreen PIN; the certificate and the connection type
System	Time and manual synchronisation, backup battery, device information

WHAT A SCHOOL ACCOUNT DOES NOT SEE

The **Users** tab and the error log under **System** are not shown. Software updates and factory reset are shown, but will not run.

The screenshot shows the RiNGY Smart School Bell web interface. At the top, the logo 'RiNGY SMART SCHOOL BELL' is on the left, and user information 'Hi, school' with language 'BG' and 'EN' buttons, a moon icon, and a 'Logout' button are on the right. Below this is a navigation bar with 'Dashboard', 'Schedule', and 'Settings' (highlighted). Under 'Settings', there are tabs for 'General', 'Software', 'Users', 'Security', and 'System'. The 'General' tab is active, showing 'General Settings'. This section includes 'Working Days' with buttons for Mon, Tue, Wed, Thu, Fri, Sat, and Sun; 'Timezone' with a dropdown menu set to 'Helsinki / Sofia / Athens (EET / EEST)'; and 'Bell Ring Duration' with a slider set to 5 seconds. A 'Save Settings' button is at the bottom.

General Settings

Working Days
Choose which days of the week the bells should ring.

Mon Tue Wed Thu Fri Sat Sun

☒ Working day - bells will ring ☐ Day off - no bells

Timezone
Used for the schedule and for the time shown on the device.

Helsinki / Sofia / Athens (EET / EEST)

Bell Ring Duration
How long the bell rings each time a scheduled event fires. Applies to all bells.

Duration (1–30 s)

5 5s

Save Settings

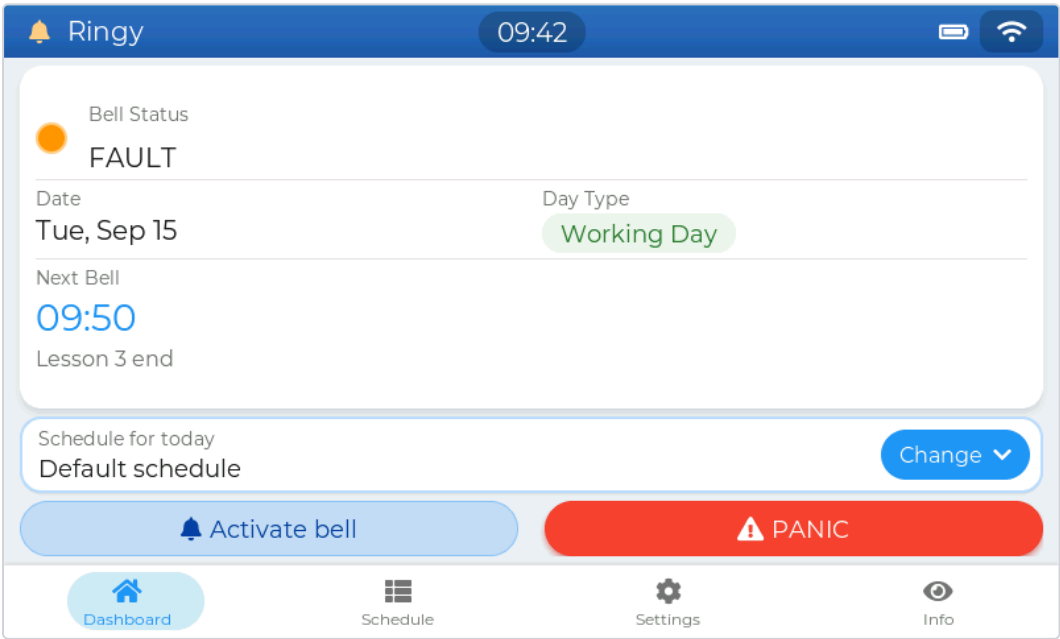
Settings → General: working days, time zone and ring duration.

8. Messages and indications

8.1 Bell status

Status	What it means	What to do
Idle	The bell circuit is confirmed off	Nothing
Ringing	The bell is ringing now	Nothing
PANIC	Emergency mode is on	Press STOP when the incident is over
FAULT	Switching the bell circuit off was not confirmed	See section 11.2

Idle appears only when the circuit is confirmed off. If that confirmation fails, the unit shows **FAULT** instead. The state clears on the next successful ring, or after a restart.



FAULT: the unit could not confirm that the bell circuit switched off.

8.2 Day type

Indication	What it means
Working Day	The normal schedule for the day applies
Day Off	The day is not a working day, or has been declared a day off
Exception - Working Day	An exception applies on which the bell rings
Exception - Day Off	An exception applies on which the bell does not ring

On the main screen the day type appears as a coloured chip at the top right: green for a working day, grey for a non-teaching day, blue for an exception that rings and pink for one that does not. The web interface uses the same colours.

8.3 Warning messages

Messages appear in a bar on the main screen. The ones in bold mean the bells will not ring.

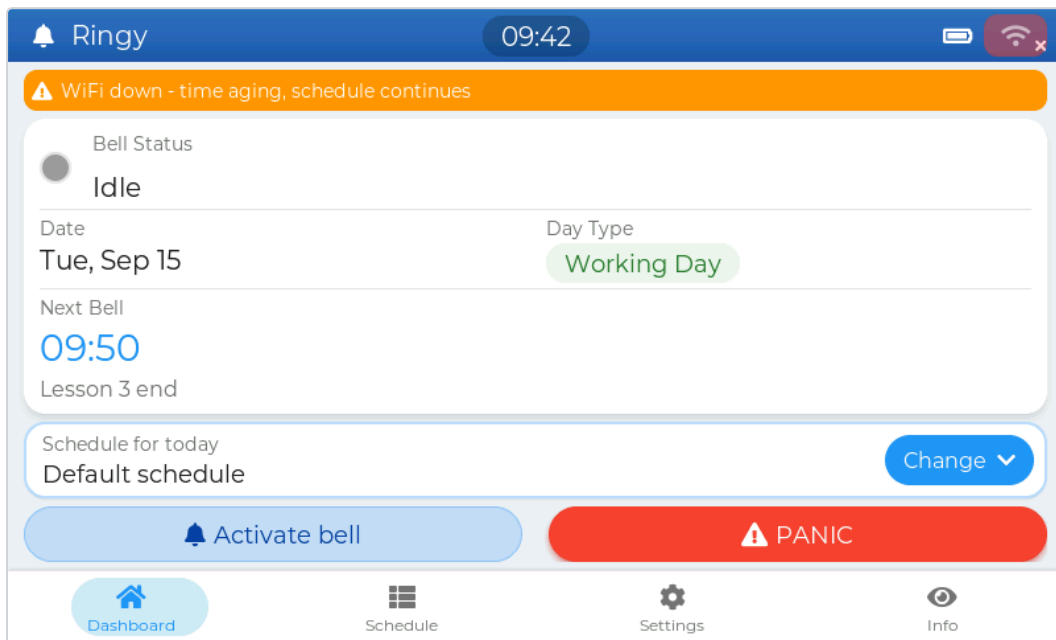
Message	What caused it	What to do
WiFi down - schedule continues	No network, but the clock is still within tolerance	Restore the network when you can
Time aging - reconnect network	More than 7 days without a synchronisation; the message counts down	Put the unit back on a network
WiFi down - time aging, schedule continues	Both at once	Put the unit back on a network
Waiting for network sync - bells paused	The clock has never been synchronised	Put the unit on a network
WiFi down - waiting for sync, bells paused	The same, and no network	Put the unit on a network
Time too old - bells paused	More than 14 days without a synchronisation	Put the unit on a network
WiFi down - time too old, bells paused	The same, and no network	Put the unit on a network
No valid time - bells paused	The clock is unusable	Put the unit on a network
No time and no WiFi - bells paused	The same, and no network	Put the unit on a network
Clock backup battery is due for service - call support	The three-year interval has passed	Plan a replacement
Clock backup battery has failed	The battery no longer holds the time	Replace it, section 12.6

Neither battery message stops the bells. While there is power and a network, RiNGY rings normally; all that is lost is keeping the time through a power cut.

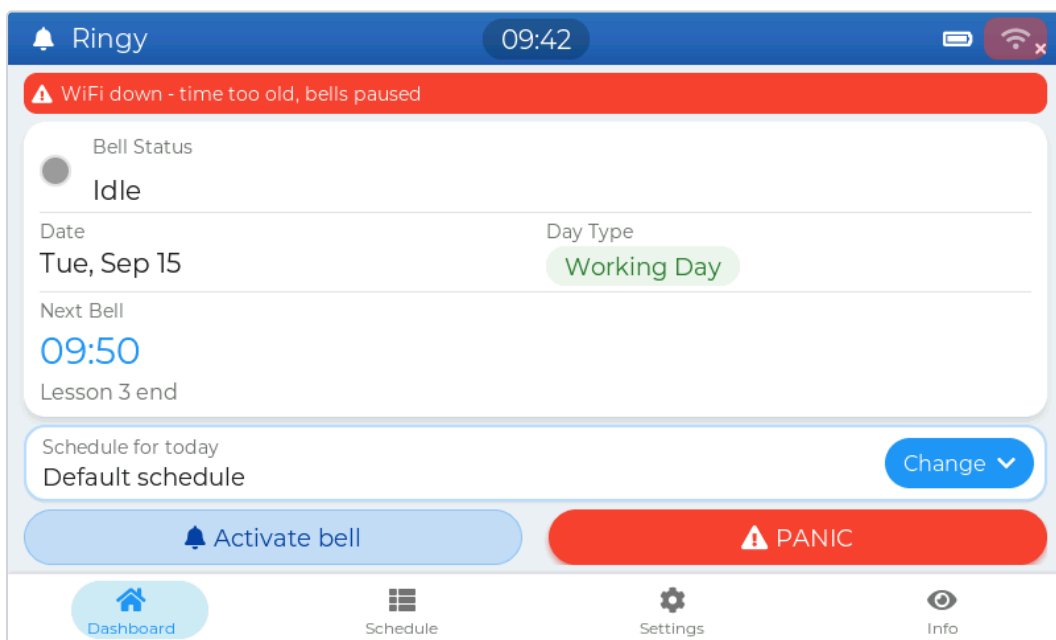
A battery message shares the bar with a time or network message when both apply, on a second line underneath it. A failed battery matters most when the network is also down, so the two are shown together rather than one instead of the other.

WHAT A PAUSED BELL MESSAGE MEANS

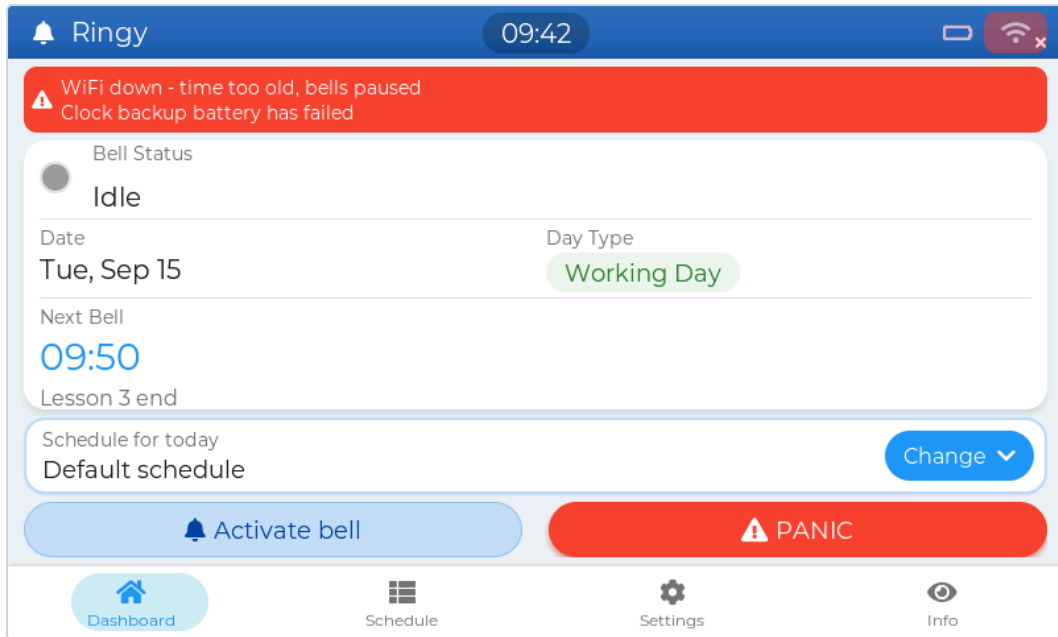
On these messages the bell does not ring. The unit stops rather than ring at the wrong time. Put it on a network with internet access and ringing resumes on its own, within a few minutes. The reasoning is in [section 9](#).



More than 7 days without synchronisation: a warning, and the bells still ring.



More than 14 days: the same bar in bold, and the bells are suspended.



Both at once: the network message and the battery message share the bar.

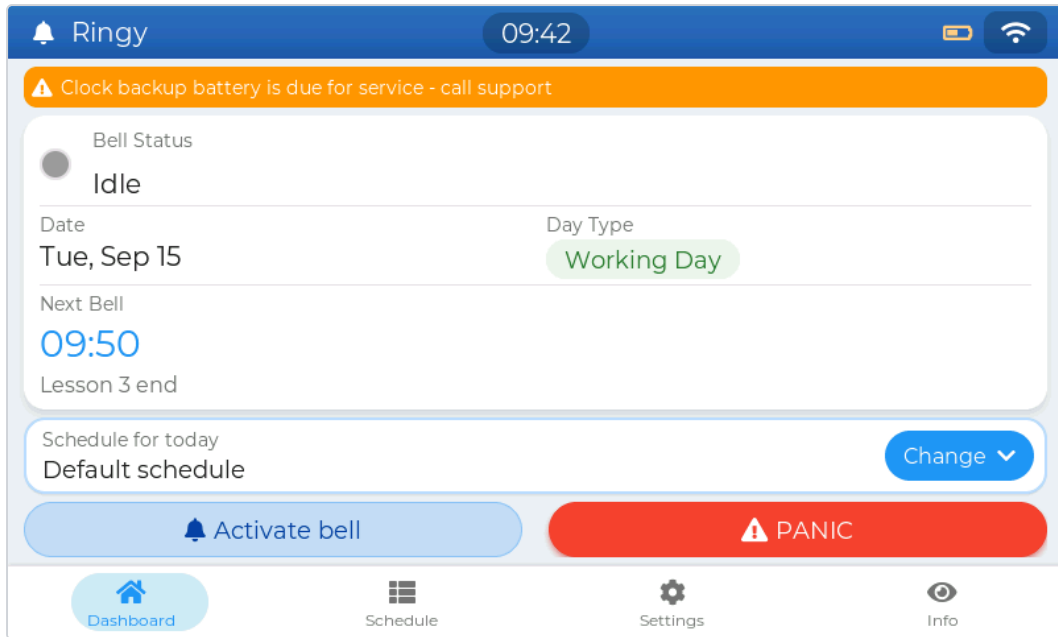
8.4 Clock backup battery state

State	What it means
Fitted, awaiting verification	Normal for a new cell. There has been no power cut since it was fitted, so there is nothing to judge it by yet
Healthy	The clock survived a real power cut
Service due	The three-year interval has passed, but the battery still works
Failed - replace it	The clock did not survive a power cut

AWAITING VERIFICATION IS NOT A FAULT

A healthy new device sits in this state until the first real power cut, which may be months away. It does not mean anything is wrong, and bells are unaffected.

How to replace it: [section 12.6](#).



The backup battery has passed its replace-by date; the bells continue as normal.

9. Clock and synchronisation

The unit synchronises its clock over the internet and keeps it running through a power cut on a backup battery.

9.1 When the bells stop

A bell at the wrong time disrupts the school day more than a missing bell does. So the unit keeps track of how long it has been since it last set its clock, and restrains itself accordingly.

Time since the last synchronisation	Bells
Up to 7 days	Ring normally
7 to 14 days	Ring normally, with a warning
More than 14 days	Do not ring
The clock has never been synchronised	Do not ring

To get them back, put the unit on a network with internet access. Ringing resumes by itself. The schedule, the exceptions and the settings are kept throughout.

9.2 Synchronising by hand

From the web interface: **Settings** → **System** → **Sync Time Now**.

The touchscreen shows the time of the last synchronisation on the **Info** screen, in the **NTP Sync** row, but it cannot start one.

9.3 Time zone

Set from **Settings** → **General** → **Timezone**. The factory value is Bulgaria, with automatic changeover to and from summer time.

Bell times do not shift when the clocks change.

10. Browser security warning

10.1 Why it appears

When you open the web interface, the browser warns you that the connection is not secure.

The connection is in fact encrypted. The warning comes from the certificate being issued by the unit itself, which the browser has no way to recognise in advance. RiNGY has no address on the public internet, so no public certificate authority can issue one for it.

10.2 Removing the warning

Just carry on. Choose *Advanced*, then *Proceed*. That is enough if you only open the interface occasionally.

Install the certificate. Download it from **Settings** → **Security** → **Download Certificate** and install it as trusted on each computer you work from. On those computers the warning is gone for good.

FOR IT STAFF

Section 6 of the **RiNGY Technical Reference** describes the certificate and the two ways to establish trust: installing the device certificate, or uploading a certificate of the school's own. Per-operating-system steps are available from support on request.

11. Fault finding

11.1 The bell does not ring at the scheduled time

Check the AUTO ON/OFF selector on the front panel first. In the **OFF** position the schedule is ignored by design and the bell rings only from the red button. Everything on the screen looks completely normal, which makes this the easiest fault to spend an hour on.

1. Check that the date is a working day: **Settings** → **General** → **Working Days**.
2. Check whether an exception covers the date: **Schedule** → **Today**.
3. Check that emergency mode is not on.
4. Look for a "bells paused" message; see [section 9](#).
5. Check the bell status for **FAULT**.
6. Check what the day's schedule actually contains in **Schedule** → **Today**. An empty list means a cleared template, or an exception pointing at a template that no longer exists.

11.2 FAULT state

The unit switched the bell circuit but did not get confirmation of the result.

1. Listen for whether the bell has stayed on.
2. If it has, cut power to the bell circuit and call support.
3. If it has not, restart the unit from **Settings** → **Software** → **Restart**. The restart returns the bell circuit to its resting state.
4. If the state comes back, call support.

11.3 The screen does not come on

1. Touch the screen: it may be asleep.
2. Check the power.
3. If the screen stays dark but the bells still ring to the schedule, only the display has failed. Everything else, the web interface included, keeps working.

11.4 The address `ringy.local` does not open

1. Check that the computer is on the same network as the unit.
2. Use the numeric address from the **Info** screen.
3. Use the QR code from the **Info** screen.
4. Look at what the Wi-Fi icon is showing.

Some networks do not support `.local` names. The numeric address always works.

11.5 No connection to the Wi-Fi network

1. Check the password with **Show password**.
2. Check how strong the signal is where the unit is mounted.
3. Check the type of network. Enterprise networks with an individual user name are not supported; you need WPA2.
4. Check that the network hands out addresses. An amber Wi-Fi icon means connected without one.

11.6 Sign-in refused although the password is correct

After several failed attempts in a row the unit refuses all sign-ins for a while. The limit is 5 attempts in 60 seconds. Wait: access comes back on its own.

11.7 Forgotten PIN

The PIN cannot be recovered. Clearing it means a factory reset, which erases the schedule and needs a service account. Call support.

Write your schedule down before you do.

11.8 Forgotten web interface password

Call support. The school account is restored using a service account, without touching the schedule, the exceptions or the settings.

11.9 A day without bells even though a schedule exists

Check these two causes:

- An exception points at a cleared template. A missing template is treated as a day off. Look at **Schedule** → **Exceptions**.
- A day of the week points at a cleared template. Look at **Schedule** → **Week**.

12. Maintenance

12.1 What and when

Interval	What to do
Monthly	Look at the main screen for warning messages
Each term	Test the bell installation with a manual ring
Yearly	Reconcile the schedule with the new school year and import the non-teaching days
Every 3 years	Replace the clock backup battery
When a version is released	Install the update

12.2 Software updates

Support gives you the update as a file with an `.sbu` extension. The operation needs a service account, which means support carries it out.

1. Open **Settings** → **Software** → **Install Update**.
2. Choose the file. It is checked on the computer before it is sent to the unit.
3. Press **Upload & Install** and confirm.
4. The unit restarts by itself and is unreachable for about 30 seconds.

The update contains the device software and the web interface as one matched set.

DO NOT CUT THE POWER DURING AN UPDATE

If power is lost while the file is uploading, nothing is written and the previous version stays in service.

IF THE NEW VERSION WILL NOT START

A newly installed version is checked as it starts. If it fails to start, the unit puts the previous version back by itself, along with the web interface that matches it. There is no manual roll-back. If the version started successfully and you still want to go back, support does it.

12.3 Restarting

From **Settings** → **Software** → **Restart**. The unit waits for a bell that is ringing at that moment to finish.

The schedule, the exceptions, the network settings, the accounts and the PIN are all kept.

12.4 Resetting the schedule

From **Settings** → **Software** → **Reset Schedule**.

This restores the factory bells, templates, weekly assignment and exceptions from [section 1.2](#).

The accounts, the PIN, the network settings, the time zone, the working days and the ring duration are kept. They are settings rather than schedule, and the operation leaves them alone.

It runs with a school account.

12.5 Factory reset

From **Settings** → **Software** → **Factory Reset**. Shown only for a service sign-in.

It erases the schedule, the templates and the exceptions; the network details; the school account; the PIN and the screen language; the security certificate; and the record of the last clock synchronisation.

The software version and the service account are kept.

Afterwards the unit starts the initial setup wizard. Bear in mind:

- The connection reverts to `http://` until a new certificate is generated and it switches back to `https://`.
- The bells stay suspended until the clock is synchronised over the internet.

WHEN A FACTORY RESET IS APPROPRIATE

A factory reset is for handing the unit on to another school, or when support tells you to. To restore only the schedule, use [section 12.4](#).

12.6 Clock backup battery

Through a power cut the clock runs on a **CR927** lithium cell, which lasts about three years.

The unit does not measure the battery voltage. It judges the battery by whether the clock survived real power cuts.

The states are described in [section 8.4](#).

If the battery fails, RiNGY keeps ringing to the schedule for as long as it has power and a network. All that is lost is keeping the time through a power cut.

How to replace it:

1. Switch off the power and unplug the unit.
2. Open the enclosure and replace the **CR927** cell, observing the polarity.
3. Close the enclosure and restore power.
4. Once the unit is back on the network, confirm the replacement from **Settings** → **System** → **Battery replaced**.

Step 4 resets the three-year counter and clears the warning. It needs a synchronised clock - if the unit has not yet reached a time server, the button says so and does nothing until it has. No restart is needed: the date is recorded immediately.

ONLY A REAL POWER CUT PROVES A NEW CELL

After step 4 the status reads **Fitted, awaiting verification**, and it stays that way until the unit is next switched off at the mains and back on. That is the only thing that tests a backup battery. A restart from the menu does **not** count - the unit never loses power, so the cell is never asked to hold the time.

This is why the status does not change the moment you press the button. It is working as intended; the fitted date and the next-service date update straight away.

13. Reference data

13.1 Limits and defaults

Parameter	Value
Bells in one template	60
Named templates	5
Exceptions	40
Ring duration	1 – 30 seconds (factory 5)
PIN length	4, 5 or 6 digits
Lockout on an incorrect PIN	3 attempts, 30 seconds
PIN valid after entry	30 seconds
Screen sleep	15 or 30 seconds, 1, 2 or 5 minutes, or Never (factory 1 minute)
Web interface password	At least 8 characters
Sign-in limit	5 attempts in 60 seconds
Simultaneous web interface sessions	1
Operation without a clock synchronisation	14 days
Backup battery	CR927, 3 V lithium, approximately 3 years

13.2 Data required when contacting support

From the **Info** screen of the unit:

- Software version.
- MAC address.
- The bell status, and the text of the warning message if one is showing.
- What you were doing when the fault appeared.

Which function lives where is summarised in [section 1.3](#).

RiNGY - school bell control system. This manual is also published in Bulgarian.