REDZ
SMART COMMUNICATION

abcZ

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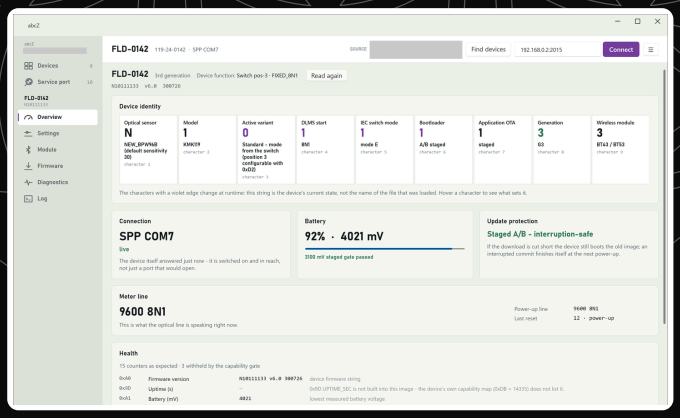
abcZ for REDZ Optical Probes

Finds KMK118, KMK119, KMK138 and KMK139 probes over Bluetooth and reaches a KMK179 over the network.

Firmware update of one probe or of several probes at once, also of older probes with v5.x firmware.

Settings, the Bluetooth or Wi-Fi module and the diagnostic counters of each probe.

One program file, abcZ.exe: no installer, nothing else to install.



abcZ is a Windows program for REDZ optical probes: the KMK118, KMK119, KMK138, KMK139 and KMK179.

Nine Functions

1. **Devices:** finds your probes over Bluetooth (SPP / BLE) and connects a KMK179 by its IP address.
2. **Service port:** talks to the radio module directly through a USB optical probe, also to set up a KMK179.
3. **Customer test:** leads you through the sessions of a field test package and adds one line to the result file for each session.
4. **Overview:** what the probe reports about itself right now, from its identity to its health.
5. **Settings:** shows and changes the probe's settings, also the meter line and the power-on defaults.
6. **Module:** reads the probe's Bluetooth or Wi-Fi module, with our standard values.
7. **Firmware:** updates one probe or several probes at once, also older probes with v5.x firmware.
8. **Diagnostics:** reads the probe's diagnostic counters, with a baseline to see what one action cost.
9. **Log:** lists what abcZ did in this session and what the probes answered, to copy for support.

Key Figures

5 probes
KMK118, KMK119, KMK138, KMK139 and KMK179

4 sources
Bluetooth BLE + SPP, SPP only, BLE only, or the IP address of a KMK179

One file
abcZ.exe, no installer

Several at once
firmware update of the ticked probes, A/B staged several at a time

A/B staged
interruption-safe: the probe still starts the old firmware

Way back
after an interrupted legacy upload: a forced load of the same image

Main Features

Devices

- Each probe gets a row as soon as it is found, and the row fills in when the probe has been read.
- The Device and Link columns show how abcZ found the probe and how it reaches it; every other column shows a value read from the probe.
- Pair (SPP) and Unpair add or remove the Windows pairing of the ticked probes.

Overview, Settings and Module

- The page shows what the probe reports about itself right now: who it is, how it is connected, its battery, how safe a firmware update is, the meter line and its health.
- Everything the page shows is what the probe reported, not what abcZ last wrote.
- At the end abcZ reads every written setting back from the probe.
- The IDENTITY AND OUR DEFAULTS card lists the module's identity first: its type, its address and its firmware version.

Firmware

- It works in three steps: you choose the image, abcZ shows the plan, and the update runs only when you start it from the plan.
- abcZ updates the probes with the A/B staged loader first, several at a time, and the probes on the legacy path last, one at a time.
- On the A/B staged path a dropped connection does not end the update at once: abcZ connects again, asks the probe how much of the image it already holds and continues from there.

Diagnostics and Log

- The Diagnostics page reads the probe's diagnostic counters: how full its buffers got, how many bytes it had to drop on the meter side and on the module side, its battery, uptime and last reset.
- The Log page lists, in order, what abcZ did in this session and what the probes answered.
- Copy everything puts the log of this session on the clipboard, also the lines hidden by Only what went wrong.

Service Port

- The service port is the module's own configuration line.
- abcZ reaches it through a USB optical probe connected to the PC: place the USB optical probe face to face with the optical port of the probe, and put the probe in mode 3 (switch position 3 on a probe with a switch).
- Use it when a probe cannot be reached over its own link: a KMK179 that has never joined a network or whose network settings are wrong, or a probe whose Bluetooth module has BLE turned off.
- abcZ writes the values one by one and reads each one back.

Good to know

- So that the probes in your list stay reachable while you work, abcZ suspends the auto power-off of every probe it reads on the Devices page and that answers with its identity.
- That is why you switch each probe you have read off when you are done.
- Reading the Overview page changes no setting of the probe.
- Only one abcZ runs at a time in your Windows session.

The probes abcZ works with

- abcZ works with five probe models: KMK118, KMK119, KMK138, KMK139 and KMK179.
- The KMK138 is a KMK118 and the KMK139 is a KMK119, each with an ANSI optical head.
- You do not choose the model. abcZ reads it from the identity the probe itself reports.

Technical Data

Windows	A PC with 64-bit (x64) Windows 11 in a version Microsoft still supports, or with a Windows 10 Enterprise LTSC or IoT Enterprise edition that Microsoft still supports.
	abcZ is built on .NET 10, and these are the Windows versions .NET 10 supports.
Installation	abcZ is one program file, abcZ.exe. There is no installer: copy the file into a folder and double-click it to start abcZ.
Runtime	Nothing else: abcZ carries everything it needs inside its program file. You do not install .NET or any other runtime.
Settings and logs	abcZ keeps its settings and its session logs next to abcZ.exe.
Probes	abcZ works with five probe models: KMK118, KMK119, KMK138, KMK139 and KMK179.
Bluetooth	For KMK118, KMK119, KMK138 and KMK139 probes: a Bluetooth adapter that Windows recognises. abcZ uses the Bluetooth of Windows.
Network	For KMK179 probes: a network connection from the PC to the probe's IP address.
Port	If you leave the port out, abcZ uses 2015.
Service port	For the Service port page: a USB optical probe connected to the PC.
Bootloader	A/B staged or legacy: which kind of firmware loader the probe has.
Battery	A 3rd-generation probe whose battery reads below 3100 mV: a firmware update through its A/B staged loader would be refused; charge the probe first.
Start options	You can start abcZ.exe with options, for example from a shortcut or a command window.

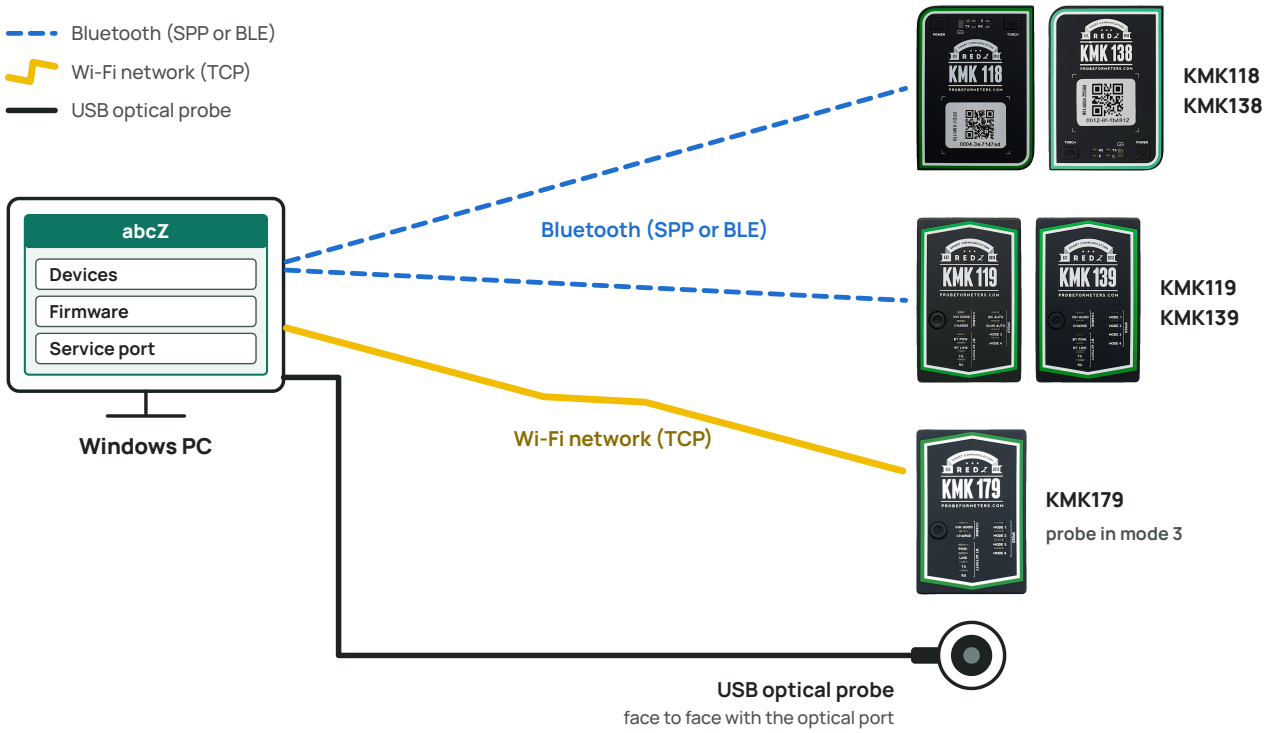
Supported Probes

	 KMK118	 KMK138	 KMK119	 KMK139	 KMK179
Bluetooth (SPP / BLE)	●	●	●	●	
Wi-Fi, reached over the network by its IP address					●
Function as a setting of the probe	●	●			
4-position switch			●	●	●
Radio module read on the Module page	●	●	●	●	●
Wi-Fi settings written over the service port					●
ANSI optical head		●		●	

The KMK138 is a KMK118 and the KMK139 is a KMK119, each with an ANSI optical head; they report the model code of a KMK118 and of a KMK119 respectively, so the Model column shows KMK118 for a KMK138 and KMK119 for a KMK139.

You do not choose the model. abcZ reads it from the identity the probe itself reports and shows it in the Model column of the device list.

Typical Application



For KMK118, KMK119, KMK138 and KMK139 probes: a Bluetooth adapter that Windows recognises. For KMK179 probes: a network connection from the PC to the probe's IP address. A KMK179 that has never joined a network is set up this way: over the service port.

Firmware Update in Three Steps

1. **You choose the image.**
2. **abcZ shows the plan; still nothing has been sent to any probe.**
3. **The update runs only when you start it from the plan.**

- Choosing a file sends nothing to the probes.
- abcZ reads every probe again after its update.

When an update is interrupted

- On a probe with the A/B staged loader an interrupted update is not a problem. If the upload is cut short, the probe keeps running its old firmware.
- The way back is a forced load of the same image file.
- Between switching the probe off and on and starting the forced load, do not read it.
- On the legacy path an upload that stops halfway leaves the probe without firmware. It waits in its loader and answers nothing.
- Do not start a second upload straight away.
- If you are not sure, start nothing.

Download: abcZ on redzsoftware.com - one program file, abcZ.exe, and the User Manual, also as PDF.