

PuKK Manual

Integration Guide

Version 1.0

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1. Introduction

This document describes the workings and operations for the ProDVX PuKK Workspace. This device is still in development, therefore some bugs might still be present. Please send your feedback to feedback@prodvx.com.

2. Installation

The box contains the PuKK and a USB Type-C cable.

Plug the USB Type C cable into the Type-C Connector on the PuKK. Ensure that a proper source is used, for example; a ProDVX USB-C Power Adapter.

The PuKK will go into its boot sequence, and the LED ring will show one green quarter that indicates the boot was completed.

3. Configuration

The PuKK requires configuration via NFC. To apply a configuration, a NFC card with the configuration JSON file must be held on the PUKK. A default configuration can be found here: [default_config_v1.0.1](#)

To obtain an NFC configuration card you require the following:

- The configurator. This can be:
 - An APPC device with integrated NFC and the Pukk Companion Application. *This is the ProDVX supported solution. Note that this also requires a separate power source for the APPC, such as a USB-C Power Adapter or PoE connection. The PuKK can be supplied with power from the APPC with the USB cable.*
 - A device with an active network connection and a method of writing this configuration to an NFC card.
- An NFC Writable card

2.1. Configuration Fields

The fields that are required for PuKK configuration are WiFi settings and CMS server settings.

1. WiFi settings include SSID, password and a hidden flag. The Pukk uses this WiFi network to send and receive API requests.
2. CMS Server is the address of your server where the requests are sent from the Pukk when an interaction is received.



Additionally, OTA settings can be applied. OTA (over-the-air update) settings consist of only enabling or disabling automatic updates.

2.2. With the Companion Application

The Companion Application allows you to create a configuration or import an existing configuration and write it to an NFC card. Below are the instructions for configuring your PuKK Workspace devices.

- 1) Open the companion application on your ProDVX Android device.
- 2) The application will ask for a configuration.
 - A. Existing configuration
 - If you have a configuration on your device, you can upload it using the “upload” button.
 - After you have selected the configuration, the app will show it to you for review.
 - Select “Accept”.
 - B. Form
 - If you do not have a configuration, you can press “create a configuration”.
 - The app will display a form that you can fill in for all the required information. The app will automatically check for verifiable errors.
 - When you are done, you can click the “Finish” button.
 - The app will show your configuration for a final check.
 - Select “Accept”.
- 3) After you finish the configuration setup, tap “Write to NFC”.
- 4) The app will show a prompt to hold your NFC card to the reader. This will write the configuration onto the card. A confirmation prompt will show if the writing process is successful.
- 5) When the PuKK has booted and is showing a flashing red led ring, tap the top of the PuKK with the NFC card. Ensure to leave the NFC card long enough on the PuKK to full read the configuration.
- 6) The PuKK led ring will start showing a rotating blue led to indicate that it is reading the configuration.
 - a. If the configuration is invalid, or unreadable (due to configuration issues), the device will flash red fast 3 times and go back with the original red flashing.
 - b. If the configuration is successful, the device will flash green fast 3 times and reboot.
- 7) After a reboot, the device will show which parts of the configuration were successful with the LEDs. (Explanation follows in Chapter 3. Boot Indicator)

2.3. Without the Companion Application

1. Go to https://prodvx.github.io/PuKK_Configurator/.
2. Fill in your details and download the configuration file using the “Download” button.
3. Use your preferred method to write the configuration file to your NFC card.
4. When the PuKK has booted and is showing a flashing red ring, tap the top of the PuKK with the NFC card. Ensure to leave the NFC card long enough on the PUKK to full read the configuration.
5. The PuKK LED ring will start showing a rotating blue led to indicate that it is reading the configuration.
 1. If the configuration is invalid, or unreadable (due to configuration issues), the device will flash red fast 3 times and go back with the original red flashing.
 2. If the configuration is successful, the device will flash green fast 3 times and reboot.
6. After a reboot, the device will show which parts of the configuration were successful with the LEDs. (Explanation follows in Chapter 3. Boot Indicator)

2.4. Reconfiguration

For security purposes, tapping the PuKK Workspace with an NFC card with a configuration will not by default overwrite the existing configuration.

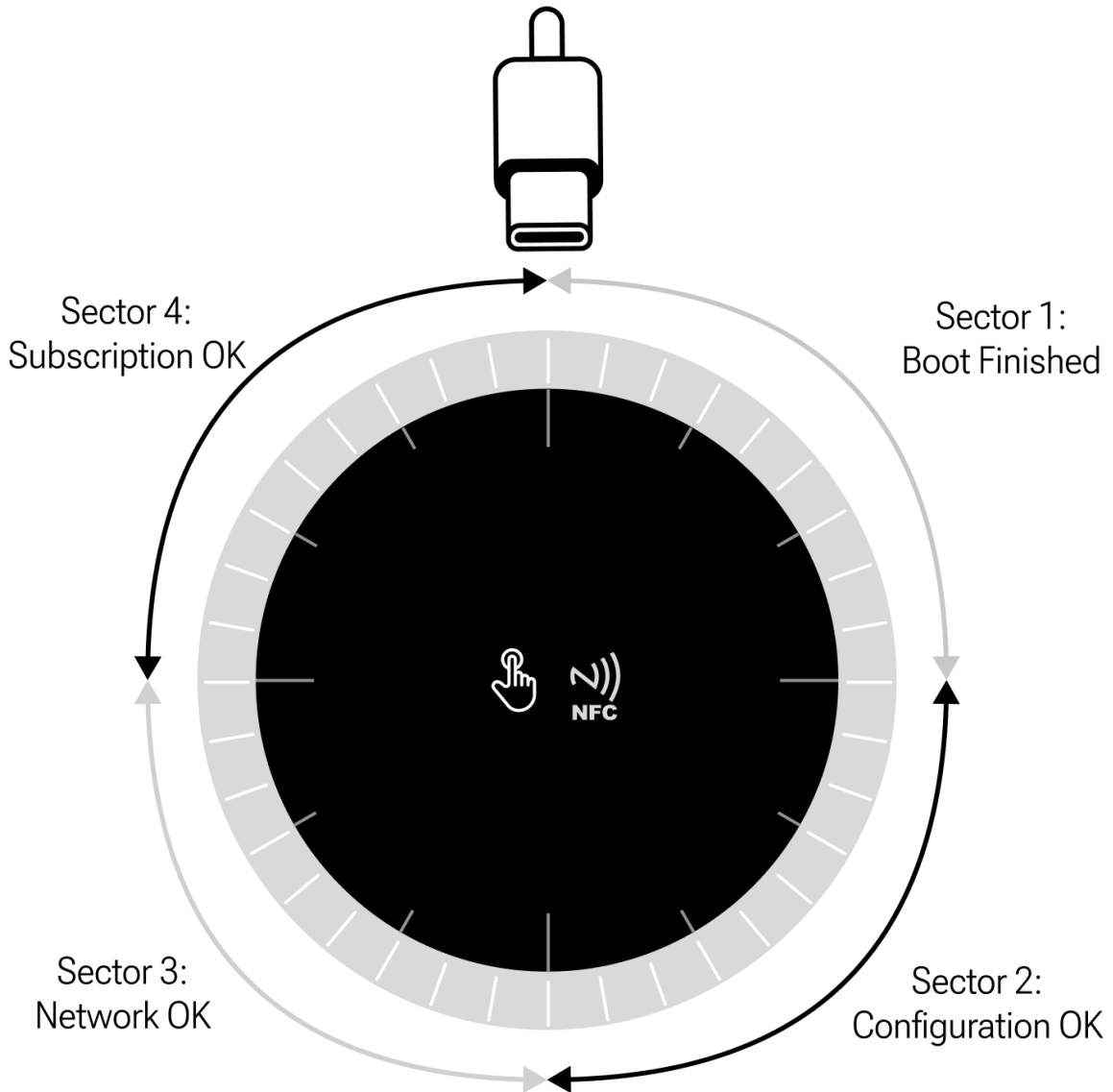
If you need to reconfigure the PuKK, power down the device, and power it back up. You need to hold the NFC card with the configuration to the PuKK within 10 seconds. This will apply the new configuration and reboot the device.

You can also remove any known information by holding the pin on the bottom for 5 seconds. This will perform a factory reset and restart the device. If no configuration is found, it will always accept JSON content as configuration.



4. Boot Indicator

Once the boot of the PuKK Workspace has been completed, the following LED quadrants indicate which parts of the configuration were successful.



The sectors indicate the following information:

- 1) If Sector 1 is green, it indicates a finishing boot. *(Note. Currently it might take a few extra seconds to be fully booted after LEDS turn green)*
- 2) If Sector 2 is green, it indicates a valid configuration.
- 3) If Sector 3 is green, it indicates a valid network connection (received an IP-address).
- 4) If Sector 3 is green, it indicates that the device has a valid subscription.

5. Subscription

To support flexible deployment and business models, the PuKK Workspace includes a built-in mechanism that verifies the validity of an active subscription through a secure server connection.

This functionality enables integration of the PuKK Workspace into a subscription-based offering, to be able to include the device in a monthly service model. By doing so, organisations can benefit from the solution without requiring an upfront investment.

The PuKK Workspace is configured with a free subscription by default. If required, it can be adjusted to support a rental or lease model. Naturally, this mechanism does not apply to one-time purchases.



6. Usage

The PUKK can be remotely controlled using a REST API or via HTTP Responses. The PuKK will send a request upon button presses, NFC interactions, and every 5 seconds (configurable).

5.1. LED Operation

The LEDS can be addressed by the REST API or by responding to the requests. Find the specific requests in the REST API section 5.2 and responses in 5.3.

All colors are accessible by LRGB as “[0..100], [0..255], [0..255], [0..255]”.

The LEDS operate with a specific type. This list specifies the types that are by default integrated in the firmware:

Type	Operation	Values and Description
0	Off	N/A
1	On (All LEDs, static)	LRGB: Color value, Duration_ms: Time until off
2	Marquee (Single LED rotation)	LRGB: Color value, Duration_ms: Time until off Speed_ms: Speed of the rotation, Counter_clockwise: Flag if rotation should be counterclockwise (Default: False)
3	Breathe (Increasing and decreasing brightness over time)	LRGB: Color value of the full ring, (L is max brightness) Duration_ms: Time until off, Speed_ms: Speed of increase and decreasing brightness
4	Rainbow (Rotating rainbow gradient)	Duration_ms: Time until off, Speed_ms: speed of rotation, Counter_clockwise: Flag if rotation should be counterclockwise (Default: False)
5	Quadrant (4 individually lighted quarters)	Q1..Q4: LRGB Color values for each quadrant (starting top-right / North-East) Duration_ms: Time until off
6	Individual (Specific control for leds)	Leds: LRGB Color values for each LED (Starting just after 12 o’ clock). Duration_ms: Time until off.
7	Clock	Initial_Color LRGB Initial value for all leds before clock starts. Intermediate_Color: LRGB value for the next led to swap. End_color: LRGB value for all leds after clock ends. RotationTime_s: time in seconds for one full rotation.

		Counter_clockwise: Flag if rotation should be counterclockwise (Default: False)
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5.2. REST API

The API is approachable via the following API specification:

[REST API Specification v1.0](#)

5.3. HTTP Responses

The PuKK will send the following requests upon interaction according to the following specification:

[PuKK Requests v1.0.1](#)



7. OTA

The PuKK Workspace can automatically fetch new updates when they are available. The update process can also be started manually.

2.5. 6.1 OTA cycle

The PuKK makes a request to the ProDVX OTA server. This will trigger a download that contains version information about the most recent firmware. If a newer version is found, it will proceed with the download and install the new firmware. Your configuration will remain on the device.

2.6. 6.2 OTA update start

If OTA updates are enabled in the configuration, the request to the OTA server is done upon boot.

If OTA is disabled, you can force the OTA request by making a request to the PuKK with the /ota endpoint. This will start the OTA cycle. For specific uses, the location of OTA can be overridden, this is noted in the API specification.

2.7. 6.3 Manual update

At the current moment, manual burn of the PuKK Workspace firmware is unsupported.

2.8. 6.4 OTA Server information

The OTA service is hosted by the same company as ProMGR. The OTA files are served using Hetzner. Hetzner is a German-based web hosting provider and data center operator known for offering highly reliable and cost-effective infrastructure. It provides dedicated servers, cloud hosting (VPS), managed servers, and colocation services from data centers in Europe (Germany, Finland) and the USA.

The specific files are hosted in Falkenstein, Germany.

8. Troubleshooting

Please contact support@prodvx.com for detailed support about the PuKK Workspace.



9. Version History

Version	Author	Date
1.0	ProDVX Software	01/03/2026

