OKO M1a.5 Initializer Quick Start Guide (FPV Mode)

The following quick start procedure is for use with the OKO M1a.5 in its standard FPV Mode.

1) Rip open the white label and hold the red pull pin string.
   If the white label has already been broken or ripped opened, it is highly recommended to run the field test before deployment.
2) Test the battery. Remove the red pull pin from the M1 to turn on the device. It should slow blink green.
   If the Yellow LED is shown, please replace the battery.
3) Reinsert the red pull pin and remove the green block terminal.
4) Connect the igniter wires to the green block terminal. Ensure the leads are properly secured and cannot be pulled out.
5) Attach the explosive and the M1 to the drone. Ideally, the M1 should be mounted to the rear portion of the explosive or somewhere on the drone (frame). It is important that the M1 is mounted tightly and cannot move.
6) Securely attach the green block terminal to the M1 terminal connector.
   A click will be heard or felt, verifying it is properly plugged in.
7) Power on the M1 by removing the red plastic pull tab (string attached). The Green LED will blink slowly. RED LED should be OFF.
8) Turn the drone motors on, but not fast enough to fly the drone.
   Green LED should start the sequence: 2 Blinks & Pause, indicating that motors have been detected
   If Motors are turned off the Green LED will return to the slow blink pattern
9) Increase motor RPM to fly the drone.
   LED's will start blinking at a medium rate, indicating hovering has been detected.
   If the drone lands and motors are turned off, the LED pattern will again return to the slow blink pattern.
10) Fly the drone quickly in a direction for 20 meters and bring it back to observe the LED pattern.
    LED's will start blinking quickly indicating flight has been detected.
    ***NOTE:** Although not necessary, it is strongly recommended for the operator to observe the LEDs to ensure flight was detected (Green LED fast blink). OKO Systems recommends this step be followed when a new drone or drone frame is used for the first time – as flight detection may change with drone construction and/or frame size.*
    ***NOTE:** If the drone lands and motors are turned off before the arming cycle begins, the LED pattern will again return to the slow blink pattern.*
11) Once Flight has been detected and T1 time has passed (default 30 seconds) the unit will begin arming.
    LED's will display slow blinking RED and fast blinking Green.

Unit is Now Armed (Munition is Hot)

12) Once the RED LED starts flashing quickly the unit is armed and ready to initiate.
At this point the unit cannot be disabled short of powering off which is not recommended as such action could result in detonation due to movement of the unit.

Configuring Parameters / Configure Initializer

Parameters are configured and unit is optimised using the Android OKO-M1 App.

The OKO-M1 App will only work with compatible M1 hardware.

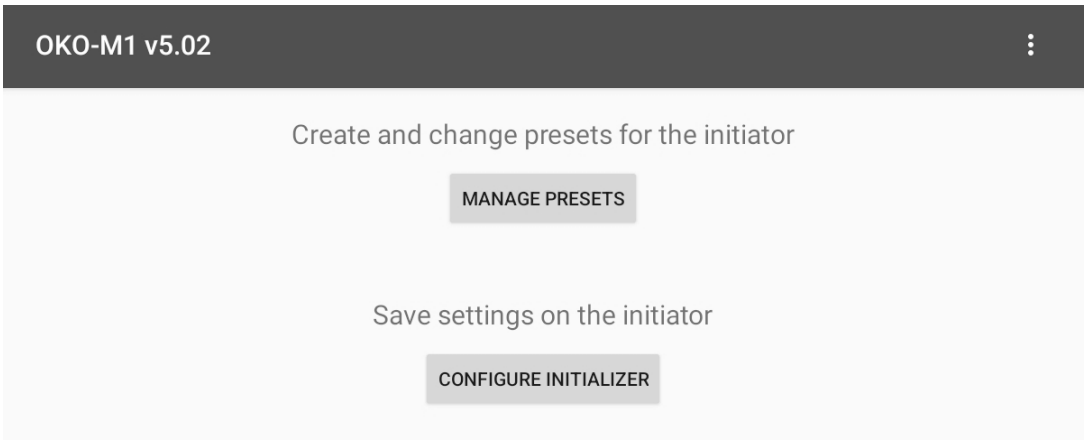
The App will run on all Android devices including phones and Tablets. App will NOT run on IOS.

Connect the M1 unit by first connecting the programming module to your android device via USB-C or Micro-B connector (note – the programmer connects to Android via cables on the side with both USB-C and Micro-B connectors) See Appendix B for the diagram.
NOTE: If you have established the connection and no status LEDs are displayed on either the Programming Board or the M1, try unplugging the USB Type-C connector from the android device, flip it, and then reconnect.

Connect M1 unit via the supplied Micro-B cable to the programmer.
NOTE1: if the M1 unit is plugged into any regular USB port it will NOT be recognised. No harm will occur to either port but the unit will not be detected.

OK permissions to allow OKO-M1 app to access FTDI hardware.

Select “CONFIGURE INITIALIZER” button under the heading “Save settings on INITIALIZER”



The M1 unit does not need to be powered on (tab removed), it will power on in a non firing state by using power from the Android device. The unit in this state cannot create an initialisation pulse as the charge capacitor is grounded/disabled.

The M1 unit should be recognised and the on-board parameters read. If it is not, press the “DISCONNECT” button and then the “CONNECT” button.

Scroll down to the “Settings” and modify any settings as desired and required.
NOTE: if you attempt to enter a setting below the minimum, it will set the parameter to the minimum value. If you attempt to enter a setting above the maximum, it will set the parameter to the maximum value.

To program/save the new values to the unit, press “SAVE SETTINGS TO BOARD”. The app will reply with “Settings saved to board”.

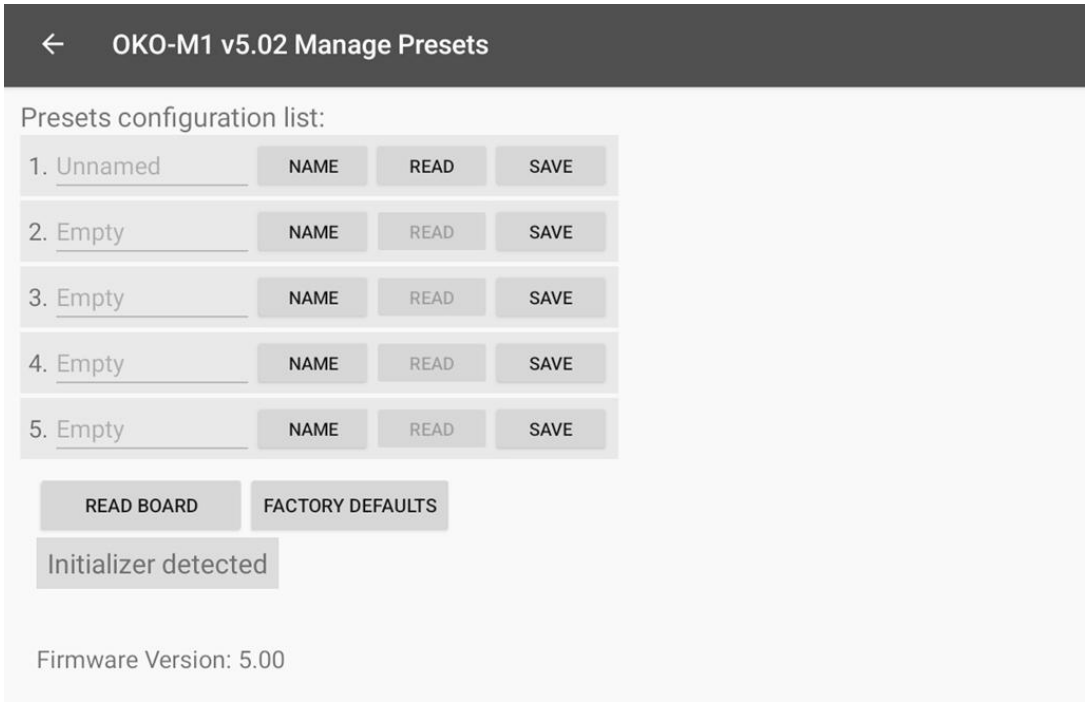
Restoring Factory Defaults

Factory defaults can be set to the unit by pressing the “FACTORY DEFAULTS” button in the M1 app once the board has been detected. No further action is necessary.

Saving Various Profiles for Programming Later

By using the sub section “Create and change presets for the Initializer”, various parameter / profiles can be created and saved within the app.

Select “Manage Presets”



Creating a brand new Preset

No unit needs to be connected
Select “FACTORY DEFAULTS” to populate parameters or select a previously programmed Preset by selecting “READ” for that preset
Modify Parameters as desired
Select a Preset Slot from the “Presets configuration list:” by saving to that entry
The preset name can be changed by selecting “NAME”

Saving Parameters from a pre-programmed unit as a Preset

Connect Unit
Select “Read Board”

App will indicate Success or Failure of Read and Parameters will be displayed
Modify, if needed, any Parameters
Select a Preset Slot from the “Presets configuration list:” Save the entry to your preferred preset slot by clicking on the save button next to the slot number.
The name can be Changed by selecting “NAME”

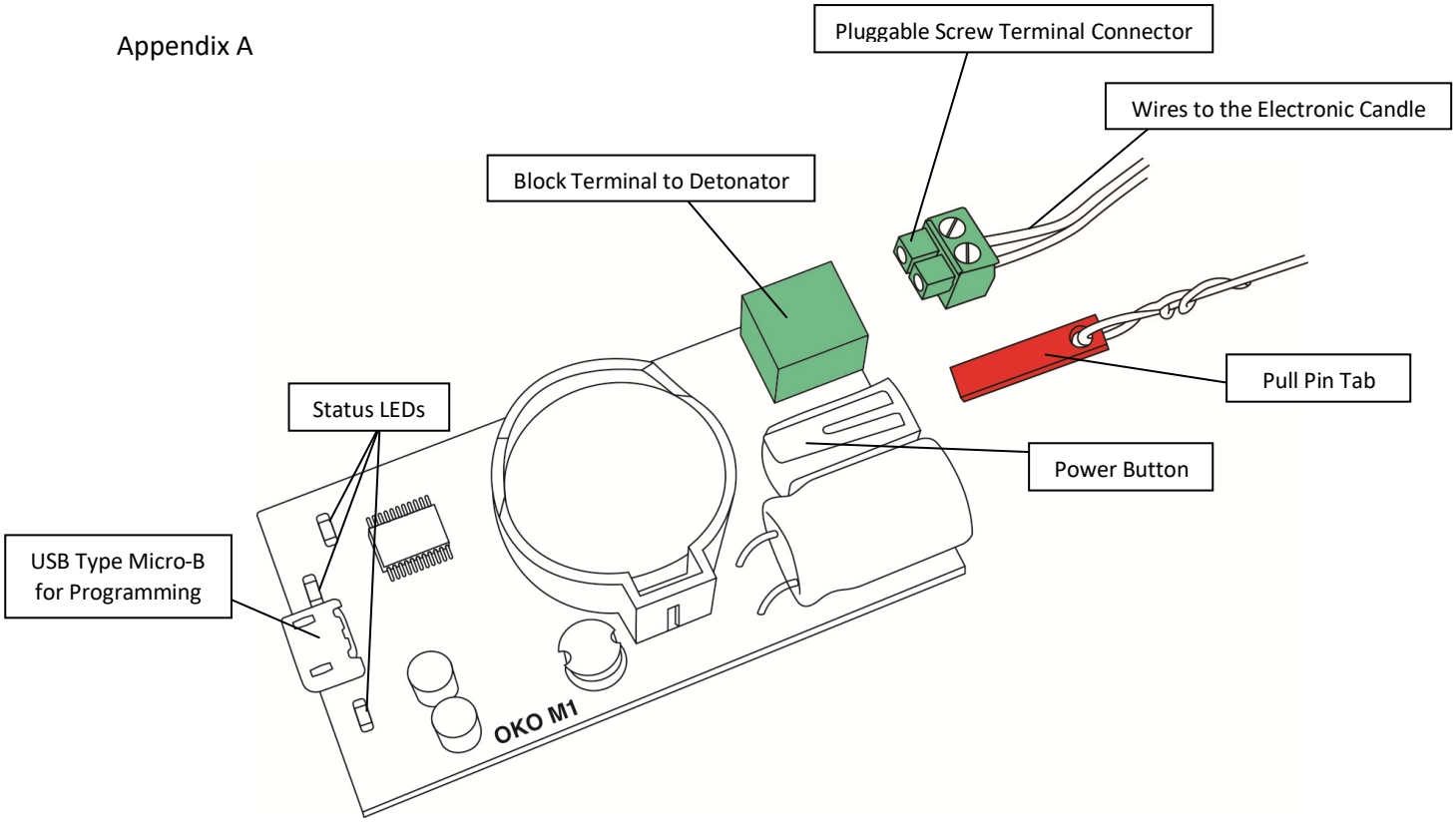
Programming Presets to a unit

Select “CONFIGURE INITIALIZER” from the top menu screen
Connect Unit
If board is not Auto Detected select “Search Device” – sometimes you may need to “DISCONNECT” and

then “CONNECT” again
Select “SAVE PRESET TO BOARD” button beside Preset desired in “Presets configuration list:” section

Board should be programmed.

Appendix A



Appendix B