OKO Initializer M3

General Features

- Stand alone Explosive device initiator
- Self powered (battery) or optionally powered by the flight controller
- Permit Switch capabilities; flightcontroller commands to arm and detonate the explosive
- Self contained (Shrink Tubing enclosed)
- Low Battery Indicator LED
- Purpose built for 7/10" quad copter FPV kamikaze drones
- Impact activated with tuneable impact force and impact window size or activation with command detonation via Permit Switch
- Attaches to an igniter or electronic match
- Igniter/electronic match attachment via detachable 3.08mm screw terminal
- Sources an electronic pulse over 500mA for a minimum of 2 milli-seconds at initiation.
- User settable discharge voltage
- Immediate safe active discharge (to ground) of firing capacitor when power tab re-inserted
- Dual side (High and Low) active power path connection eliminates accidental static discharge
- Allows for remote power on using a simple string pulled power tab
- extensive operator safety features and tuneable target lethality
- designed to eliminate unexpected accidents during launch and start-up by incorporating a sequence of programmable events prior to activation
- Auto Self Destruct feature based on timer
- Self Destruct timer runs independently of state machine
- Booby Trap mode with low battery self liquidation
- Bomb Drop mode
- FPV Booby Trap Mode
- Programmable "Delay Before Fire" function

Specifications

- 1.7 x 1" (45mm x 25mm)
- Battery: 3 Volt battery on-board (CR2032 3V Lithium battery)
- Status LEDs: Green, Red, and Yellow
- 4-pin JST-XH4 detachable pluggable connector used to connect to the flightcontroller pads, for arming/firing via PWM input.
- 4-wires from the JST-XH4 (Red Wire – 5V, Black Wire – Ground, Yellow Wire – Motor Pad 5, Blue Wire – Motor Pad 6)
- 3.08mm detachable pluggable screw terminal connector allows for pre attaching electronic match/warhead prior to mating with initializer
- Adjustable Output Voltage Range: 4 – 14V (using charge pump)
- Output Storage Capacitor: 1000 µF
- Small red plastic tab with string to allow for at distance power on (safety feature)
- USB type micro-B connector for programming via Android application (From version 8.0 +)
    - Seperate Programming Board required*
- Motor detection and Flight Detection algorithm
- Extensive parameter programming / modifications to adjust for drone pilot skill/characteristics
- Fine tuneable impact detection sensitivity

LED Patterns

Green	Red	Yellow	State
FPV Mode			
Slow Blink	OFF	OFF	Power on state, battery OK, waiting for motor spinning to be detected
Slow Blink	OFF	Slow Blink	Battery is low – replace battery
2 Blinks & Pause	OFF	OFF	Motor spinning has been detected, waiting for motor detection level 2
Medium Blink	OFF	OFF	Motor spinning at hover RPM has been detected, waiting to detect flight. OR In Arming Control State, permit switches is enabled and awaiting ARM-SW-ON command.
Fast Blink	OFF	OFF	Flight has been detected
Fast Blink	Slow Blink	OFF	Unit is Arming – Voltage is rising in Charge Capactitor to Arming Voltage
OFF	Fast Blink	OFF	Unit is Armed and sensitive to impact detection
OFF	OFF	OFF	Unit is in dark mode enabled - ready to fire and dangerous, or is powered off (if red pull tab is inside)
Booby Trap Mode			
3 Blinks & Pause	OFF	OFF	Battery is being reported, OK
OFF	OFF	3 Blinks & Pause	Battery is low – replace battery
Medium Blink	OFF	OFF	Unit is in Booby Trap mode, waiting out safety timer ($T_{OVERRIDE}$)
OFF	Fast Blink	OFF	Unit is in Booby Trap mode, in the last 10 seconds of the safety timer
OFF	OFF	OFF	Unit is ready to fire and dangerous, or is powered off (if red pull tab is inside)
Bomber Mode			
Fast Blink	Fast Blink	OFF	Awaiting free fall detection (0g's)