USB Smartalock Instructions

1. Overview

The USB Smartalock is an electronic lock unit that can be controlled via USB. It contains the following features:

- Electronic lock with 160kg lock strength and open/close/tamper detection
- Bright white LED light for illumination
- Tri-colour RGB LED for status indication
- Buzzer
- USB charging port (500mA subject to power supply ability)
- Powered by 12-48V DC, passive PoE compatible

2. Initial Setup

i.   physically mount the Smartalock and latch securely in the desired position
ii.   connect the Smartalock RJ45 port to a 12-48V DC power supply such as a passive PoE injector. +ve power should be supplied on pins 4/5 and –ve on pins 7/8.
iii. connect the USB male A connector to the PC that will control the lock
iv.   during boot the indicator light will cycle through a colour sequence and then all lights will go out

3. Setting up the controlling PC

The lock will present itself as a USB CDC/ACM class device (serial port) and users can send and receive text based commands.

The controlling PC will need to have an appropriate USB class driver installed:

- Windows 10 contains a built-in CDC/ACM driver so no further driver is required. The lock will appear as a COM port – e.g. COM10
- Windows 7/8 will need a CDC/ACM driver installed. We recommend installing the STMicro version available as STSW-STM32102 (http://www.st.com/en/development-tools/stsw-stm32102.html). The lock will appear as a COM port
- Linux devices will usually have the class driver built in. Normally the serial port will appear as /dev/ttyACMx
- OSX devices will usually have the class driver built in. The serial port will appear as /dev/cu.usbmodemxxxxx

4. Communications Protocol

Communication is line based. All commands are terminated with a carriage return [CR] (hex character 0x0D), responses are either a single line terminated with a carriage return [CR], or the BELL character (0x07) if there is an error.

Each command will be followed by a response from the lock. If "notification mode" is enabled, the lock will also send a line of data when the lock status changes (e.g. it is opened or tampered)

5. Command Reference

Command	Send	Response	Notes
Unlock Lock	U[CR]	U[CR]	Unlocks the lock
Notification Mode	N[CR]	N[0|1][CR]	Determine notification mode. N0 = off, N1 = on. When notification mode is on, the lock will send status messages when the lock is opened or tampered (see the 'S' command)
	N0[CR]		Disable notifications
	N1[CR]		Enable notifications
Internal Light (White)	L[CR]	L[0|1]CR	Light status
	L0[CR]		Light off
	L1[CR]		Light on
Red Indicator LED	R[CR]	R[0|1][CR]	Red LED status
	R0[CR]		Red LED off
	R1[CR]		Red LED on
Green Indicator LED	G[CR]	G[0|1][CR]	Green LED status
	G0[CR]		Green LED off
	G1[CR]		Green LED on
Blue Indicator LED	B[CR]	B[0|1][CR]	Blue LED status
	B0[CR]		Blue LED off
	B1[CR]		Blue LED on
USB Charging Port	C[CR]	C[0|1][CR]	USB charging port enabled status
	C0[CR]		Disable USB charging port
	C1[CR]		Enable USB charging port
Buzzer	Z[CR]	Z[0|1][CR]	Buzzer status
	Z0		Turn buzzer off
	Z1		Turn buzzer on
Status	S[CR]	Sxx[CR]	Returns the locker board status as an 8 bit hex encoded mask. Note bit0 is the LSB Bit0: Lock closed Bit1: Lock tamper Bit2: Light on Bit3: Buzzer on Bit4: USB charging enabled Bit5: Blue indicator on Bit6: Green indicator on Bit7: Red indicator on
Version	V[CR]	V1010[CR]	Board hardware/firmware version
	W[CR]	W010A[CR]	Board bootloader version
Serial Number	I[CR]	Ixxxxxxxx[CR]	Unique board serial number
Reboot	X[CR]	[CR]	Reboot locker board