FL-KIT first run Guide

You will need:

1. LSCB controller board – 1pc

2. Capacitor charger of PCA-series – 1pc

3. Discharge circuit NBU-1012 – 1pc or 2pcs

4. Capacitor bank – 1pc or higher number

5. Flashlamps assemblies – one per NBU-1012
6. 24VDC power supply – 1pc

   Note: recommended power is >200W (e.g. Meanwell MPS-200)

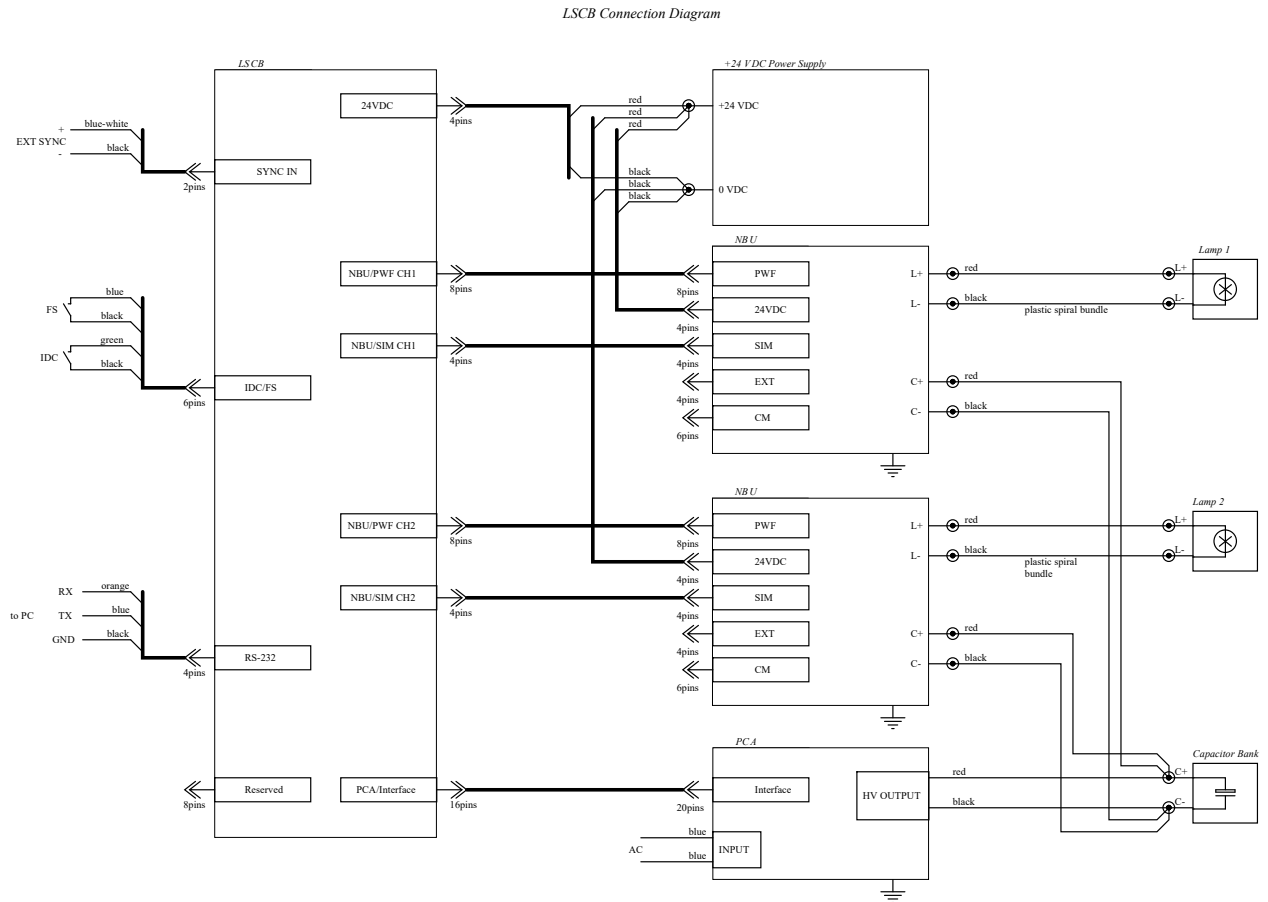7. Set of interconnective cables – 1pc
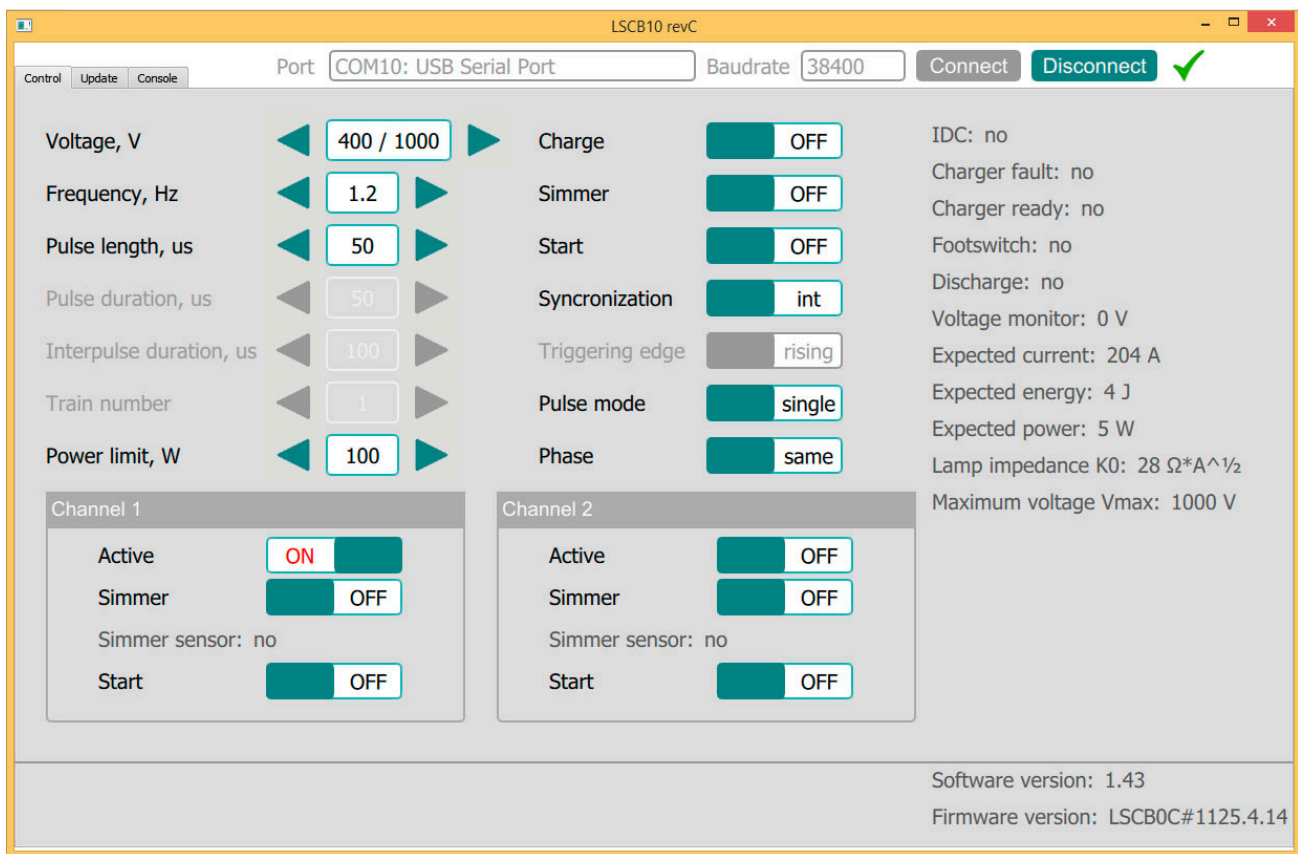8. PC with Windows OS – 1pc

9. Software

First run

1. Ensure all AC/DC power supplies are disconnected from the mains
2. Connect all modules as per schema attached

LSCB Connection Diagram

LSCB				+24 VDC Power Supply	Lamp 1

EXT SYNC + blue-white — black : SYNC IN (2pins)

24VDC (4pins) — red red red → +24 VDC ; black black black → 0 VDC

FS: blue, black ; IDC: green, black : IDC/FS (6pins)

NBU/PWF CH1 (8pins) → PWF (8pins) — NBU — L+ red L+ ; L- black L- — plastic spiral bundle — Lamp 1
24VDC (4pins)
NBU/SIM CH1 (4pins) → SIM (4pins)
EXT (4pins) — C+ red
CM (6pins) — C- black

NBU/PWF CH2 (8pins) → PWF (8pins) — NBU — L+ red L+ ; L- black L- — plastic spiral bundle — Lamp 2
24VDC (4pins)
NBU/SIM CH2 (4pins) → SIM (4pins)
EXT (4pins) — C+ red
CM (6pins) — C- black

to PC: RX orange, TX blue, GND black : RS-232 (4pins)

Reserved (8pins)

PCA/Interface (16pins) → Interface (20pins) — PCA — HV OUTPUT red C+ ; black C- — Capacitor Bank
AC: blue, blue → INPUT

3. Startup PC, run software (no installation procedure is needed) - **LSCB10 revC.exe**
4. Apply AC power to 24VDC power supply
5. Select proper **Port**, press **Connect** screen button, software should switch to active mode
6. Apply AC power to PCA module, if necessary turn on your water cooling system
7. Ensure Lamp impedance K0 on software screen is set as per d/s of your flashlamp Note: if not, set proper Ko via Console (see LSCB user manual for command)
8. Ensure Maximum voltage Vmax is set as per d/s of PCA module; Note: if not, set proper Vmax via Console (see LSCB user manual for command)
9. Ensure Power limit is adequate to your application
10. Set those of Channel 1 and Channel 2 you want to run to Active
11. For simplest operations set Synchronization to Int
12. For simplest operations set Pulse mode to Single
13. If Channel 1 and Channel 2 are supposed to work simultaneously set Phase adequately to your needs
14. Set desired Voltage; Note: we recommend to start from some small value e.g. 300V
15. Enable PCA-series capacitor charger by pressing Charge
16. Ensure Voltage monitor shows value similar to ordered
17. Trigger simmer arc in desired flashlamp by pressing either common Simmer or Channel 1 / Simmer and/or Channel 2 / Simmer
18. Ensure Simmer sensor changed its state to yes
19. Set desired pulse parameters (Pulse length and Frequency)
Note: we recommend to start from some small values e.g. 300us and 1Hz
20. Ensure Expected current, Expected energy and Expected power are adequate to your needs
21. Start flashes in desired channel/channels by pressing either common Start or Channel 1 / Start and/or Channel 2 / Start
22. Ensure IDC and Footswitch do not prohibit the output
23. In the case of any troubles please contact the manufacturer

LSCB10 revC

Port	COM10: USB Serial Port
Baudrate	38400

Control | Update | Console   Connect | Disconnect ✓

Voltage, V	◀ 400 / 1000 ▶	Charge	OFF	IDC: no
Frequency, Hz	◀ 1.2 ▶	Simmer	OFF	Charger fault: no
Pulse length, us	◀ 50 ▶	Start	OFF	Charger ready: no
Pulse duration, us	◀ 50 ▶	Syncronization	int	Footswitch: no
Interpulse duration, us	◀ 100 ▶	Triggering edge	rising	Discharge: no
Train number	◀ 1 ▶	Pulse mode	single	Voltage monitor: 0 V
Power limit, W	◀ 100 ▶	Phase	same	Expected current: 204 A

Expected energy: 4 J
Expected power: 5 W
Lamp impedance K0: 28 Ω*A^½
Maximum voltage Vmax: 1000 V

Channel 1
Active	ON
Simmer	OFF
Simmer sensor: no	
Start	OFF

Channel 2
Active	OFF
Simmer	OFF
Simmer sensor: no	
Start	OFF

Software version: 1.43
Firmware version: LSCB0C#1125.4.14

Advanced operations

1. Follow the same procedure by sending text command from **Console**. Command description is given in LSCB user manual.
2. Follow the same procedure by sending text command from your controller board via RS-232 interface.

Note 1: We highly recommend to have PCA-series capacitor charger as well as other modules protectively grounded
Note 2: CM connector of NBU-1012 should be left unconnected
Note 3: EXT connector of NBU-1012 should be left unconnected if serial triggering is supposed, otherwise an external triggering transformer to be connected to the EXT connector of NBU-1012 Note 4: IDC signal of IDC/FS connector will block operations if its circuit is opened, so you should organize either Door Interlock or its emulation
Note 5: FS and EXT SYNC signals aren't necessary for the simplest operations