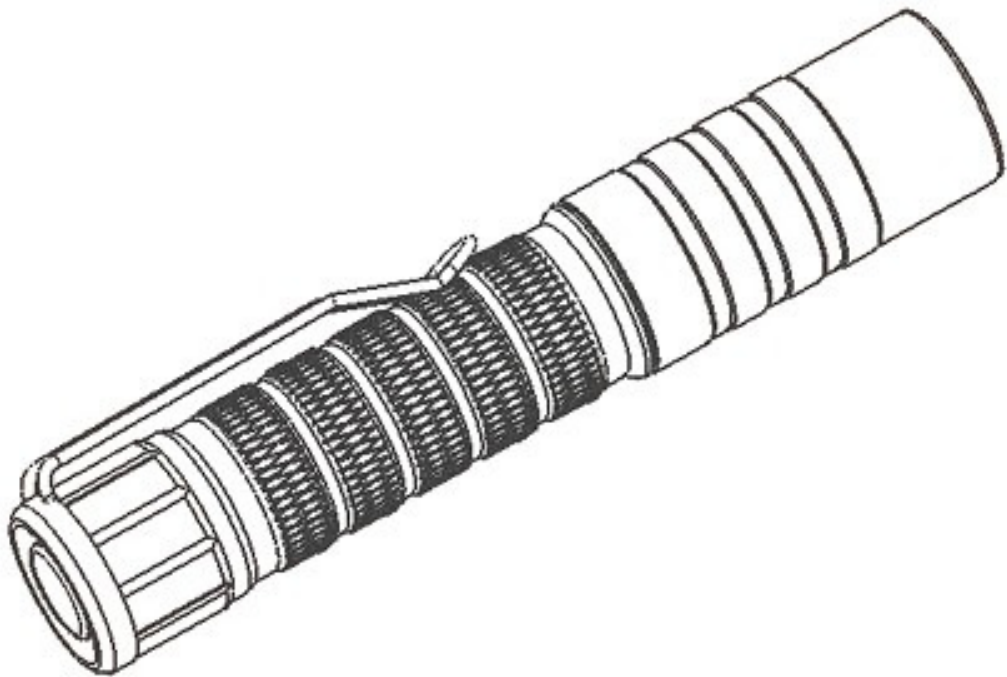


# *LF2XT 操作手冊*

## *Operation Manual*



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## ***Introduction :***

LF2XT is a multi-function flashlight build-in MCU through single push-button switch to control all operations . There are two user interface : Compact User Interface ( CUI , default ) and Full-function User Interface ( FUI ) . In CUI user can handle it easily . FUI provide more functional and powerful command that user can define or program his personal need .

## ***Definition :***

- **Click** ( shorten : *C* ) : Press the push-button switch quickly and release , the timing must less than 0.3 second . That is similar to operate a mouse of computer .
- **Press & Hold** ( shorten : *PH* ) : Press the push-button switch and hold more than 0.3 second .
- **Multi-click or plus *PH* command** : The interval of every click or press & hold must be less than 0.3 second . Ex: command **3xC** will be click , release switch for less than 0.3 second , click , release switch for less than 0.3 second , click and release switch for more than 0.3 second as an end of command .

## Operation of Compact User Interface :

There is a user mode only . The minimum and maximum mode are operated as a temporary mode that means the brightness of them won't be memorized even you ramp the brightness . For example :

50 %	→	0.2%	→	15%	→	50%	→	0.2%
Turn ON		Min. mode		ramp		user mode		Min. mode
Any press		<b>2xC</b>		<b>PH</b>		<b>2xC</b>		<b>2xC</b>

### ***Power OFF Operation :***

- Tactical signal function is OFF : Any press will power on the light .
- Tactical signal function is ON : Only **1xC** command power on the light , except **1xC** command LF2XT will light on when push button switch be pressed and turn off when switch be released .

## ***Power ON Operation : ( Mode Operation )***

There are four commands for basic operation and three for advanced function .

1. ***1xC*** : Shutdown the light .
2. ***2xC*** : Minimum brightness ( fixed 0.2% brightness when access Min. mode ) or toggle Min./User mode .
3. ***1xC + PH*** : Maximum brightness ( fixed 100% brightness when access Max. mode ) or toggle Max./User mode .

User → Min. → User → Max. → User → Min. → Max. → Min.

***2xC***    ***2xC***    ***1xC+PH***    ***1xC+PH***    ***2xC***    ***1xC+PH***    ***2xC***

4. ***PH*** : Increase/Decrease brightness . The default is increase for Min. mode and decrease for Max. mode . LF3XT will memorize it after using ***PH*** command to change the brightness of user mode automatically .

## ***Function of CUI :***

1. ***3xC*** : Disable 3 Minutes Auto-OFF function temporarily if the function is enabled .
2. ***4xC*** : Toggle tactical signal function enable/disable and indicate double flash for function enabled or single blank for

disabled .

**3. 5xC** : Indicate the voltage of battery . First shows the integer number , 1 second blank , 1'st decimal number , 1 second blank and 2'nd decimal number .

double quick flash → 0

one time flash → 1

..... nine times flash → 9

**4. 4xC + PH** : Toggle ODP ( Over-Discharge Protection ) function enable/disable and indicate double flash for function enabled or single blank for disabled .

- AAA Ni-MH : Low battery warning voltage – 1 V ,  
Over-Discharge protection voltage – 0.8 V .

- 10440 Li-Ion : Low battery warning voltage – 3 V ,  
Over-Discharge protection voltage – 2.8 V .

**5. 5xC + PH** : Toggle CUI/FUI and indicate double flash for FUI or single blank for CUI .

**6. 8xC + PH** : Toggle 3 Minutes Auto-OFF function enable/disable and indicate double flash for function enabled or single blank for disabled .

## Operation of Full-function User Interface :

### *Power OFF Operation :*

- Tactical signal function is OFF : Any press will power on the light .
- Tactical signal function is ON : Only *IxC* command power on the light , except *IxC* command LF2XT will turn on when push button switch be pressed and turn off when switch be released .

### *Power ON Operation ( Main Operation Mode ) :*

There are five operation modes maximum , user can define it by using *6xC + PH* command to select the operation mode number . Default setting is five operation modes : Mode 1 , Mode 2 .... Mode 5 . If the operation number set to three then the modes are Mode 1 , Mode 2 and Mode 3 .

Every operation mode can be defined to one of the four output style – Brightness output , Beacon flash , Strobe and SOS .

- Strobe : 8 kinds of frequency output and a random strobe
- Beacon flash : Both of Single flash and Double flash with 8 kinds of frequency output .

1. ***1xC*** : Shutdown . Before turn off the power will save previous operation mode to memory if last mode memorized setting is ON ( default ) . Next power on will into this mode directly .
2. ***2xC*** : Next operation mode . Mode 1 -> Mode 2 -> Mode 3 ... Mode 5 -> Mode 1 in serial . If the mode number is 3 then : Mode 1 -> Mode 2 -> Mode 3 -> Mode 1 in serial .
3. ***PH*** : In any operation mode ***PH*** command shows 100% brightness output and back to previous operation mode when push-button switch released .
4. ***1xC + PH*** : In any operation mode ***1xC + PH*** command shows 100% brightness random strobe and back to previous operation mode when push-button switch released .

### ***Function of FUI :***

1. ***3xC*** : Disable 3 Minutes Auto-OFF function temporarily if the function is enabled .
2. ***4xC*** : Toggle tactical signal function enable/disable and indicate double flash for function enabled or single blank for disabled .
3. ***5xC*** : Indicate the voltage of battery . First shows the

- integer number , 1 second blank , 1'st decimal number , 1 second blank and 2'nd decimal number
4.  **$3xC + PH$**  : Setting mode entry . Set current operation mode only .
  5.  **$4xC + PH$**  : Toggle ODP ( Over-Discharge Protection ) function enable/disable and indicate double flash for function enabled or single blank for disabled .
  6.  **$5xC + PH$**  : Toggle CUI/FUI and indicate double flash for FUI or single blank for CUI .
  7.  **$6xC + PH$**  : Mode number select function .
  8.  **$7xC + PH$**  : Toggle mode memory function enable/disable and indicate double flash for function enabled or single blank for disabled .
  9.  **$8xC + PH$**  : Toggle 3 Minutes Auto-OFF function enable/disable and indicate double flash for function enabled or single blank for disabled .
  10.  **$10xC + PH$**  : Restore the factory setting and change to CUI user mode .

## ***Mode Number Select :***

When into mode number select function will indicate numbers flash of setting .

Mode number = 1 , single flash 1 second blank

Mode number = 2 , double flash 1 second blank

Mode number = 3 , 3 times flash 1 second blank

Mode number = 4 , 4 times flash 1 second blank

Mode number = 5 , 5 times flash 1 second blank

1. ***1xC ~ 5xC*** : The click number equal to the mode number you want to select .
2. ***3xC + PH*** : Save and exit to mode 1 .

## ***Setting Mode :***

1. ***1xC*** : Logarithm increase brightness by the factor 1.5 , or previous frequency when toggle to frequency setting ( command ***4xC*** ) .
2. ***2xC*** : Logarithm decrease brightness by the factor 1.5 , or next frequency when toggle to frequency setting ( command ***4xC*** ) .
3. ***3xC*** : Exit & back to Main operation mode without saving .

4. **4xC** : Toggle brightness / frequency setting , only Strobe and Beacon flash are available .
5. **5xC** : Setting brightness percentage report , first shows the ten number , 1 second blank and shows the unit number .  
( exception : 100% -- flash 1 time , 1 second blank , flash 2 times quickly , 1 second blank and flash 2 times quickly )
6. **PH** : Next output style , there are four different styles can be chosen . Brightness -> Beacon -> Strobe -> SOS -> Brightness in serial .
7. **1xC + PH** : Increase brightness linear and slowly , this command is for fine adjustment of brightness .
8. **2xC + PH** : Decrease brightness linear and slowly , this command is for fine adjustment of brightness .
9. **3xC + PH** : Save setting & exit and back to Main operation mode .

***Parameter and Factory Default Setting :***

**Frequency of Strobe :**

- |           |           |
|-----------|-----------|
| 1. 20 Hz  | 6. 7.6 Hz |
| 2. 15 Hz  | 7. 6.8 Hz |
| 3. 12 Hz  | 8. 6.1 Hz |
| 4. 10 Hz  | 9. Random |
| 5. 8.7 Hz |           |

**Frequency of Beacon :**

- |                              |                               |
|------------------------------|-------------------------------|
| 1. 1 flash 0.5 second blank  | 9. 2 flash 0.5 second blank   |
| 2. 1 flash 1 second blank    | 10. 2 flash 1 second blank    |
| 3. 1 flash 1.5 seconds blank | 11. 2 flash 1.5 seconds blank |
| 4. 1 flash 2 seconds blank   | 12. 2 flash 2 seconds blank   |
| 5. 1 flash 2.5 seconds blank | 13. 2 flash 2.5 seconds blank |
| 6. 1 flash 3 seconds blank   | 14. 2 flash 3 seconds blank   |
| 7. 1 flash 3.5 seconds blank | 15. 2 flash 3.5 seconds blank |
| 8. 1 flash 4 seconds blank   | 16. 2 flash 4 seconds blank   |

**Compact User Interface : ( default )**

- User mode : 50% brightness
- Tactical signal function : OFF
- Over-discharge protection : OFF
- 3 Minutes Auto-OFF function : OFF

**Full-function User Interface :**

- Memory function : ON
- Tactical signal function : OFF
- 3 Minutes Auto-OFF function : OFF
- Rechargeable battery over-discharge protection : OFF
- Operation mode number : 5

Mode 1 : 50% brightness output .

Mode 2 : 15% brightness output .

Mode 3 : 1% brightness output .

Mode 4 : 50% brightness double flash Beacon .

Mode 5 : 15% brightness SOS .

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