

EDC™ Flashlight User's Guide

HDS SYSTEMS

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Congratulations for purchasing a superior flashlight. The HDS Systems everyday carry (EDC) series flashlights are best-of-class flashlights, providing regulated output at your desired brightness for extended periods. The single button directly selects your desired light output. The rotary control provides a convenient way to select any brightness level – even before you turn on your flashlight. You can customize your flashlight's operation and output levels for added utility. Lithium-ion rechargeable batteries are fully supported and recommended for lower operating cost. Finally, your flashlight is built tough and water resistant to provide a lifetime of dependable service – all in a pleasantly small and easy to carry package.

Introduction

You can maximize battery life by selecting the optimum amount of light for your task. Too much light wastes battery life while too little light makes it difficult to accomplish your task. By using the appropriate brightness level, you receive the benefits of long runtimes and plenty of light. The 4 preset brightness levels were selected for maximum utility. You may customize them as your needs change.

The rotary control allows you to vary the brightness from the lowest level to the maximum level with a simple twist of the control. You can select the desired brightness level before turning on your flashlight.

Burst output takes advantage of the logarithmic nature of your eyes to provide maximum visual acuity while preserving long battery life on the High output setting.

Your flashlight may be customized to perform special tasks more efficiently. These customization features allow you to build a specialized flashlight optimized for your tasks. This single flashlight can efficiently replace several special purpose flashlights and is small enough to carry with you at all times. There is now no excuse for you to be without light.

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1. Basic Operation

Quickly press and release the rubber button on the tail of your flashlight to turn on your flashlight. Your flashlight turns on to preset level B. If your flashlight model has the Momentary feature enabled and you press and hold the button instead, the light will turn off when you release the button. If your flashlight has the rotary control, you can use the rotary control to adjust the brightness level.

Press and hold the button while your flashlight is on to momentarily activate preset level A. Release the button to return to the previous preset level.

Quickly press and release the button while your flashlight is on to turn off your flashlight.

Please refer to the model-specific specifications for the default settings of your model's presets and optional features.

2. Advanced Operation

You communicate with your flashlight through a sequence of clicks and/or a press-hold-release or a press and hold. These sequences are called **commands** and are simple and easy to learn. It will take a few minutes of practice to become proficient with them.

Models with the rotary control allow you to rotate the rotary control to change the brightness level.

The term “**click**” indicates a quick press and release of the button. Think of it like a mouse click on your computer. The button must be released in less than 1/3 of a second to be recognized as a click. The term **double-click** indicates two clicks in rapid succession and the term **triple-click** indicates three clicks in rapid succession.

The term “**press-hold-release**” indicates that the button should be held down for an extended period – longer than 1/3 of a second – to allow your flashlight to tell the difference between a click and a press-hold-release. The term “**press and hold**” indicates that you should continue to hold the button down until you are told to release it. A click, press-hold-release and a click, press and hold indicates a click followed by the press in rapid succession. There is no pause or delay between the click and the press. The same applies to double-click, press-hold-release and triple-click, press-hold-release.

From Off: these commands are available when your flashlight is turned off:

- Click – turns on your flashlight to preset level B.
- Click, press-hold-release – turns on your flashlight to preset level A.

From On: these commands are available when your flashlight is turned on:

- Click – turns off your flashlight.
- Double-click – toggles between preset level B and preset level C or returns you to the last preset level B or C used.
- Triple-click – selects preset level D.
- Click, press-hold-release – selects preset level A.
- Press and hold – momentarily selects preset level A. Returns to the previous preset level when the button is released.

Please refer to the model-specific specifications for the default settings of your model’s presets and optional features.

Please refer to *Customizing Your Flashlight* in section 8 for detailed instructions on customizing your flashlight.

Note: your flashlight uses burst output whenever you select the High brightness setting. After 40 seconds of burst output, the output is reduced by one brightness level to the one-hour output level to maximize battery runtimes. Burst is not used during momentary operation and thus the maximum output is maintained for as long as the button is held down. Burst may be disabled in the Option Menu.

3. Low Battery Indication

Your light will momentarily turn off and then back on one level below the previous brightness level when the battery in your flashlight is unable to supply enough power to run the current brightness level. This process is repeated when needed as the battery is used up. After this process starts, your flashlight will double-blink once every two minutes to remind you that the battery needs to be changed. Selecting a brightness level below the current brightness level will extend the dying battery and turn off the low battery reminder.

Your flashlight restricts the output to the highest brightness level the battery can maintain. However, if you turn your flashlight off and back on again to a higher level, it will slowly step up through the brightness levels testing the battery again.

Your flashlight will slowly blink once a second on the lowest brightness level when the battery is no longer capable of powering any of the steady brightness levels.

Caution: continued use of a rechargeable battery after your flashlight begins blinking once a second on the lowest brightness level can result in sudden darkness because your flashlight will eventually turn itself off to protect the rechargeable battery.

4. Installing a New Battery

Unscrew the battery compartment from the head and remove the old battery from the battery compartment. Insert the new battery into the battery compartment with the positive terminal out. Align the head and battery compartment, press them together to overcome the spring pressure and screw the battery compartment and head back together.

As you screw the battery compartment and head back together and if the battery compartment has been removed for an extended period, the light comes on dimly for 7 seconds following a battery change to indicate that a soft reset has taken place and that your flashlight is functioning correctly. If you change the battery quickly enough, your flashlight will not reset and no reset indication will be displayed.

Your flashlight is designed to work with either primary lithium batteries or rechargeable lithium-ion batteries. In general, primary batteries provide longer runtimes. However, Li-ion batteries are less expensive in the long run and allow you to always leave home with a full battery.

5. Thermal Limits

Your flashlight monitors the LED temperature and the external flashlight temperature to protect the LED and to prevent the exterior from becoming too hot to safely handle. If either temperature nears the safety limits, your flashlight will automatically step down to a lower power setting to control the temperature. This is typically only necessary on the maximum continuous level when Burst is disabled.

Your flashlight will automatically reset the thermal limit when it is turned off and back on again.

6. Cleaning and Maintenance

Periodically clean the open end of the battery compartment, the threads and O-ring with a clean lint-free cloth lightly moistened with isopropyl alcohol. Apply a coat of non-conductive silicon or petroleum grease to these surfaces.

Replace the battery compartment O-ring if it becomes worn or damaged. O-ring: 1.5mm x 20.5mm, 70 durometer Nitrile (Buna-N).

The recessed electrical contacts and interior threads in the head can be cleaned using a lint-free swab lightly moistened with isopropyl alcohol. Recessed contacts and threads should be cleaned in a counter-clockwise direction to prevent snagging the swab. Be sure to remove any particles or fibers that may be left behind. Apply a coat of non-conductive silicon or petroleum grease to the interior threads and contacts.

The exterior can be cleaned with a mild soap and water. Rinse well and dry with a lint-free cotton cloth.

Note: the anti-reflective coating on the lens can be abraded by excessive rubbing or cleaning. Never use paper tissues or towels to clean or dry the lens as the fibers are abrasive.

7. Additional Notices and Cautions

Notice: your flashlight protects rechargeable batteries from over-discharge under most conditions. However, we still recommend rechargeable batteries with built-in over-discharge protection for an added level of safety.

Notice: only install fully charged rechargeable batteries. Using a partially charged battery may result in the battery not being properly recognized as a rechargeable battery. This can lead to the rechargeable battery being over-discharged and damaged or sudden darkness when the battery protection circuit activates.

Caution: some individuals may be sensitive to the effects of flashing lights. Be ready to render assistance if an individual should have a seizure induced by your flashing light.

Caution: your flashlight is very bright on the higher brightness levels. You should avoid looking directly into the reflector as the light can be intense enough to injure your eyes.

Caution: a sudden total failure is unlikely but is still possible. We recommend you always carry a second light during critical situations (e.g., caving). We also recommend you carry enough spare batteries to cover your lighting requirements plus a reasonable safety margin. It is not necessary to start each trip with a new battery in your flashlight as long as you have spare batteries along.

Caution: do not attempt to recharge a rechargeable battery if you think it has been over-discharged or otherwise damaged. Dispose of the damaged battery immediately. An over-discharged or otherwise damaged battery can vent or explode when the battery is recharged or when the battery is subsequently used.

Caution: water – especially salt water – in the battery compartment will cause electrolysis, giving off hydrogen and oxygen – an explosive gas mixture. Electrolysis will also cause corrosion. If water gets inside of the battery compartment, immediately open the battery compartment, rinse the battery compartment and battery with fresh water and allow your flashlight and the battery to completely dry.

8. Customizing Your Flashlight

You may customize your flashlight so you can perform various tasks more efficiently. You can customize each preset level through the Brightness Menu and you can customize many optional features through the Option Menu. Together these features allow you to build a specialized flashlight optimized for the tasks you perform on a regular basis – and even tasks you rarely perform. To begin the customization process, see *Enabling Customization* in section 10.

9. Factory Reset

Please feel free to experiment. You can always return to the original factory settings by following these steps:

- Reset your flashlight - i.e., remove the battery for 60 seconds and reinstall. Alternatively, you can turn on your flashlight, remove the battery compartment (your flashlight will turn off) and then reinstall the battery compartment without waiting. Your flashlight will light dimly for 7 seconds to indicate that a soft reset has taken place. You must perform the next step before the light turns off.
- Press and hold the button before the dim reset indication turns off. The light will become brighter for 10 seconds and then turn off. Release the button when your flashlight turns off.
- **Note:** your flashlight will display 5 rapid flashes and no settings are changed if you release the button before your flashlight turns off.
- **Note:** your flashlight will display 10 very rapid flashes if there is insufficient power to memorize the original factory settings.

Note: anytime the battery is removed for an extended period (>60 seconds) your flashlight will reset. A reset by itself will not change any settings and thus there is little reason to force a reset in normal use.

10. Enabling Customization

Your flashlight is shipped with Customization disabled. Follow these steps to enable Customization:

- Reset your flashlight - i.e., remove the battery for 60 seconds and reinstall. Alternatively, you can turn on your flashlight, remove the battery compartment (your flashlight will turn off) and then reinstall

the battery compartment without waiting. Your flashlight will light dimly for 7 seconds and turn off to indicate a soft reset has taken place. You have 15 seconds following the reset to begin the next step. After 15 seconds, you will need to start over.

- Perform a 20-click, press and hold from Off. You don't have to count the clicks because you are allowed to enter more than 20 clicks prior to the press and hold. After the 20th click your flashlight stops turning off and on with every other click. Remember: do not pause between clicks or before the press and hold.
- Hold the button down until your flashlight turns off. Your flashlight will display a dim-to-bright sequence to indicate it is enabling Customization and then turn off. Release the button after your flashlight turns off. Customization is now enabled.
- **Note:** your flashlight will display 5 rapid flashes and Customization is not enabled if you release the button before your flashlight turns off.
- **Note:** your flashlight will display 10 very rapid flashes if there is insufficient power to memorize the setting.

We recommend you disable Customization after you finish customizing your flashlight. This allows you to hand your flashlight to anyone without fear that someone will accidentally modify your settings. See *Option Menu* item #7 in section 13.

11. Internal Brightness Levels

Your flashlight includes up to 24 internal brightness levels, depending on model. These brightness levels are visually spaced so that the difference between any adjacent brightness levels will appear to be a small equal change. This visual spacing takes advantage of the logarithmic nature of your eyes to see a huge dynamic range – from very bright midday summer scenes to dim moonlit scenes. Your flashlight can produce a range of brightness levels that spans 2500:1, depending on the model. Each brightness level is separated by a ratio of 1.4:1 – enough to provide a small but noticeable difference between brightness levels.

The amount of power your flashlight consumes is related to the amount of light being generated. The more light generated, the more power consumed. You can dramatically reduce the power

consumption and dramatically increase the runtimes by reducing the light output by a single level at the higher output settings. And because your eyes perceive light logarithmically, you will notice only a slight difference between the two brightness levels.

Your flashlight contains a unique feature called Burst to help extend battery life at the maximum brightness level. When you select the maximum brightness level, you receive maximum output for 40 seconds and then your flashlight drops one level. If you are not paying attention, you probably will not notice the drop but your batteries will last much longer as a result. You may disable Burst in the Option Menu.

Note: The Burst feature is disabled during momentary operation. You will continue to receive the maximum output for as long as you hold down the button.

In addition to the regular brightness levels, there are three light shows: tactical strobe, emergency strobe and SOS. These three light shows are treated the same as regular brightness levels.

Finally, some models offer a rotary brightness level and control. The rotary brightness level sets the brightness level according to the position of the rotary control. Rotating the control clockwise makes the light brighter while rotating the control counter clockwise makes the light dimmer. The rotary brightness level is treated the same as a regular brightness level or one of the light shows.

The following tables show the brightness levels and the corresponding approximate lumen output. The maximum output of your flashlight will determine which row to use and which column to start at. The values in the table are rounded theoretical values and may differ slightly from numbers found in the specifications.

The shaded entries in the table correspond to High, Medium and Low, respectively, with High indicated for 24 level models.

Level	24	23	22	21	20	19	18	17	16	15
Lumens	200	141	100	71	50	35	25	18	13	8.8
Lumens	238	168	119	84	59	42	30	21	15	11

Level	14	13	12	11	10	9	8	7	6	5
Lumens	6.3	4.4	3.1	2.2	1.6	1.1	0.78	0.55	0.39	0.28
Lumens	7.4	5.3	3.7	2.6	1.9	1.3	0.93	0.66	0.46	0.33

Level	4	3	2	1	SOS
Lumens	0.20	0.14	0.10	0.07	2 levels below max
Lumens	0.23	0.16	0.12	0.08	2 levels below max

Level	Emergency Strobe	Tactical Strobe	Rotary
Lumens	1 level below max	Maximum level	Any Level
Lumens	1 level below max	Maximum level	Any Level

The brightness levels are arranged in a circular menu to make scrolling through all of the brightness levels easier. The maximum brightness level is followed by rotary (if your light has that feature), tactical strobe, emergency strobe, SOS and then the minimum brightness level, and vice versa.

12. Customizing the Brightness Presets

Your flashlight comes with 4 preset levels. They are referred to as preset levels A, B, C and D. A is the press and hold preset, B is the factory turn-on preset, C is the double-click preset and D is the triple-click preset.

Follow these steps to customize a preset level:

- See *Enabling Customization* in section 10 to enable customization.
- Turn on your flashlight and select the preset level you want to customize.

- Double-click, press-hold-release. Your flashlight will display the current brightness level. If the current brightness level is the minimum or maximum level, the displayed level will start with a double-blink.
- Click to move to the next brightness level. Double-click to reverse direction and move to the previous brightness level. The menu is circular – the last item is followed by the first and the first is preceded by the last. When you get to the minimum or maximum level, the displayed level will start with a double-blink.
- Press and hold the button to select the current brightness level. Your flashlight will display a dim-to-bright sequence to indicate you are setting the brightness level. Release the button after your flashlight turns off and your flashlight will return to the selected preset level with the newly selected brightness level.
- **Note:** your flashlight will exit the Brightness Menu with 5 rapid flashes without changing the preset if an error is detected. Possible errors include entering an unknown command, not entering a command for 10 seconds or not holding the button down until your flashlight turns off when selecting a brightness level.
- **Note:** your flashlight will exit the Brightness Menu with 10 very rapid flashes if there is insufficient power to memorize the setting.

13. Customizing Optional Features

Your flashlight offers the following features through the Option Menu:

1. Turn On Preset – indicated by <long flash>
2. Button Lock – indicated by <three rapid flashes>
3. Automatic Turn Off – indicated by <bright-to-dim-ramp>
4. Locator Flash – indicated by <dim flash>
5. Momentary – indicated by <long flash, short flash>
6. Burst – indicated by <brighter-dimmer>
7. Customization – indicated by <dim-to-bright-ramp>

Follow these steps to enable or disable an optional feature from the Option Menu:

- See *Enabling Customization* in section 10 to enable customization.
- Turn on your flashlight.

- Triple-click, press-hold-release. Your flashlight will display the indication for the first menu item (Turn On Preset – <long flash>).
- Click to move to the next menu item. Double-click to reverse direction and move to the previous menu item. The menu is circular – the last item is followed by the first and the first is preceded by the last.
- Press and hold the button to select the current menu item. Your flashlight will display a dim-to-bright sequence to indicate you are enabling the feature or a bright-to-dim sequence to indicate you are disabling the feature. Release the button after your flashlight turns off and your flashlight will return to the selected preset level.
- **Note:** your flashlight will exit the Option Menu with 5 rapid flashes without changing the setting if an error is detected. Possible errors include entering an unknown command, not entering a command for 10 seconds or not holding the button down until your flashlight turns off when selecting a setting.
- **Note:** your flashlight will exit the Option Menu with 10 very rapid flashes if there is insufficient power to memorize the setting.

Option Menu Item #1

Turn On Preset – <long flash>

The Turn On Preset feature allows you to select the preset level used when you turn on your flashlight. Disable Turn On Preset to allow your flashlight to remember the last preset level used and to use that preset level when your flashlight is turned on the next time.

Follow these steps to select one of the four preset levels to use when your flashlight is turned on:

- Disable Turn On Preset.
- Select the desired preset level.
- Enable Turn On Preset.

Option Menu Item #2

Button Lock – <three rapid flashes>

The Button Lock feature allows you to lock the button on your flashlight to prevent it from accidentally turning on. When the Button Lock feature is enabled and your flashlight is turned off, a triple-click will toggle the button lock – i.e., unlocking the button if it is locked or locking the button if it is unlocked.

Your flashlight will turn off when you lock the button and will turn on when you unlock the button. When the button is locked and you press the button, your flashlight will rapidly blink 3 times to indicate the button is locked and then turn off.

Option Menu Item #3

Automatic Turn Off – <bright-to-dim-ramp>

The Automatic Turn Off feature allows your flashlight to turn itself off after 10 minutes of inactivity. This can be handy if you carry your flashlight in your pocket and it gets accidentally turned on or if you fall asleep with your flashlight turned on.

Your flashlight will turn off gradually, dimming one brightness level each second. When the minimum brightness level has been reached, your flashlight will blink slowly 10 times and then turn off. You can click the button at any time during the sequence to return your flashlight to the original brightness level and to reset the Automatic Turn Off timer for another 10 minutes.

Option Menu Item #4

Locator Flash – <dim flash>

The Locator Flash feature allows your flashlight to emit a short flash of dim light every three seconds when turned off. The periodic short flash makes it easier to find your flashlight in the dark.

Option Menu Item #5

Momentary – <long flash, short flash>

The Momentary feature allows your flashlight to differentiate between a click and a press-hold-release when your flashlight is turned off. A press-hold-release will act in a momentary fashion when Momentary is

enabled – i.e., turning off your flashlight when the button is released. A press-hold-release acts like a click when Momentary is disabled.

Option Menu Item #6

Burst – <brighter-dimmer>

The Burst feature allows you to control the behavior of the maximum level to conserve power and extend runtimes. The maximum level will drop by one level after 40 seconds of continuous use if not in momentary mode when Burst is enabled.

Note: the runtime on the maximum level will be reduced to roughly 30 minutes when Burst is disabled. You will also notice that your light becomes quite warm on the maximum setting and may automatically reduce power due to excessive heat. This is normal.

Option Menu Item #7

Customization – <dim-to-bright-ramp>

The Customization feature allows you to control access to the Brightness Menu and Option Menu commands. This menu item can only be used to disable Customization. See *Enabling Customization* in section 10 to enable customization.

14. Warranty

Your flashlight (Product) is warranted to be free from defects in materials and workmanship for the life of Product to the original owner. This warranty does not include cosmetic blemishes, damage, modifications and normal wear. We will repair Product, replace Product with an equivalent Product or refund the original purchase price for the defective Product – at our discretion. You are solely responsible for determining the Product's suitability for your application and you take sole responsibility for Product's use. In no case shall HDS Systems, Inc. be liable for more than the original purchase price of Product.

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Notes

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