SBAL-PL™

Technical Manual

STEINER
Nothing Escapes You

SINGLE BEAM AIMING LASER

VISIBLE GREEN LASER WITH 500 LUMEN WHITE LIGHT LED | ITEM #9017

SAFETY SUMMARY

DEFINITION OF THE FOLLOWING ALERTS THROUGHOUT THIS MANUAL:

WARNING
Identifies a clear danger to the person performing procedure.

CAUTION
Identifies risk of damage to the equipment.

NOTE
Used to highlight essential procedures, conditions, statements, or convey important instructional data to the user.

WARNING

- DO NOT stare into the laser beam.
- DO NOT look into the laser beam through binoculars or telescopes.
- DO NOT point the laser beam at mirror-like surfaces.
- DO NOT shine the laser beam into other individual's eyes.

WARNING

Be sure the weapon is CLEAR and on SAFE before proceeding.

WARNING

DO NOT store the SBAL-PL™™ with the battery installed.

WARNING

The SBAL-PL™ is powered by one 3-volt CR 123A Lithium Manganese Dioxide (Li/MnO2) battery. The following safety precautions apply when handling lithium batteries:

- DO NOT short circuit, puncture, or disassemble.
- DO NOT attempt to recharge.
- NEVER dispose of lithium batteries in a fire, or in any way expose lithium batteries to excessive heat.
- Batteries may explode if disassembled, crushed, recharged, or exposed to high temperatures.
- Avoid mechanical or electrical abuse.
- Prior to use, inspect all batteries for cracks, leakage, or bulging.
- NEVER install a defective battery in the SBAL-PL™.
- DO NOT install battery incorrectly.
- Store at room temperature.
- Refer to applicable federal, state, and local laws and regulations for proper disposal of the batteries.

CAUTION

DO NOT over-adjust the laser adjusters by forcing them beyond their end of travel.

INTRODUCTION

1.1 Scope

This specification establishes the performance requirements for the Single Beam Aiming Laser – Pistol Light (SBAL-PL™)

1.2 System Description

The SBAL-PL™ is a lightweight, weapon-mounted Visible LED illuminator with visible laser that allows the operator to provide supplementary target/area pointer/illumination when used at night time or dark enclosed areas.

1.3 System Operation

The SBAL-PL™ is only used in a continuous mode. Continuous mode is defined by maintained operation without maintained pressure on an activation switch.

*Tap once: Laser on / *Tap again, Laser off

*Double tap: Light and laser ON.

APPLICABLE DOCUMENTS

The following specifications and standards form a part of this Performance Specification.

2.1 Department of Defense Standards

Mil-A-8625F	Anodic Coatings for Aluminum And Aluminum Alloys.
MIL-STD-810G	Environmental Test Methods and Engineering Guidelines.
MIL-STD-1913	Dimensions of Accessory Rail Mounting for Small Arms Weapons.
OPNAVINST 5100.27B	Navy Laser Hazards Control Program (MCO 504.1C).
MIL-STD-1425A	Safety Design Requirements for Military Lasers and Associated Support Equipment.

2.2 Federal

FED-STD-595C	Colors Used in Government Procurement

2.3 Commercial / Industrial

ANSI/NEMA FL 1	Flashlight Basic Performance Standard (reference only)

REQUIREMENTS

3.1 Functional Description

The SBAL-PL™ is a visible Illuminator with visible laser pointer featuring the ability to illuminate targets up to a distance of 75 meters.

Physical Characteristics

3.2.1 Size The physical size of the SBAL-PL™ is as follows:

Length: 3.46"

Width: 1.31"

Height: 1.62"

3.2.2 Weight

Configured with 1-CR123 battery, the weight of the SBAL-PL™ is 4.6 oz.

Exposed aluminum components are protected via plating per MIL-A-8625F.

All other materials are corrosion resistant in composition.

All finishes are chosen as to mitigate reflections.

3.3 Optical Characteristics

3.3.1 Lens

The SBAL-PL™ optical package is comprised of a single-reflector

3.3.2 Wavelength

The wavelength of the SBAL-PL™ is Cool White 5,500K ~ 10,000K.

3.3.3 Beam Divergence

The visible illuminator divergence of the system is 22 degrees.

3.3.4 Laser Output Power

The highest output power is <5mW in Green.

3.3.5 Illumination Output Power

The highest output power is 500 lumens.

3.3.6 Boresight Adjustment and Retention

Boresight Retention of within 2mrad or less.

3.3.7 Classification

The SBAL-PL™ is a Class IIIa device.

3.4 ELECTRICAL CHARACTERISTICS

3.4.1 Switches

The SBAL-PL™ -includes ambidextrous low-profile push button tail switches.

3.4.2 Modes of Operation

The SBAL-PL™ offers the following modes: Laser on Only -or- Laser and Light On.

3.4.3 Power Source

The SBAL-PL™ is available with 1-CR123A battery.

3.4.4 Indicators

Activation/low battery indicator is visible when mounted to weapon.

3.4.5 Battery Life

The SBAL-PL™ is able to operate continually for up to 7.5HRS (Laser Only) and up to 1 HR (Laser/Light) with the use of 1-CR123A battery.

3.5 MECHANICAL CHARACTERISTICS

3.5.1 Materials

The housing of the SBAL-PL™ are comprised of hard anodized aluminum alloy.

3.5.2 Snag Hazards

The SBAL-PL™ will pose minimal snag hazards.

3.5.3 Windage and Elevation

Manual adjust Windage and Elevation.

3.5.4 Mounting

The SBAL-PL™ is available with a flathead-screw MIL-STD-1913 compatible adjustable rail mount for use with commonly available accessory rails.

3.6 OPERATIONAL CHARACTERISTICS

3.6.1 System Operation

The SBAL-PL™ is only used in a continuous mode. Continuous mode is defined by maintained operation without maintained pressure on an activation switch.

*Tap once: Laser on / *Tap again, Laser off

*Double Tap: Laser and light ON.

3.6.2 Activation

The SBAL-PL™ is supplied with two separate and redundant activation buttons.

3.7 ENVIRONMENTAL CHARACTERISTICS

3.7.1 Operating Temperature

High Temperature

The SBAL-PL™ remain functional when operated in temperatures to +65°C, and when stored in a non-operating mode in temperatures to +70°C.

Low Temperature

The SBAL-PL™ remain functional when operated in temperatures to 10°C, and when stored in a non-operating mode in temperatures to 40°C.

3.7.2 Immersion

The SBAL-PL™, in a non-operating mode, will not leak when immersed to depth of 5m for 1 hour and, upon retrieval, will exhibit neither damage nor any degradation in performance.

3.8 OTHER REQUIREMENTS

3.8.1 Tools

The SBAL-PL™ is mounted using commonly available tools if needed.

3.8.2 Technical Manual

The SBAL-PL™ includes a user manual articulating the fundamental guidelines for safe operation.

3.8.3 Labeling

Labeling is minimally visible.

Battery orientation is depicted internally.

3.8.4 Included Components

The SBAL-PL™ package includes the following:

1. SBAL-PL™
2. One CR123A battery
3. Technical Manual

Steiner 3-Year Laser Device Warranty

On all laser devices, Steiner offers a 3-Year Limited Warranty from the date of purchase that covers all laser, optical and electronic components, materials and workmanship.

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