



## BROWE COMBAT OPTIC (BCO)

Titanium 4x32 Combat Optic.



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### 4x32 BROWE Combat Optic (BCO)

The Titanium 4x32 BROWE Combat Optic (BCO) is a state-of-the-art optic that delivers high-quality optical glass, high precision machining, and a rugged military design. Its unique features put the BCO ahead of its class.

The BCO offers a modern designed combat optic with many unique features, such as our **Target Light Sensor Technology** that detects and measures the target light passing through the optic and automatically adjusts the reticle illumination to the ideal intensity. A **Single Intuitive Control (SIC)** that gives the user a simple button, designed to simulate muscle memory and expedite manual operation. A flash port gives access to a field programmable **BCO Microcontroller** and allows the option to customize the BCO program, power accessories, and attach a pressure pad switch that controls the SIC button at an alternative location on the weapon. The BCO also has a **Vibration Sensor**, designed to conserve battery life – all packaged in a versatile **Titanium Housing**.

### Specifications 4x32 BCO:

**Magnification:** 4x  
**Entrance Pupil:** 32mm  
**Exit Pupil:** 8mm  
**Eye Relief:** 37mm  
**Length:** 132mm nominal  
**Width:** 67mm nominal  
**Weight:** 488g (with battery)  
**Field of view:** 7° (36.80 ft @ 100yds)  
**Adjustment at 100 meters:** .5 MOA  
**Reticle:** BCO Ballistic Chevron  
**Ballistic Correction:** 100m to 800m 5.56 NATO  
**Color Day/Night:** Red  
**Illumination source:** Battery-powered LED  
**Illumination source control – Automatic:**  
Flash programmable Microcontroller  
**Illumination source control – Manual:**  
10 day settings and 3 night vision  
**Battery Life:** 2000hrs avg. (Min 720hrs on max)  
**Housing Material:** Military Grade Titanium TiCP-2  
**Water Proof:** 42m / 130ft.  
**Fog proof:** Filled with dry nitrogen  
**Lens Coatings:** Broad Band Anti-Reflective  
**Origin:** Made in the USA  
**Patent Number:** Patent Pending

### Target Light Sensor Technology:

The BCO has a Cadmium-Sulfide photocell that measures target light levels. For many years, photo sensors have been used in a variety of optics to detect ambient light. What makes the BCO Target Light Sensor Technology unique is that it measures the target light levels and automatically adjusts the brightness to properly contrast the target light.

With extensive research and development, it was discovered that mounting a sensor in the light path behind the objective lens magnifies the incoming light and provides greater sensitivity and accuracy of the target light levels. Also, it avoids sensor errors caused from ambient light that is near the optic.

This feature is so important because in the AUTOMATIC mode the sensor relays the target light information directly to the BCO Microcontroller, which is programmed to automatically adjust the illumination of the LED. This feature allows the BCO reticle to be properly illuminated, even when the user and target are in dissimilar light. More importantly, as an operator is on the move, the BCO will continuously adjust automatically. For example, light levels vary from dark alleys, buildings, or simply from walking down the street. In today's urban warfare, when a nanosecond can make a difference, there's no time to search for a poorly illuminated reticle or make manual illumination adjustments.

### Single Intuitive Control (SIC)

The operation is simple and intuitive. The idea is revolutionary. A Single Intuitive Control (SIC) gives the user a simple button, designed to simulate muscle memory and expedite manual operation.

The system rests in the OFF position or SLEEP mode. The first press of the SIC button puts the system into AUTOMATIC mode. In this mode, Target Light Sensor Technology detects and measures the target light passing through the optic and automatically adjusts the reticle illumination to the ideal intensity. The second press of the button puts the system in MANUAL mode. The MANUAL mode gives the user a consistent light from the choice of (10) day and (3) night vision settings. The first manual position is the brightest setting. With each press of the SIC button, it will decrease the illumination down to the next lowest setting. Once through the NV settings, the program will cycle back through to the brightest setting. To exit the manual control, just hold the SIC button for more than three seconds. This puts the system back into the SLEEP mode. To return to the AUTOMATIC mode, simply press the SIC button once again. Additionally, if the SIC button is accidentally depressed in a carrying case or storage rack for more than three seconds, the BCO operating program will, by design, revert to SLEEP mode, conserving battery life. Simple. Intuitive. Effective.

### BCO Microcontroller

The BCO Microcontroller is the brain of the operating system. It's programmed to control all of the electronic features. Unique to the industry, the BCO microcontroller is capable of being re-flashed with alternative programs via a sealed flash port located on the rear side of the battery housing. This port can be used to flash new updated operating programs or customize the existing program. The port can also be used to power accessories or plug in a remote pressure pad switch, which allows the user full control of the SIC button at an alternative location on the weapon.

### Vibration Motion Sensor

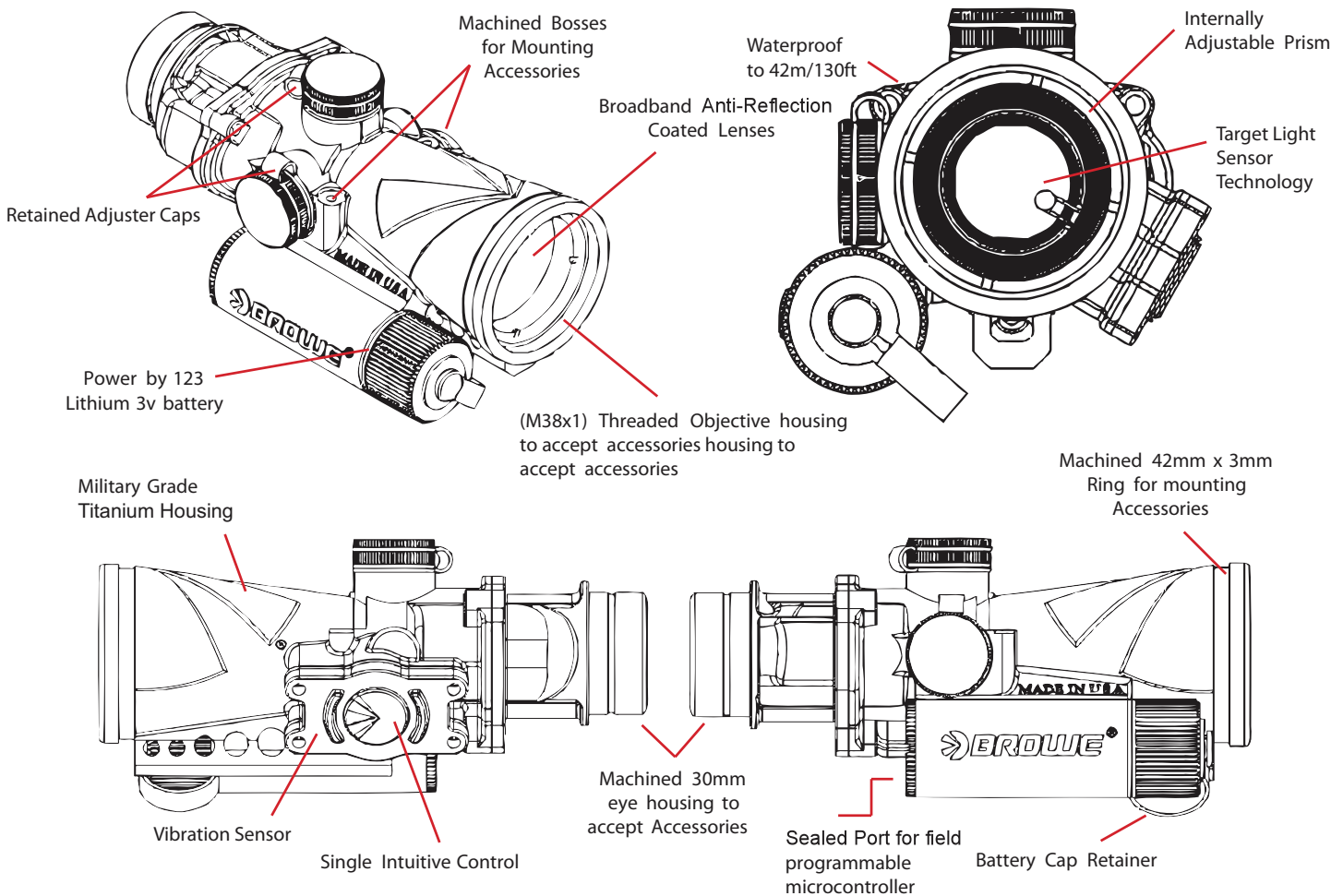
The vibration motion sensor conserves battery life by putting the BCO in SLEEP mode if motion is not detected after two hours. The sensor is set to the highest sensitivity, so the slightest vibration or movement would re-start the internal timer. The BCO has an average battery life of 2000 hours with a minimum of 720 hours on max brightness. In the SLEEP mode, the battery has a life expectancy of over 13,000 hours and the Lithium 123A has a shelf life of 10 years.

### Housing Designed to Accept Accessories

When designing the BCO housing, we kept the idea of versatility in the forefront of the design. This basic concept pushed us to add multiple areas for mounting "add-on" accessories. The OD of the eye-housing is a machined 30mm diameter surface with a 2mm groove for locking on dust covers or an assortment of other accessories. Also, there are two mounting bosses placed on top of the housing for attaching additional accessories. On the objective end, we added a 42mm x 3mm OD groove and threaded the ID for added versatility for accessories, such as anti-reflection devices, dust covers, and/or laser filters. These features and others are depicted in the diagram below.

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