

Bullard TACSIGHT SE35 Thermal Imager**Bid Specifications****I. Warranty**

The manufacturer shall warrant the thermal imager free of defects in material and workmanship, under normal use and service, for a period of one year effective upon delivery. In addition, the imager's outer shell or housing shall carry a limited lifetime warranty.

II. Quality:

To ensure that the product is of the highest quality, documentation must be presented upon request illustrating a battery of tests that have been conducted to verify water resistance, heat resistance and shock/impact resistance.

III. Physical Configuration:

The imager shall be a hand-held design, having a 3.5-inch LCD display screen positioned to be viewed in line with the optics and easily viewed without having to be held to the user's eye, and two side straps (one on each side of the imager). Total weight of the imager shall not exceed 3.5 lbs. with the standard battery installed. The imager shall ship in a padded, hard shell case. The imager shall ship standard with two rechargeable batteries, a battery charger with AC and DC adapters and complete user instructions and warranty information. The imager's physical dimensions shall be no more than six (6) inches tall, four and a half (4.5) inches wide and seven and a half (7.5) inches long. The imager must contain an integral threaded connector to mount on a standard tripod.

IV. Durability:

The imager shall remain operational after being subjected to water jets directed at the enclosure from any direction. It shall withstand a 1.5 meter drop in any orientation and sustain no operational damage. The manufacturer must perform these tests in front of designated department representatives at a mutually determined time and location. Failure to perform these tests in front of designated department representatives shall constitute non-compliance with this portion of the specification.

V. Technology:

The imaging technology shall be a 320x240, 35 micron pixel amorphous silicon microbolometer detector. The Noise Equivalent Temperature Difference (NETD) shall be less than 70 mK. To comply with recognized and accepted thermal imaging practices, the imager shall not provide surface temperature measurement. All thermal images must display only in black, white and shades of

gray.

The imager must have a 2x and 4x digital zoom feature, as well as allow the user to choose the polarity of the display, alternating at the user's discretion between "white hot" and "black hot." The imager must also have a feature allowing the user to increase or decrease the detector's gain, which allows the user to generate the best image possible in low contrast environments.

VI. Outer Housing:

The imager shall be ergonomically designed and the outer shell or housing must be manufactured from heat resistant Ultem thermoplastic. Due to the likelihood of rigorous use, the Ultem must be molded with color pigment throughout to mask small surface scratches. Outer shells or housings that are painted or otherwise lack consistent color through their entire thickness are not acceptable.

VII. Colors:

The imager shall be provided in a uniform, all-black color, with the main body shell exhibiting no reflective stickers, logos, or patches on any surface.

VIII. Monitor/Screen:

The imager shall have a 3.5" diagonal fluorescent backlit Liquid Crystal Display (LCD) screen. It shall have a minimum pixel range of 89,856 and a dot format of 234 x 384 dots for high quality resolution. The screen must be visible in all appropriate applications to both the operator and nearby personnel from a variety of distances from the face, including arms length. In addition, the display screen must be protected by a clear polycarbonate cover. This cover must be field replaceable and watertight.

IX. Lens:

The imager shall possess a 35mm, f/1.0 lens fabricated of germanium and have a 18° x 13° field of view. The lens shall have a manually-adjusted, variable focus capable of producing a crisp image from 1 ½ feet out to infinity.

X. Visual Indicators:

The imager shall have only one LED-indicator system to promote maximum ease-of-use. This indicator shall display battery life via three green, one yellow and one red LEDs

XI. Switches:

To ensure maximum ease-of-use, the imager shall have only one switch to activate and deactivate the imager. The camera power switch must be recessed and protected to avoid accidental shut-off. The imager must have a second switch to control the display light intensity. The display control switch must be a 3-position toggle switch to easily manipulate the display lighting between conditions of full-bright, dim, and full-off. The display control switch must allow full image wireless transmission to a remote display regardless of switch position.

Additional switches and/or buttons are permitted for the operation of special features, including digital zoom, polarity reversal and gain control.

XII. Strap Systems:

The side strap system must be field replaceable and shall be constructed primarily of Kevlar. The side straps must be adjustable and must include a metal D-ring. An optional self-retracting strap must also be available for the imager. The self-retracting strap must retract fully with the full weight of the imager (with battery) hanging unsupported from the strap.

XIII. Power Supply:

A minimum of two (2) rechargeable batteries shall accompany each imager. Each battery shall be a 10-volt nickel metal hydride (NiMH) cell, providing a minimum of 1.5 hours of continuous use with all standard functions and features. Each battery must be capable of a minimum of 1,000 charges. The battery shall have an Ultem outer shell. The battery shall eject from the imager only when two opposing battery release buttons are pressed simultaneously. The battery must be capable of being loaded into the housing only one way and must be easily inserted and removed by a person wearing standard duty gloves. A lithium ion battery is an unacceptable substitute for NiMH due to lithium's higher risk of explosion when exposed to high heat or impact. An optional AA alkaline battery case must also be available for the imager. The case must load and secure into the imager in the same manner as the standard NiMH battery. The alkaline case must also be constructed from Ultem. The manufacturer must also offer, as a user installed attachment, an accessory which allows the imager to be operated from a 12vdc source. This accessory shall also allow for a 12vdc output for the operation of another accessory device.

XIV. Operation:

The imager must have a nominal start up time of 30 seconds or less after activating the power switch. The imager must not have a standby switch or mode.

XV. Wireless Transmission:

The manufacturer shall offer an optional wireless remote transmitter compliant with FCC part 90 while operating in the 2.4 GHz frequency range. The wireless transmitter must come as a two (2) channel and a four (4) channel system, selected at the purchaser's option. The transmitter and a dipole antenna shall be housed inside an attachable handle, protecting the transmitter and antenna from possible damage while giving the department the option to disengage the transmitter. Attaching the transmitter handle must not increase the width of the imager by more than one (1) inch. Each wireless unit must have a receiver and antenna able to receive a signal from at least 300 feet through common Type V construction.

The manufacturer must have available with the wireless transmitter, the following:

- A complete receiver/monitor/video recorder system integrally mounted inside

a hard shell carrying case. The system must utilize an independent battery source or operate from 12 volt DC or 110 volt AC power. The video display must be a minimum 5 inch viewable, and the recorder must use a commercially available high quality medium.

- A handheld, self-contained receiver/monitor system that uses the same batteries as the thermal imager. The handheld receiver/monitor system must operate for a minimum of 2 hours on the standard battery and the video display must be a minimum 3.5 inch viewable.

XVI. Video Out

The manufacturer must offer an external video out, configured as a user installed attachment, with a BNC connector and RCA adapter capable of providing an analog signal for recording or displaying. The video out shall require no additional external power, drawing power directly from the imager.

XVII. Monocular Eyepiece:

The manufacturer must offer a monocular eyepiece configured as a user installed attachment, interfacing with the same connection and in the same manner as the transmitter handle. The eyepiece shall require no additional external power or video source, drawing power and video directly from the imager.

XVIII. Training:

A product familiarization class will be available through the manufacturer's authorized distributor. To ensure the highest quality training support, the manufacturer must have at least one full-time employee dedicated to developing and delivering thermal imaging training. To qualify, the training professional must be LETA (or equivalent) certified with instructor credentials. The manufacturer must also have on staff a training professional who must also have been (or currently be) a certified peace officer.

XIX. Delivery:

The manufacturer shall deliver the thermal imager in 45 days or less after receiving the purchase order