

K90 TalismanXL Thermal Imaging Camera General Specifications

Intent of Specifications:

This specification covers a commercially produced Thermal Imaging Camera, the associated hardware and software. Any system offered in response to this bid shall be designed to allow upgrading and interchange with other components of the same manufacturer. The Thermal Imaging Camera system delivered under these specifications shall be standard commercial products that exactly meet the requirements of these specifications. The components and optional equipment shall be represented in the manufacturer's current sales and technical data. Materials used in construction of the Thermal Imaging Camera system shall be new and not less than the quality conforming to modern engineering and manufacturing practices. Materials shall be free of defects and suitable for the service intended.

Specification Bid Requirements:

Bidders must indicate in the yes/no column whether their bid complies with each paragraph specified. Because equipment specified is to be used under emergency and hazardous conditions where human life may be at risk, any exceptions to these specifications must be clearly pointed out and explained, otherwise it will be considered the items offered are in strict compliance with these specifications. Bidders must furnish with bid descriptive literature and complete specifications covering the products offered.

Quality Assurance:

It is not the intent of these specifications to call for new, unusual or experimental equipment, therefore the Bidder must provide documentation indicating the length of time the manufacturer has been manufacturing Thermal Imaging Cameras and the number of units in service to date.

Compliance Guarantee:

All equipment must comply with all parts of this specification. Any and all exemptions must be noted in the yes/no column on the right.

At the fire department's request, the Bidder shall submit a sample of the equipment being solicited to a third party testing establishment to validate that every and all items included or claimed to be in compliance are true and correct. The testing shall include, but will not be limited to, complete disassembly of the equipment to ensure strict technical compliance. If a Bidder is requested to supply a sample of the equipment for third party testing, that equipment shall be supplied within one week of notice. Inability to meet the deadlines established herein will disqualify the Bidder.

Warranty:

The camera system components (parts and accessories) shall have a minimum of one-year warranty to include parts, labor and freight if applicable. The manufacturer shall provide a 48 hour turn around warranty service to the equipment in such a manner to place the camera system back in normal operation within 72 hours or provide for the use of loaner equipment comparable to that in question.

ISG K-90 TalismanXL	COMPLIANCE	
<u>Physical and Performance Specifications:</u>	YES	NO
1. The camera shall be thermal imaging system capable of imaging infrared radiation in the 8 to 14 micron spectral wavelengths and have been specifically designed for use in the firefighting environment.		
2. The camera shall be hand-held and portable allowing it to be passed from one firefighter to another within a fire environment without doffing any articles of personal protective equipment.		
3. The Fire Department has selected the measurement of NETD rather than MRTD to measure and certify a camera's sensitivity to infrared or thermal radiation. The maximum NETD specification acceptable shall be 70 mK.		
4. The camera shall be equipped with an automatically activated aperture or iris that senses sensor infrared overload and adjusts the camera's sensitivity accordingly to ensure high image quality in extreme heat environments. The automatic operation shall be controlled by on-board systems and shall be fully automatic requiring no input or adjustments from the firefighter using the equipment.		
5. The automatic aperture or iris in the camera shall be designed with optimum firefighter safety prioritized by incorporating not more than two moving metal leaves that are inherently designed to maintain the firefighter's vision and safety in the event of a mechanical or electrical iris failure by defaulting to the open position.		
6. The camera shall operate on disposable AA type alkaline batteries, with a 3-hour operation time per set of batteries, allowing it to be used continuously during long-duration applications where recharging batteries may be impossible or not practical.		
7. The camera shall be equipped with an electronic microprocessor controlled automatic gain system that is coordinated with the automatic aperture assembly to ensure high image quality in extreme heat environments.		
8. The camera shall be equipped with an electronic microprocessor controlled automatic offset system that is coordinated with the automatic aperture assembly to ensure high image quality in extreme heat environments.		
9. The video signal shall be of enhanced resolution and shall be displayed on mini-CRT computer monitor for maximum clarity allowing firefighters to distinguish objects otherwise not seen using standard video signals that are projected on liquid crystal displays.		

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<p>10. To ensure the waterproofing integrity of the camera in all situations, the camera shall be designed to isolate the internal electronic systems from all user accessible areas including the battery compartment. The camera must conform to IP67 waterproofing standard with the battery compartment in the open position.</p>		
<p>11. The camera shall incorporate three internal active cooling systems consisting of two thermoelectric stabilizing systems; boosted by a third high-output internal blower system that transfers heated air from heat sensitive electronics to an on-board heat accumulator. The heat dissipating systems shall be fully automatic requiring no firefighter input.</p>		
<p>12. The camera shall weigh no more than 5 pounds.</p>		
<p>13. The camera shall be designed with special magnification optics incorporated into the image display allowing firefighters to hold the camera directly against their face or facemask, with the visor touching the firefighter's face or when used with SCBA facemask, with the visor touching the SCBA visor, and still be able to optically focus on the image allowing for use in very dense smoke environments where visibility is zero.</p>		
<p>14. The camera shall be equipped with a pistol grip handle that is easily detached from the camera without the use of any tools for compact storage and to allow for the overall profile of the camera to be reduced quickly to enter into confined spaces.</p>		
<p>15. The camera shall be equipped with a recessed aspheric style lens system consisting of no more than two lens elements. Lens assembly transmission value shall not be less than 98%.</p>		
<p>16. The camera shall have a digital two-times zoom capability that displays the center 160x120 pixels on the internal display. When activated, the camera will display a visible indicator that the camera is in the 2X Zoom mode. The camera will have an external button to active the 2X Zoom mode.</p>		
<p>17. The camera shall have a visual camera that on demand can overlay video images over the thermal image (video overlay). The system shall be of CCD type and have a minimum rating of not more than 0.05 lux.</p>		

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18. The camera shall have a digital pyrometer that shows surface temperature readings. The emissivity setting of the digital pyrometer shall be .95. The temperature readings shall be displayed in the firefighter's field of view.		
19. The camera shall use a solid-state focal plane array infrared sensor.		
<p>20. The camera shall have a wireless transmitting system capable of constant transmission of thermal images and video overlay images. The wireless transmission system shall conform to all of the following specifications:</p> <ul style="list-style-type: none"> a. The equipped transmitter and receiver set shall be equipped with four separate transmission channels to facilitate transmission by up to four separate systems in the same location concurrently. b. The equipped transmitter shall be FCC license free. c. The equipped transmitter shall incorporate digital spread spectrum technology. d. The equipped transmitter shall transmit thermal and video images using the frequency of 2.4 Ghz. e. The equipped transmitter shall encrypt images before transmission and decrypt images after transmission to effectively prevent unauthorized interception and/or viewing of the images. f. The equipped transmitter shall have its own on/off switch that operates the transmitter independent of the camera. g. The equipped transmitter shall incorporate a 5 second delayed shutoff to prevent accidental shutoff of the transmitter while in use. 		