



3M™ Scott™ V320 Thermal Imager

Intent of Specification:

This specification covers a commercially-produced thermal imaging camera and its associated hardware and software. The thermal imaging camera (Camera) system delivered to this specifications shall be a standard, commercial product that meets these requirements. Exceptions to any of the line items are not acceptable. Materials used in construction of the thermal imaging camera system shall be new, unused, and not less than the quality conforming to modern engineering and manufacturing practices. Materials shall be free from defects and suitable for the service intended.

Warranty and Certifications	Compliance	
	YES	NO
1. The camera and batteries shall be warranted by the manufacturer to be free from defects for a period of three years from the date of shipment.		
2. The manufacturer shall provide 48-hour turn-around time on warranty service work to the equipment in such a manner as to return the camera to the purchasing entity, in normal, usable condition, within 72 hours, or to provide the use of comparable equipment on loan until such time that the camera is returned to the purchasing entity.		
Physical and Performance Specifications	YES	NO
1. The Camera system shall be capable of sensing, imaging, and displaying infrared radiation in the 7.5 to 14 micron spectral wavelengths.		
2. The Camera shall be, hand-held and portable, allowing it to be passed from one firefighter to another, within a firefighting environment, without removing any articles of personal protective equipment.		
3. In typical, ambient-temperature environments, when the camera’s on/off switch is activated to apply power to the Camera, the Camera shall render a usable thermal image in five seconds or less – without the use of a standby mode.		
4. To ensure the water-resistance integrity of the camera, the Camera shall be designed to isolate the internal electronic systems from all user-accessible areas. The Camera shall conform to the IP67 standard, the ability to withstand short-term immersion in water to a depth of three feet.		
5. The Camera shall be equipped with an infrared imaging sensor consisting of no less than 76,800 imaging pixels.		
6. The Camera shall be equipped with a germanium window protecting the internal lens.		
7. The internal video signal shall be displayed on backlit, 3.5 inch LCD with an aspect ratio of 4:3 consistent with the Camera’s sensor.		
8. The Camera, including battery, shall weigh no more than 2.2 pounds (1 kilogram).		
9. To eliminate confusion, the Camera shall not incorporate a “sleep” mode that turns-off the camera’s internal LCD display while the camera is “on”.		
10. The Camera’s rechargeable batteries must be removable, shall be of lithium-ion technology and capable of operating the Camera (with the display active) up to 8 hours.		

Compliance

Physical and Performance Specifications	YES	NO
11. The Camera shall incorporate through-the-lens, direct temperature measurement capability that measures and displays relative surface temperature. The direct temperature measurement readings shall be displayed in numerical form in the lower right-hand corner of the display.		
12. The Camera shall be tested for resistance to heat and shall withstand a minimum of 500°F for five minutes.		
13. The Camera shall be tested for durability and withstand multiple 6 foot drops from multiple angles.		
14. The Camera field of view shall be no less than 55° horizontal, 42° vertical.		
15. The Camera's dimensions shall be no more than 5.2" x 4.8" x 9.4" (132mm x 122mm x 240mm)		
16. The Camera shall be tested to and compliant to vibration as specified in IEC 60068-2-6.		
17. The Camera shall be tested to and compliant to shock as specified in IEC 60068-2-27.		



3M™ Scott™ Fire & Safety

Personal Safety Division
 Monroe Center, P.O. Box 569
 Monroe, NC 28111

Phone 1-800-247-7257
 Email ScottMonroeCSR@mmm.com
 Web 3MScott.com

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