Mi-TIC S THERMAL IMAGER 3 BUTTON TECHNICAL SPECIFICATION GUIDE

Mi-TIC-S-3

POINT	TECHNICAL SPECIFICATIONS
	Operational Requirements
1.1	The camera should weigh no more than 870g/31oz with standard battery.
1.2	Operating buttons should number no more than 3 and must be large enough to ensure there is low risk of hitting the wrong button when wearing gloves even in situations where there is no visibility e.g. thick smoke.
1.3	Vision or movement must not be impaired or encumbered when the camera is not in use. Multiple wear options such as a SCBA/BA compatible pocket clip and retractable lanyard are required at no extra cost.
1.4	Start-up time should be <5 seconds from off or from insertion of the battery. There should be no stand-by or sleep mode.
1.5	Battery changeover should be possible in a timely and simple manner on the fire scene without the use of tools.
1.6	Users must be able to clearly see an uncluttered display in all routine lighting conditions. Therefore the LCD display should be 3.5" minimum and the camera must still comply with point 1.1.
1.7	Users should be able to resolve important scene detail (e.g. Exit points and obstacles) when using the camera to view a fully developed fire. Therefore, the camera must have a dynamic temperature range of -40°C (-40°F) to equal or greater than 1100°C (2000°F).
1.8	Users should be able to resolve important scene detail (e.g. Exit points and obstacles) therefore the cameras shall have a minimum of a 384 x 288 resolution sensor.
1.9	Users must be able to quickly scan and search entire room. Therefore the camera shall have a 47 - 53 degree (horizontal); field of view.
1.10	When switching sensitivity modes and/or performing a Non-Uniformity Correction, the image on the camera should be interrupted for no more than 1 second.
1.11	The fire fighter must be able to distinguish high temperature hazards in the scene through colourisation. Colourisation must be intuitive and not open to misinterpretation. The thermal imager must have simple understandable colourisation that remains continuous through the cameras dynamic range.
1.12	In addition to Firefighting specific application modes the camera should come with at least one general search mode, and a preventative maintenance or inspection mode.
1.13	Users must be able to identify and track the hottest point in the scene with a hot spot tracker that can be overlaid on all application modes.
1.14	Users must be able to identify and track the coldest point in the scene with a cold spot tracker that can be overlaid on all application modes.
1.15	Users must be able to record images and video when using the camera without reducing the operating time. Continuous 'Black Box' recording feature is also required. These features must be available at no additional cost.
1.16	To aid communication on the fire scene the camera must have an integrated laser pointer.
1.17	To aid situational awareness with directional information the camera must have an integrated 8 point electronic compass.
1.18	Users should be able to quickly share the view of the fire scene with an 'Image Freeze' function to allow Investigation of high temperature areas in the fire scene (e.g. loft space) with the shortest possible exposure time.
	Equipment Safety And Durability For Fire Fighters On A Fire Scene
2.1	The camera shall be compliant with NFPA 1801:2018.
2.2	The camera must be able to withstand temperatures that exceed the temperatures that a firefighter can withstand. There must not be an automatic shutdown feature to protect the camera, and the camera must continue working for at least 10 minutes in 150°C (300°F).

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2.3	The fire fighter must not be left on the fire scene without a working camera after a drop of up to 2 meters. A minimum of 7 consecutive drops from two meters onto concrete should cause no critical damage to the camera.
2.4	The fire fighter must not be left on the fire scene without a working camera after a drop into water. Therefore the camera must have Water and Dust Ingress Protection: EN 60529 IP67 – a certification stating that the camera is waterproof to 1 m for 30 minutes.
2.5	Supplied battery technology must be certified to operate above 80°C (176°F). The battery must also be able to take severe mechanical shock without the risk of rapid thermal runaway (explosion). Lithium Iron Phosphate and Nickel Metal Hydride are accepted - Lithium Ion (Cobalt/Manganese/Trimetal etc) is not acceptable. Manufacturer battery certification will be required to demonstrate safe operation above 85°C (185°F), UL1642 is not an adequate assurance of suitability.
2.6	The charging station must be capable of charging spare battery and camera separately.
2.7	The battery life should be in excess of 3hrs and each battery should be capable of at least 2000 recharge cycles.
2.8	The camera should be constructed with high grade engineering plastics e.g. Radel R-5100 and Santoprene with superior performance at high temperatures.
	Equipment Care
3.1	Users must be able to decontaminate or clean the camera using standard service procedures, including washing down with mild detergent and water.
3.2	The lens assembly shall be protected by a user-replaceable germanium window to provide a fast repair without the need to return to manufacturer.
	Accessories
4.1	The Camera should be supplied with the following items as standard (at no extra cost): ■ Thermal imaging camera. ■ Truck mountable Charging Station with mains plug and universal mounting plate. Toallow for truck mounting the charging station should be no larger than 170mm x 120mmx 120mm. ■ 12 volt DC (cigarette lighter adapter) battery charger. ■ A minimum of two rechargeable batteries compliant with point 2.6. ■ A retractable lanyard and pocket clip. ■ Data transfer software and hardware.
4.2	The following optional accessories should be available: ■ Large Lithium Iron Phosphate battery. ■ Hard carry case.
	Software
5.1	The user should be able to update the camera software periodically over the internet at no additional cost.
5.2	The user should be able to configure the button functionality with a software configuration tool.
	Warranty
6.1	5 Year Camera Warranty. 5 year Battery Warranty. 10 year focusing lens and Sensor Warranty.
	Company
7.1	The manufacturer shall be certified to ISO9001 to ensure all quality, manufacturing and design systems are being met.
7.2	The manufacturer shall be certified to the Environmental Certification ISO 14001 to maintain all end of use devices are dealt with in the correct manner.
7.3	The camera and all associated accessories shall be RoHS compliant.