Mi-TIC E™

INTRODUCTION

The Mi-TIC E is the world's smallest high resolution thermal imager for fire fighting applications. The camera provides a crystal clear image with dynamic range up to 760°C (1400°F) and at the same time see very low temperature objects, which is ideal for casualty searches.

Every Mi-TIC E is supplied with a unique dual use desktop/in-truck charger station which securely retains and charges both the thermal imager and a spare battery. The charger stations can be daisy-chained together, up to a maximum of 6 units.

PERSONAL

Weighing approximately 750g (26oz) the Mi-TIC E is a small format thermal imager that can be easily and comfortably held in the palm of your hand. Unlike many thermal imagers, the Mi-TIC E design allows it to be worn in multiple ways – in the hand, inside a pocket, clipped outside a pocket, clipped to a lanyard or hung around the neck.

SIMPLE

With a thumb operated green on/off button and superb start up time of 5 seconds, the Mi-TIC E is simple to use.

SAFE

The Mi-TIC E has Class I, Division 2 Non Incendive certification. The use of Lithium Iron Phosphate technology ensures the Mi-TIC E delivers 3 hours of battery life over 1,000s of cycles. They are inherently safe due to the use of patented nanophosphate® technology.

CAMERA STANDARD FEATURES

The Mi-TIC E comes with the most advanced features available in any thermal imaging camera. These include:

- 2.7" LCD Display
- Direct Temperature Measurement (DTM)
- Tri-Mode Sensitivity
- Customisable start-up screen
- Firefighting application modes*
  - Fire mode
  - Overhaul
  - Size Up
  - Inspection
- Search and Rescue application modes*
  - White Hot
- Image Capture (1000 images)*
- X2 and X4 Digital Zoom*
- Video Capture (16 hours) including 'Black Box' recording
- Image Freeze*
- User Replaceable Germanium window (Order code: ARG_MI_RWS)
- No PC Software required for image and video download – when the camera is docked, it is recognised as a removable device, like a USB memory stick

* 3-button variants only

CAMERA STANDARD ACCESSORIES

The Mi-TIC E comes with the following accessories as standard:

- Two Mi-TIC Lithium Iron Phosphate Battery Pack. (Yellow) (Order code: ARG_MI_BLPYN-2)
- Truck/Desktop Charger Dock with mains plug and universal mounting plate. (US, UK, Europe, Aus and South America). (Order code: ARG_MI_CS)
- Retractable Lanyard. (Order code: ARG_MI_RL)
- USB Connection Lead for connecting dock to PC / Laptop. (Order code: ARG_MI_USB)
- Pocket Clip. (Order code: ARG_MI_PCLIP)
- Quick Start Guide

CAMERA OPTIONAL ACCESSORIES

- argus® Mi-TIC Black Hard Case. (Order code: ARG_MI_BHC)
- argus® Mi-TIC Sunshroud. (Order code: ARG_MI_SS
- argus® Soft Carry Case. (Order code: P7030SC)
- argus® Neck Strap. (Order code: P7030NS)
- AA Battery Pack. (Order code: ARG_MI_YAA)

CAMERA ORDER CODES

Code	Resolution	Buttons	Frame rate
MI-320-1-E	320x240	1	30Hz
MI-329-1-E	320x240	1	9Hz
MI-320-3-E	320x240	3	30Hz
MI-329-3-E	320x240	3	9Hz

WARRANTY

3 year Camera Warranty
5 year Battery Warranty
10 year Focusing Lens and Sensor Warranty

ENVIRONMENTAL DATA

Thermal conditions	The camera has been designed to operate: • continuously between -20°C (-4°F) and +85°C (185°F) or • 150°C (300°F) for 15 minutes • 260°C (500°F) for 5 minutes
Sealing	IP67, will withstand immersion in water
Impact	The camera will withstand a drop from a height of 2m (78 inches) onto concrete
Storage	It is recommended that for maximum effective operational life, the storage temperature is kept between -20°C (-4°F) and +40°C (104°F)

OPTICAL DATA

Detector

Sensor type	Un-cooled Microbolometer
Sensor material	Amorphous Silicon (ASi)
Resolution	384 x 288px
Pixel size	25µm
Spectral response	7.5 – 14µm
MDTD (Full camera system sensitivity)	60mK (0.06°C) typical (Minimum Discernible Temperature Difference)
NETD (Sensor sensitivity)	<50mK (<0.05°C)
Dynamic range	-40°C to 760°C (-40°F to 1400°F)
Refresh rate	60Hz
Direct Temperature Measurement (DTM)	-40°C to 760°C (-40°F to 1400°F)

Lens

Lens material	Germanium Composite
Focal length	1m to infinity, optimised at 4m (3ft to infinity, optimised at 13ft)
Aperture	f/1.0
Field of view	50° horizontal, 37.5° vertical, 62° diagonal

Display

Type	High grade, Industrial, colour TFT active matrix LCD
Size	69mm (2.7 inches)
Pixel format	QVGA 320 x 240, (each pixel RGB format, total pixels 230,400 pixels)
Video input	Sensor synchronised direct digital drive
Backlight	400cd/m^2

MECHANICAL DATA

Camera dims (H x W x D)	203mm x 96mm x 71mm (8 x $3^3/_4$ x $2^{13}/_{16}$ inches)
Camera weight	600g (21oz) without battery 765g (27oz) with standard battery 855g (30oz) with high capacity battery
Battery dims (H x W x D)	87mm x 76mm x 28mm (standard battery) 87mm x 76mm x 35mm (high capacity battery)
Battery weight	165g (6oz) standard battery 255g (9oz) high capacity battery
Charger dims (H x W x D)	167mm x 112mm x 120mm
Charger weight	550g (1lb 3oz)
Main camera body	Radel®R-5100 and Santoprene®
LCD window	Ultrason® E 2010 HC
LCD bumper	Santoprene®
Ge Window collar	Radel®R-5100 and Santoprene®
Lens window	Germanium (2mm thick) with durable coating

ELECTRICAL DATA

Power consumption	<3 W typical
Start-up time	5 seconds typical
Battery type	Lithium Iron Phosphate Rechargeable Battery
Battery capacity	1500 mAh, 6.6V (standard battery) 2500mAh, 6.6V (high capacity battery)
Std Battery life	In excess of 3 hours @ ambient temperature (22°C, 72°F)
Std Battery charge time	Less than 3 hours
High Capacity Battery Life	In excess of 5 hours @ ambient temperature (22°C, 72°F)
High Cap, Battery charge time	Less than 4.5 hours
Battery recharge cycles	Over 2000 cycles
Battery charging temp.	5°C to 40°C (41°F to 104°F)
Charger input voltage	11V – 30V DC (12V and 24V vehicle systems)
Charger operating temp.	0°C to 40°C (32°F to 104°F)

COMPLIANCE DATA

Performance	NFPA 1801:2013 Standard on Thermal Imagers for Fire Services
Safety	IEC 60950-1:2005+A1:2009+A2:2013 and related national standards (T_{amb} +80°C max) ANSI/ISA 12.12.01:2007 Class I, Division 2, Groups C, D T4. -25°C (-13°F) to +70°C (158°F)
Emissions RFI/EMC	BS EN 61000-6-3:2007 + A1:2011, BS EN 50498:2010, ICES-003(2012), FCC CFR-47 Subpart B, AUS/NZ 4251.1
Immunity	BS EN 61000-6-2:2005, BS EN 50498:2010
Vibration/Shock	BS EN 60721-3-2 Class 2M3
RoHS	All parts of the system are compliant with EU directive 2011/65/EC

GR13310-03