

# Mi-TIC E™



Powered by the



## 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 and Class II, Division 2 Non Incendive certifications. The use of Lithium Iron Phosphate technology ensures the Mi-TIC E delivers in excess of 3 hours of battery life over 2,000 plus charge 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	Image Capture (1000 images)*
Direct Temperature Measurement (DTM)	X2 and X4 Digital Zoom*
Tri-Mode Sensitivity	Video Capture (16 hours) including 'Black Box' recording
Customisable start-up screen	Image Freeze*
Firefighting application modes* <ul style="list-style-type: none"> <li>• Fire mode</li> <li>• Overhaul</li> <li>• Size Up</li> <li>• Inspection</li> </ul>	User Replaceable Germanium window (Order code: ARG_MI_RWS)
Search and Rescue application modes* <ul style="list-style-type: none"> <li>• White Hot</li> </ul>	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 OPTIONAL ACCESSORIES

The Mi-TIC E can be purchased with the following accessories:

AA Battery Pack. (Order code: ARG_MI_YAA)	Pocket Clip. (Order code: ARG_MI_PCLIP)
argus® Mi-TIC Lithium Iron Phosphate Battery Pack. (Yellow) (Order code: ARG_MI_BLPYN-2)	Quick Start Guide
Truck/Desktop Charger Dock with mains plug and universal mounting plate. (US, UK, Europe, Aus and South America). (Order code: ARG_MI_CS)	argus® Mi-TIC Black Hard Case. (Order code: ARG_MI_BHC)
Retractable Lanyard. (Order code: ARG_MI_RL)	argus® Mi-TIC Yellow Hard Case. (Order code: ARG_MI_YHC)
USB Connection Lead for connecting dock to PC / Laptop. (Order code: ARG_MI_USB)	argus® Mi-TIC Sunshroud. (Order code: ARG_MI_SS)
	argus® Soft Carry Case. (Order code: P7030SC)
	argus® Neck Strap. (Order code: P7030NS)

## CAMERA ORDER CODES

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

## WARRANTY

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

## ENVIRONMENTAL DATA

<b>Thermal conditions</b>	The camera has been designed to operate: <ul style="list-style-type: none"> <li>continuously between -20°C (-4°F) and +85°C (185°F) or</li> <li>150°C (300°F) for 15 minutes</li> <li>260°C (500°F) for 5 minutes</li> </ul>
<b>Sealing</b>	IP67, will withstand immersion in water
<b>Impact</b>	The camera will withstand a drop from a height of 2m (78 inches) onto concrete
<b>Storage</b>	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

<b>Detector</b>	
<b>Sensor type</b>	Un-cooled Microbolometer
<b>Sensor material</b>	Amorphous Silicon (ASi)
<b>Resolution</b>	384 x 288px
<b>Pixel size</b>	17µm
<b>Spectral response</b>	7.5 – 14µm
<b>MDTD (Full camera system sensitivity)</b>	60mK (0.06°C) typical (Minimum Discernible Temperature Difference)
<b>NETD (Sensor sensitivity)</b>	<50mK (<0.05°C)
<b>Dynamic range</b>	-40°C to 760°C (-40°F to 1400°F)
<b>Refresh rate</b>	60Hz
<b>Direct Temperature Measurement (DTM)</b>	-40°C to 760°C (-40°F to 1400°F)
<b>Lens</b>	
<b>Lens material</b>	Germanium Composite
<b>Focal length</b>	1m to infinity, optimised at 4m (3ft to infinity, optimised at 13ft)
<b>Aperture</b>	f/1.0
<b>Field of view</b>	50° horizontal, 37.5° vertical, 62° diagonal
<b>Display</b>	
<b>Type</b>	High grade, Industrial, colour TFT active matrix LCD
<b>Size</b>	69mm (2.7 inches)
<b>Pixel format</b>	QVGA 320 x 240, (each pixel RGB format, total pixels 230,400 pixels)
<b>Video input</b>	Sensor synchronised direct digital drive
<b>Backlight</b>	400cd/m <sup>2</sup>

## MECHANICAL DATA

<b>Camera dims (H x W x D)</b>	203mm x 96mm x 71mm (8 x 3 <sup>3</sup> / <sub>4</sub> x 2 <sup>13</sup> / <sub>16</sub> inches)
<b>Camera weight</b>	600g (21oz) without battery 765g (27oz) with standard battery 855g (30oz) with high capacity battery
<b>Battery dims (H x W x D)</b>	87mm x 76mm x 28mm (standard battery) 87mm x 76mm x 35mm (high capacity battery)
<b>Battery weight</b>	165g (6oz) standard battery 255g (9oz) high capacity battery
<b>Charger dims (H x W x D)</b>	167mm x 112mm x 120mm
<b>Charger weight</b>	550g (1lb 3oz)
<b>Main camera body</b>	Radel®R-5100 and Santoprene®
<b>LCD window</b>	Ultrason® E 2010 HC
<b>LCD bumper</b>	Santoprene®
<b>Ge Window collar</b>	Radel®R-5100 and Santoprene®
<b>Lens window</b>	Germanium (2mm thick) with durable coating

## ELECTRICAL DATA

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

## COMPLIANCE DATA

<b>Performance</b>	NFPA 1801:2018 Standard on Thermal Imagers for the Fire Service
<b>Safety</b>	IEC 62368-1:2014 and related national standards ANSI/ISA 12.12.01:2015 Class I, Div 2, Groups C, D T4; Class II, Div 2 Groups F, G T4
<b>Emissions RFI/EMC</b>	EN 55032:2015, Class A EN 54098:2010 FCC CFR 47 subpart 15b, ICES 003:2017 AUS/NZ 4251.1
<b>Immunity</b>	EN 55103-2:2009
<b>Vibration/Shock</b>	BS EN 60721-3-2 Class 2M3
<b>RoHS</b>	All parts of the system are compliant with EU directive 2011/65/EC

Avon Protection and Avon Protection Systems are trading names of Avon Rubber p.l.c. (registered in England with number 32960). The Avon name and logo is the registered trademark of Avon Rubber p.l.c.  
© Avon Rubber p.l.c 2018.

GR03143-02