

SAFETY AND  
INNOVATION

**argus**<sup>®</sup>  
thermal imaging from e2v

**argus**<sup>®</sup> 4



The Argus<sup>®</sup>4-HR320 is the top of the range, high sensitivity Thermal Imaging Camera (TIC) from e2v.

The Argus<sup>®</sup>4-HR320 uses an uncooled high-resolution 320 x 240 pixel, Amorphous Silicon (ASi) Microbolometer Detector. It has been designed using advanced digital imaging technology for a sharper picture and provides superior performance.

The Argus<sup>®</sup>4-HR320 is a simple-to-operate, self-contained and robust camera, which can be used in a fully automatic mode of operation.

The Argus<sup>®</sup>4-HR320 has been specifically designed to help fire fighters to see in conditions of zero visibility including complete darkness, and smoke. It allows them to identify and rescue casualties, locate hot spots and the seat or spread of the fire.

The camera is also lightweight, ergonomic and capable of withstanding harsh environments.

The Argus<sup>®</sup>4-HR320 can be used with all the Argus<sup>®</sup>4 camera accessories including Truck Mounts, Transmitters and Video accessories.

No end-user maintenance is required other than recharging of batteries and post-use external cleaning with a soft cloth.

#### CAMERA STANDARD FEATURES

The Argus<sup>®</sup>4-HR320 comes with the most advanced features available in any Thermal Imaging Camera. **These include:**

Scene Colourisation - user selectable choice of colour palettes

Direct Temperature Measurement (DTM)

SceneSave™ Digital Image Capture - 100 image capacity

Tri-Mode Sensitivity

Customisable Start-up Screen

Ambient Temperature Measurement

Digital x2 Zoom and x4 Zoom

On-Screen Time and Date

#### CAMERA STANDARD ACCESSORIES

The Argus<sup>®</sup>4-HR320 comes with the following accessories as standard:

Handle

Soft carry case (Hard carry case optional)

Side straps

Remote control

Two rechargeable battery packs

Battery charger with mains plug (US, UK and Europe)

Neck strap

USB connection lead for PC/ Laptop

User manual

Customer CD ROM

#### CAMERA OPTIONAL ACCESSORIES

Truck Storage Mount. (Order code: P7030TSM, P7030TSMBC)

Truck Battery Charger. (Order code: P7030TBC, P7030BCTM, P7030BCTM/TBC)

Video Transmitter & Receiver. (Order code: P7030RRS, P7030RKT, P7030TX)

Video capture battery pack. (Order code: P7030VC)

External Video output adaptor (Order code: P7030EPVA)

External video output battery pack (Order code: P7030AVBP)

#### CAMERA ORDER CODES

Please refer to the Argus website for details.

##### Code

P7130/A Supplied in soft carry case

P7130/AN Hard carry case option

P7109 9Hz version

P7109/N 9Hz version with hard carry case option

Customer configurable variants are available on request:  
NSN: 5855-99-667-6754

#### WARRANTY

24-month warranty as standard (exclusions apply)

Warranty can be extended for up to an additional three years at the time of purchase (exclusions apply).

TO BOOK A DEMONSTRATION OR FIND OUT MORE GO TO:

**argusdirect.com**

### ENVIRONMENTAL DATA

|                           |   |
|---------------------------|---|
| <b>Thermal conditions</b> | The camera has been designed to operate: <ul style="list-style-type: none"> <li>• -10°C (-14°F) and +80°C (176°F)</li> <li>• withstand +150°C (300°F) for 15 minutes</li> <li>• withstand +260°C (500°F) for 5 minutes</li> </ul> |
| <b>Sealing</b>            | IP67, will withstand short-term 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 -10°C (14°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>                | 320 x 240 array   |
| <b>Pixel size</b>                | 25µ   |
| <b>Spectral response</b>         | 8 – 14µm  |
| <b>MDTD</b>                      | 45 mK typical (Minimum Discernible Temperature Difference)        |
| <b>Dynamic range</b>             | -40°C to 1000°C (-40°F to 1832°F) via 3 ranges with autoswitching |
| <b>Refresh rate</b>              | P7130 - 60Hz  |
| <b>Spot temperature range</b>    | -40°C to 1000°C (-40°F to 1832°F)                                 |
| <b>Ambient temperature range</b> | -15°C to 150°C (5°F to 300°F)                                     |

### Lens

|                            |  |
|----------------------------|--|
| <b>Lens material</b>       | Germanium  |
| <b>Focal length</b>        | 8.6mm  |
| <b>Focal distance</b>      | 1m to infinity, optimised at 4m. (3ft to infinity, optimised at 13 ft) |
| <b>Horizontal Aperture</b> | f/1.0  |
| <b>Field of view</b>       | 50° horizontal, 37.5° vertical   |

### Display

|                     |  |
|---------------------|--|
| <b>Type</b>         | High grade, Industrial, colour TFT active matrix LCD                 |
| <b>Size</b>         | 90mm (3.5 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>    | 430cd/m2 at 20mA (High brightness, white LED)                        |

### MECHANICAL DATA

|                                     |   |
|-------------------------------------|---|
| <b>Camera dims (H x W x D)</b>      | 130mm x 185mm x 185mm<br>(5.1 x 7.2 x 7.2 inches) (nominal) |
| <b>Camera weight</b>                | 1.3kg (2.8lb) without battery<br>1.6kg (3.4lb) with battery |
| <b>Outer camera case and handle</b> | Radel®R-5100 and Santoprene®                                |
| <b>Rear and front bumpers</b>       | Multiflex® or Santoprene®                                   |
| <b>Neck and side straps</b>         | Nomex®  |
| <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>            | Ni-MH Rechargeable Battery                                   |
| <b>Battery capacity</b>        | 2 Ah   |
| <b>Battery life</b>            | 4 hours @ ambient temperature (22°C, 72°F)                   |
| <b>Battery charge time</b>     | 2 hours nominal  |
| <b>Battery recharge cycles</b> | 500 to 80% capacity, 1000 recharges in total cycles          |
| <b>Battery sealing</b>         | IP67   |
| <b>Charging temp.</b>          | 0°C to 40°C (32°F to 104°F)<br>65°C (150°F) can be tolerated |
| <b>Charger input voltage</b>   | 100V – 240VAC, 50/60 Hz, 1A max                              |
| <b>Charger operating temp.</b> | 0°C to 40°C (32°F to 104°F)                                  |

### VIDEO OUTPUTS

|                 |  |
|-----------------|--|
| <b>Digital</b>  | MPEG4, RTSP video streaming @<br>(P7130 - 10 fps, P7109 - 9fps)    |
| <b>Analogue</b> | NTSC 525-line 60 Hz, EIA RS-170<br>(P7130 - 30 fps, P7109 - 9 fps) |

### COMPLIANCE DATA

#### RFI/EMC

|                        |  |
|------------------------|--|
| <b>Emissions</b>       | BS EN 61000-6-3:2007, FCC CFR-47 Subpart B, Class B, AUS/NZ 4251.1 |
| <b>Immunity</b>        | BS EN 61000-6-2:2005   |
| <b>Safety</b>          | IEC 60950-1 and related national standards                         |
| <b>Vibration/Shock</b> | EN 60721-3-2 Class 2M3   |
| <b>RoHS</b>            | All parts of the system are compliant with EU directive 2011/65/EC |

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e2v technologies (uk) limited, Waterhouse Lane, Chelmsford, Essex CM1 2QU United Kingdom  
Holding Company: e2v technologies plc Telephone: +44 (0)1245 493493 Facsimile:  
+44 (0)1245 492492 Contact e2v by e-mail: enquiries@e2v.com or visit www.e2v.com  
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