



# 30 • 50 Series Thermal Imager Specifications

| Model Number                   | a30 Detectors  | z30 Detectors   | a50 Inspectors   | z50 Inspectors |
|--------------------------------|--|---|--|----------------|
|                                | Upgrade to 50 Series Full Feature Model Anytime, in the Field  |   | Full Feature Model   |                |
| Frame Rate                     | 9Hz  | 30Hz*   | 9Hz  | 30Hz*          |
| <b>Image Performance</b>       |  |   |  |                |
| Detector Type                  | Uncooled Microbolometer Focal Plane Array (FPA)  |   |  |                |
| Detector Resolution            | 160 x 120  |   |  |                |
| Number of Pixels               | 19,200   |   |  |                |
| Field of View (FOV)            | 17.5° x 13°  |   |  |                |
| Spatial Resolution (IFOV)      | 1.9 mrad   |   |  |                |
| Thermal Sensitivity            | ≤ 0.1 @ 30°C   |   |  |                |
| Focus Range                    | 0.1 m to ∞ and beyond  |   |  |                |
| Focus Type                     | Manual   |   |  |                |
| IR Digital Zoom                | X 2  |   |  |                |
| Spectral Range                 | 8 - 14µm   |   |  |                |
| Visible Light Camera           | (Available with Upgrade)   | 1.3 Megapixel CMOS Sensor   |  |                |
| UPGRADE Wide Angle Lens Option | 0.5 magnification allows for a 35° x 26° FOV (Factory Upgrade)   |   |  |                |
| UPGRADE Telephoto Lens Option  | 2 X magnification allows for a 8.75° x 6.5° FOV (Factory Upgrade)  |   |  |                |
| <b>Image Display</b>           |  |   |  |                |
| Thermal/Visible Light Image    | (Available with Upgrade)   | Toggle between Thermal and Visible Light  |  |                |
| LCD Display                    | High Resolution 3.5" Color LCD Screen, 640 x 480   |   |  |                |
| Image Control                  | <b>4 Color Palettes:</b> Ironbow; Negative Grayscale; Rainbow Blue-Red; High Contrast Blue-Yellow (Additional Palettes with Upgrade)   |   | <b>11 Display Color Palettes:</b> Ironbow; Negative Grayscale; Positive Grayscale; Amber; Hot Metal; Cool Metal; Rainbow Green-Red; Rainbow Blue-Red; Rainbow Black-White; High Contrast Blue-Yellow; and High Contrast Violet-White |                |
|                                | <b>Image Adjustment:</b> Auto Ranging / Manual Level and Span / Adjustable Display Brightness Control  |   |  |                |
| <b>Measurement Analysis</b>    |  |   |  |                |
| Measurement Range              | -4° to 356°F (-20° to 180°C)   |   |  |                |
| UPGRADE to High Temperature    | 212° to 1112°F (100° to 600°C) User Upgradeable in the Field   |   |  |                |
| Measurement Accuracy           | Greater of ±2% of reading or ±2°C. Instrument is not calibrated below -10°C.   |   |  |                |
| Measurement Correction         | Auto Correction of Microbolometer with Adjustable Time Interval or Push Button Manual  |   |  |                |
| Measurement Mode               | Spots, Delta T, High Temperature Alarm (Audible and Visible) (Additional functions with Upgrade)   |   | Spots, Areas, Lines, Isotherms, Delta T, Alarms (Multiple Audible and Visible)   |                |
| Number of Measurement Spots    | 1 Hot, 1 Cold Seeking, plus 2 Adjustable   |   |  |                |
| Number of Measurement Areas    | (Available with Upgrade)   | Up to 3 Movable and Sizeable Areas (Max, Min and Avg Temperatures)                |  |                |
| Number of Measurement Lines    | (Available with Upgrade)   | Up to 2 Moveable Lines, 1 Vertical, 1 Horizontal; Image Temperature Profile Lines |  |                |
| T Reflect                      | Manual Adjustment  |   |  |                |
| T Correct                      | (Available with Upgrade)   | Manual Adjustment   |  |                |
| Emissivity Correction          | Adjustable from 0.01 to 1.00 (Built-in Emissivity Table with Upgrade)  |   | Adjustable from 0.01 to 1.00 with Built-in Emissivity Table  |                |
| Alarm                          | High Temperature Audible and Visible Alarm (Additional Functions with Upgrade)   |   | High Temp Audible and Visible Alarm; Isotherm Visible Alarm  |                |
| Temperature Scale              | User Selectable: °C, °F, and K   |   |  |                |
| User Settings                  | Date/Time, Temperature Unit, and 11 Languages: English; Spanish; French; German; Italian; Portuguese; Korean; Japanese; Russian; Simplified Chinese; and Traditional Chinese |   |  |                |

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|------------------------------------|--|---------------|--|----------------|
| Frame Rate                         | 9Hz  | 30Hz*         | 9Hz  | 30Hz*          |
| <b>Image Storage</b>               |  |               |  |                |
| Removable Storage                  | (Available with Upgrade)   |               | 2GB SD / Time Stamped  |                |
| Storage Mode                       | (Available with Upgrade)   |               | Manual Single Image Save/Programmable Auto Save to SD Card     |                |
| File Format (Thermal)              | (Available with Upgrade)   |               | JPEG plus Temperature in 14 bit data                           |                |
| File Format / Size (Visible Light) | (Available with Upgrade)   |               | JPEG / 60K (Typical value)                                     |                |
| Voice Annotation                   | (Available with Upgrade)   |               | Maximum 45 seconds per image                                   |                |
| Text Annotation                    | NA   |               | NA   |                |
| <b>Laser</b>                       |  |               |  |                |
| Laser Pointer                      | Class 2, < 1mW / 635nm, Red  |               |  |                |
| <b>Record</b>                      |  |               |  |                |
| Report Analysis Software           | (Available with Upgrade)   |               | Yes  |                |
| Video Output                       | User Selectable PAL and NTSC   |               | User Selectable PAL and NTSC                                   |                |
| Freeze Frame/Save Image            | Freeze Frame only (Additional functions with Upgrade)  |               | Freeze Frame and Save Image, Thermal and/or Visible to SD Card |                |
| <b>Environment</b>                 |  |               |  |                |
| Ambient Operating Temperature      | 5° to 122°F (-15° to 50°C)   |               |  |                |
| Storage Temperature                | -4° to 140°F (-20° to 60°C)  |               |  |                |
| Humidity                           | ≤ 90% non-condensing   |               |  |                |
| IP Rating                          | IP54   |               |  |                |
| <b>Power</b>                       |  |               |  |                |
| Power / Operating Time             | 1 Rechargeable Lithium Ion Battery, 2 Batteries provided, approximately 3 hours continuous operation per battery   |               |  |                |
| Power Save Mode                    | Selectable Time Interval Auto Sleep to save battery, Auto Shut Off   |               |  |                |
| Charging System                    | External AC Battery Charger included; In Camera Charging with optional AC/DC Battery Charger, 12V DC Car Charger   |               |  |                |
| <b>General Info</b>                |  |               |  |                |
| Housing                            | Impact Resistant Molded Plastic with Wrist Strap. Tripod Mounting with 1/4"-20 Thread  |               |  |                |
| Dimensions                         | Width: 4.5 in. (115mm) x Length: 5.9 in. (150mm) x Height: 9 in. (230mm)   |               |  |                |
| Weight (w/o battery)               | 1.65 lbs (0.75 Kg)   |               |  |                |
| Software Compatibility             | Microsoft Windows 2000, Windows XP, Windows Vista, and Windows 7   |               |  |                |
| Included Accessories               | Carrying Case; Wrist Strap; Lens Cap; 2 Rechargeable Lithium Ion Batteries; External AC Battery Charger; Video Out Cable; Heat Spy Report & Analysis Software; SD Card & Reader; User Manual. 50 Series only: Spy-Care |               |  |                |
| Optional Accessories               | NIST Traceable Certificate of Conformance; Extended Warranty; Auxiliary Charging Kit with: 12V DC Car Charger, AC/DC Power Supply/Charger and International Plugs  |               |  |                |
| <b>Safety Certificates</b>         |  |               |  |                |
| Shock Test                         | 25G, IEC68-2-29  |               |  |                |
| Vibration Test                     | 2G, IEC68-2-6  |               |  |                |
| Immunity Tests                     | Yes  |               |  |                |
| Emission Limits                    | Yes  |               |  |                |

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