The Dinion Infrared Imager is a rugged, active infrared surveillance camera designed to master perimeter surveillance and other outdoor low-light applications. The IR Imager provides best-in-class images day and night covering up to 160 meters (525 feet) with unrivaled illumination quality throughout the field of view.

From the most challenging daylight conditions to zero lux night environments, the VEI-30 gives you the details you need. Our Dinion 2X technology provides optimal 20-bit imaging in natural and artificial light, giving you a powerful wide dynamic range camera solution capable of handling the most demanding lighting situations, 24 hours a day. Variable Field Illumination allows IR beam pattern adjustments in the field, allowing for wide area coverage and greatly reducing maintenance and setup time and effort. Variable Field Illumination also provides even illumination not only across the field of view but also from foreground to background. To ensure this performance never fades over time, the IR Imager features Constant Light technology, using closed loop feedback to control infrared performance throughout the life of the unit.

The IP67-rated junction box and the camera can be hung and connected in seconds, reducing time and energy on the ladder. The Bilinx (up-the-coax) remote control further reduces time needed for adjustments during and after installation by allowing for adjustments to be made remotely on the ground.

### Functions

<table>
<thead>
<tr>
<th>DCRI Zero Lux Performance</th>
<th>850 nm</th>
<th>940 nm</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Detectio</strong>n</td>
<td>Range</td>
<td>Horizontal Field of Illumination</td>
</tr>
<tr>
<td>Detection</td>
<td>160 m (525 ft)</td>
<td>28 m (90 ft)</td>
</tr>
<tr>
<td>Classification</td>
<td>120 m (390 ft)</td>
<td>21 m (70 ft)</td>
</tr>
<tr>
<td>Recognition</td>
<td>90 m (295 ft)</td>
<td>16 m (50 ft)</td>
</tr>
<tr>
<td>Identification</td>
<td>50 m (165 ft)</td>
<td>9 m (30 ft)</td>
</tr>
</tbody>
</table>

Note: DCRI values given are with narrow IR beam configuration at maximum focal length.
Dinion Integrated Imaging – reveal every detail
• More detail in difficult lighting featuring superior 120dB (20-bit image processing) wide dynamic range
• 24/7 performance around the clock with 2X image processing that dynamically adapts to scene changes in addition to infrared illumination compensation

High Performance Illumination
• Variable Field Illumination allows wider area coverage for even illumination across the field of view and from foreground to background
• Constant Light technology ensures consistent imaging throughout the life of the product
• 850 nm and 940 nm infrared wavelength options

Installer-Friendly Features
• Lightweight junction box can be preinstalled to minimize time “on the ladder”
• Integrated OSD, complete external adjustment, and Bilinx remote control reduces service and installation time

Ready for All Environments¹
• IP67 – dust proof and protection against temporary submersion
• NEMA4X – all weather rated and corrosion resistant
• EN60068-2-6: shock and vibration tested
• IK10 – impact resistant (except for window)
• MIL-STD-810F² – tested to operate in conditions exceeding A1 environments (harshest desert classification) for exposure to solar radiation

¹. The camera is designed to be installed on static structures using the specified mounting adapters. It should not be installed in dynamic environments or on moving objects such as vehicles, ships or elevators.
². Long term continuous exposure in worst case conditions can impact component life.

Certifications and approvals

<table>
<thead>
<tr>
<th>Region</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>CE (Declaration of Conformity)</td>
</tr>
<tr>
<td>USA</td>
<td>UL, FCC</td>
</tr>
<tr>
<td>Canada</td>
<td>CSA</td>
</tr>
<tr>
<td>Australia</td>
<td>C-Tick</td>
</tr>
</tbody>
</table>

Electromagnetic Compatibility

| Emission | EN55022 class B, FCC part 15 class B, EN61000-3, IC ICES-03 |
| Immunity | EN50130-4 (CE), EN6100-6-3 (CE) |

Safety

UL60065-07, CAN/CSA 60065-03, EN60065 (CE)

Environmental

| Weatherproofing | IP67, Type 4X (NEMA 4X), CSA 22.2 No. 94-M91, UL 50 |
| Impact Resistance | IK10 (except window) |
| Solar Radiation | Tested for MIL-STD-810F (for A1 environments) |

Use Cases

1. Horizontal Angle (H)
2. Vertical Angle (V)
3. Horizontal Field of Illumination (HFOI) / Horizontal Field of View (HFOV)
4. Depth of Field (DoF) Range
5. Distance
**General Area Surveillance: RECOGNITION**

| IR Beam Pattern (Full Width Half Maximum) | 43° x 20° |
| Camera Focal Length; FOV | 6 mm focal length; 44° x 33° |
| DoF Range | 5–23 m (16–75 ft) |
| HFOI | 17 m (56 ft) |
| HFOV | 17 m (56 ft) |

**Critical Asset and Entry/Exit Monitoring: RECOGNITION**

| IR Beam Pattern (Full Width Half Maximum) | 10° x 10° |
| Camera Focal Length; FOV | 24 mm focal length; 11° x 9° |
| DoF Range | 23–90 m (75–300 ft) |
| HFOI | 16 m (53 ft) |
| HFOV | 17 m (56 ft) |

**Perimeter Monitoring (100 m/330 ft zone spacing): RECOGNITION/CLASSIFICATION**

| IR Beam Pattern (Full Width Half Maximum) | 10° x 10° |
| Camera Focal Length; FOV | 20 mm focal length; 14° x 10° |
| DoF Range | 20–120 m (65–400 ft) |
| HFOI | 21 m (69 ft) |
| HFOV | 29 m (95 ft) |

2. Measurements are H x V.
3. At maximum range.

**Parts included**

<table>
<thead>
<tr>
<th>Quant.</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VEI-30 Dinion Infrared Imager</td>
</tr>
<tr>
<td>1</td>
<td>Cable-managed pan/tilt bracket</td>
</tr>
<tr>
<td>1</td>
<td>Junction box</td>
</tr>
<tr>
<td>1</td>
<td>Sunshield</td>
</tr>
<tr>
<td>1</td>
<td>Installation kit</td>
</tr>
</tbody>
</table>

**Technical specifications**

**Electrical**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Rated Voltage</th>
<th>Rated Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEI-308V05-13W</td>
<td>12 VDC/24 VAC (± 10%)</td>
<td>50 Hz</td>
</tr>
<tr>
<td>VEI-308V05-23W</td>
<td>12 VDC/24 VAC (± 10%)</td>
<td>60 Hz</td>
</tr>
<tr>
<td>VEI-309V05-13W</td>
<td>12 VDC/24 VAC (± 10%)</td>
<td>50 Hz</td>
</tr>
<tr>
<td>VEI-309V05-23W</td>
<td>12 VDC/24 VAC (± 10%)</td>
<td>60 Hz</td>
</tr>
</tbody>
</table>

**Power Consumption**

- at 12 VDC: 35 W (2.9 A)
- at 24 VAC: 35 W (1.5 A)

**Sensor**

CCD Type: 1/3-in. interline, WDR dual shutter

Active Pixels: PAL: 752 x 582
NTSC: 768 x 494

**Sensitivity** (3200 K, scene reflectivity 89%, F1.2)

<table>
<thead>
<tr>
<th>Color</th>
<th>Full video (100 IRE)</th>
<th>Usable picture (50 IRE)</th>
<th>Usable picture (30 IRE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>2.4 lx (0.223 fc)</td>
<td>0.47 lx (0.044 fc)</td>
<td>0.15 lx (0.0139 fc)</td>
</tr>
<tr>
<td>Color + SensUp 10x</td>
<td>0.24 lx (0.0223 fc)</td>
<td>0.047 lx (0.0044 fc)</td>
<td>0.015 lx (0.0014 fc)</td>
</tr>
<tr>
<td>Monochrome</td>
<td>0.98 lx (0.091 fc)</td>
<td>0.188 lx (0.0174 fc)</td>
<td>0.06 lx (0.0056 fc)</td>
</tr>
<tr>
<td>Monochrome + SensUp 10x</td>
<td>0.098 lx (0.0091 fc)</td>
<td>0.019 lx (0.0017 fc)</td>
<td>0.006 lx (0.0006 fc)</td>
</tr>
<tr>
<td>Monochrome + IR Illumination</td>
<td>0 lx (0 fc)</td>
<td>0 lx (0 fc)</td>
<td>0 lx (0 fc)</td>
</tr>
</tbody>
</table>

**Interfaces**

- Analog (video): PAL or NTSC BNC
- Fiber Optic interface (with accessory)
- On-screen Display: OSD with soft-key operation (multilingual)
- Alarm Output Relay: 30 VAC or +40 VDC, max. 0.5 A continuous, 10 VA Taperm: Open/close, normally closed voltage free relay
- Analog Remote Control: Bilinx coaxial bi-directional communication

**Video**

- Horizontal Resolution: 540 TVL
- Signal-to-Noise Ratio: >50 dB
- Video Output: Composite video 1 Vpp, 75 ohm
- Synchronization: Internal, Line Lock
- Shutter: Auto (1/50 [1/60] to 1/10000) selectable Auto (1/50 [1/60] to 1/50000) automatic flickerless, fixed selectable
- Sensitivity up: Adjustable from Off up to 10x
- Day/Night: Color, Mono, Auto Video, Auto Photocell
- Day/Night Photocell Control: Day/Night switch adjustable: 25 lux to 64 lux (default at 48 lux) Night/Day switch adjustable: 43 lux to 82 lux (default at 63 lux)
Auto Black: Automatic continuous, Off
Dynamic engine: XF-Dynamic, 2X-Dynamic, SmartBLC
Dynamic range: 120 dB (20-bit image processing)
Dynamic Noise Reduction: Auto, On/off selectable
Sharpness: Sharpness enhancement level selectable
SmartBLC: On (includes 2X-Dynamic) / Off
AGC: AGC On or Off (0–30 dB) selectable
Peak White Invert: On/Off
White Balance: ATW, ATWhold and manual (2500 to 10000K)
Alarm Output: VMD or Bilinx and dedicated Tamper (for junction box)
Cable Compensation: Up to 1000 m (3000 ft) coax without external amplifiers (automatic set-up in combination with Bilinx coaxial communication)
Camera ID: 17-character editable string, position selectable
Test Pattern Generator: Color bars 100%, Grayscale 11-step, Sawtooth 2H, Checker board, Cross hatch, UV plane
Lens: 5–50 mm IR-corrected Varifocal auto-iris
Angular Field of View (H x V): 5 mm FOV: 51° x 40" 50 mm FOV: 6° x 4"
Modes: 6 preset programmable modes
Remote Control: Bilinx coaxial bi-directional communication
Video Motion Detection: One area, fully programmable
Privacy Masking: Four independent areas, fully programmable

### Illuminator Specifications

<table>
<thead>
<tr>
<th>LEDs</th>
<th>7 SMT type LED array with Variable Field Illumination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beam Patterns (H x V)</td>
<td>Wide beam: 42° x 10° (with 3D diffuser) Narrow beam: 10° x 10°</td>
</tr>
<tr>
<td>Wavelength</td>
<td>850 nm or 940 nm</td>
</tr>
<tr>
<td>Intensity Adjustment</td>
<td>31 step adjustments from min. to max.</td>
</tr>
<tr>
<td>On/Off Control</td>
<td>Slave to camera mode Manual on/off control via OSD and Bilinx</td>
</tr>
<tr>
<td>Illumination Tilt Adjustment</td>
<td>Maximum: 13° tilt above camera axis Minimum: 3° tilt above camera axis</td>
</tr>
</tbody>
</table>

### IR Performance Ranges (0 Lux Environment)

<table>
<thead>
<tr>
<th></th>
<th>850 nm</th>
<th>940 nm</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Detection</strong></td>
<td>Range</td>
<td>HFOI</td>
</tr>
<tr>
<td><strong>Classification</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Recognition</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Identification</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Mechanical

**Dimensions (H x W x L)**
- Camera and Bracket: 402 x 193 x 309 mm (15.8 x 7.6 x 12.2 in.)
- Total Assembly: 402 x 193 x 406 mm (15.8 x 7.6 x 16.0 in.)

**Weight**
- Camera and Bracket: 6.6 kg (14.5 lb)
- Junction Box: 1.4 kg (3.1 lb)

**Construction**
- Corrosion-resistant aluminum

**Color**
- RAL 9010 pure white with RAL 9005 jet black detail

**Finish**
- Wet paint

**Window**
- 3.3-mm (1/8-in.) thick glass

**Bracket**
- Corrosion-resistant, cable-managed

**Bracket Pan/Tilt Range**
- Pan: ±90° Tilt: -48°/+44°

**Junction Box**
- Separate from bracket allowing for wiring and cabling prior to camera installation

**Environmental**

**Operating Temperature**
- –40°C to +50°C (–40°F to 122°F)

**Storage Temperature**
- –40°C to +70°C (–40°F to 158°F)

**Operating Humidity**
- 20% to 100% (condensing)

**Storage Humidity**
- up to 100%

**Weatherproofing**
- Type 4X (NEMA 4X) and IP67
Solar Radiation
Tested to MIL-STD-810F test standard for solar radiation (for A1 rated environments)


Dimensions

VEI-30 Dimensional Views

<table>
<thead>
<tr>
<th>1</th>
<th>Top</th>
<th>3</th>
<th>Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Front</td>
<td>4</td>
<td>Rear</td>
</tr>
</tbody>
</table>
VEI-30 Dinion Infrared Imager

VEI-30 Dimensional Views – Mounts

1. Corner Mount - Top
2. Corner Mount - Side
3. Pole Mount - Top
4. Pole Mount - Side

Ordering Information

VEI-308V05-13W Dinion Infrared Imager, 850 nm, PAL
Dinion 2X imaging, 850 nm, 3D diffuser and Constant Light illumination, PAL, white
Order number VEI-308V05-13W

VEI-308V05-23W Dinion Infrared Imager, 850 nm, NTSC
Dinion 2X imaging, 850 nm, 3D diffuser and Constant Light illumination, NTSC, white
Order number VEI-308V05-23W

VEI-309V05-13W Dinion Infrared Imager, 940 nm, PAL
Dinion 2X imaging, 940 nm, 3D diffuser and Constant Light illumination, PAL, white
Order number VEI-309V05-13W

VEI-309V05-23W Dinion Infrared Imager, 940 nm, NTSC
Dinion 2X imaging, 940 nm, 3D diffuser and Constant Light illumination, NTSC, white
Order number VEI-309V05-23W

VG4-A-9541 Pole Mount Adapter
Pole mount adapter for an AUTODOME pendant arm or a DINION imager, designed for poles with a diameter of 100-380 mm (4-15 in.), white
Order number VG4-A-9541

VG4-A-9542 Corner Mount Adapter
Corner mount adapter for an AUTODOME pendant arm or a DINION imager
Order number VG4-A-9542

Accessories

UPA-2450-60 Power Supply, 120 V, 60 Hz
Indoor, 120 VAC, 60 Hz In; 24 VAC, 50 VA Out
Order number UPA-2450-60

UPA-2450-50 Power Supply, 220 V, 50 Hz
Indoor, 220 VAC, 50 Hz In; 24 VAC, 50 VA Out
Order number UPA-2450-50

VG4-SBOX-COVER Cover for Power Supply Box
Spare cover for AutoDome power supply boxes and for the VEI-30 and NEI-30 junction boxes
Order number VG4-SBOX-COVER

VDA-455UTP
Adaptor for UTP twisted pair output
Order number VDA-455UTP
Software Options

VP-CFGSFT Configuration Tool for Imaging Devices
Camera configuration software for use with Bilinx cameras
Order number VP-CFGSFT