

# EX65 Explosion Protected Illuminator

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Invented for life



- ▶ Electropolished 316L stainless steel or aluminum construction
- ▶ 3D diffuser technology for even illumination
- ▶ Integrated junction box
- ▶ ATEX, UL, IECEx, and INMETRO Certifications
- ▶ Constant Light technology

The EX65 Explosion Protected Illuminator is the world's first Intelligent-IR infrared illuminator for explosive environments, combining the latest innovations in infrared technology and design to deliver the highest quality CCTV illumination for critical 24/7 surveillance applications.

The EX65 is available in an electropolished 316L stainless steel or anodized aluminum configuration. When paired with the EX65 Camera, users can expect unrivaled image quality in complete darkness. Energy efficient infrared illumination also eliminates the need for any conventional high voltage lighting to be installed, which cuts costs significantly.

A single pre-assembled unit with an integrated junction box, the EX65 is designed to be easy to install. Through any of the four (4) 3/4 in. conduit entries, connections are made to the convenient terminal block; there is also space for any additional wiring. All connections are conveniently accessible within the junction box including power and telemetry. Constant Light technology compensates for LED degradation, a natural occurrence with all LED-based illuminators, to deliver a constant level of lighting performance throughout the life of the illuminator. Powered by award-winning 3D Diffuser IR technology, the EX65 delivers Even-Illumination from the foreground to the background of the scene eliminating hotspots and underexposure.

The EX65 holds all major international explosion-protected certifications for safe use in almost any region of the world. In addition, the EX65 meets NEMA 4X and IP67 ratings. The EX65 has undergone vibration and shock testing to IEC standards, as well as Highly Accelerated Life Testing (H.A.L.T.), which pushes the limits of products to ensure reliability throughout the product's lifetime.

The EX65 gives you the confidence to ensure a safe workplace while getting the picture in the world's most volatile locations.

## System overview

### Easy to Install

- One piece installation
- Integrated junction box
- Multiple mounting options

### Controlled by Constant Light technology

- Maintains a constant level of infrared performance throughout the life of the illuminator across the temperature range
- Reduces initial input power consumption for a more environmentally-friendly solution

### Powered by 3D Diffuser Even Illumination Technology

- Award winning 3D Diffuser IR Technology eliminates hotspots in the foreground and underexposed backgrounds
- Less camera noise reduces IP video bandwidth requirement

### Cool Operation Surface Mount LEDs

- Maintains T6 temperature rating
- Reduces power input and consumption

## Functions

### Construction

The EX65 Explosion Protected Illuminator includes a smart infrared illuminator pre-wired into an electropolished 316L stainless steel housing offering excellent corrosion protection. For less corrosive environments, an anodized aluminum configuration is also available. The EX65 holds the most common explosion-protected certifications for guaranteed safe operation in explosive environments and also NEMA 4X and IP67 ratings for wet locations. For operation in areas prone to vibration, the EX65 has been tested to IEC standards for vibration and shock.

### Wide Temperature Range

Designed with the harshest conditions in mind, the EX65 welcomes deployment in the toughest areas on the planet including the subzero conditions found in northern Russia or the scorching heat found in Middle Eastern deserts. The impressive  $-50^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  ( $-58^{\circ}\text{F}$  to  $+140^{\circ}\text{F}$ ) temperature range is standard on all models.

### Global Explosion Protection Certification

The EX65 holds all major international explosion protected certifications for global installation. As a UL listed product the EX65 is certified for the division and zone system per the NEC standards. For Europe it holds the ATEX certification. The EX65 has been tested against and conforms to the international IECEx scheme. For Brazil the EX65 holds the INMETRO certification.

### Integrated Junction Box

The integrated junction box allows for easy connections to the terminal block for power and alarm outputs. An integral junction box saves money and time spent on installing external junction boxes and provides easy access for setup and maintenance.

## Certifications and approvals

| Region | Certification   |
|--------|---|
| Europe | CE Declaration of Conformity<br>Certificate of Conformity 11/UL-BRHZ-0037X<br>UL DEMKO 10 ATEX 0948139X |
| USA    | UL, FCC   |
| Canada | cUL   |

|               |   |
|---------------|---|
| Brazil        | INMETRO                                     |
| International | Certificate of Conformity IECEx UL 10.0010X |

### Electromagnetic Compatibility (EMC)

|          |                                      |
|----------|--------------------------------------|
| Emission | EN55022 class B, FCC part 15 class B |
| Immunity | EN 61000-4, EN 50130-4:1996          |

### Safety

UL 508, CAN/CSA C22.2 No. 60065-03, IEC 60825-1

### Explosion Protection

UL/cUL Listed 3RR9

UL/cUL Hazardous Locations Listed as per NEC Division and Zone requirements

- Class I, Div 1, Groups C, and D; Class II, Groups E, F, and G; Class III
- Class I, Zone 1, AEx d IIB T6; Ex d IIB T6 X
- AEx tD 21 T85°C
- DIP DIP A21 Ta85°C X

### ATEX

- DEMKO 10 ATEX 0948139X
- CE 0344 II 2 GD
- Ex d IIB T6 Gb
- Ex tb IIIC T85°C Db IP67

### IECEx

- IECEx UL 10.0010X
- Ex d IIB T6 Gb
- Ex tb IIIC T85°C Db IP67

11/UL-BRHZ-0037X

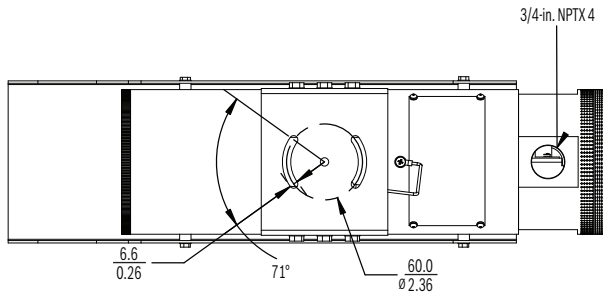
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### Environmental

UL Type 4X; IP67; Sinusoidal Vibration tested; Random Vibration tested; Shock tested; UL50, UL50E, IEC 60529, EN60068-2-6, EN60068-2-64, EN60068-2-27, CAN/CSA C22.2 No. 94.1-07, CAN/CSA C22.2 No. 94.2-07, CAN/CSA C22.2 No. 60529-05

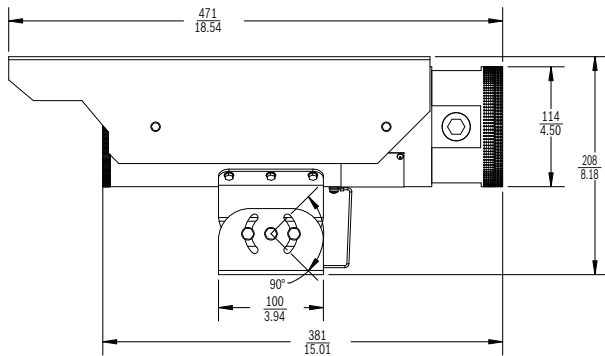
| Region | Certification                                  |
|--------|--|
|        | Certificate of Conformity 11/UL-BRHZ-0037X     |
| Europe | CE Declaration of Conformity                   |
| USA    | UL E333679 Certificate of Compliance           |
|        | UL DEMKO 10 ATEX 0948139X                      |
|        | UL Certificate of Conformity IECEx UL 10.0010X |

**Installation/configuration notes**



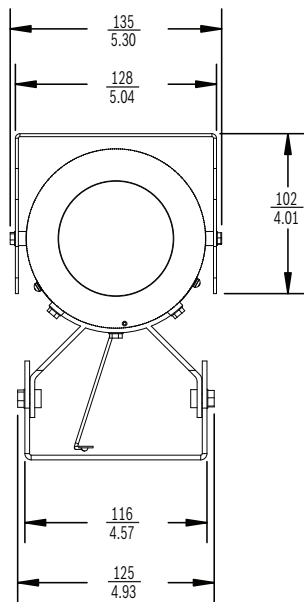
mm  
in.

Bottom View



mm  
in.

Side View



mm  
in.

Front View

**Technical specifications**

**Electrical**

|                   |  |
|-------------------|--|
| IR Source         | High-efficiency LED array with current limited integral power circuit  |
| Beam Patterns     | 20° or 50°   |
| Wavelength        | 850 nm   |
| Power consumption | 37 to 40 W (40 W max. power). Power consumption will vary over time due to the intelligent IR's optical output control which compensates for LED degradation and ambient temperature fluctuations. |

**Performances Ranges**

| Model         | Horizontal Angle | Achievable Distance <sup>1</sup> | Horizontal Field of View |
|---------------|------------------|----------------------------------|--------------------------|
| LED-658-AM/SM | 20               | 54.3 m (178.1 ft)                | 18.9 m (61.9 ft)         |
| LED-658-AW/SW | 50               | 39.3 m (c ft)                    | 33.2 m (109.0 ft)        |

1. Actual illumination distance achieved is dependent on camera and lens characteristics. These values are based on test results with an EX65 camera.

**Mechanical**

|                        |   |
|------------------------|---|
| Dimensions (L x W x H) | 381 x 114 x 114 mm (11.01 x 4.5 x 4.5 in.) without sunhood or mounting cradle |
| Weight                 | Stainless Steel: 12.7 kg (28 lb)<br>Aluminum: 6.1 kg (13.5 lb)                |
| Construction           | Electropolished 316L Stainless Steel or Anodized Aluminum                     |
| Bracket                | Pan(±36°)/Tilt(±45°), mounting cradle included                                |
| Cable Entry            | Four (4) 3/4-in. NPT entries  |
| View Window            | 9-mm thick borosilicate float glass   |

**Environmental**

|                       |   |
|-----------------------|---|
| Operating Temperature | -50 °C to +60 °C (-58 °F to +140 °F)                        |
| Storage Temperature   | -55 °C to +70 °C (-67 °F to +158 °F)                        |
| Operating Humidity    | 0 to 100% relative (condensing, after installed and sealed) |
| Storage Humidity      | 20 to 98% relative (non-condensing)                         |

**Ordering information**

**LED-658-AM Aluminum EX65 Explosion Protected Illuminator**

850 nm, medium angle, 12–24 VDC/VAC  
Order number **LED-658-AM**

**LED-658-AW Aluminum EX65 Explosion Protected Illuminator**

850 nm, wide angle, 12–24 VDC/VAC  
Order number **LED-658-AW**

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**LED-658-SM Stainless Steel EX65 Explosion Protected Illuminator**

850 nm, medium angle, 12–24 VDC/VAC  
Order number **LED-658-SM**

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**Accessories**

**UPA-2450-50 Power Supply, 220 V, 50 Hz**

220 VAC, 50 Hz, 24 VAC, 50 VA Out  
For use with certain 24 VAC camera models.  
Order number **UPA-2450-50**

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**UPA-2450-60 Power Supply, 120 V, 60 Hz**

120 VAC, 60 Hz, 24 VAC, 50 VA Out  
Order number **UPA-2450-60**

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