AEGIS SUPERLED INSTALLATION INSTRUCTIONS

INFRARED / WHITE LIGHT ILLUMINATOR
AEGIS SUPERLED INSTALLATION INSTRUCTIONS

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BOX CONTAINS

1 x AEGIS SuperLED illuminator
1 x AEGIS SuperLED bracket
1 x AEGIS SuperLED Installation Instructions (this booklet)

Whilst every effort has been made to ensure that all information contained in this document is correct at the time of publication, due to continuous product development Bosch reserves the right to change information herein without prior notice
A complete range of infrared and white light illuminators for CCTV, the AEGIS SuperLED range features patent pending illumination technology and installation friendly design.

- Patent pending Constant Light technology automatically compensates for LED degradation to deliver a constant level of lighting performance for the life of the illuminator
- 3D Diffuser (Black Diamond) technology enables increased surveillance range, wider beam patterns and evenly illuminated night-time images
- Energy efficient, low voltage operation for quick and easy installation
- High efficiency surface mount LEDs deliver improved thermal management, long life and low cost of ownership
- Semi-covert, covert, and white light versions
- Easy integration with day/night cameras with relay contacts COM/NC/NO that indicate whether the photocell has activated the illuminator
- Telemetry input connection (additional cable required) to allow illuminator to be switched via a voltage free relay contact from a day/night camera signal, remote signal or PIR.
- Pressure equalization valve removes the problem of thermal expansion and pressure cycling within the illuminator head
## 2. SPECIFICATION

**Illuminator**

<table>
<thead>
<tr>
<th>LED’s</th>
<th>High efficiency Surface Mount LEDs with current limited integral circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength</td>
<td>850nm, 940nm or white light (model dependant)</td>
</tr>
<tr>
<td>Beam patterns</td>
<td>10°, 20°, 30°, 60°, 95°, 120° (model dependant)</td>
</tr>
<tr>
<td>Average life</td>
<td>&gt; 5 years</td>
</tr>
<tr>
<td>Consumption</td>
<td>50- 90W (90W Max Power)</td>
</tr>
<tr>
<td></td>
<td>Power consumption will vary over time due to optical output control which compensates for LED degradation and ambient temperature fluctuations</td>
</tr>
<tr>
<td>Inrush current</td>
<td>8A</td>
</tr>
<tr>
<td>Input voltage</td>
<td>12-24 Volt DC or 24 Volt AC (+/-15%, 50/60 Hz)</td>
</tr>
<tr>
<td></td>
<td>NOTE for American market: Conforming Underwriters Laboratories UL 2108 standard regulations use a Class 2 Power Supply Unit.</td>
</tr>
<tr>
<td>Temp range</td>
<td>-40°C [-40°F] to +50°C [122°F] max on full power</td>
</tr>
<tr>
<td>Environmental</td>
<td>IP67, suitable for indoor / outdoor use</td>
</tr>
<tr>
<td>Construction</td>
<td>Robust aluminum extrusion with acrylic front window</td>
</tr>
<tr>
<td>Dimensions</td>
<td>303mm x 239mm x 110mm [11.9” x 9.4” x 4.4”] including mounting bracket</td>
</tr>
<tr>
<td>Color</td>
<td>Black anodized heat sink with black (IR models) or white/clear (white light models) front fascia</td>
</tr>
<tr>
<td>Weight</td>
<td>3.8 Kg [8.4 lbs]</td>
</tr>
<tr>
<td>Power cable</td>
<td>Supplied with 4m [13.1ft] of power lead</td>
</tr>
<tr>
<td>Bracket</td>
<td>U bracket included</td>
</tr>
</tbody>
</table>
Accessories

Power supply  Bosch PSU-224-DC100. Other compatible power supplies may be used, make sure the above voltage, power and inrush current requirements are met.

Telemetry  Bosch UFLED-CI-5M (universal 5 meter cable for telemetry)

Link cable  Bosch UFLED-CI-1M (dedicated 1 meter cable to synchronize multiple illuminators)

Brackets  U mount bracket included. Please check the Bosch website for other available mounting options.

Lens / Beam pattern

The illuminator should be matched to the scene and the camera lens focal length. Before installation, ensure that the illuminator has been correctly specified to support the CCTV system. The system planning must take into account the product achievable distances, lens/beam pattern and filter.
Models and achievable distances

Achievable illumination distance depends on the characteristics of the CCD camera and lens used.

<table>
<thead>
<tr>
<th>Commercial Type Number</th>
<th>Wavelength</th>
<th>Beam angle</th>
<th>Achievable Distance</th>
<th>Horizontal Field of View (HFOV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLED10-8BD</td>
<td>850nm</td>
<td>10</td>
<td>320m [1050ft]</td>
<td>52m [170ft]</td>
</tr>
<tr>
<td>SLED20-8BD</td>
<td>850nm</td>
<td>20</td>
<td>200m [655ft]</td>
<td>70m [230ft]</td>
</tr>
<tr>
<td>SLED30-8BD</td>
<td>850nm</td>
<td>30</td>
<td>160m [525ft]</td>
<td>85m [275ft]</td>
</tr>
<tr>
<td>SLED60-8BD</td>
<td>850nm</td>
<td>60</td>
<td>110m [360ft]</td>
<td>130m [425ft]</td>
</tr>
<tr>
<td>SLED95-8BD</td>
<td>850nm</td>
<td>95</td>
<td>85m [275ft]</td>
<td>185m [605ft]</td>
</tr>
<tr>
<td>SLED120-8BD</td>
<td>850nm</td>
<td>120</td>
<td>55m [180ft]</td>
<td>190m [625ft]</td>
</tr>
<tr>
<td>SLED10-9BD</td>
<td>940nm</td>
<td>10</td>
<td>200m [655ft]</td>
<td>32m [105ft]</td>
</tr>
<tr>
<td>SLED20-9BD</td>
<td>940nm</td>
<td>20</td>
<td>120m [395ft]</td>
<td>42m [135ft]</td>
</tr>
<tr>
<td>SLED30-9BD</td>
<td>940nm</td>
<td>30</td>
<td>90m [295ft]</td>
<td>47m [154ft]</td>
</tr>
<tr>
<td>SLED60-9BD</td>
<td>940nm</td>
<td>60</td>
<td>65m [210ft]</td>
<td>75m [245ft]</td>
</tr>
<tr>
<td>SLED95-9BD</td>
<td>940nm</td>
<td>95</td>
<td>45m [145ft]</td>
<td>100m [330ft]</td>
</tr>
<tr>
<td>SLED120-9BD</td>
<td>940nm</td>
<td>120</td>
<td>30m [100ft]</td>
<td>110m [360ft]</td>
</tr>
<tr>
<td>SLED10-WBD</td>
<td>White Light</td>
<td>10</td>
<td>85 m [275 ft]</td>
<td>15 m [50 ft]</td>
</tr>
<tr>
<td>SLED20-WBD</td>
<td>White Light</td>
<td>20</td>
<td>55 m [180 ft]</td>
<td>20 m [65 ft]</td>
</tr>
<tr>
<td>SLED30-WBD</td>
<td>White Light</td>
<td>30</td>
<td>50 m [165 ft]</td>
<td>25 m [85 ft]</td>
</tr>
<tr>
<td>SLED60-WBD</td>
<td>White Light</td>
<td>60</td>
<td>35 m [115 ft]</td>
<td>40 m [130 ft]</td>
</tr>
<tr>
<td>SLED95-WBD</td>
<td>White Light</td>
<td>95</td>
<td>25 m [85 ft]</td>
<td>55 m [180 ft]</td>
</tr>
<tr>
<td>SLED120-WBD</td>
<td>White Light</td>
<td>120</td>
<td>20 m [65 ft]</td>
<td>70 m [230 ft]</td>
</tr>
</tbody>
</table>

NOTE: Achievable distance is based on a 20dB s/n ratio using a ½” Ex-View CCD and F1.4 lens aperture, and is dependant on individual camera performance.

Wavelength at 850nm infrared is semi-covert, 940nm is covert and white light is visible.
3. INSTALLATION

Tilt the illuminator gradually until the top of the unit is directed towards the top of the furthest object

Fig 1: Installing the AEGIS SuperLED illuminator

Setting up the unit correctly is critical to obtain the best performance from the AEGIS illuminator. Optimum results are achieved by setting up at night and viewing the results on a monitor.

1. Attach the AEGIS illuminator to the pan and tilt unit, wall bracket or camera housing as required
2. Connect the lamp to 12-24 Volt DC or 24 Volt AC (+/-15%, 50/60 Hz)
3. Commission the mains supply, camera and monitoring control equipment
4. Adjust the pan of the illuminator to match the camera field of view
5. Adjust the vertical alignment by loosening the side bolts (one on each side of the main body) to maximize the results
6. Tilt the lamp downwards until the near part of required field of view is saturated with light, as viewed on the monitor
7. Slowly tilt the lamp upwards until the far part of the required field of view is illuminated correctly on the monitor screen
Fig. 2: AEGIS SuperLED rear side view

Fig. 3: AEGIS SuperLED right side view
**Telemetry Input Connection**

The illuminator can be operated from a remote switching device, camera signal or PIR by utilising the Normally Open (N/O) Telemetry input connection.

To use this function the photocell must first be disabled (see page 9) putting the illuminator into a continuous ON mode.

To operate, use the Brown and Blue wires of the telemetry cable to connect to the switching device contacts ensuring the contacts are closed when the illuminator is OFF and open when the illuminator is ON.

1 = Brown (BR), 2 = White (W), 3 = Blue (BL), 4 = Black (BK)

**Fig. 4 : Telemetry Input pin layout**

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**Camera Day/Night Switching Output Connection**

The Camera Day/Night Output can be used to switch a day/night camera into its monochrome night mode if the illuminator is switched ON.

To use this function it is necessary to determine if the camera requires a N/O or N/C circuit to switch into its night mode.

Use the telemetry cable link the Brown and Blue wires to the camera switching input if a N/O circuit is required to activate night mode. If a N/C signal is required to activate night mode use the Brown and Black wires.

1 = Brown (BR), 2 = White (W), 3 = Blue (BL), 4 = Black (BK)

**Fig. 5 : Camera Day/Night Output pin layout**

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**Photocell sensitivity**

To adjust photocell sensitivity first remove the sealing screw, then adjust the potentiometer to turn the lamp on at the desired lighting conditions, using a thin (maximum 2.5mm or 0.1inch diameter) flathead screwdriver. Turn the potentiometer fully clockwise to disable the photocell.

![Diagram](image1.png)

**NOTE:**
Replace screw after adjustment to ensure IP67 protection

*Fig 6: Adjustment of the photocell sensitivity*

**Photocell operation**

The photocell is designed to automatically switch the lamps ON at dusk and turn OFF at dawn. The potentiometer factory-set at mid-point 500 Lux ON and 850 Lux OFF (approximately). A high degree of hysteresis is incorporated to avoid ON/OFF switching in marginal light conditions.

**Power adjust**

To adjust power first unscrew the sealing screw. The potentiometer is factory-set at the maximum calibration point (fully clockwise). To decrease the power turn the potentiometer counter clockwise, using a thin (maximum 2.5mm or 0.1inch diameter) flathead screwdriver.

![Diagram](image2.png)

*Fig 7: Adjustment of the output power*

*Note:*
Power can be reduced by up to 85% if image over-exposure occurs. Below 85% reduction the LED’s will oscillate.

Factory-set at 100% power rating, potentiometer turned fully clockwise.
4. SAFETY

WARNING: When the lamp is running it is hot to touch. Before touching, switch off the illuminator and allow cooling for a minimum period of 10 minutes.

LED radiation
Do not view directly with optical instruments (magnifiers). Do not stare directly into the lamp from a distance of less than 1.7m.

CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Class 3R notification for 850nm models
The product is tested and compliant to IEC/EN 60825-1 (2001) under normal operating conditions, and is classified as a Class 3R LED product. The measured output under the thermal hazard test (Class 1/3R) was 36.9mW, peak at 850nm wavelength. The following notification label is placed on the side of the product.

Class 1M notification for 940nm models
The product is tested and compliant to IEC/EN 60825-1 (2001) under normal operating conditions, and is classified as a Class 1M LED product. The measured output under the thermal hazard test (Class 1M) was 22.7mW, peak at 940nm wavelength. No notification label is placed on the product.
Class 2 notification for White Light models
The product is tested and compliant to IEC/EN 60825-1 (2001) under normal operating conditions, and is classified as a Class 2 LED product. The measured output was 10mW, peak at 590nm wavelength. The following notification label is placed on the side of the product.

5. DIMENSIONS

Fig 8: Dimensions
6. REMOTE SWITCHING

Various switching configurations can be made using an interface cable. Commonly used switching configurations are explained below.

**Camera (or other switching device) leading**
The illuminator may be activated remotely by a volt-free contact latched across the TELEMETRY input. Use interface cable (UFLED-CI-5M).

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**Looping multiple illuminators**
Multiple illuminators can be linked for synchronous illuminator switching. Use link cable (UFLED-CL-1M) between the DAY/NIGHT CAMERA output and the TELEMETRY input as shown in the diagram below.

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**Illuminator leading**
The DAY/NIGHT CAMERA output may be used to switch the camera between the Day and Night mode. Use interface cable (UFLED-CI-5M).
7. TROUBLE SHOOTING

CHECK POWER SUPPLY Check that the unit is connected to a suitable voltage

CHECK PHOTOCELL FUNCTIONS Check the photocell functions by covering with black tape and having the telemetry link closed. The photocell operation has an in-built delay of up to 5 seconds

8. CERTIFICATION

This product complies with European Directive 2004/108/CE Electromagnetic Compatibility and 73/23/EEC Low Voltage Directive by meeting the following standards

Standards applied:

C22.2 No.250.0-08
UL1598
UL2108

Laser Eye Safety: IEC/EN60825-1

ICES-003 Issue 4: 2004

Immunity: EN50130-4:1995


IP: Ingress Protection IP67 in accordance with BS EN60529:1992

WEEE: Waste Electrical & Electronic Equipment European directive 2002/96/EC

This symbol on the product or in the instructions means that the electrical and/or electronic equipment to which it relates should be disposed of at the end of life separately from domestic household waste.

There are separate collection systems for recycling in the EU
For more information, please contact the Local Authority or supplier of the product.