OPTIKKA Mérnökiroda Kft.
OPTICS Engineering Ltd.
2015 Catalog

OPTICAL SOLUTIONS FOR THE INDUSTRY AND SCIENCE

www.omi-optika.hu
LED Ring Lights

LED Ring Lights provide direct illumination with high and even intensity for specular or opaque surfaces. Beam angle is factory adjusted according to customers’ demand on working distance and illuminated area size.

Specifications:

- white, UV, blue, green, red or NIR light
- power requirement: 12V DC or 24V DC (please specify when ordering)
- available with power supply with optional trigger input
- continuous or strobe operation (depends on power supply)
- extra long lifetime
- robust, anodized alu or plastic housing
- designed to operate in harsh industrial environment
- please call for IP classified versions

<table>
<thead>
<tr>
<th>Product Number</th>
<th>Dimensions (mm)</th>
<th>Lighting area (mm)</th>
<th>Wavelength (nm)</th>
<th>Available IP protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-056-000</td>
<td>∅80/∅40x30</td>
<td>∅80/∅40</td>
<td>white</td>
<td>IP65</td>
</tr>
<tr>
<td>3-057-000</td>
<td>∅100/∅60x29</td>
<td>∅100/∅60</td>
<td>white</td>
<td>IP65</td>
</tr>
<tr>
<td>3-057-600</td>
<td>∅100/∅60x29</td>
<td>∅100/∅60</td>
<td>465</td>
<td>IP65</td>
</tr>
<tr>
<td>3-060-000</td>
<td>∅100/∅45x30</td>
<td>∅100/∅45</td>
<td>white</td>
<td>IP65</td>
</tr>
<tr>
<td>3-061-000</td>
<td>∅100/∅45x30</td>
<td>∅100/∅45</td>
<td>850</td>
<td>IP65</td>
</tr>
<tr>
<td>3-063-000</td>
<td>∅80/∅50x30</td>
<td>∅80/∅50</td>
<td>375</td>
<td>IP65</td>
</tr>
<tr>
<td>3-064-000</td>
<td>∅80/∅40x24</td>
<td>∅80/∅40</td>
<td>white</td>
<td>IP65</td>
</tr>
<tr>
<td>3-075-000</td>
<td>150x150x45/∅90</td>
<td>∅125/∅100</td>
<td>640</td>
<td>IP65</td>
</tr>
<tr>
<td>3-076-000</td>
<td>150x150x30/∅90</td>
<td>∅125/∅76</td>
<td>640</td>
<td>IP65</td>
</tr>
<tr>
<td>3-080-000</td>
<td>∅70/∅50x23</td>
<td>∅70/∅50</td>
<td>640</td>
<td>IP65</td>
</tr>
</tbody>
</table>

Please call for more standard or custom versions.
Please call for segmented versions.

UV Ring Light
LED Darkfield (Low Angle) Lights

LED Darkfield (Low Angle) Lights are suitable for highlighting surface roughness, surface structure, edges with the help of light nearly plane parallel with the surface.

Specifications:

- white, UV, blue, green, red or NIR light
- power requirement: 12V DC or 24V DC (please specify when ordering)
- available with power supply with optional trigger input
- continuous or strobe operation (depends on power supply)
- extra long lifetime
- robust, anodized alu or plastic housing
- designed to operate in harsh industrial environment
- please call for IP classified versions

**LED Darkfield (Low Angle) Lights**

<table>
<thead>
<tr>
<th>Product number</th>
<th>Dimensions (mm)</th>
<th>Illuminating surface (mm)</th>
<th>Wavelength (nm)</th>
<th>Available IP protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-067-000</td>
<td>100x100x10/Ø60</td>
<td>Ø60x8</td>
<td>640</td>
<td>IP65</td>
</tr>
<tr>
<td>3-077-000</td>
<td>150x150x10/Ø100</td>
<td>Ø100x8</td>
<td>640</td>
<td>IP65</td>
</tr>
<tr>
<td>3-078-000</td>
<td>150x150x10/Ø100</td>
<td>Ø100x8</td>
<td>850</td>
<td>IP65</td>
</tr>
</tbody>
</table>

Please call for more standard or custom versions.
Please call for segmented versions.
LED Dome Lights

LED Dome Lights ensure even, shadowless illumination for inspecting specular, uneven or curved surfaces. Shadows and reflections generated by the surface can be avoided this way.

Specifications:

- white, UV, blue, green, red or NIR light
- power requirement: 12V DC or 24V (please specify when ordering)
- available with power supply with optional trigger input
- continuous or strobe operation (depends on power supply)
- extra long lifetime
- robust, anodized alu housing
- designed to operate in harsh industrial environment

### LED Dome Lights

<table>
<thead>
<tr>
<th>Product number</th>
<th>Dimensions (mm)</th>
<th>Illuminating surface (mm)</th>
<th>Wavelength (nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-085-000</td>
<td>140x140x67</td>
<td>∅80</td>
<td>640</td>
</tr>
<tr>
<td>3-087-000</td>
<td>∅70/∅30x40</td>
<td>∅50</td>
<td>Fehér</td>
</tr>
<tr>
<td>3-090-000</td>
<td>∅122/∅80x60</td>
<td>∅80</td>
<td>Fehér</td>
</tr>
</tbody>
</table>

Please call for more standard or custom versions.
LED Coaxial Lights

LED Coaxial Lights ensure even, diffuse, axial illumination for inspecting glossy surfaces.

Specifications:

- white, UV, blue, green, red or NIR light
- power requirement: 12V DC or 24V DC (please specify when ordering)
- available with power supply with optional trigger input
- continuous or strobe operation (depends on power supply)
- extra long lifetime
- robust, anodized alu housing
- designed to operate in harsh industrial environment

<table>
<thead>
<tr>
<th>LED Coaxial Lights</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product number</strong></td>
</tr>
<tr>
<td>3-301-000</td>
</tr>
<tr>
<td>3-304-000</td>
</tr>
</tbody>
</table>

Please call for more standard or custom versions.
Standard LED Backlights

Standard LED Backlights ensure homogenous illumination to display contours of objects sized up to 100 mm with high contrast. Also applicable as diffuse lighting.

Specifications:
- white, blue, green, red or NIR light
- homogenous intensity distribution
- power requirement: 12V DC or 24V DC (please specify when ordering)
- available with power supply with optional trigger input
- continuous or strobe operation (depends on power supply)
- extra long lifetime
- robust, anodized alu housing
- glass or plastic illumination surface
- designed to operate in harsh industrial environment
- please call for IP classified versions

Slim Standard Backlights:
- typical thickness: 8 to 10 mm
- illuminating area: <50 mm x <50 mm

Thin Standard Backlights
- typical thickness: 12 mm
- illuminating area: <50 mm x <50 mm

Thick Standard Backlights
- typical thickness: 20 mm
- illuminating area: <100 mm x <100 mm

<table>
<thead>
<tr>
<th>Product number</th>
<th>Dimensions (mm)</th>
<th>Illuminating surface (mm)</th>
<th>Wavelength (nm)</th>
<th>Available IP protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-107-000</td>
<td>30x14x10</td>
<td>15x10</td>
<td>525</td>
<td>IP65</td>
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<tr>
<td>3-106-000</td>
<td>42x30x8</td>
<td>25x25</td>
<td>640</td>
<td>IP65</td>
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<tr>
<td>3-108-000</td>
<td>60x60x12</td>
<td>40x40</td>
<td>640</td>
<td>IP65</td>
</tr>
<tr>
<td>3-201-000</td>
<td>100x100x20</td>
<td>80x80</td>
<td>640</td>
<td>IP65</td>
</tr>
</tbody>
</table>

Please call for more standard or custom versions.
Please call for edge-to-edge versions.
Large LED Backlights

Large LED Backlights ensure homogen illumination to display contours of objects larger than 100 mm with high contrast. Also applicable as diffuse lighting.

Specifications:
- white, blue, green, red or NIR light
- homogen intensity distribution
- power requirement: 12V DC or 24V DC (please specify when ordering)
- available with power supply with optional trigger input
- continuous or strobe operation (depends on power supply)
- extra long lifetime
- robust, anodized alu housing
- plastic illumination surface
- designed to operate in harsh industrial environment
- please call for IP classified versions

Standard Large LED Backlights:
- typical thickness: 25 mm
- illuminating area: >~100 mm x >~100 mm

Slim Large LED Backlights (edge-lit):
- typical thickness: 10 mm
- illuminating area: >~100 mm x >~100 mm

<table>
<thead>
<tr>
<th>Large LED Backlights</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product number</strong></td>
</tr>
<tr>
<td>3-207-000</td>
</tr>
<tr>
<td>3-212-000</td>
</tr>
<tr>
<td>3-240-000</td>
</tr>
<tr>
<td>3-241-000</td>
</tr>
</tbody>
</table>

Please call for more standard or custom versions.
Please call for edge-to-edge versions.
**LED SPOT Backlights with Extra Large Intensity**

LED SPOT Backlights offer extra large intensity for exposures in the microsecond range. Simple installation, no maintenance. Recommended for narrow space applications, too.

**Specifications:**
- white, blue, green, red or NIR light
- power consumption: max. 3 W
- homogene intensity distribution
- illuminating area: ø35 mm
- power requirement: constant current
- available with power supply with optional trigger input
- continuous or strobe operation (depends on power supply)
- extra long lifetime
- robust, anodized alu housing
- dimensions: ø40/ø25x50 mm
- plastic or glass illumination surface
- designed to operate in harsh industrial environment
- please call for IP classified versions

**Please call for more standard or custom versions.**
LED SPOT Lights

LED SPOT Lights including one power LED offer high intensity for a wide range of application with maintenance-free passive cooling.

Specifications:
- white, blue, green, red or NIR light
- power consumption: max. 3 W
- beam angle: 8°, 30°, 50° or 10°x50°
- power requirement: constant current
- available with power supply with optional trigger input
- continuous or strobe operation (depends on power supply)
- extra long lifetime
- robust, anodized alu housing
- compact size: ø25 x 50 mm
- fixing with M4 screw
- cable outlet on the side
- designed to operate in harsh industrial environment
- please call for IP classified versions

Typical field of use:
- products, workpieces
- laboratory tests
- machine vision measurements, calibrations
- microscopic inspections
- workpieces to be machined (eg. milling, lathing etc.)

<table>
<thead>
<tr>
<th>Product number</th>
<th>Dimensions (mm)</th>
<th>Illuminating surface (mm)</th>
<th>Wavelength (nm)</th>
<th>Available IP protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-402-000/1W3W5W</td>
<td>ø25x45</td>
<td>ø18,5</td>
<td>any color</td>
<td>IP65</td>
</tr>
<tr>
<td>3-410-000/1W3W5W (goose neck)</td>
<td>ø25x45+120</td>
<td>ø18,5</td>
<td>any color</td>
<td>IP65</td>
</tr>
</tbody>
</table>

Please call for more standard or custom versions.
LED SPOT Modul Lights

LED SPOT Modul Lights include multiple LED SPOT Lights offering extreme intensity with maintenance-free passive cooling and individually adjustable reflectors.

Specifications:
- power consumption: max. n x 3 W
- beam angle: from 10° up to 180°
- white, UV, blue, green, red, yellow or NIR light
- power requirement: constant current
- available with power supply with optional trigger input
- continuous or strobe operation (depends on power supply)
- circle, ring or line layout
- extra long lifetime
- robust, anodized alu housing with robust fixing
- designed to operate in harsh industrial environment
- please call for IP classified versions

LED SPOT Modul Lights

<table>
<thead>
<tr>
<th>Product number</th>
<th>Dimensions (mm)</th>
<th>Illuminating surface (mm)</th>
<th>Wavelength (nm)</th>
<th>Available IP protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-402-200/1W</td>
<td>Ø80x87</td>
<td>Ø18,5x4pcs</td>
<td>any color</td>
<td>IP65</td>
</tr>
<tr>
<td>3-456-000/1W</td>
<td>200x50x80</td>
<td>170x30</td>
<td>any color</td>
<td>IP65</td>
</tr>
</tbody>
</table>

Please call for more standard or custom versions.

LED Signal Lights

Illuminations visible from any direction, built into colorless or colored covering. Warning or guiding light systems eg. for parking lots. Also available with unique control.

Specifications:
- power consumption: max. 3 W, extra long lifetime
- beam angle: up to 180°
- white, UV, blue, green, red, yellow or NIR light
- power requirement: constant current
- available with power supply with optional trigger input
- please call for IP classified versions
RGB LED SPOT Lights

RGB LED SPOT Lights offer three separately controllable LED chips integrated into one compact module. A wide range of visible color gamut or white light can be achieved with integrated color mixing optics. RGB LED SPOT Lights are also available in modules to achieve greater intensity.

**Jellemzők:**
- white or coloured light
- power consumption: max. 3 W
- beam angle: 30°
- power requirement: constant current
- separately adjustable intensity for each chip
- available with power supply with optional trigger input
- continuous or strobe operation (depends on power supply)
- extra long lifetime
- robust, anodized alu housing
- compact size: ø25 x 50 mm
- fixing with M4 screw
- cable outlet on the side
- designed to operate in harsh industrial environment
- please call for IP classified versions

**Typical field of use:**
- enhancing contrast depending on the color of the workpiece in machine vision inspection
- illumination with variable color at laboratory tests
- museum display cases
- artworks
- photography illuminations

### 3x1W RGB LED SPOT Lights

<table>
<thead>
<tr>
<th>Product number</th>
<th>Dimensions (mm)</th>
<th>Illuminating surface (mm)</th>
<th>Wavelength (nm)</th>
<th>Available IP protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-403-000</td>
<td>ø25x45</td>
<td>ø24</td>
<td>RGB</td>
<td>IP65</td>
</tr>
<tr>
<td>3-411-000</td>
<td>ø25x45+120</td>
<td>ø24</td>
<td>RGB</td>
<td>IP65</td>
</tr>
</tbody>
</table>

Please call for more standard or custom versions.
LED SPOT Projectors Lights

LED SPOT Projector Lights illuminate workpieces of any size with a Structured Light. Usually optimised for a given distance, but also available with focusable optics.

We offer LED SPOT Projectors to project light spots with definite size or diameters, or with any pattern e.g. for 3D scanning.

Specifications:
- power consumption: max. 3 W
- projecting distance: max. ~3 m
- white, blue, green, red or NIR light
- available with custom size or pattern (Structured Light)
- even intensity distribution
- power requirement: constant current
- available with power supply with optional trigger input
- continuous or strobe operation (depends on power supply)
- extra long lifetime
- robust, anodized alu housing
- compact size: ø25 x 50 mm
- fixing with M4 screw
- cable outlet on the side
- designed to operate in harsh industrial environment
- please call for IP classified versions

Please call for more standard or custom versions.
Professional Laser Illuminations

Specifications:
- diffractive optics without moving parts, maintenance-free
- structured laser light
- focusable
- power requirement: 5V DC
- available with power supply with optional trigger input
- continuous or strobe operation (depends on power supply)
- professional semiconductor laser chips
- available with multiple wavelengths
- designed to operate in harsh industrial environment
- robust, anodized aluminium housing
- available with adjustable fixing

Typical patterns:
- dot, dot-series
- line, parallel lines
- cross, grid
- circle, concentric circles
- custom patterns are also available on demand

LED Line Lights

LED Line Lights illuminate objects, signs, labels, or workpieces passing in front of a sensor e.g. a line-camera. Direct line illumination is a special lighting used in industrial machine vision automated inspections.

Specifications:
- LED light source projecting a straight line with high intensity
- plastic cylindrical lens
- white, blue, green, red or NIR light
- compact, anodized alu housing
- fixing with M5 screws
- working distance: 50-150mm
- focusable
- length of illuminated area: 250 mm (300 mm as an option)
- width of illuminated area: 5-15 mm
- power requirement: 24VDC
- available with power supply with optional trigger input
- continuous or strobe operation (depends on power supply)

<table>
<thead>
<tr>
<th>LED Line Lights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product number</td>
</tr>
<tr>
<td>3-015-000</td>
</tr>
</tbody>
</table>

Please call for more standard or custom versions.
LED Light Sources for Fiber Optics

LED Light Sources for Fiber Optics offer long life illumination for fiber optics application. Tens of thousands of hours lifetime, dimmable, constant color temperature.

Flexible or semi-rigid fibers are available with custom length and with focusable optics.

Specifications:
- nominal max. luminous flux: 1500 lm
- dimming with front panel knob or via Trigger Input
- dimensions: 250 x 220 x 117 mm
- power source: 230 V AC, max. 50 W
- short-driven external trigger
- thermal protection with internal heatswitch
- weight: 2.6 kg
- available with custom wavelength LED chips

<table>
<thead>
<tr>
<th>Product number</th>
<th>Dimensions (mm)</th>
<th>Fiber connection dimension</th>
<th>Fiber diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-650-000</td>
<td>250x220x117 mm</td>
<td>Ø14x37 mm</td>
<td>Ø6 mm</td>
</tr>
</tbody>
</table>

Please call for models with custom connectors or with custom wavelength.
LED Matrix Lights

LED Matrix Lights illuminate objects, signs, labels or workpieces with light emitted by a large surface area. This kind of direct illumination offers high intensity for a wide range of application.

Specifications:
- white, UV, blue, green, red or NIR light
- power source: 12V DC or 24V DC
- available with power supply with optional trigger input
- continous or strobe operation (depends on power supply)
- extra long lifetime
- robust, anodized alu housing
- compact size
- fixing with M4 screw
- designed to operate in harsh industrial envinroment

<table>
<thead>
<tr>
<th>Product number</th>
<th>Dimensions (mm)</th>
<th>Illuminating surface (mm)</th>
<th>Wavelength (nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-005-000</td>
<td>40x20x22</td>
<td>32x16</td>
<td>640</td>
</tr>
<tr>
<td>3-001-000</td>
<td>70x30x45</td>
<td>64x26</td>
<td>630</td>
</tr>
<tr>
<td>3-002-000</td>
<td>70x30x45</td>
<td>64x26</td>
<td>880</td>
</tr>
<tr>
<td>3-003-000</td>
<td>70x30x45</td>
<td>64x26</td>
<td>white</td>
</tr>
</tbody>
</table>

Please call for more standard or custom versions.
LED Power Sources

LED Power Sources are available in several versions depending on user requirements: dimmable, triggerable, with on or more outputs, typically with DIN rail mounting.

Because of the varied fields of applications, details must be specified when ordering.

Specifications:

- switched-mode electronics
- dimmable with built in knob or analog signal
- available with external trigger input
- typical versions:
  - 12V DC or 24V DC input, constant current output
  - 230V AC input, constant current output
  - 230V AC input, 5V DC, 12V DC or 24V DC output
    available with multiple outputs
- DIN rail mounting
- flickerless technology

<table>
<thead>
<tr>
<th>Product number</th>
<th>Input / Output</th>
<th>Dimming/Triggering</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-260-000</td>
<td>12VDC / 5VDC</td>
<td></td>
</tr>
<tr>
<td>7-204-000</td>
<td>24VDC / 1A</td>
<td>built in knob</td>
</tr>
<tr>
<td>7-210-000</td>
<td>24VDC / 100mA</td>
<td>trigger + knob</td>
</tr>
<tr>
<td>7-201-000</td>
<td>230VAC / 24VDC</td>
<td></td>
</tr>
</tbody>
</table>

Please call for more standard or custom versions.
Services

Optical components
We manufacture and distribute unique, small or medium series precision optical elements e.g.: optical flats, filters, surface mirrors, prisms, lenses.

Optical Mirrors
We manufacture and refurbish front or rear surface aluminium mirrors.

Extension tubes, spacer rings
We manufacture and distribute extension tubes and spacers for C-mount lenses and other kind of industrial optics. Custom length and versions with electronically isolated threads are available.

Industrial lenses, filters
We distribute C-mount lenses for machine vision. Please call for standard, megapixel or telecentric optics, color filters or polarizers.

Optical subassemblies
We manufacture, assemble and calibrate optical components and subassemblies in a workshop with clean area.

Optical microstructures for calibration
We manufacture optical microstructures for calibration and measurement purpose. Micrometer-range precision, microlitographic technology. Please call for custom figures and substrates. Large printed versions are available as well.

Please call for more standard or custom versions.
Optical and optomechanical systems and devices

We design, develop, produce and install optical and optomechanical devices and equipments.

Please call for in-line machine vision equipments for non-contact quality inspection.

We design, develop and manufacture optomechanical devices for research and science.

Restoring and refurbishing optical devices

Restoring, repairing

We restore historical optical devices and instruments, achieving the original and functional condition: surveying instruments e.g. theodolites, old binoculars, astronomical telescopes etc. We repair, renew, restore and clean binoculars, riflescopes and other optical devices.

Refurbishing, modernization

We refurbish, functionally repair, renew and calibrate optical devices, instruments and tools by repairing or replacing the optical, mechanical and electrical components: industrial microscopes, optical instruments, projection microscopes etc.