INDUSTRIAL OBSTRUCTION LIGHTING
DEPENDABLE ILLUMINATION OF AIR HAZARDS IS NOT AN OPTION; IT’S A NECESSITY

Improve safety anywhere, any time, under any conditions. Operating independently from the grid, Carmanah solar obstruction lights provide reliable illumination without the need for wiring or other external components subject to breakage.

Field-proven and time-tested to perform in conditions ranging from desert heat to arctic cold, Carmanah lights are designed to endure the extreme environmental conditions encountered at tower and crane sites.

- Over 400,000 installations in 110 countries
- Vibration and shock-proof construction
- Immune to power surges and electrical failure
- Up to 5 years of maintenance-free operations (no bulb or battery changes)
- Designed to meet FAA and ICAO obstruction standards
- Scalable solar engines for worldwide coverage
- Visible and infrared (IR) light options

**OL800**
ICA0 Low Intensity Type A/B,
FAA L-810, CASA 10cd compliant
MAXIMUM FLEXIBILITY IN A CONSTANTLY CHANGING ENVIRONMENT

Carmanah OL series lights offer a practical and cost-effective alternative for ground hazard marking, fence and barricade lighting, way-finding, equipment marking, and more.

Our unique, portable designs ensure lights can be moved safely and easily within minutes—no specialized tooling or dedicated maintenance crews required. All components are housed in rugged, high-grade enclosures to ensure long-term performance at tough industrial locations.

- No trenching or cabling required
- No external charging pods required
- Easy activation and programming through on-board switches or infrared remote
- Rigorously tested in ambient temperatures from -140 to 60˚C
- Steady-on or flashing modes (up to 250 flash patterns)
- Patented energy management systems for consistent performance throughout the calendar year

OL2A
Small format general purpose hazard marker

OL4
Lightweight general purpose hazard marker

Acceptable at Commercial Part 139 Airports per advisory circular AC 150/5370-2E

Hazard marking & way-finding
IP68 certification for water ingress
LOW-COST SIGNALING ALTERNATIVES WHERE GRID POWER IS WEAK OR INACCESSIBLE

At industrial sites where electrical grid-based solutions are difficult to implement and fuel-powered generators expensive to operate and maintain, Carmanah solar-powered lights ensure safe operation around the clock.

- Reduce hardware and infrastructure costs by up to 50%
- Minimize impact on local environments
- Eliminate outages from brownouts or generator failure

Carmanah offers a variety of industrial-grade lighting solutions to service your entire site.

- Obstruction lights
- Runway, taxiway, and helipad lighting
- Marine signaling lanterns
- Flood lights
- Traffic signaling
OUTPERFORMING THE COMPETITION THROUGH BETTER DESIGN

Carmanah has been an innovator in the solar industry since 1996. We are committed to providing our clients with the best available solar technology on the market. All of our products use premium components and leverage the latest in solar energy management to ensure consistent and reliable performance in demanding environments. Carmanah stands behind our products with multi-year warranties and extensive pre- and post-sales support.

Design Innovations

- High-performance LEDs and custom energy-efficient optics
- Highest grade shock- and vibration-proof chassis designs
- Premium vented and temperature-monitored battery packs
- Patented Automated Light Control

Customer Benefits

- Consistent chromaticity through all intensities and operating modes
- Better energy efficiency for reliable performance around the globe
- Predictable illumination and reduced battery drain throughout the calendar year
- Reliable performance from the smallest format, self-contained solar engine on the market
OL SERIES
PRODUCT SPECIFICATIONS

OL2A SOLAR MARKING LIGHT
OL4 GENERAL PURPOSE HAZARD MARKER
OL800 LOW-INTENSITY OBSTRUCTION LIGHT
A practical, compact and low-maintenance solution for marking barricades, fencing, construction areas, ground obstacles and other hazards. Ideal for remote or hard-to-access locations.

- More than three times the range of the original OL2
- Custom optics, high-efficiency solar panels and premium materials
- Excellent value and extremely reliable operation (5+ years)

**Advanced Optics**
- Up to 29 cd intensity
- Up to 40 user-adjustable flash patterns with ability to direct enter intensity
- Available in red, white, green, yellow and blue

**Easy Installation**
- Installs in minutes; “out-of-box” operation
- Flange-mount and pole-mount options
- Automatic dusk-to-dawn operation or optional on/off switch
- Optional mini IR remote accessory

**Low Maintenance**
- Replaceable batteries: AA NiMH, high-temperature-rated
- Next generation, energy-saving Automatic Light Control; five-day data trending regulates intensities for longer battery life and optimal performance 12-months a year.

**Reliable**
- Premium grade, UV resistant polycarbonate body and lens material
- Waterproof; IP 68 immersion
- Ventilated battery compartment
- Life expectancy over 15 years; 3 year warranty

**Trusted**
With thousands of installations worldwide, Carmanah solar LED lights operate year-round at permanent and temporary installations.
OL2A
SOLAR SAFETY LIGHT

SPECIFICATIONS

Optical
- 29 cd peak intensity; see table
- High Power LED
- Red, Green, White, Yellow, Blue
- Proprietary optical design
- 40 flash patterns

Energy Collection
- Best-in-class high-efficiency solar cells 0.6 W

Battery
- Three high-temperature NiMH AA batteries rated for -40 to 185 °F (-40 to 85 °C)
- Designed for 5 year battery life; Replaceable and recyclable

Energy Management System (EMS)
- Intelligent, microprocessor EMS

Automatic Light Control 2.0 (ALC 2.0)
- When enabled, ALC adjusts output intensity in response to unusually low amounts of sunlight to ensure continued operation

Programming
- Programmable with optional infrared programmer

Construction
- Premium grade UV resistant, polycarbonate body and lens
- Waterproof battery compartment with Gore® vent
- Colour indicator matches LED colour

Temperature
- -22 to 122 °F (-30 to 50 °C) operating
- -40 to 176 °F (-40 to 80 °C) storage

Weight
- Flange Mount: 0.8 lbs (0.37 kg), Pole Mount: 0.9 lbs (0.40 kg)

Mounting
- Flange or pole-mount options. Refer to dimensional diagram for details

Wind Loading
- 140 knots (72 m/s)

Ice Loading
- 0.03 psi (22 kg/m²)

Shock & Vibration
- MIL-STD-202G (for Shock and Vibration)

Ingress
- IP 68 immersion, 24 hrs at 1 m (3 ft)
- MIL-STD-202G immersion & damp heat cycling
- MIL-STD-810G rain & salt fog

Compliance
- RoHS, WEEE
- FCC, CE

ORDER KEY

<table>
<thead>
<tr>
<th>MODEL</th>
<th>OUTPUT</th>
<th>MOUNT</th>
</tr>
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<tbody>
<tr>
<td>OL2A</td>
<td>RED</td>
<td>FLANGE MOUNT</td>
</tr>
<tr>
<td></td>
<td>GREEN</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WHITE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YELLOW</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BLUE</td>
<td>POLE MOUNT</td>
</tr>
</tbody>
</table>

Note: Peak intensity dependent on location and flash pattern. To view performance in your installation location visit www.carmanah.com

OL2A RED: TYPICAL PERFORMANCE
Flash Code 001: Steady-on Dusk-to-Dawn, 6 days autonomy min.

<table>
<thead>
<tr>
<th>Code</th>
<th>Effective Intensity</th>
<th>Intensity Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>0.4 cd</td>
<td>2 cd</td>
</tr>
<tr>
<td>601</td>
<td>1 cd</td>
<td>3 cd</td>
</tr>
<tr>
<td>602</td>
<td>2 cd</td>
<td>603</td>
</tr>
<tr>
<td>603</td>
<td>3 cd</td>
<td></td>
</tr>
</tbody>
</table>

The management system governing the manufacture of this product is ISO 9001:2008 certified.
The OL4 is a high-performance light designed to perform reliably at tough industrial locations including rail yards, construction zones, mining operations and more. Suitable for permanent, temporary or emergency installations, the OL4 is unrivalled by any other hazard marking or barricade light currently available.

- Dusk to dawn operation
- Lightweight, self-contained
- Sophisticated solar energy management
- Intuitive on-board user interface
- Intelligent deployment settings for reliable performance in a wide-range of locations
- Proven technology platform

**Easy installation and relocation**
Lights are immediately operational following a simple installation process. No specialized work crews required.

**Self-contained and low-maintenance**
All components are safely encased in a durable, rugged enclosure. The OL4 includes a replaceable battery pack that extends the total cost of ownership beyond five years and offers significant cost savings.

**Intelligent deployment settings**
The OL4 has the unique ability to be tuned to its precise installation location, protecting it against improper configuration.

**Unprecedented reliability**
Microprocessor Energy Management System (EMS) monitors and adapts to environmental conditions for consistent operation and long life under the toughest conditions.

**Designed and tested to tough industrial standards**

**User-friendly design**
On-board user interface, optional infrared remote and USB device manager software offer easy configuration and programming.

**Green solution**
Recyclable batteries and a RoHS compliant design combined with natural solar charging ensure the lightest environmental footprint.
**OL4 SOLAR WARNING LIGHT**

**SPECIFICATIONS**

**Solar Panel**
- High-efficiency cells with bypass and blocking diode function
- Maximum power point tracking (MPPT) for optimal energy collection

**Battery**
- Tool-less replaceable and recyclable best-in-class battery pack with extreme temperature range
- Battery status feedback of Good, Charge or Bad (Replace)

**Light Source**
- High power LED, colour-specific temperature corrected LED drivers provide consistent intensity under all operating conditions

**Intensity**
- Greater than 10 cd intensity, steady-on (see photometric plots)
- 18 cd peak intensity, flashing, 12.5% duty cycle (Red LEDs)

**Flash Patterns**
- 256+

**Construction**
- Premium grade UV resistant, polycarbonate/polysiloxane co-polymer body and lens material
- Double O-ring sealing with waterproof vent

**Colours**
- Red, blue, yellow, green, white
- ICAO and SAE25050 (FAA) compliant chromaticity

**Colour Indicator**
- Yes, FAA Eng. Brief 67 compliant

**Temperature**
- -45 to 124 °F (-43 to 51 °C) operating
- -45 to 176 °F (-43 to 80 °C) storage

**Weight**
- 3.5 lbs (1.58 kg)

**Wind Loading**
- 400 mph (180 m/s)

**Automatic Light Control (ALC)**
- When enabled, ALC will dynamically reduce brightness in response to unusually low amounts of sunlight to ensure continued operation.

**ORDER OPTIONS**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>OUTPUT</th>
<th>SWITCH</th>
<th>CONTROL</th>
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</thead>
<tbody>
<tr>
<td>OL4</td>
<td>RED</td>
<td>SWITCHED</td>
<td>NONE</td>
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<tr>
<td></td>
<td>BLUE</td>
<td>NON-SWITCHED</td>
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<tr>
<td></td>
<td>GREEN</td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>YELLOW</td>
<td></td>
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</tr>
</tbody>
</table>

**ACCESSORY ORDERING CODES**

- Additional Bird Deterrent (1 ships with each light) 57003
- Bottom Cover Replacement Kit 57392 (With Switch) 57393 (Without Switch)
- Battery Replacement Pack 72835
- Battery Charger (includes multiple ends for int’l use) 59188 (100 - 240 VAC)
- USB Cable 57394
- Device Manager Software Contact Customer Support
- Infrared Programmer 69899
- Magnetic Mounting Kit (3 x magnets and hardware) 76296

Additional accessories and mounting options available. For a complete list consult our accessories specification sheet.

**PHOTOMETRICS**

**TECHNICAL DRAWINGS AND DIMENSIONS**

**PHOTOMETRIC DRAWING**

**SIDE VIEW**

**SWITCHED VIEW**

All Carmanah products are manufactured in facilities that are certified to ISO quality standards.

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Compliant with Obstruction Light Type L-810 as per FAA Advisory Circular AC 150/5345-43G 09/26/12 (Red).

Intertek compliance test reports and global simulation maps available upon request.

**Intuitive Setup & Programming**
- Top-mounted LED display with simple “tap to activate” functionality
- Easily check light settings without external controller
- Programmable with optional IR remote

**Scalable, Cost-effective Design**
- Customizable for best value-for-performance
- Multiple battery pack options

**Intelligent Energy Management**
- Best-in-class, high-efficiency solar panels
- Maximum Power Point Tracking (MPPT)
- Patented Energy Management System (EMS)
- Ensures maximum battery life and light performance in even the harshest of environments

**Durable, Low Maintenance**
- Compact, stand-alone, maintenance-free unit
- Integrated solar panels, battery, electronics and LED light source
- Replaceable battery extends life beyond five years

**Trusted**
- Thousands of installations worldwide
- Carmanah solar LED lights operate year-round at permanent and temporary installations
**OL800 SOLAR OBSTRUCTION LIGHT**

**SPECIFICATIONS**

- **Optical**
  - High powered LEDs meet IES LM-80 lumen maintenance ensuring consistent photometrics for life of product
  - FAA: Meets Obstruction Light Type L810 as per FAA Advisory Circular AC 150/5345-43G 08/26/12 (Red)
  - ICAO, SAE25050 (FAA) and FAA EB 67 compliant chromaticity: Red, Green, White and Yellow
  - Steady-on and 250+ flash patterns

- **Energy Collection**
  - Best-in-class high-efficiency solar cells with blocking diodes
  - Maximum power point tracking with temperature compensation (MPPTFC) for optimal energy collection

- **Energy Storage**
  - EnerSys CYCLON pure-lead VRLA AGM battery -85 to 170°F (-53 to 76°C) manufacturers operating range
  - On-board battery status, Optional port for battery charging
  - Designed for 5 year battery life; Replaceable and recyclable

- **Energy Management System (EMS)**
  - Intelligent microprocessor
  - On-board diagnostics and datalogger

- **Automatic Light Control (ALC)**
  - Adjustable output intensity in response to unusually low amounts of sunlight to ensure continued operation

- **Programming**
  - Programmable with optional infrared programmer

- **GPS Synchronization**
  - Optional GPS enables two or more lights to flash in unison

- **Construction**
  - Premium grade UV resistant, polycarbonate lens/head
  - Polycarbonate/polysiloxane co-polymer base
  - Environmentally friendly, durable powder coated aluminum chassis (applied by trivalent chromate process)
  - Thermostatic gaskets
  - Waterproof, vented battery compartment
  - Top cover indicator matches LED colour
  - Integrated handle
  - Bird deterrent included

- **Temperature**
  - -22 to 122 °F (-30 to 50 °C) optimal
  - -40 to 176 °F (-40 to 80 °C) maximum

- **Mounting**
  - 3 or 4, 7.87” (200 mm) bolt circle mounting pattern

- **Wind Loading**
  - 140 knots (72 m/s)

- **Ice Loading**
  - 0.03 psi (0.2 kg/cm²)

- **Shock & Vibration**
  - MIL-STD-202G (for Shock and Vibration)

- **Ingress**
  - EN 60529 IP 68 immersion
  - MIL-STD-202G immersion & damp heat cycling
  - MIL-STD-810G rain & salt fog

- **Electrostatic Discharge (ESD)**
  - FAA-STD-0193, EN61000-4-2

**ORDER OPTIONS**

- **Model**: OL800
- **Output**: RED, WHITE, YELLOW
- **Solar Engine**: COMPACT, STANDARD, LARGE
- **Control**: NONE, GPS Sync
- **Charge Port**: NONE, Charge Port
- **Chassis**: Yellow

**DIMENSIONS AND WEIGHTS**

<table>
<thead>
<tr>
<th></th>
<th>STANDARD</th>
<th>COMPACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>14 lb (6.4 kg)</td>
<td>9.9 lb (4.5 kg)</td>
</tr>
<tr>
<td>Battery</td>
<td>E-cells (100 Wh)</td>
<td>X-cells (63 Wh)</td>
</tr>
<tr>
<td>Weight</td>
<td>22.4 lb (10.2 kg)</td>
<td>Battery BC-cells (210 Wh)</td>
</tr>
</tbody>
</table>

**PEAK INTENSITY**

<table>
<thead>
<tr>
<th>Colour</th>
<th>Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>209 cd</td>
</tr>
<tr>
<td>Green</td>
<td>287 cd</td>
</tr>
<tr>
<td>White</td>
<td>374 cd</td>
</tr>
<tr>
<td>Yellow</td>
<td>319 cd</td>
</tr>
</tbody>
</table>

**ORDERING CODES**

- Model: OL800, Output: RED, WHITE, YELLOW, Solar Engine: COMPACT, STANDARD, LARGE, Control: NONE, GPS Sync, Charge Port: NONE, Charge Port, Chassis: Yellow

The management system governing the manufacture of this product is ISO 9001:2008 certified.

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Document: OL800_Spec_Sheet_RevF

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