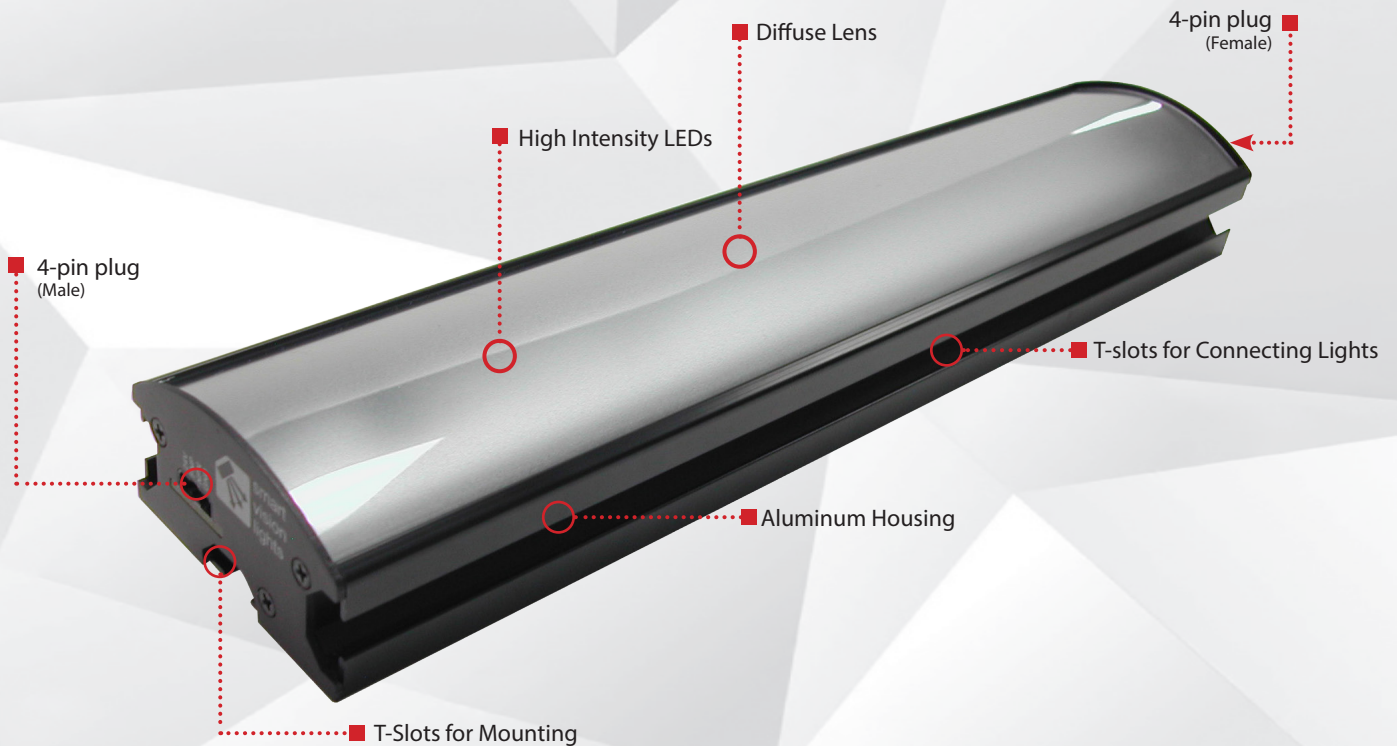




smart
vision lights

ODLHF300 *Direct Connect* LINEAR LIGHT FLOURESCENT REPLACEMENT OVERDRIVE™

P R O D U C T D A T A S H E E T



Warranty
10
YEAR

Compliant
IEC
62471

Compliant
CE
RoHS

Rated
IP
50

Connector
5-PIN
M12

PRODUCT HIGHLIGHTS

- ✓ OverDrive™
- ✓ SafeStrobe™ technology
- ✓ Built-in driver
- ✓ PNP and NPN trigger signal input
- ✓ T-Slot for mounting and connecting together
- ✓ Direct connect up to six lights in a line without loss of uniformity





PRODUCT DESCRIPTION

The ODLHF300 Series of lights was designed as a direct LED replacement for standard fluorescent lighting. The plug n' play design of the Direct-Connect Linear Light Series gives users tremendous flexibility without the concern for additional wiring. The ODLHF300 array utilizes 30 high intensity LEDs and features a diffuse lens cover designed to disperse the light a uniform and homogenous pattern the same as a fluorescent light of equivalent length. It also features an integrated constant current driver built into the light.

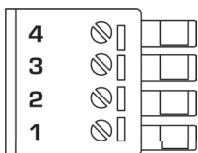


PRODUCT SPECIFICATIONS

| | |
|----------------------|---|
| Electrical Input | 24 V DC +/- 5% |
| Input Current | Max. 2A |
| Wattage | Max. 48 W |
| Trigger Input | PNP > +4 VDC (24 VDC max.) to activate or NPN \geq GND <1VDC to activate (not both) |
| PNP Line | 4 mA @ 4 V DC 10 mA @ 12 V DC 20 mA @ 24 V DC |
| NPN Line | 15 mA @ Ground (0VDC) |
| Yellow Indicator LED | LED Strobe Indicator ON = Light Active |
| Green Indicator LED | ON = Power |
| Strobe Duration | Min. 30 us Max. 125 ms |
| Analog Intensity | The output is adjustable from 10–100% of brightness by a 1–10 V DC signal. (Jumping pin 5 to pin 1 will provide maximum intensity) |
| Connection | 4-pin plug connector |
| Ambient Temperature | -18°–40° C (0°–104° F) |
| IP Rating | IP50 |
| Weight | ~455g |
| Compliances | CE, RoHS, IEC 62471 |



WIRING CONFIGURATION



Pin layout for light (Male Connector)

| Pins | Function | Signal | Wire Color |
|------|------------|------------------------|------------|
| 4 | Ground | GND | BLUE |
| 3 | NPN Strobe | GND for active ON | WHITE |
| 2 | PNP Strobe | +24 V DC for active on | BLACK |
| 1 | Power in | +24 V DC | BROWN |



RESOURCE CORNER

Additional resources are available on our website, including CAD files, videos, and application examples.

Smart Vision Lights

2359 Holton Road
Muskegon, MI 49445
P: +1 231.722.1199 | F: +1 231.722.9922
smartvisionlights.com
techsupport@smartvisionlights.com
Open: Monday – Friday | 8am–5pm ET

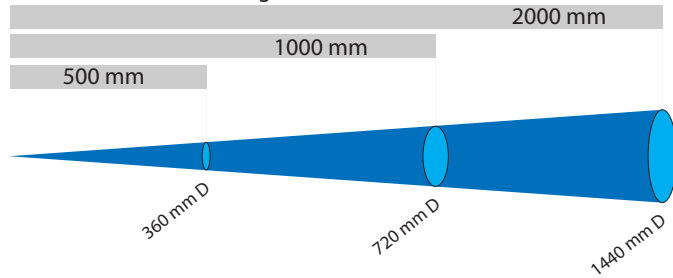




LIGHT PATTERNS

Smart Vision Lights recommends the ODLHF300 be used at a working distance between 150 mm to 2000 mm.

Beam Diameter (White Light) – 6500 K



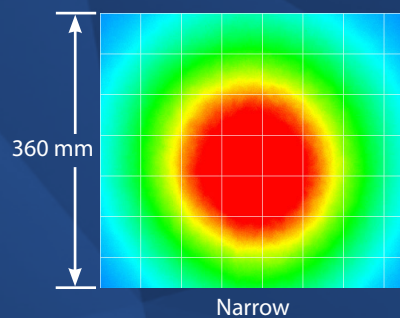
LIGHTING PATTERN FOR THE ODLHF300

| Working Distance mm (inches) | Pattern (80% - 100% measured intensity) mm (inches) |
|------------------------------|---|
| 500 mm (19.7") | 360 mm D |
| 1000 mm (39.4") | 720 mm D |
| 2000 mm (78.8") | 1440 mm D |

| Typical Output Performance | Illuminance (Lux) |
|---|-------------------|
| Distance = 500 mm | 1680 |
| <i>Illumination measurement taken on White Lights - 6500K</i> | |

The ODLHF300 Linear Light produces a uniform light pattern.

Working Distance = 500 mm Grid set to 50 mm x 50 mm



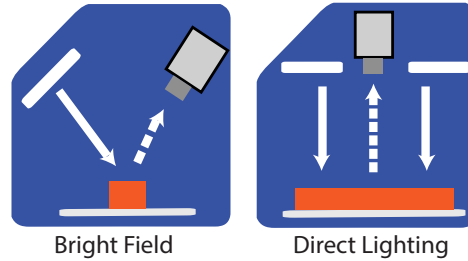
DAISY CHAIN LIGHTS

The ODLHF300 series allows for connecting lights together with no additional cables. Lights are directly connected together, with no space between the lights. UP to eight LHF300 lights can be directly connected together. The LXJ-2DTN is required to directly connect two ODLHF300 lights together.



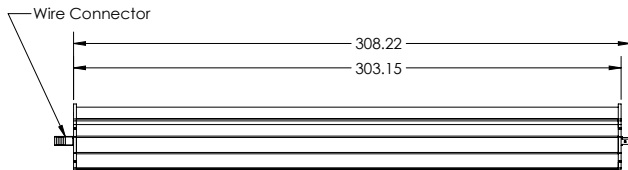
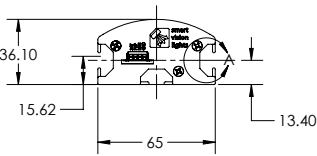
ILLUMINATION

ODLHF300 Series of Linear Lights works best for:



PRODUCT DRAWING

CAD files available on our website.
Dimensions are in mm.



EYE SAFETY

According to IEC-62471:2006. Full documentation available upon request.

Notice

Exempt Group: No photobiological hazard to eyes or skin even for continuous, unrestricted use. Applicable for wavelengths: 625 and 850

Caution

Risk Group 1: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to eyes. Safe for most applications except prolonged exposure. Applicable for wavelengths: 470 and WHI.

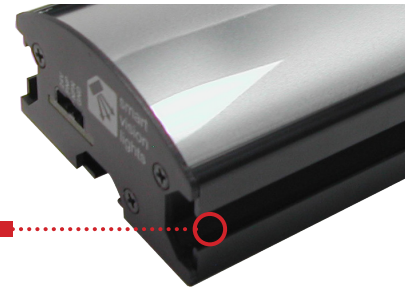


MOUNTING

Mounting options include three T-slots (two along the sides and one along the bottom) on the ODLHF300 fluorescent replacement light.

Optional Mounting Hardware:

T-Slots = M5 x 0.8 mm T-Nut



T-Slots



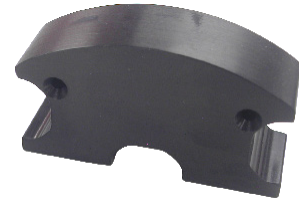
ADD-ONS



M12 Male Adapter
Part# LHF300-E-PKIT

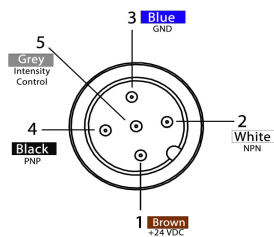


M12 Female Adapter
Part# LHF300-E-PKIT



M12 Cover Adapter
Part# LHF300-EC

WHEN USING CONNECTOR ADAPTERS



Pin layout for light (Male Connector)

Wiring Configuration For the 5-pin M12 Adapter:

| Pins | Function | Signal | Wire Color |
|------|------------|------------------------|------------|
| 1 | Power in | +24 V DC | BROWN |
| 2 | NPN Strobe | GND for active ON | WHITE |
| 3 | Ground | GND | BLUE |
| 4 | PNP Strobe | +24 V DC for active on | BLACK |
| 5 | NOT USED | NOT USED | GREY |

When a ODLHF300 light has a M12 male adapter and a M12 female adapter installed, the light can be daisy-chained with another ODLHF300 light. The one being daisy-chained too does require having at least a M12 male adapter. A standard jumper cable is required when daisy-chaining lights (Part Number: 5PM12-J300, 5PM12-J1000, or 5PM12-J2000).



PART NUMBER

ODLHF300 – [] [] [] – [] [] [] – [] [] []

CONNECTOR:

Leave blank for 4-pin plug (male)

M12 = 5-pin M12 (male)

COLOR:



LINEAR POLARIZER:

Leave blank for none

LPI = Factory Installed

Part Number Examples:

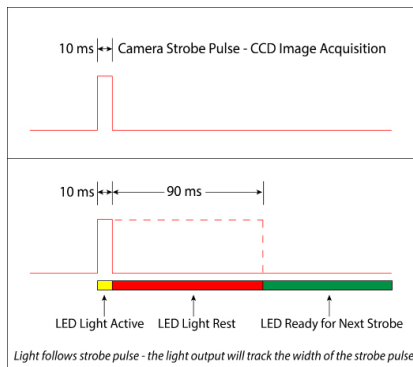
- ODLHF300-625** ODLHF300, 4-pin plug connector, 625 nm Red Wavelength
- ODLHF300-M12-WHI** ODLHF300, 5-pin M12 (male), WHI white
- ODLHF300-470-LPI** ODLHF300, 4-pin plug connector, 470 nm Blue Wavelength, with Linear Polarizer installed

Additional wavelengths and lens options available upon request



DUTY CYCLE

The Duty Cycle (D) is related to the Strobe Time (ST) and Rest Time (RT).



Maximum Duty Cycle for OverDrive™ light is 10% (0.1)

Calculating Rest Time

$$RT = \frac{ST}{D} - ST$$

RT = Rest Time
ST = Strobe Time
D = Duty Cycle

Example


$$RT = \frac{10 \text{ ms}}{.1} - 10 \text{ ms} = 90 \text{ ms}$$

Rest Time is 90 ms for 10 ms Strobe Time




ACCESSORIES

M12 Pigtail cable




| Description | Part Number |
|---------------|-------------|
| Pigtail cable | 5PM12-LHFP |

**Connector
(Only for Direct Connect)**



| Description | Part Number |
|---------------------|-------------|
| Set of 2 Connectors | LXJ-2DTN |

Swivel Mount



| Description | Part Number |
|--------------|-------------|
| Swivel mount | LHF300-BKT |

M12 Cover Adapter



| Description | Part Number |
|---------------|-------------|
| Cover Adapter | LHF300-EC |

M12 Male Adapter




| Description | Part Number |
|--------------|-------------|
| Male Adapter | LHF300-PKIT |

M12 Female Adapter



| Description | Part Number |
|----------------|---------------|
| Female Adapter | LHF300-E-PKIT |

Jumper Cables



| Lengths | Part Number |
|---------|-------------|
| 300 mm | 5PM12-J300 |
| 1000 mm | 5PM12-J1000 |
| 2000 mm | 5PM12-J2000 |

* Only used when connecting LHF300 with male & female adapters installed.



GLOSSARY

This glossary covers all Smart Vision Lights product families; some content in this section may not apply to this specific light.

TERMINOLOGY

OverDrive™ Lights include an integrated high-pulse driver for complete LED light control.

Continuous Operation Lights stay on continuously.

Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.

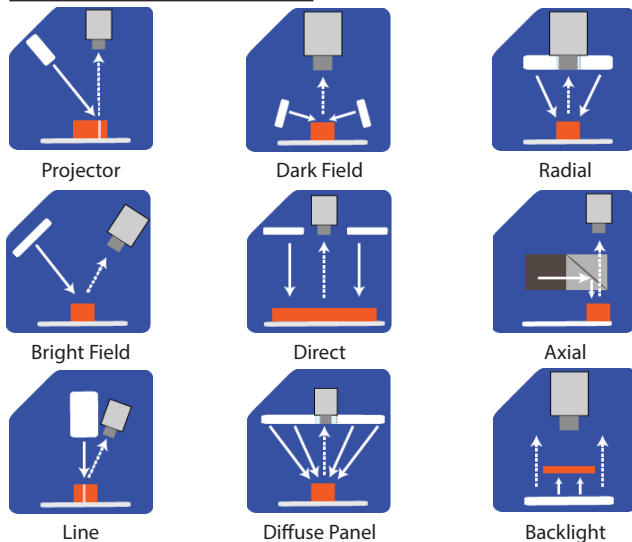
Built-in Driver The built-in driver allows full function without the need of an external controller.

Camera to Light Connecting the light directly to the camera, without the need for additional controllers or equipment.

Polarizers Filters that reduce reflections on specular surfaces.

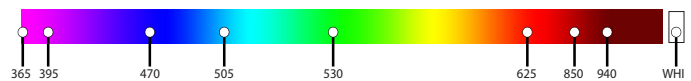
Diffuser Used to widen the angle of light emission, reduce reflections, and increase uniformity.

TYPES OF ILLUMINATION



COMMON COLOR/WAVELENGTHS LEGEND

Wavelengths options range from 365 nm to 1550 nm.*
Additional wavelengths available for many light families.



*See Part Number section for **this light's** available standard wavelengths.



Shortwave Infrared LEDs are available in 1050 nm, 1200 nm, 1300 nm, 1450 nm, and 1550 nm.*

*Check Part Number section to see if **this light** is available in SWIR wavelengths.