**UWAVE**
UV LED & OPTICAL | SMART SOLUTIONS



**UPIN**

**Compact & Powerful UV LED curing line light**

**Full UV LED range available: UVC, UVB and UVA**

**Long lifetime & few maintenances thanks to LED technology**

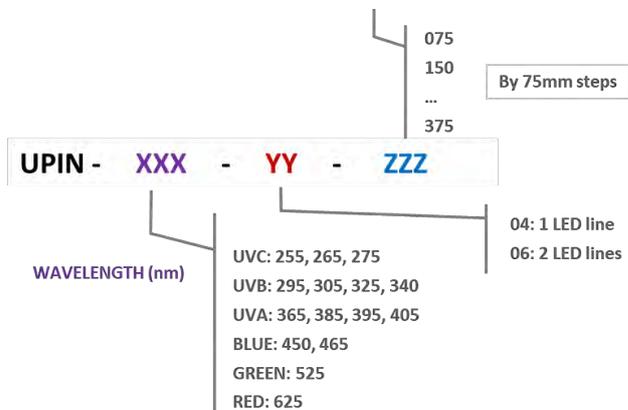**Easy-to-use with a PLC thanks to integrated smart electronics.**

Made In France

| | | |
|---|---|---|
| **Electronics** | Power supply | 48 VDC ± 10% (maximal power consumption: 160W for the 06 version) |
| | Connector | SUBD13W3 – 13pins for power and signals |
| | Illumination mode | Continuous with a direct DIM signal [0-10V] |
| **Optics** | Wavelength | UVC: 255, 265, 275 nm<br>UVB: 295, 305, 325, 340 nm<br>UVA: 365, 385, 395, 405 nm<br>VIS: 450, 465nm (Blue), 525nm (Green), 625nm (Red), … |
| | Irradiance | Up to 6000 mW/cm² in the UVA range for the 06 version.<br>Up to 4000 mW/cm² in the UVA range for the 04 version.<br>Up to 200 mW/cm² in UVC & UVB range. |
| **Mechanics** | Width x Height x Length | 78mm x 41mm x 217mm |
| | Weight | 850 g |
| | Material | Device body: Aluminum alloy |
| | IP rating | IP40 |
| **Environment** | Operation | Temperature: 10°C to 35°C – Humidity: 20% to 80% humidity (with no condensation) – Altitude: Up to 2000m |
| | Regulations & marking | CE - UKCA - FCC - ICES-3/NMB-3 |
| | Environmental standards | RoHS III Directives - REACH Regulation - WEEE Regulation |

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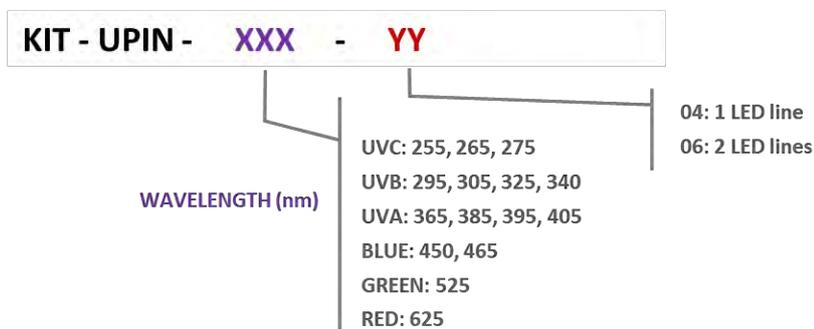UV LED & OPTICAL | SMART SOLUTIONS

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# DATASHEET

## Product reference

### UPIN standard version:



```
UPIN -  XXX  -  YY  -  ZZZ
```

075
150
...
375

**By 75mm steps**

**WAVELENGTH (nm)**

UVC: 255, 265, 275
UVB: 295, 305, 325, 340
UVA: 365, 385, 395, 405
BLUE: 450, 465
GREEN: 525
RED: 625

**04: 1 LED line**
**06: 2 LED lines**

### Focalization optical system in option (only available for 04 verison):

```
OPTIC  -  ZZZ  -  UPIN
```

075

150

...

**By 75mm steps**



### The 75mm version of the UPIN is available in a complete KIT for manual use:

```
KIT - UPIN -  XXX  -  YY
```

**WAVELENGTH (nm)**

UVC: 255, 265, 275
UVB: 295, 305, 325, 340
UVA: 365, 385, 395, 405
BLUE: 450, 465
GREEN: 525
RED: 625

**04: 1 LED line**
**06: 2 LED lines**

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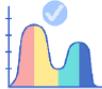Web: www.uwave-uv.com

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## Optical considerations

### LED spectra
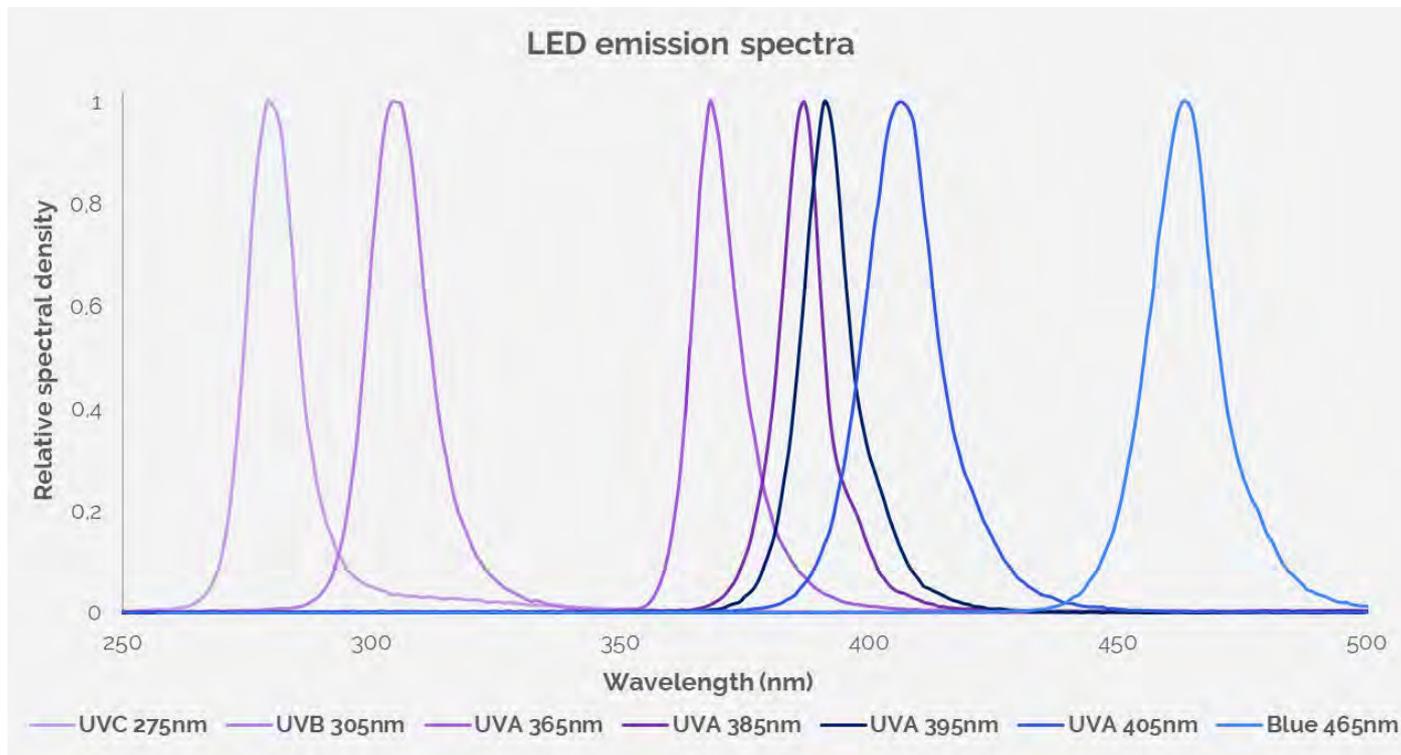


For other wavelengths (UVC / UVB / UVA / VISIBLE / IR), feel free to ask us!

### Focal optics option (-FOC)

Thanks to UWAVE expertise and know-how in UV LED lighting manufacturing, there are two optical versions available: USPOT or USPOT-WINDOW.
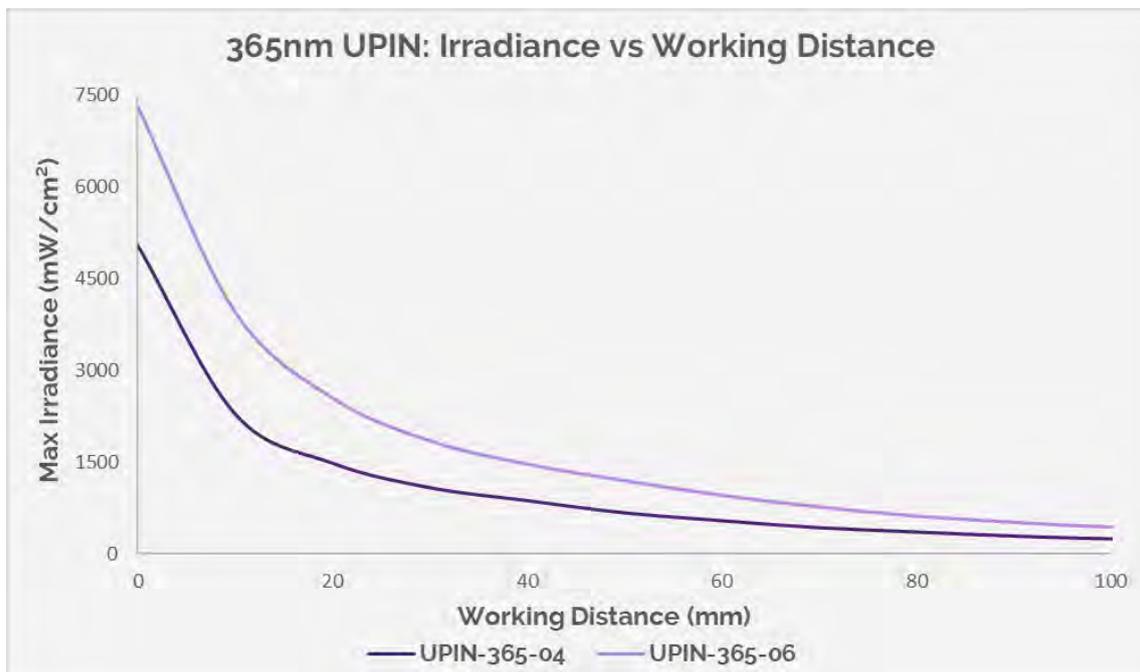
**UPIN**

Offers a more dispersive light distribution which is ideal to irradiate on a wider area.
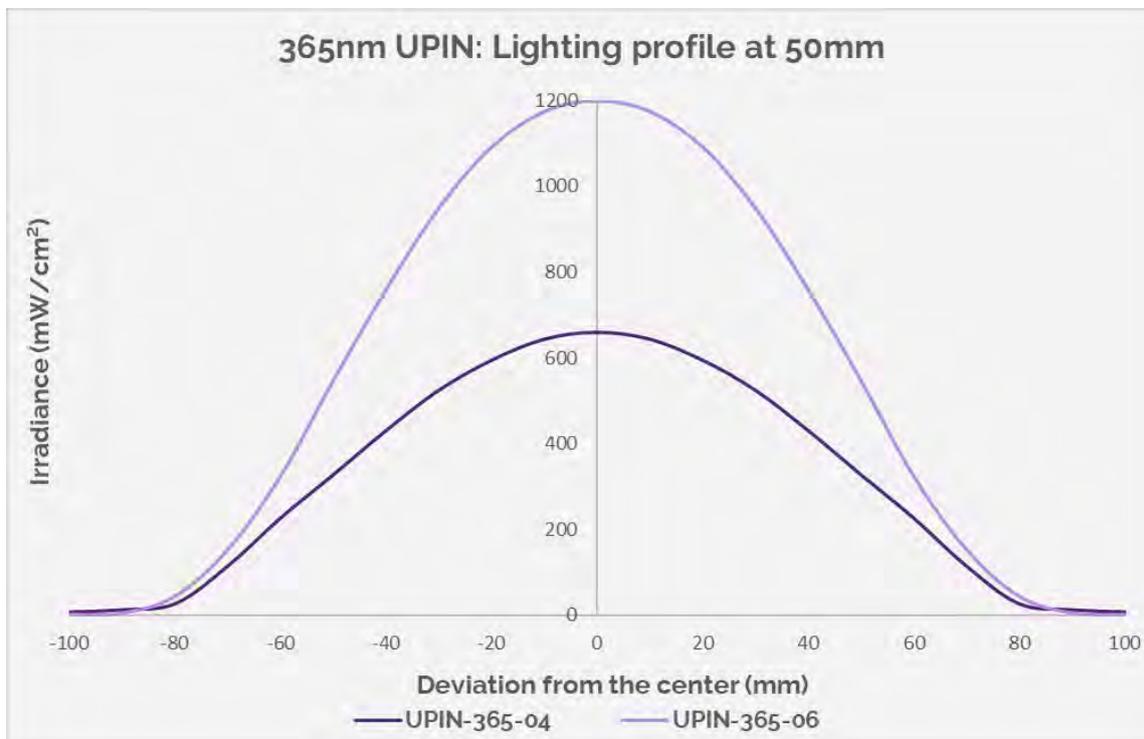
**UPIN with optical system FOC**

Optional FOC optical system gives a more powerful and thinner UV concentrated line.

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## Photometry



*365nm UPIN: Irradiance vs Working Distance*

## Irradiation profile



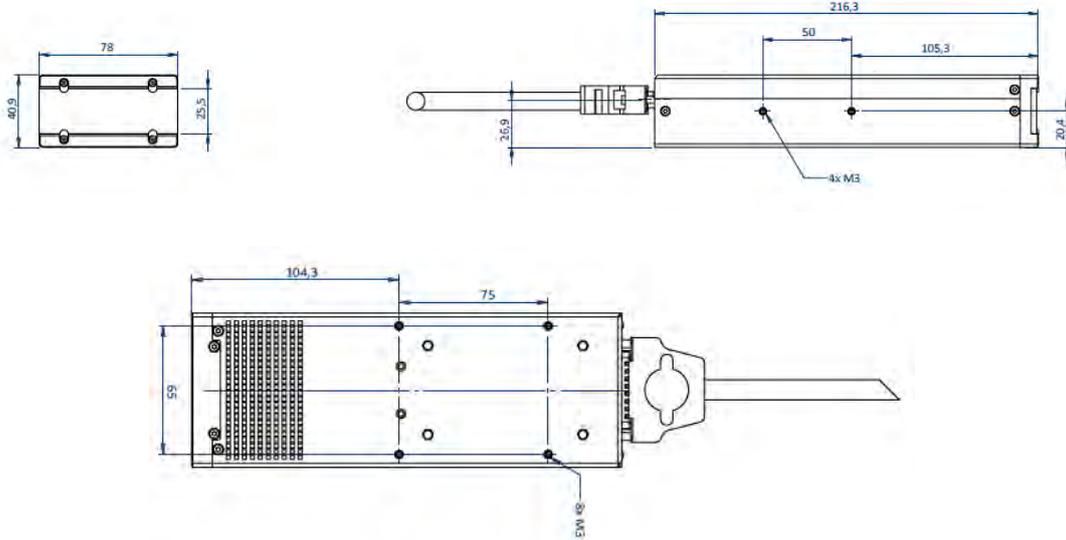*365nm UPIN: Lighting profile at 50mm*

Curve plotted for UVA wavelength. For UVC & UVB irradiance, please divide the irradiance value by a factor of 40. Radiometer: GIGA HERTZ OPTIK RCH-116 (June 2023). For the UV spot graph, the spot size is the exposed area where the irradiance is higher than 50% of the maximum irradiance.
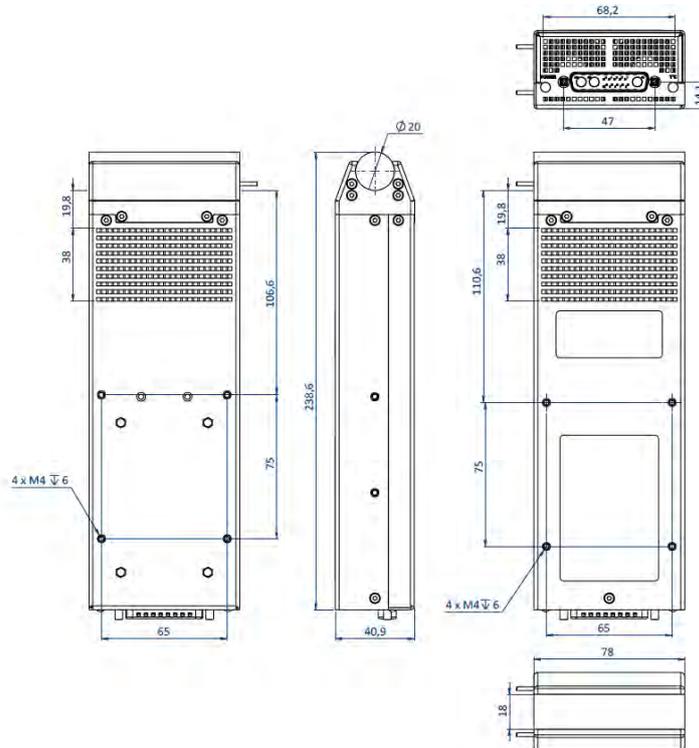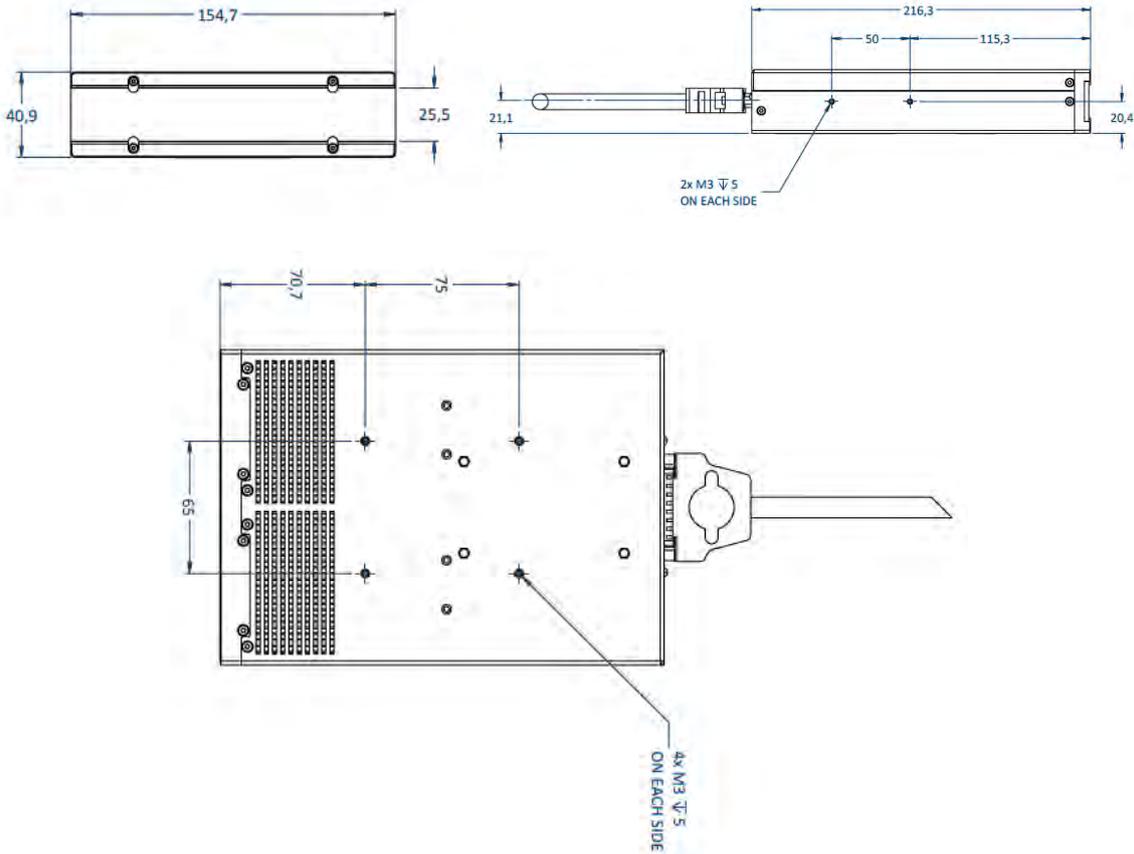
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# DATASHEET

## Mechanical considerations (mm)

### UPIN 75mm standard version:



### UPIN 75mm with optical system FOC:

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## UPIN 150mm standard version:



## UPIN 225mm standard version:



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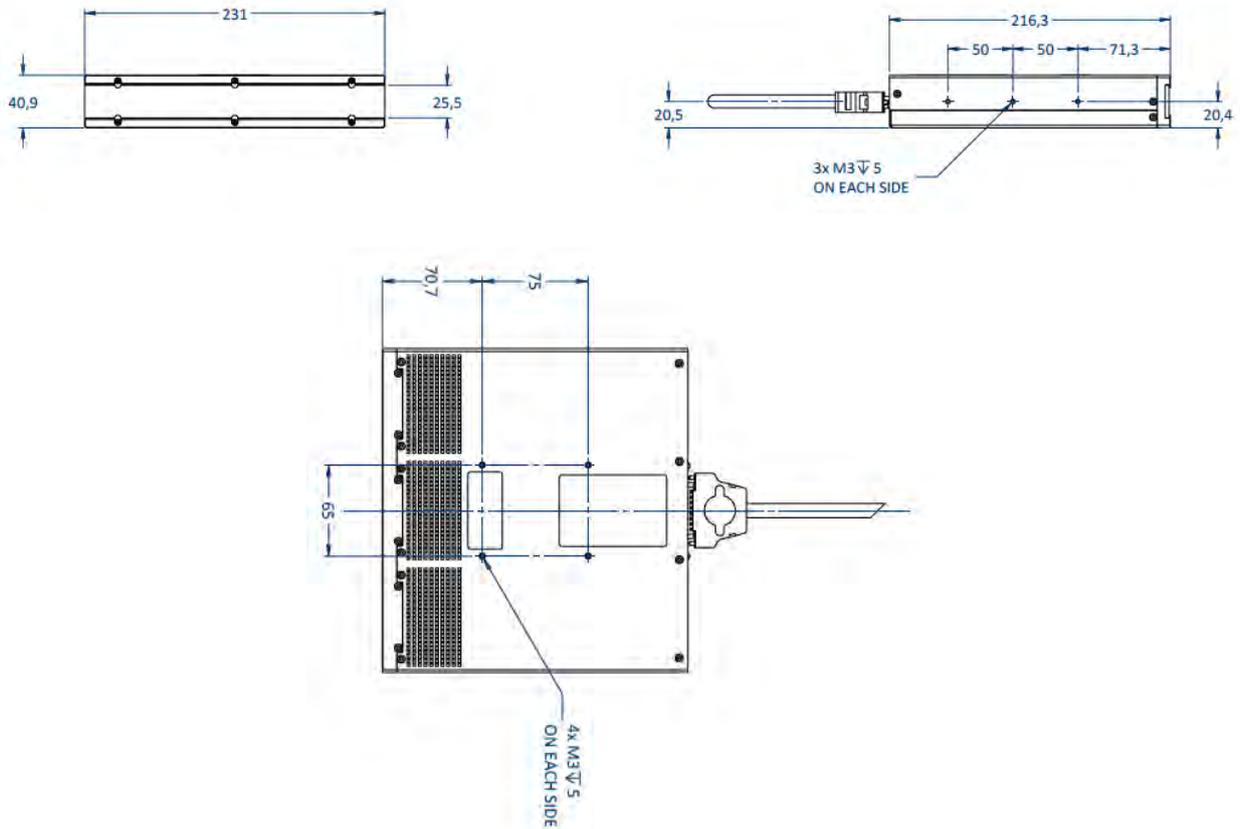
## UPIN 300mm standard version:



## UPIN 375mm standard version:

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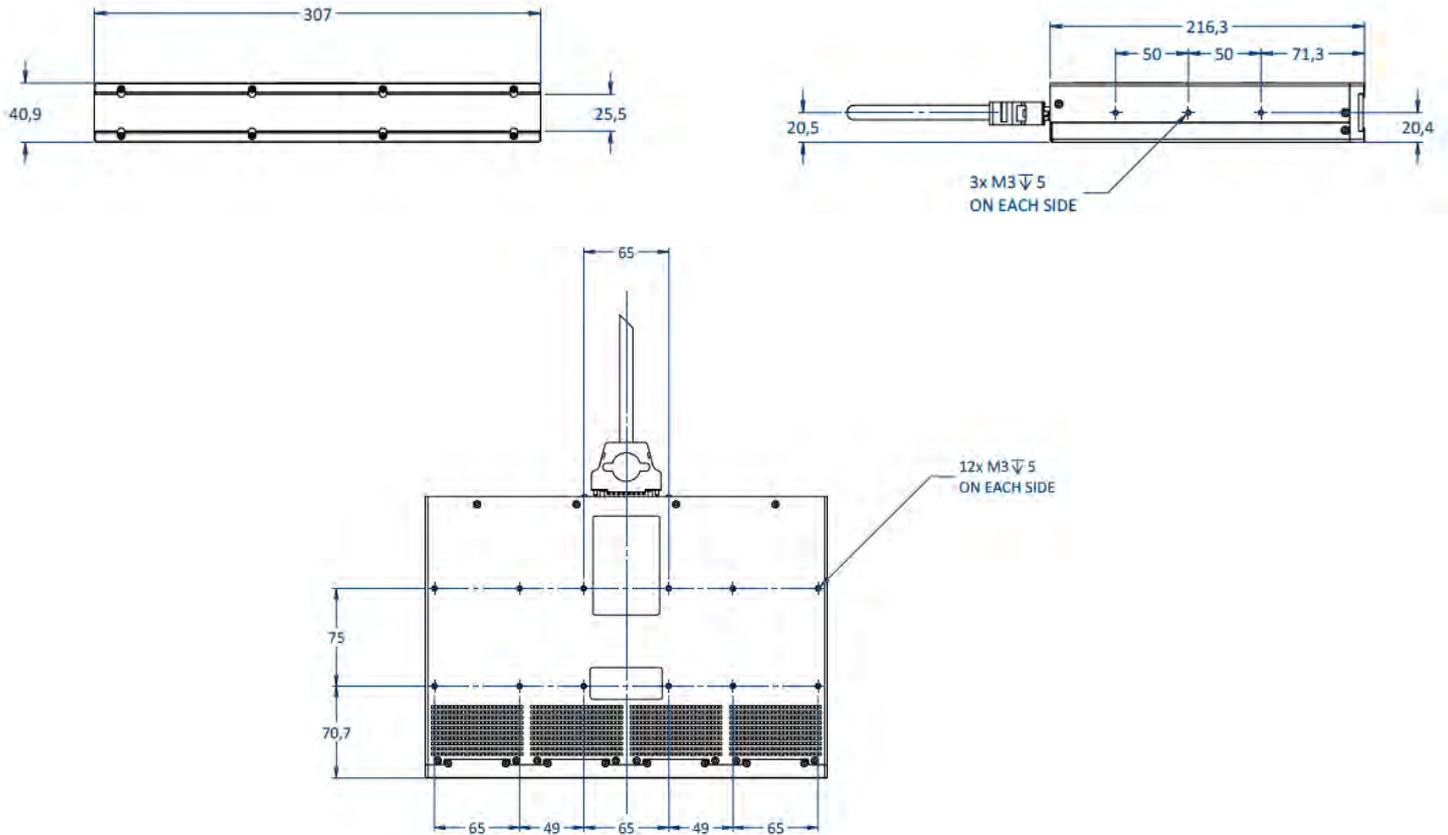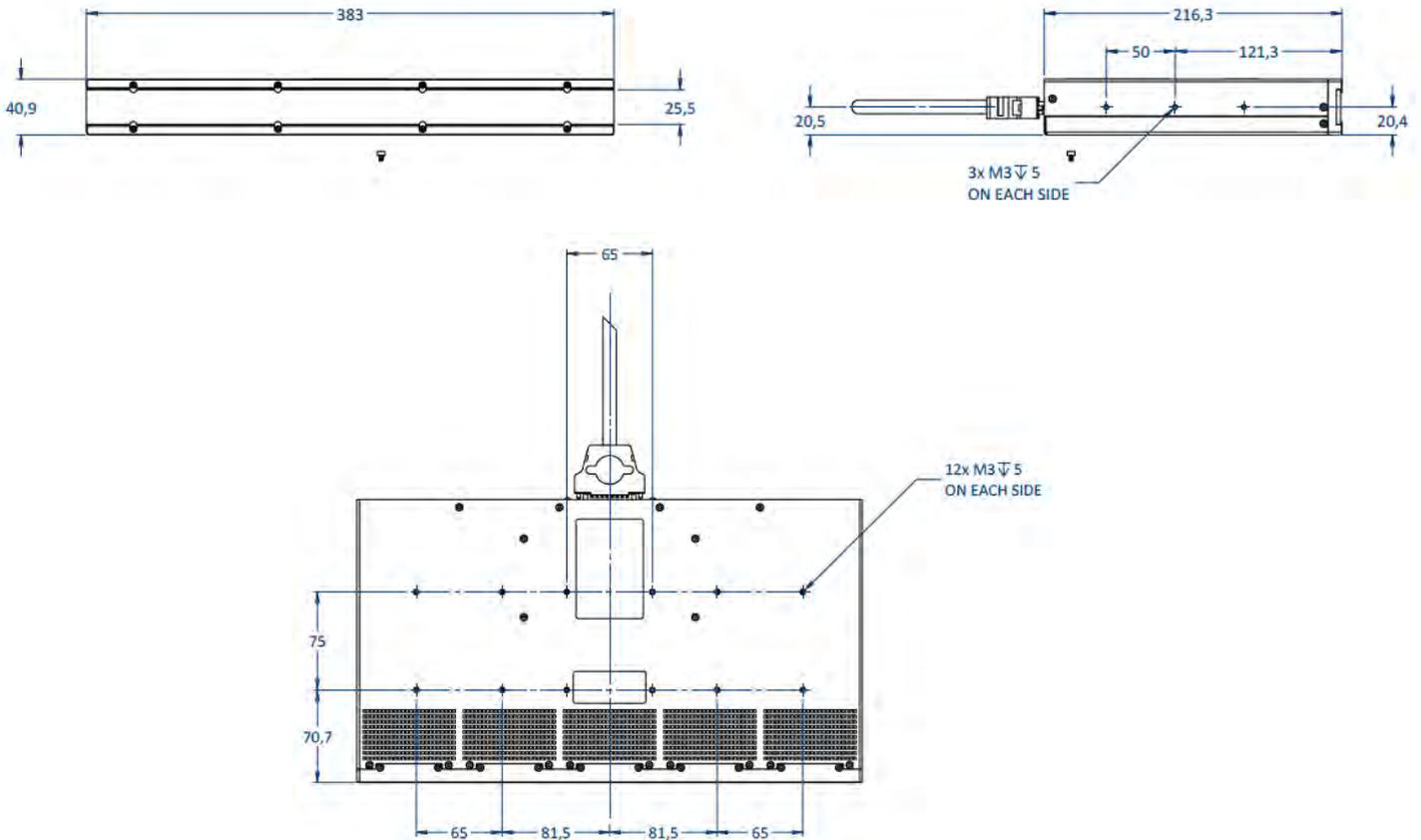
## ⬤ Electronical considerations

### Wiring layout
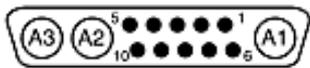
The UPIN requires 48V DC input power. It integrates smart electronical board to achieve stable optical power and exploitable output signals. The UPIN can be managed with a control unit (UPOWER – please refer to accessories part of this datasheet) or without a control unit through PLC wiring.

| Contact arrangement | Pin number | Cable color | Designation |
|---|---|---|---|
| | A1 | Brown | Power supply Input – 48V DC (3,3 A max per 75mm step) |
| | A2 | Yellow & Green | Protective ground |
| | A3 | Blue | Power supply Input – 0V DC (GND) |
| | 1 | White | Dimming Input – [0-10V] direct |
| | 2 | Blue | COMMON_OUT – Allows dry contact with pin 3, 6 and 7. 40mA maximum per contact. |
| | 3 | White | UV LED ON output – dry contact with pin 2 if device is currently emitting UV or opened if UV LED are off. |
| **Male D-SUB 13W3pins** | 4 | Blue | Enable + (dry contact with pin 5 to allow UV insolation) |
| | 5 | White | Enable – (dry contact with pin 4 to allow UV insolation) |
| | 6 | Blue | TEMPERATURE ERROR output – dry contact with pin 2 if device is overheating or opened if LED temperature is OK. |
| | 7 | White | DRIVER ERROR output – dry contact with pin 2 if there is a driver issue is detected or opened if drivers are OK. |
| | 8 | Blue | Power supply input – 0V DC (GND) |
| | 9 & 10 | - | Not used |

### Intensity Control
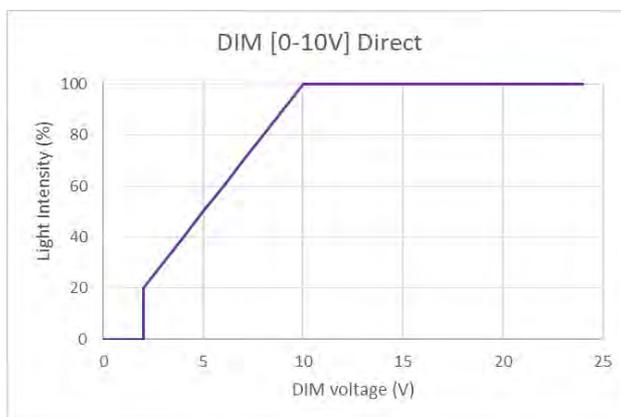


*Other Dimming signals are available upon request: 0-24V indirect, 0-10V direct, 0-10V indirect, 0-5V direct or 0-5V indirect.*

## KIT

In order to allow facilitated manual use of the UPIN-XXX-YY-075, UWAVE has developed a complete kit which contains the following components:



DATASHEET + TEST REPORT

POWER SUPPLY (REF: USPWR-90W-24V-102-EU)

ANTI-UV GLASSES (REF: UGLASS-02)

SUITCASE

CONNECTION CABLE (REF: UCAB-SUBDM12-FM-DD-L2)

HANDLE ACCESSORY

UV LED LINELIGHT (REF: UPIN-XXX-YY-075)

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## Accessories

UWAVE offers a wide range of accessories to complete its UV LED lighting solution:

| | |
|---|---|
| **Cables** | One side with bare wire (towards PLC):<br><br>**UCAB - SUBD - FD - 13W3 - D - L A**<br><br>2<br>5   Cable length in meters<br>10 |
| | Both sides connector (power supply link):<br><br>**UCAB - SUBD - FM - 13W3 - DD - L A**<br><br>2<br>5   Cable length in meters<br>10 |
| **Advanced power supply** | UPOWER-0600-48 for control of x1 UPIN-XXX-YY-075.<br>UPOWER-1500-48-2SUBD for simultaneous control of x2 UPIN-XXX-04-375.<br><br>*For other controlling configurations, please contact directly UWAVE team.* |
| **Compact power supply** | USPWR-90W-48V-102-EU for ON/OFF control of x1 UPIN-XXX-04-075.<br>USPWR-160W-48V-102-EU for ON/OFF control of x1 UPIN-XXX-06-075. |

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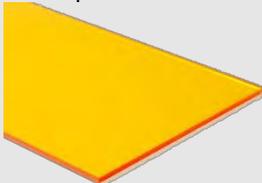## UV security

UWAVE products come under the standard DIN EN 62471:2008 which classified sources of optical radiation into risk groups subject to their potential photo biological hazard. Due to the emission of high UV irradiation, our products belong to Risk Group 3 (hazardous even for momentary exposure) therefore special safety measures, detailed in the following, must be observed.



**Risk Group 3**
*According to EN62471:2008*
UV emitted from this product. Avoid eye and skin exposure.

Thanks to its experience and knowledge about UV risks, UWAVE offers to its customer a wide range of UV protections & services:

| | | |
|---|---|---|
| **Eyes protection** | UGLASS-02: To protect eyes from direct rays. | UGLASS-03: To cover all the face. |
| **Body protection** | UGLOVE-01: to protect hands. | UV-SHIELD: To protect all workers around. |
| **UV measurement** | LEDCURE: UV values recording. | URAD-PR: Direct UV value reading. |

| | EXPOSURE LIMIT VALUE | PERFORMANCES QUALIFICATION | MAINTENANCE & REPAIR |
|---|---|---|---|
| **UWAVE expertise** | According to European Directive 2006/25/EC. | Monitoring of all performances of your device. | Preventive maintenance on site & LED repair service. |

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