Please take a while to consider and read this brochure before using your new device.
If you have any doubt, please contact EFFILUX.

User security

- Do not look directly or with any optical instrument the light beam
- IP54 Classification : Protection against dust and water projections from all directions
- Avoid any contact with the LED or with the projection lens
- Use the device in an environment at **0°C to +50°C** with no excessive moisture: high humidity and high temperature could damage the device
- Do not use the device in an environment with oil fumes and steam
- Do never try to fix any damages to the product by yourself
- Make sure you are using a correct power supply before connecting the device
- Do not inverse electrical polarity – check your connections and the conventions before turning on the power supply
- Make sure you consider an adapted connector to link the device to the power supply
- Make sure you are using a power supply with the 62368 standard for power supplies safety

Any improper use voids the warranty

Maintenance

For all maintenance operation, the product must be switched off.
To handle the optical components, wearing gloves is strongly recommended.
To clean the optical components, use compressed air duster if there is some dust.

To remove marks on the lens, wipe 1-2 drops of **non-alcohol-based** cleaning fluid in a gentle circular motion with a cleaning tissue. Always apply the fluid to a tissue rather than the lens itself.

Electronical consideration

The product is supplied with a 24V constant voltage.

Please be careful to use a voltage comprised between 22V and 29V.

OPERATING THE PRODUCT

RandomDot-000 is an industrial white LED pattern projector. It must be used only for projecting its pattern on a surface, excluding any other use.

The LED driver inside the product is set to automatically pulse the LED.

If you trigger light for a short pulse (< 25 ms), light is pulsed (LED are driven at 2,2A).
If your pulse is longer, the driver automatically decreases LED current to 0,4A (18% of max current) to protect LED against failure.

Maximum T_{ON} = 25 ms
Minimum T_{OFF} = 25 ms

Response rise time : 35 µs
Response fall time : 30 µs

Peak consumption : 44W
Continuous mode consumption : 10W

STATUS LED	
LED color	**Designation**
Red	**Overtemperature security** *Activated when the temperature of the LED reaches 75°C*
Green	**Lighting ON**
Blue	**TRIG signal IN**

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

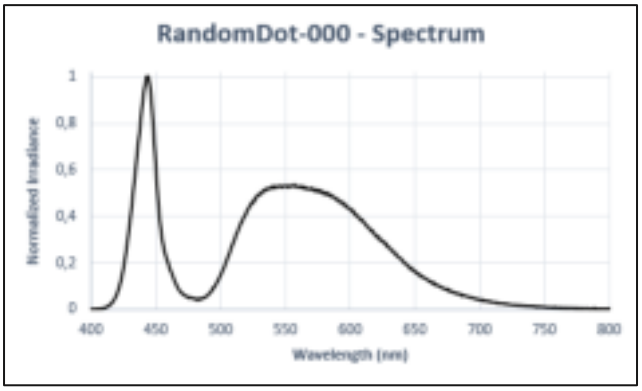
(1) This device may not cause harmful interference,
and
(2) This device must accept any interference received, including interference that may cause undesired operation

ELECTRONICAL PINOUT

POWER / GPIO – M12 8 PINS MALE CONNECTOR						
Pin number	**Cable color**	**Contact arrangement**	**Designation**	**Details**	**IN/OUT**	**Voltage Reference**
1	White	 M12 8 pins Male connector	N/C	/	/	
2	Brown		+24V	Power IN	IN	0V
3	Green		GPIO_IN2_ROBOT	Optocoupler IN	IN	GPIO_GND
4	Yellow		GPIO_GND	Optocoupler IN GND	IN	GPIO_GND
5	Grey		GPIO_VCC	Supply for Optocoupler Output	IN	Chassis GND
6	Pink		GPIO_OUT1_ISO	Optocoupler OUT	OUT	Chassis GND
7	Blue		0V	0V	IN/OUT	0V
8	Red		GPIO_OUT2_ISO	Optocoupler OUT	OUT	Chassis GND

CAMERA – M12 8 PINS FEMALE CONNECTOR						
Pin number	**Cable color**	**Contact arrangement**	**Designation**	**Details**	**IN/OUT**	**Voltage Reference**
1	White	 M12 8 pins Female connector	GPIO_OVERTEMP	1 = OK (24V) 0 = NOK (0V)	OUT	Chassis GND
2	Brown		+24V	Power OUT to camera	OUT	0V
3	Green		GPIO_IN2	Optocoupler OUT	OUT	Chassis GND
4	Yellow		0V	0V	IN/OUT	0V
5	Grey		+24V	GPIO_VCC for camera (Supply for camera optocouplers)	OUT	0V
6	Pink		GPIO_OUT1	Lighting TRIG	IN	0V
7	Blue		0V	0V	IN/OUT	0V
8	Red		GPIO_OUT2	Input	IN	0V

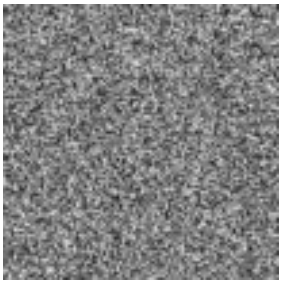
Optical consideration



The product is mounted with the C-mount lens VS Technology VS-1214H1 in addition to a custom lens made by EFFILUX.
EFFILUX will deliver the product with the following optical configuration:

- Horizontal projection angle : 62°
- Vertical projection angle : 48°
- Diagonal projection angle : 75°

The focus and the aperture can be adjusted with manual settings of the C-mount lens.



The projected pattern is a square random 50%-density cloud of dots
The projection of this pattern depends on the settings of the objective and the additional lens. The working distance must be included between 500mm and 3000mm for a convenient use of the product

Color Temperature: 6000K

Mechanical consideration

Weight : 660g