

Area lighting VOS-IL-F239W

- Uniform illumination of flat, matte and reflective surfaces
- Intelligent lighting control with integrated flash controller

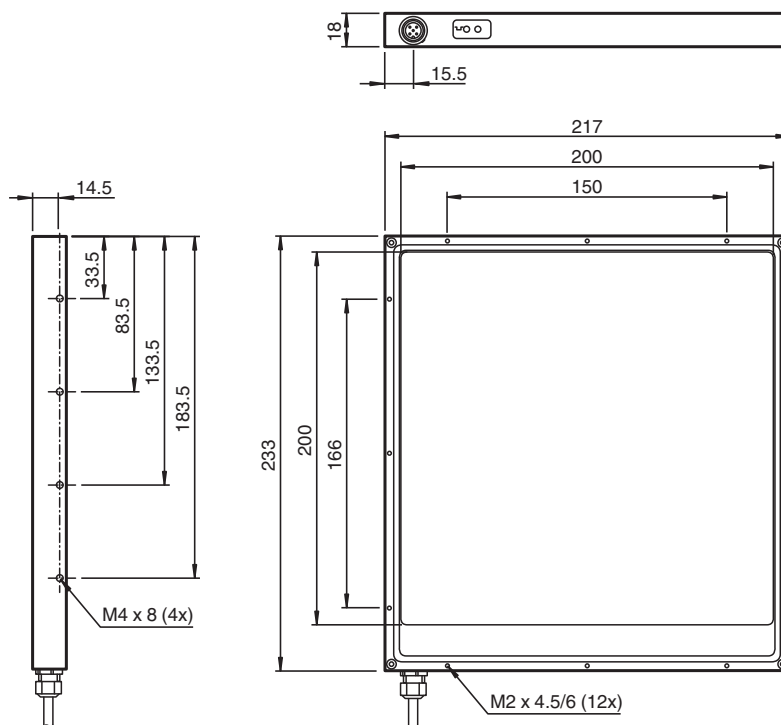
White light, 576 high-power LEDs, diffused light, can be used as back lighting, light field size: 200 x 200 mm, integrated flash controller



Function

The diffuse area lighting is used to evenly illuminate a measurement object. It is placed below or behind the object. The object itself appears dark and generates a shadow or outline image. The outline and free inner contours of the target can be clearly identified in the generated image. In the case of (partially) transparent objects, this lighting can be used to assess encapsulations or fill levels. The high contrast achieved in this way allows the outer contours or recesses of the object to be measured accurately.

Dimensions



Technical Data

General specifications

Light area dimensions	200 x 200 mm
Light source	576 high-power LEDs
LED color	White light

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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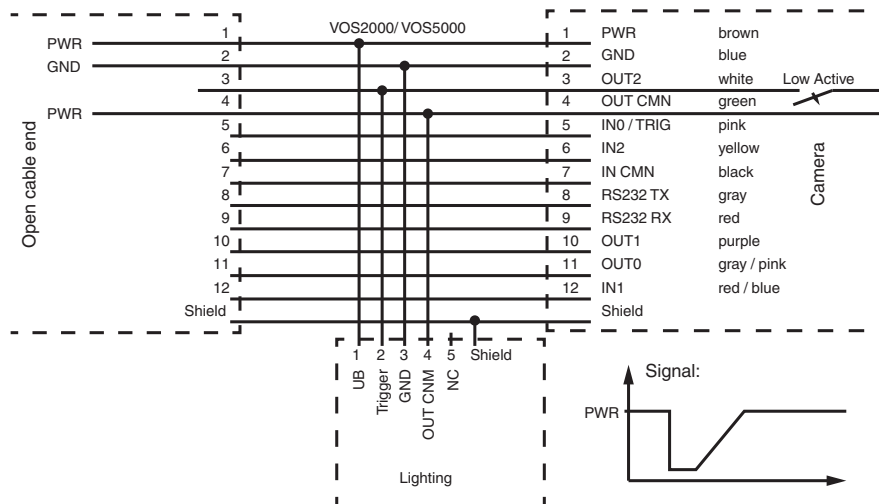
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Technical Data

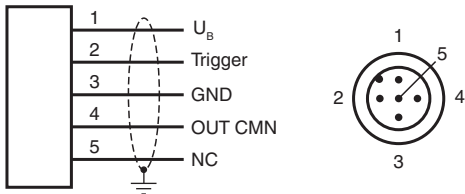
Color temperature		5300 K
Light direction		Diffuse, suitable for backlight applications
Irradiance		8 W/m ² at 0.2 m operating distance
Operating mode		Pulse / flash mode
Indicators/operating means		
Operation indicator		LED green: supply
Function indicator		LED green: Trigger
Electrical specifications		
Operating voltage	U _B	21 ... 30 V DC
Current consumption		0.3 A at 24 V DC (average) / 0.5 A (max. pulsed)
Power consumption	P ₀	17 W
Flash duration		0.01 ... 10 ms VOS2000 0.08 ... 10 ms VOS5000 0.18 ... 10 ms
Input/Output		
Input/output type		Flank-triggered / falling edge
0 Level		0 ... 8 V
1 Level		10 V ... U _B
Conformity		
Photobiological safety		risk group 1 according IEC 62471
Approvals and certificates		
CE conformity		CE
Ambient conditions		
Ambient temperature		5 ... 45 °C (41 ... 113 °F) , no moisture condensation
Storage temperature		-20 ... 85 °C (-4 ... 185 °F)
Relative humidity		90 % non-condensing
Mechanical specifications		
Housing length		233 mm
Housing width		217 mm
Housing height		18 mm
Degree of protection		IP65
Connection		cable PUR , M12 connector, 5 pin , A-coded , 230 mm
Material		
Housing		anodized aluminum I PMMA
Installation		Mounting bracket
Mass		approx. 1400 g

Connection



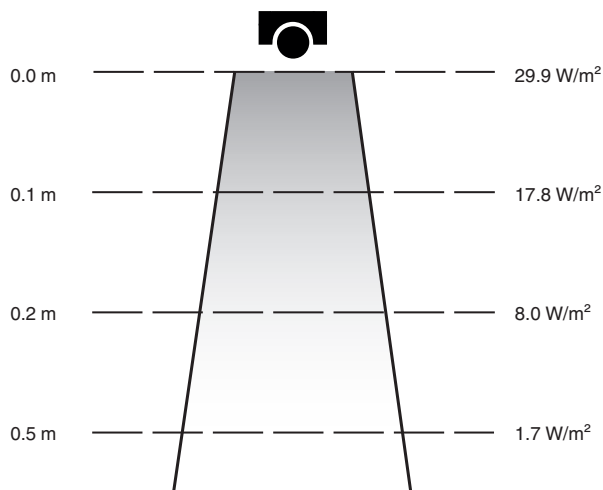
NOTE: With trigger parameterization by means of software, the electrical status of the trigger is output to the outside at GPO2 (OUT2). Isolation recommended.

Connection Assignment



Characteristic Curve

Irradiance



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Accessories

	V19S-0,15M-PUR/V15-T-V19-VOS	Y connection cable M12 socket straight A-coded 12-pin to M12 plug 12-pin / M12 socket 5-pin straight A-coded, PUR cable black, shielded
	V1-G-BK2M-PUR-U/ABG-V1-G	Cordset M12 socket straight to M12 plug straight A-coded, 4-pin, PUR cable black, shielded, UL-approved, drag chain suitable

Additional Information

Information on:

- Intended use
- Notes on operation
- Fault repair
- Care and servicing
- Disposal

CAUTION: Photobiological safety—visible light

The lighting emits optical radiation in the wavelength range between 400 nm and 750 nm, which is visible to the human eye. This can cause irritation, damage, or glare to the eye and skin. Using additional optical accessories (e.g. lenses, interchangeable frames/discs) may change the risk group.

CAUTION: Hot housing surfaces

High ambient temperatures and insufficient convection make housing surfaces hot. These can cause burns if touched. Do not touch the lighting during operation. Keep at least 20 mm between the lighting and thermally insulating surfaces, or mount the lighting on a thermally conductive surface.

Intended Use

VOS system lighting are exclusively intended as components for Machine Vision systems, that are used for quality control as well as process control and optimisation in industrial installations.

Use the lighting in enclosed rooms only.

Notes on Operation

Commissioning

- Lightings should be put into operation by trained and qualified personnel only; installation must be in compliance with the specified protective measures. Ensure that the ambient conditions comply with regulations.
- For optimal heat dissipation, mount the lightings over as wide an area as possible on thermally conductive machine elements.
- Keep cooling fins clear to ensure adequate convection.

Software settings of the lighting control sensor:

1. Open the "Setup connections" menu of the sensor. (NOTE: The menu cannot be selected until you have configured a job in the sensor.)
2. In the "Digital I/O setup" operating menu, set output 2 (Out2) of the VOS camera to the "Strobe" output function to generate the trigger signal.
Setzen Sie im Bedienmenü "Setup der digitalen I/O" Ausgang 2 (Out2) der VOS-Kamera auf die Ausgangsfunktion "Strobe" zur Generierung des Triggersignals.
3. Then configure the duration of the pulse length in the "Sensor setup" operating menu.

Status LEDs

The lightings have two status LEDs on the side. The lightings only lights up when both status LEDs are lit or flashing.

- The green status LED indicates that the operating voltage is correct.
- The second green status LED flashes when there is a trigger signal on the ring light.

Decrease in LED brightness due to age

The brightness of LEDs decreases over time due to age. The lightings are designed and manufactured so that, during full load operation under the permissible ambient conditions, the following operating hours are achieved or exceeded without the decreasing intensity of the lighting by more than 30 % compared to the intensity on delivery:

80,000+ h for high-power LED lightings in the visible and infrared wavelength range

Ageing is significantly affected by the installation conditions in the machine, the ambient temperature, and the operating mode of the lighting. Switching or flashing can significantly reduce the decrease in brightness of the LEDs and consequently the brightness of the lighting.

Fault Repair

Fault	Cause/LED status	Remedy
The lighting does not light up.	Insufficient power supply / PWR status LED (left) does not light up	Check that the lighting is connected as detailed on the datasheet and the corresponding operating voltage is set. If you are using a power supply with current limitation, increase the allowable current.
	Trigger signal status LED (right) does not light up	Please check the electrical connections and the software settings.
	Trigger signal status LED (right) lights up	Please check the software settings.

Care and Servicing

The lightings do not generally require any maintenance. However, if the outer plastic surfaces or housing parts need cleaning, please observe the following:

- Never use acetone, alcohol, or other solvents to clean glass surfaces.
- Use a soft, lint-free cloth moistened with soapy water or a standard spectacles cleaning cloth to clean the plastic surfaces and housing parts.

Disposal

Dispose of the lightings at a designated electrical and electronic equipment collection facility.

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