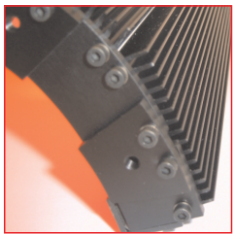
Professional lighting systems for industrial imaging

MODULA-M

Tunnel light

>> modular and extreme versatile
>> compacte housing
>> well-priced design
>> easy and versatile mounting
>> for continuous, switched and pulsed operation (depending on type)

MODULA-M tunnel with 5 modules



MODULA-M connection elements

Technical specifications

CE

Housing	Aluminium, black or natural anodised
Weight per module	**with opening for lens:** approx. 280g / **without opening for lens:** approx. 320g
Operating / ambient temperature	max. 50°C recommended
IP protection class	depending on the version
Connector	M8 plug (4-pin)*
Supply voltage**	**24VDC type or 12VDC type:** 24VDC resp. 12VDC
	SC type: For use in conjunction with a controller
Number of LEDs per module	64
LED lifetime	The LED lifetime of our lights is very high, but depends on many different factors such as ambient temperature, current load, and so on. Further information is available in the **Technical information LED lifetime**.

* Cable not included in the scope of supply
** more information see section Operating modes

Characteristics

	LED characteristics		typical characteristics for tunnel combination with 5 modules		
Colour *	**Wavelength (approx.)**	**Viewing angle**	**Current demand** (24V type) ** / **constant current max.** (SC type) **[mA]**	**Pulse current max.** (SC type) *** **[mA]**	**Intensity **** **[W/m²]**
red	635nm	120°	150 per module	800 per module	
white	6500K	120°		800 per module	
IR	850nm	120°		3200 per module	

* other colours and types from UV to infrared on request
** stated current values of the 24V types should be considered approximate values
*** depending on the strobe conditions, recommended maximum values for a flash time of 1ms
**** approximately data measured in DC mode; Measuring distance 10mm below tunnel combination

Safety note!

LED light systems can produce very intense radiation, which may possibly damage the eyes on improper use. Do not look directly into the light beam with unprotected eyes! Use eye protection!

Operating modes

24VDC type / 12VDC type
The lights are designed depending on the version for continuous operation at 24VDC or 12VDC.
The following operating modes are possible:

- DC operation at an appropriate power supply with 24VDC or 12VDC
- Switched operation with a matching power supply e.g. via PLC, opto-relay or controller (GS or SC series)
- Brightness-controlled operation via controller (GS or SC series) in conjunction with suitable power supply
- Pulsed mode via controller (GS or SC series) in conjunction with suitable power supply. The LED current can be increased in pulse mode up to a factor of 2 to 3.

SC type
For pulsed, switched or brightness-controlled operation, the lights are also available as optimized SC versions. They can be used in combination with our controllers of the GS and SC series and provide optimized and maximum current flow, especially in pulsed operation. We will assist you in selecting the right components.

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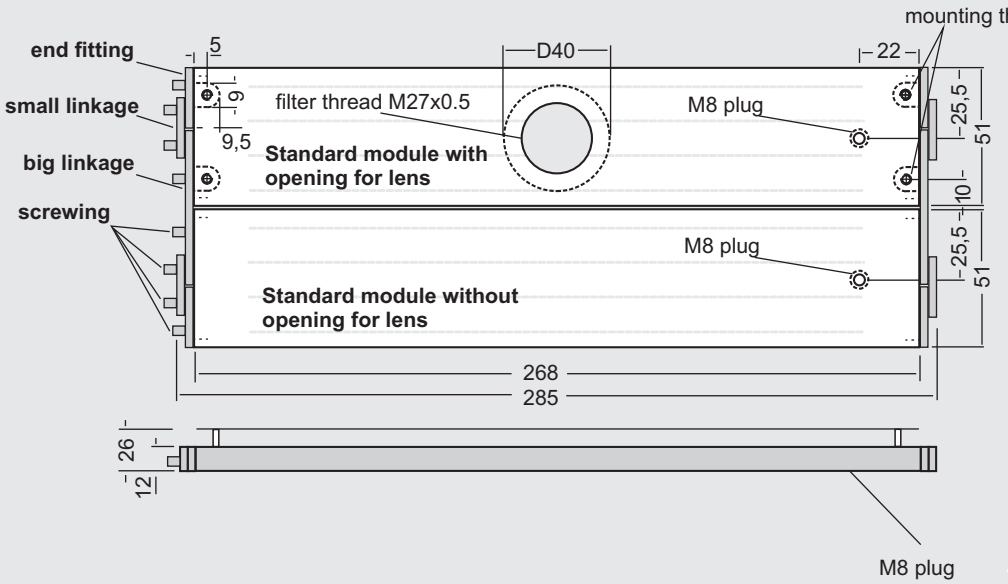
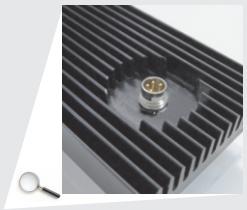
IMAGING LIGHT TECHNOLOGY BÜCHNER

MODULA-M

Tunnel light

Dimensions





PIN assignment connector

M8 plug 4-pin (Front view on housing)

24VDC type

PIN	Colour	Function
1	brown	+ 24V
3	blue	-

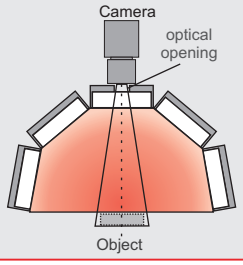
12VDC type

PIN	Colour	Function
2	white	+ 12V
3	blue	-

SC type

PIN	Colour	Function
4	black	+
3	blue	-

Application notes



Through the many ways of combining MODULA-M modules it can be adapted to different applications. Both the number of modules and the angle between themselves, and consequently the angle of enclosure, can be individually configured, to achieve the best possible illumination of the corresponding object.
Moreover it is possible to control and pulse each module independently.
The length of the modules can optionally be scaled in a modular dimension of 56mm.

Configuration notes

The tunnel configuration is pre-assembled at the factory according to customer specifications. The mechanical shaping can be made at the factory and the customer , it is done by loosening the screws, repositioning of the modules and subsequent fixing of the screws.
The modules can be equipped with various diffuser materials. The diffuser assembly is done in the factory in consultation with the customer, but can also be changed by the customer.

Accessories

Diffusers
Through the use of different diffuse materials, the optical characteristics of the illumination can be changed.
More information can be found in the **Technical information Front materials**.

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