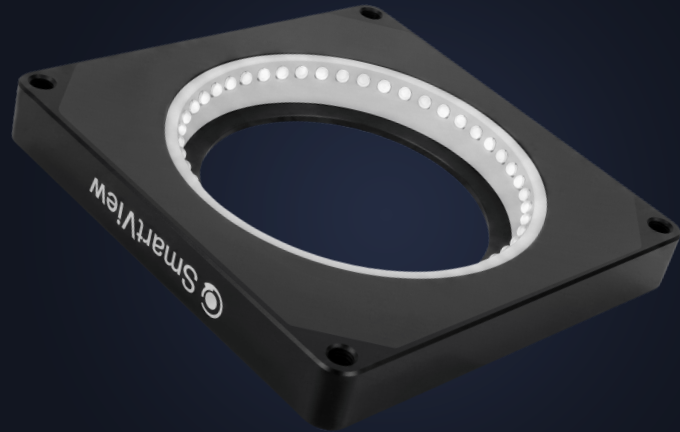


DARKFIELD LIGHT

DF-70

Designed for relief and surface illumination. Suitable for DPM texts and codes illumination.



HOMOGENOUS LIGHT FIELD

ANALOGUE CONTROL OF LIGHTING INTENSITY

DIGITAL CONTROLLED OF STROBBING PULSES

LIGHT OPERATING MODES

PERMANENT ILLUMINATION MODE

This light is designed for both the permanent and light-triggering mode. For permanent illumination bring the voltage of 10-24 V to the pin number 4 (black wire). The light is ON during the time when the 24 V EN signal is activated. Use a PCL, camera or another binary signal source. For the light intensity control, please see the text below.

LIGHT TRIGGERING MODE

Light triggering mode saves energy and extends the lifetime of the light. Trigger operation mode is recommended when a parallel operation of 2 or more lights might affect the quality of the acquired image. To start using a triggering mode, bring the pin number 4 (black wire) to a 10-24 V signal. The light is ON when a voltage of 24 V is present at pin number 4 then. Use a PCL, camera, or another binary signal source for triggering. For the light intensity control, please see the text below.

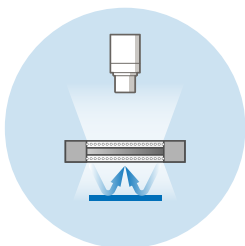
STROBE MODE

Strobe function significantly multiplies the maximum intensity of the light. The strobing function saves energy, extends the light lifetime and in many cases improves the stability of the entire inspections system. Pin number 2 (white wire) of the M8 connector is used to activate the strobe function. The maximum strobe pulse time is 10 ms, while the light idle time must be at least 10 times longer, which in this case makes 100 ms. Bringing a permanent logical 1 signal (10-24 V voltage) to a light strobe input, the light standardly operates in a 10 ms ON and 100 ms OFF cycle. The strobe operation pulse might be chosen in the time span of 1-10 ms. Please do not use a trigger mode during strobing function, do not bring a voltage to the pin number 3.

LIGHT SOURCE INTENZITY REGULATION

The light intensity might be regulated by an analogue voltage, PWM signal or an external controller. In case of using an analogue signal, the light intensity might be regulated in a linear way at a pin number 4 by the voltage span of 2.7 -10 V. Bringing a voltage of 10-24 V to the pin number 4, the light works at its maximum intensity. The maximum PWM frequency is ≤ 40 kHz.

WAYS OF USE



ORDERING CODE

example of the ordering code

DF

-

70

W

Darkfield Light

Ø of Active Area

Wavelength

CONFIGURATION

Model	Wavelength [nm]	Ø of Active Area [mm]	LED Beam Angle [°]
DF-70W	white	70	30
DF-70IR	850	70	30
DF-70R	625	70	30
DF-70B	470	70	30

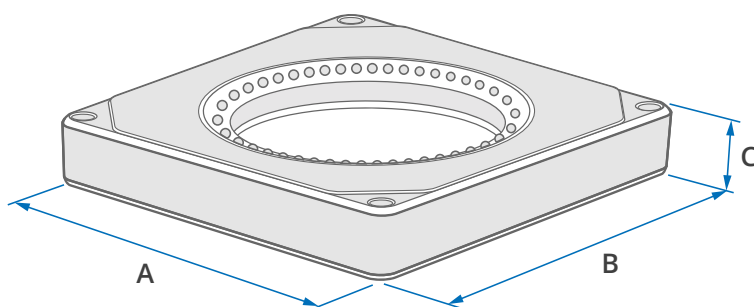
ELECTRIC PARAMETERS

Model		 DF-70W	 DF-70IR	 DF-70R	 DF-70B	
 U_n	Voltage Span	20-28 V	12-28 V	12-28 V	12-28 V	
 U_{jm}	Nominal Voltage	24 V DC	24 V DC	24 V DC	24 V DC	
 I_{jm}	Nominal Current	280 mA	200 mA	220 mA	260 mA	
 P	Input	6,7 W	4,8 W	5,3 W	6,4 W	
 U_{trig}	Trigger Voltage	≥ 10 - 24 V 	 I_{trig}	Trigger Current	2.3 mA 	
 U_{str}	Strobe Voltage	3 - 24 V 	 I_{str}	Strobe Current	1.9 mA 	
				 U_{EN}	Analogue Dimming	≥ 2.7 .. ≤ 10 V 
				 I_{EN}	PWM Dimming	> 10 V .. ≤ 24 V 

¹ PWM maximal rate is ≤ 40 kHz ² EN (Enable) trigger signal values, M8 connector - pin number 4 ³ Driving voltage and current M8 connector - pin number 2

DIMENSIONS & WEIGHT

A Length [mm]	100
B Width [mm]	100
C Height [mm]	14
 Weight [g]	189



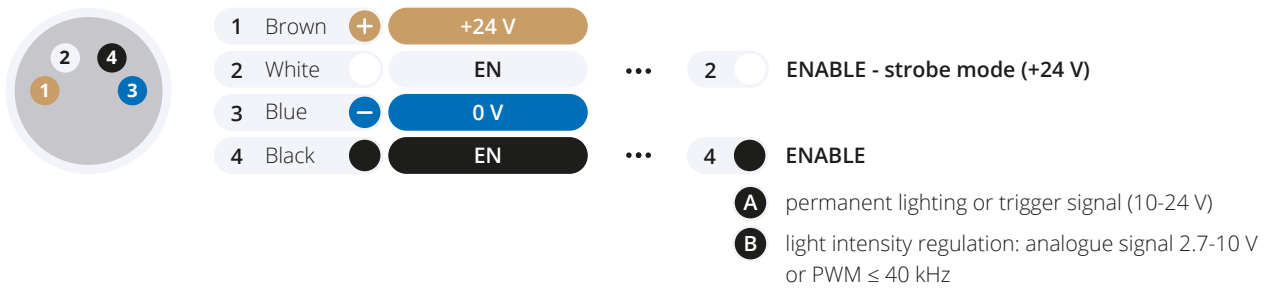
i For more details please see our 2D drawings.

TECHNICAL DATA

IP Category: IP67	Protection Category: III	Ambient Temperature: -20 - +40 °C	Isolation Resistance: 500 V	Housing Material: Aluminium alloy
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CONNECTOR M8-4PIN ASSIGNMENT

Light connector front view



ACCESSORIES

✓ Straight Cable M8-4PIN (5 m)

OPTIONAL ACCESSORIES

+ Angular Cable M8-4PIN (5 m)

+ Controller **CM-01**

 **SmartView**
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