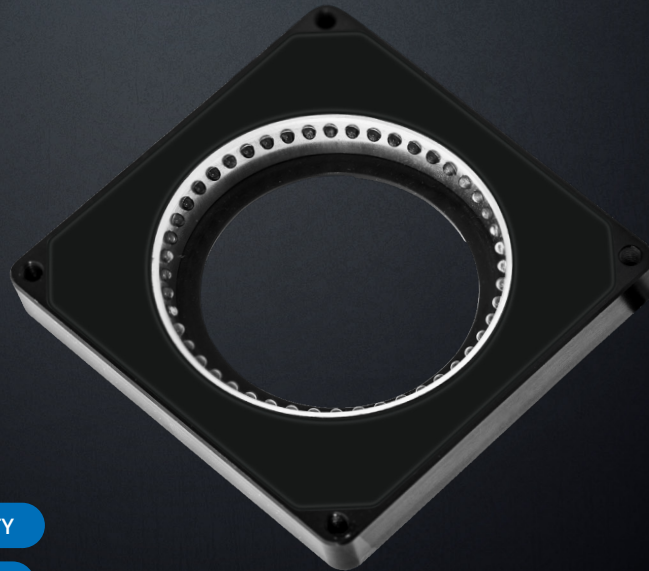


DARKFIELD LIGHT

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 bellow.

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 bellow.

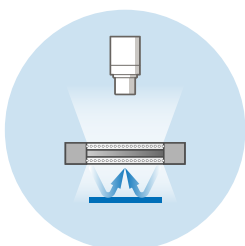
STROBE MODE

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



*Applies for devices with wavelength UV405. This type of a light has a source of ultra violet radiation. Avoid direct exposure of eyes and unprotected parts of skin. Install the light in a safe way to avoid accidental or deliberate damage of unprotected human skin by UV light radiation. Mark room/area of use with a warning sign.

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-70G	525	70	30
DF-70B	470	70	30
DF-70UV	405	70	30

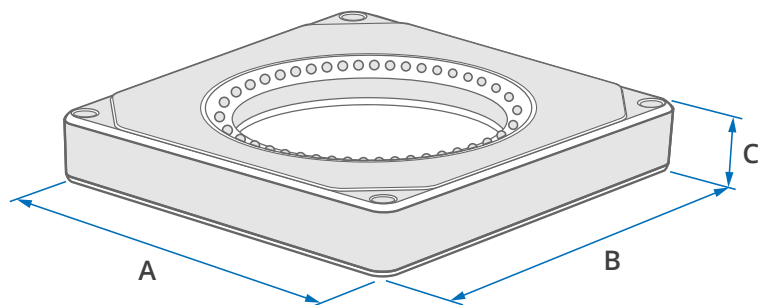
ELECTRIC PARAMETERS

Model	DF-70W	DF-70IR	DF-70R	DF-70G	DF-70B	DF-70UV
U_n Voltage Span	20-28 V	12-28 V	12-28 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	24 V DC	24 V DC
I_{jm} Nominal Current	340 mA	-	-	-	-	-
P Input	8.2 W	-	-	-	-	-
U_{trig} Trigger Voltage	≥ 10 - 24 V ²	I_{trig} Trigger Current	2.3 mA ²	U_{EN} Analogue Dimming	≥ 2.7 .. ≤ 10 V ²	
U_{str} Strobe Voltage	3 - 24 V ³	I_{str} Strobe Current	1.9 mA ³	I_{EN} PWM Dimming	> 10 V .. ≤ 24 V ¹	

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



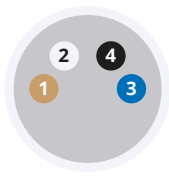
i For more details please see our 2D drawings.

TECHNICAL DATA

IP Category: **IP67** Protection Category: **III** Ambient Temperature: **-20 - +40 °C** Isolation Resistance: **500 V** Housing Material: **Aluminium alloy**

CONNECTOR M8-4PIN ASSIGNMENT

Light connector front view



1	Brown	+	+24 V
2	White		EN
3	Blue	-	0 V
4	Black		EN

... 2 ENABLE - strobe mode (+24 V)

... 4 ENABLE

A permanent lighting or trigger signal (10-24 V)

B light intensity regulation: analogue signal 2.7-10 V or PWM \leq 40 kHz


ACCESSORIES

✓ Straight Cable M8-4PIN (5 m)

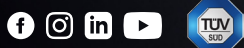
OPTIONAL ACCESSORIES

+ Angular Cable M8-4PIN (5 m)

+ Controller **CM-01**

 SmartView

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COMPANY OFFICE

Smart View s.r.o.
Nivy 313
765 02 Otrokovice
Česká republika

+420 601 575 797
+420 602 457 497

info@smartview.cz
www.smartview.cz

OUR SALES PARTNERS SLOVAKIA

MTS, spol. s r.o.
Krivá 53
027 55 Krivá
Slovensko

+421 43 5819 111

mts@mts.sk
www.mts.sk