DATASHEET

effiLux
Efficient
Led Lighting

Diffuse Light
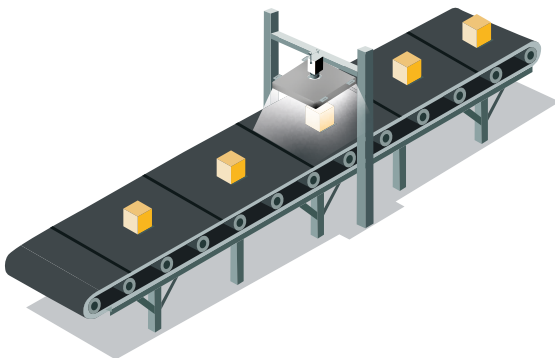
IP69K

High homogeneity

Long lifetime

IP68

IP69K

C E

effiFD-IP69K

Waterproof flatdome for food and chemical environment

INTRODUCTION

TABLE OF CONTENTS

APPLICATIONS

Inspection:

- Dimension control: Highlighting the edges of the object (maximum contrast between the background and the form).
- Absence/presence of holes.
- Liquid level control of bottle.
- Ideal for transparent and translucent materials (glass, fabric, printed circuit...).
- And many other machine vision applications.

Robotics:

- Object location for pick and place.

RELATED PRODUCT

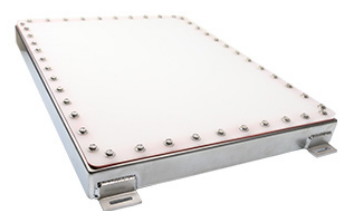Refer to the datasheets of the products below for more details on those related products.

EFFI-FD	EFFI-SBL	EFFI-BL-IP69K
Flat Dome Light	Compact and robust IP67 backlight	IP69K version equivalent but without hole for camera

PART NUMBERING

STANDARD VERSION

EFFI-FD-IP69K	- XXX	- YYY	- ZZZ
	Optical width (mm)	**Optical length (mm)**	**Wavelength (nm)**
	200	200	● 465 (Blue)
	250	250	● 525* (Green)
	300	300	● 625 (Red)
	...Every 50mm steps	...Every 50mm steps	● 850 (Infrared)
	600	600	● 940* (Infrared)
			○ 000 (White 5700K)

IMPORTANT NOTES:
- YYY must be larger than XXX in the part number.
- (*) Only on request, contact EFFILUX.

AVAILABLE VERSIONS & OPTIONS

VERSION	
Food version	EFFI-FD-IP69K-**FOOD**-XXX-YYY-ZZZ For food processing environment, the nickel-plated brass gland can be replaced with a stainless steel one.
MECHANICAL OPTION	
5m cable legth	EFFI-FD-IP69K-XXX-YYY-ZZZ-**L5** Default configuration: cable length 10 meters.This option reduces the length to 5 meters.
Venting option	EFFI-FD-IP69K-XXX-YYY-ZZZ-**V** Vent to equalize pressure and minimize condensation (not compatible with FOOD version).
Hole diameter	EFFI-FD-IP69K-XXX-YYY-ZZZ-**HH** HH corresponds to the hole diameter (D30, D39, D58). Default hole is 70mm large (D70).

effiFD-IP69K

Illumination Mode	Continuous with AIC (Analog Intensity Control)
Wavelengths	465nm, 525nm*, 625nm, 850nm, 940nm*, White (5700K ±700K)
Power Supply	24V DC

Connector(s)	Flying lead - 1 input	M12 - 5 pins

|	
Power Consumption	Related to the dimensions
Analog Intensity Control (AIC)	The output optical power is adjustable from 20% to 100% by applying a signal from [5V-24V DC] Total voltage range [0V-24VDC] / Don't exceed 24V DC / Max. signal consumption: 23mA
Weight	Related to the dimensions
Thickness	35.6mm
Dimensions	From 200mm x 200mm to 600mm x 600mm
Hole diameter	70mm
Material	Device body: Stainless Steel; Window: PMMA
Fastener	4 holes (Ø 5.5mm / 20mm length)
IP rating	IP68 & IP69K
Operation environment	Temperature: 0°C to 40°C - Humidity: 20 to 85%RH (with no condensation) - Altitude: Up to 2000m
Storage environment	Temperature: -20° to 60°C - Humidity: 20 to 85%RH (with no condensation)
Informations	Overvoltage category I - Protective class III - Pollution degree 3
Regulations & Marking	CE - UKCA
Environmental Standards	RoHS Directives (2011/65/EU, 2015/863/EU and China RoHS) - REACH Regulation - WEEE Regulation
Country of Origin	France

Note: (*) Only on request, contact EFFILUX.
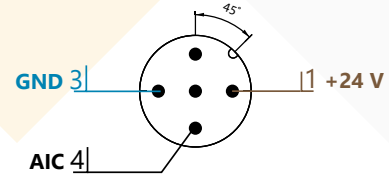
ELECTRONICAL SPECIFICATIONS

WIRING LAYOUT

The EFFI-FD-IP69K is supplied with a 24V constant voltage. Please make sure that the flying leads output of the cable is in a sealed area. The AIC contact needs to be connected.

Flying lead - 1 input (standard version)

+24V 1
3 GND
4 AIC
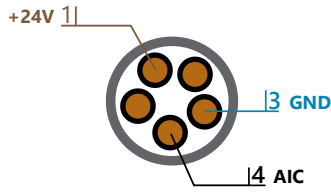
M12 5pins - 1 input (food version)

45°
GND 3
1 +24 V
AIC 4

Important notes:
- The EFFI-FD-IP69K requires 24V DC input power.
- The AIC contact needs to be connected.
- The standard cable included is resistant to detergent, hot water, bio-oil, harsh environment and can be used outdoor.
- A M12-5pins connector is molded at the end of the FOOD cable contrary to the standard which is a flying lead.
- Please note that for the FOOD option above 500mm x 500mm the EFFI-FD-IP69K must be supplied with 2 cables.

POWER SUPPLY

Please refer to below electrical power consumption table for the power of each product according to different dimensions. EFFI-FD-IP69K is supplied with a ÖLFLEX® ROBUST 210 cable. For specific configurations, please contact EFFILUX for more information.

		Maximum electrical power consumption @24V (W) for standard white EFFI-FD-IP69K				
		Optical width (mm)				
		200	300	400	500	600
Optical length (mm)	200	15	23	28	35	43
	300		33	43	53	63
	400			55	70	85
	500				88	110
	600					125

AIC: ANALOG INTENSITY CONTROL

Output Intensity

100%

20%

5V   24V

DIM
Signal IN
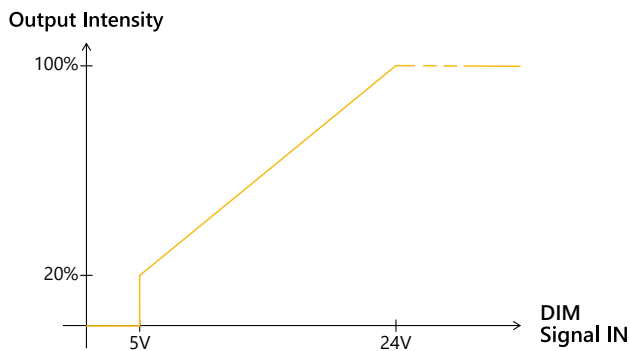
AIC Signal consumption (mA)

		Optical width (mm)							
		50	100	200	300	400	500	1000	1500
Optical length (mm)	50	0.3	0.6	1.2	1.8	2.4	3	6	9
	100	0.6	0.3	0.6	0.9	1.2	1.5	3	4.5
	150	0.9	0.9	1.8	2.7	3.6	4.5	9	13.5
	200	1.2	1.2	1.2	1.8	2.4	3	6	9
	250	1.5	1.5	1.5	3.6	4.8	6	12	18
	300	3	0.9	0.9	2.7	3.6	4.5	9	13.5
	500	3	1.5	1.5	4.5	6	7.5	15	22.5

33
40
4 x M4 ↓ 8
60,1
60,1

BACK SIDE OF THE PRODUCT

OPTIONAL VENTING PLUG
(EFFI-FD-IP69K-XXX-YYY-ZZZ-V)

35,6   31

OPTICAL LENGTH +46
OPTICAL LENGTH (YYY)

EMITTING SURFACE

OPTICAL WIDTH (XXX)
OPTICAL WIDTH +6
OPTICAL WIDTH +46

20
Ø 70*
5,5
12

CABLE AVAILABE IN 5M OR 10M LENGTH
(EFFI-FD-IP69K-XXX-YYY-ZZZ-V-L5 or L10)
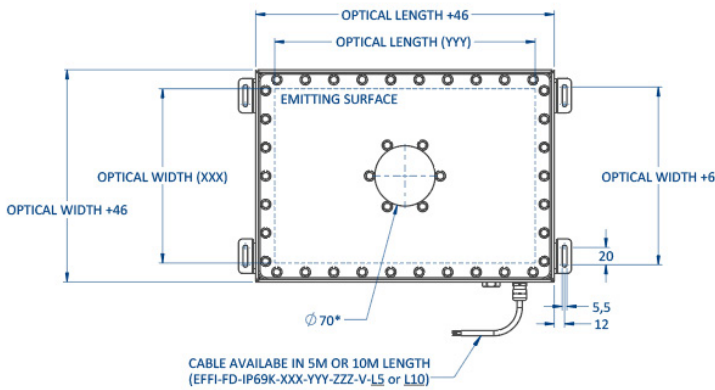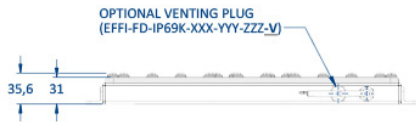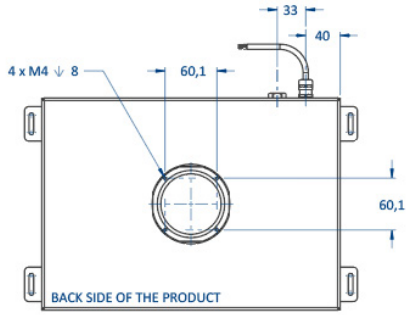
CABLE CONFIGURATIONS :

EFFI-FD-IP69K-XXX-YYY-ZZZ :

STANDARD CABLE GLAND
WITH STRIPPED END CABLE

EFFI-FD-IP69K-**FOOD**-XXX-YYY-ZZZ :

SPECIFIC FOOD GRADE CABLE GLAND
WITH M12M 5P CONNECTOR

CAMERA HOLE OPTIONS			
EFFI-FD-IP69K-XXX-YYY-ZZZ-**D30**	EFFI-FD-IP69K-XXX-YYY-ZZZ-**D39**	EFFI-FD-IP69K-XXX-YYY-ZZZ-**D58**	EFFI-FD-IP69K-XXX-YYY-ZZZ-**D70** (STANDARD)
Back side of the product (tapped holes) — Ø 30 — No tapped holes for this size	40 — Ø 39 — 40 — 4 x M4 ↓ 8	50 — Ø 58 — 50 — 4 x M4 ↓ 8	60,1 — Ø 70 — 60,1 — 4 x M4 ↓ 8

ACCESSORIES

Please refer to the specific documentation for additional information on the accessories of the EFFI-FD-IP69K.

Potentiometer

EFFI-DIMMER
EFFI-DIMMER2

CONTACT INFORMATION

Please refer to the specific documentation (datasheet, user manual and drawing) for complementary information. Contents of this document are based on information available as of February-2025 and may be changed without prior notice.

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