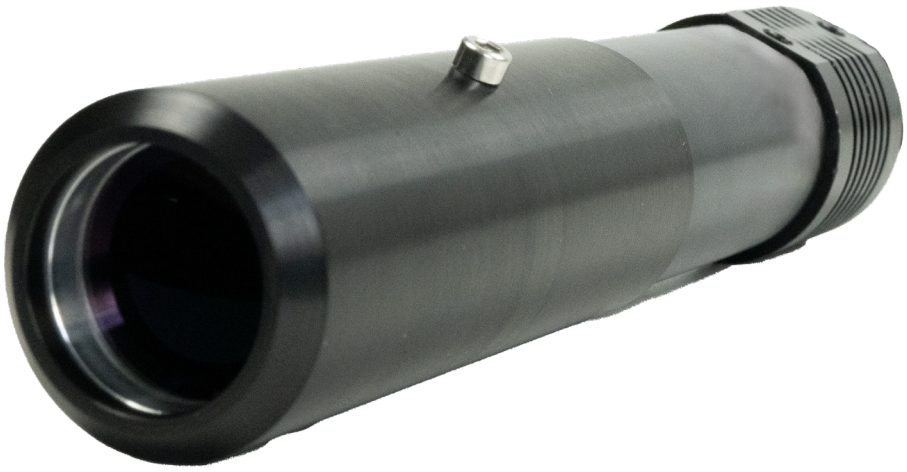
DATASHEET

Efficient Led Lighting

effiLux



Very powerful

Squares

Focus beams

Discs

UV to IR

IP5X

CE

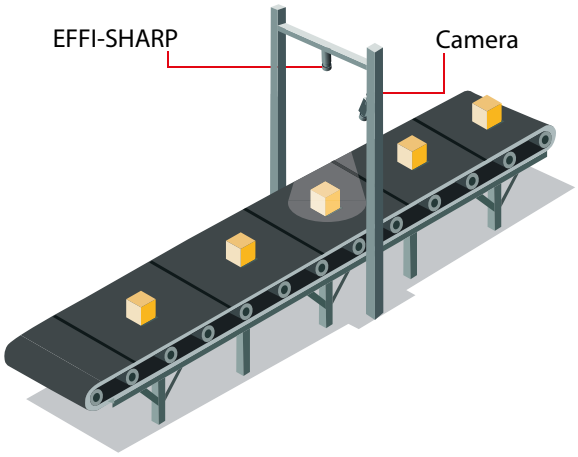
effiSHARP

Powerful and uniform light projector

TABLE OF CONTENTS

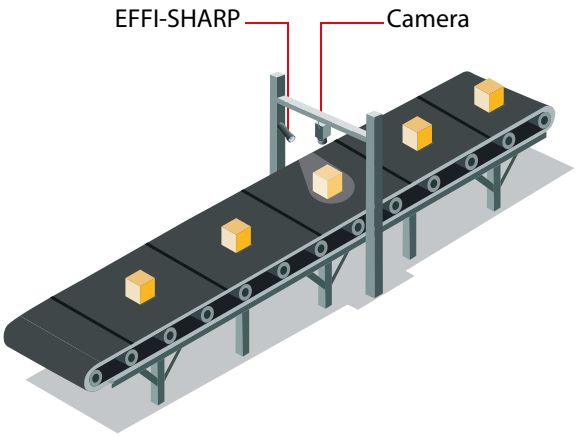
APPLICATIONS

Sharp standard



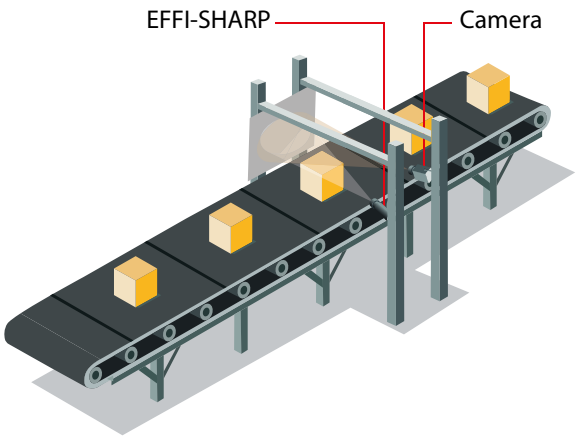
Precise spot light with sharp edges for long working distances.

Sharp dark-field



Tangential illumination for carved codes reading, cleavage inspection, edges view enhancing

Sharp back-light



Backlight illumination with a spot light.

PART NUMBERING

STANDARD VERSION

EFFI-SHARP - VVV - XX - ZZZ - M

VVV	XX	ZZZ	M
Ø: Standard (STD) PWR: Power version FL: Focus Light PWR FL: Power Focus Light version	NF: Near Field MF: Middle Field FF: Far Field CM: For any other C-mount configaration lens	405 (UV) 465 (Blue) 525 (Green) 625 (Red) 850 (Infrared) 000 (White)	1: Square 9x9 mm 2: Disc Ø 15.1 mm 3: Half-moon R = 9.5 mm

AVAILABLE OPTIONS

STR option

EFFI-SHARP - VVV - XX - ZZZ - M - STR

- The direct current option gives a full control over the current sent in the LEDs. It allows strobing and more light power.
- Warning: There is no LED protection

Polarizer option

EFFI-SHARP - VVV - XX - ZZZ - M - POL

- The optical accessory Polarizer eliminates glare caused by the lighting on parts to control.
- The camera can then analyze the part, without being disturbed by the glow effects.

Pure UV option

EFFI-SHARP - VVV - XX - 365 - M - PUV

- The EFFI-SHARP in 365nm is also available with the Pure UV Technology (Contact Effilux for more information).

TECHNICAL SPECIFICATIONS

effiSHARP

Illumination Mode	Strobe (only with direct current) or continuous	
Wavelengths	365nm, 405nm, 465nm, 525nm, 625nm, 850nm, 000nm	
Power Supply	24V DC	
Connector(s)	**M12 - 5 pins (LED driver)**	**M8 - 3 pins (no LED driver-direct current)**
Power Consumption	Standard Version : 5W	
	Power Version : 15W	
Analog Intensity Control (AIC)	The output optical power is adjustable from 20% to 100% by applying a signal from [5V-24VDC] Total voltage range [0V-24VDC] / Don't exceed 24V DC / Max. signal consumption: 4mA	
Response time	Max. 10µs *(Rise time included)*	
Weight	Max: 250g	
Dimensions	Depends on the version	
Material	Device body: Aluminum alloy	
Fastener	Standard version: 4X M4 holes on the side of the device Power version: 2 M4 holes and 1 M6 hole on the backside of the device	
IP rating	IP54	
Operation environment	Temperature: 0°C to 50°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	

OPTICAL SPECIFICATIONS

Overview

The EFFI-Sharp has been designed to project shapes with intense light beams at working distances from 20mm to 2m.

Two additional versions help answering any use-cases

- Power (PWR): The light beam is 2.5 times more powerful to work at larger working distances.
- FocusLight (FL): The beam is focused to provide more intense lighting at short working distances.

Type of lens

NF: Near Field

Typical working distance:

- STD & PWR: 100-800mm
- FL: 40-70mm

MF: Middle Field

Typical working distance:

- STD & PWR: 400-1600mm
- FL: 80-120mm

FF: Far Field

Typical working distance:

- STD & PWR: 500-1800mm
- FL: 150-300mm

Mask and pattern projection (If not specified, default 2)

1: Square

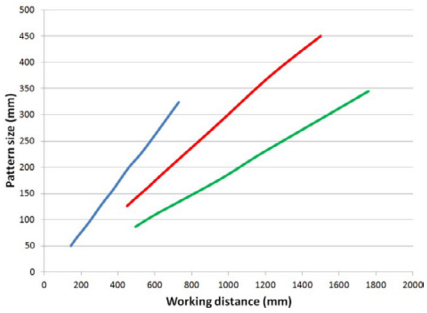
2: Disc

3: Half-moon

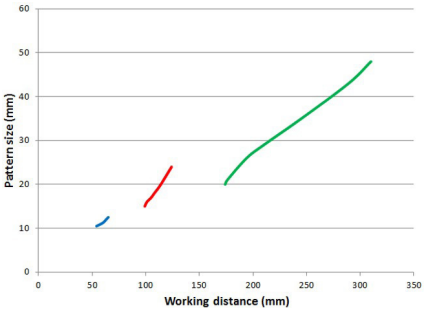
Pattern size

Curve color ≡ Objective: NF (Near Field) / MF (Middle Field) / FF (Far Field)

EFFI-SHARP/ EFFI-SHARP-PWR

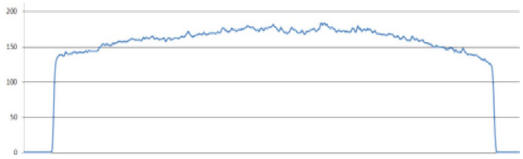


EFFI-SHARP-FL

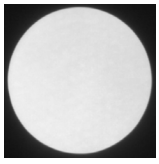


Uniformity of the pattern

Horizontal profile



Vertical profile



Uniformity higher than 80%

ELECTRONICAL CONSIDERATIONS

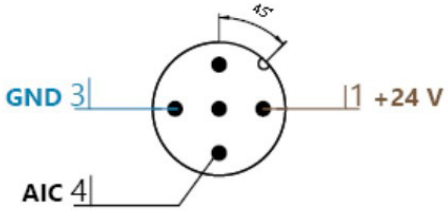
Power consumption & contact arrangement

The average power consumption is:

- For the standard version (VVV = Ø in the part-number): 5W
- For the power version (VVV = PWR in the part-number): 15W
- For the STR option (without LED driver), the power consumption depends on the intensity which flows in the LED.

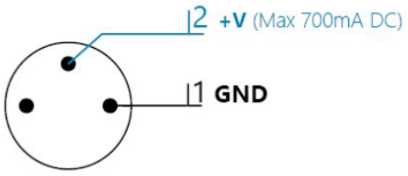
Depending on the chosen configuration (with or without LED driver), the light comes with different connectors.

With LED driver



Without LED driver = STR

Expert mode: LED are wired directly to the M8 without protection

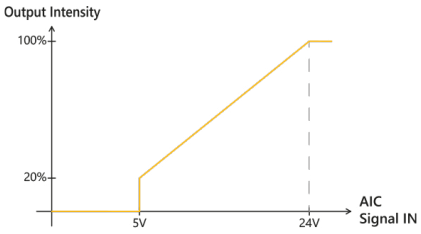
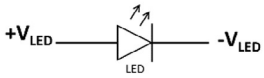
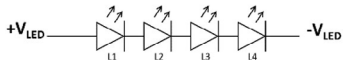
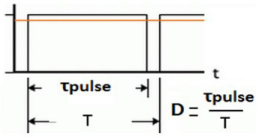


Max input intensity 700mA

Notes: The EFFI-SHARP requires 24V DC input power.

Mode control

3 options are available :

Chosen option	With LED driver (Dimmable continuous)	Without LED driver = STR (Dimmable continuous)
Dimmable continuous		Standard version :  Power version : 
Strobe	Not available	

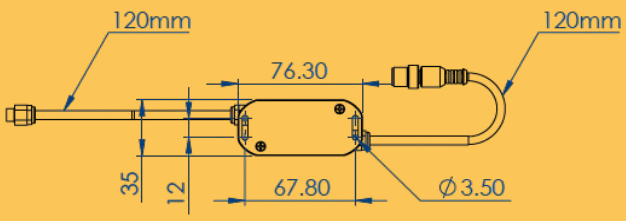
Current	Max pulse duration (µs)	Duty cycle
1.2A	50 000	0.5
1.5A	10 000	0.1
2A	1000	0.01
2.5A	100	0.001
3.5A	40	0.0004

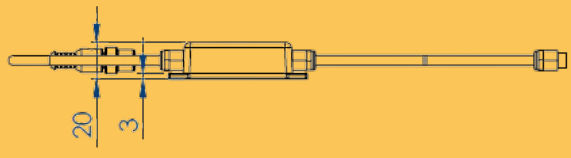
MECHANICAL CONSIDERATIONS (DIMENSIONS IN MM)

Overview

For the four existing versions of the EFFI-SHARP (VVV = Ø / PWR / FL / PWR-FL), two configurations exist either M12 (with LED driver) or M8 (without LED driver). In this section you will find the corresponding drawings for each version.

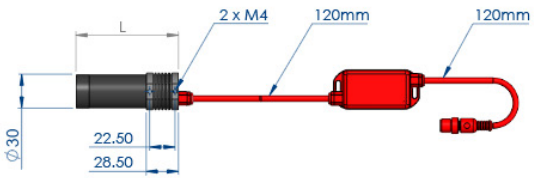
In every sketch, the red part corresponds to the M12 configuration and should be replaced by a M8 connector for the corresponding configuration. Here are the dimensions of the red part.





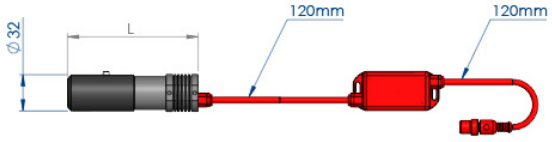
EFFI-SHARP : Standard version (EFFI-SHARP-XX-ZZZ-M)

XX = CM



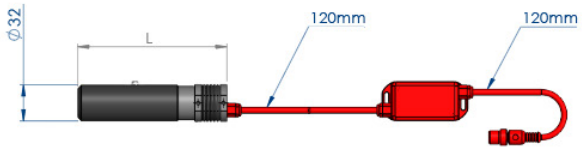
L = 90.7mm

XX = MF

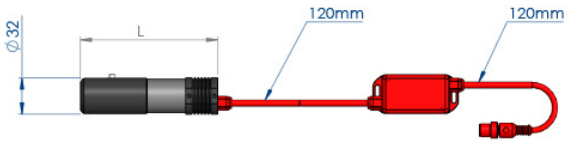


L Min (mm) : 116
L Max (mm) : 132

XX = FF

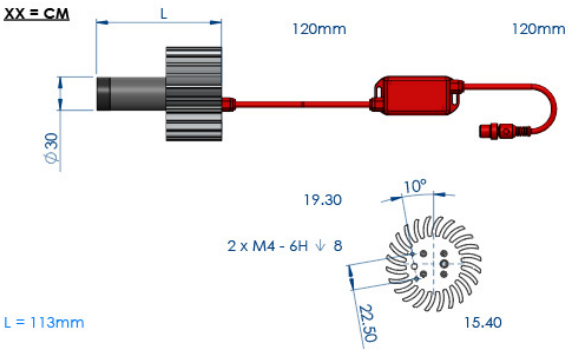


XX = NF



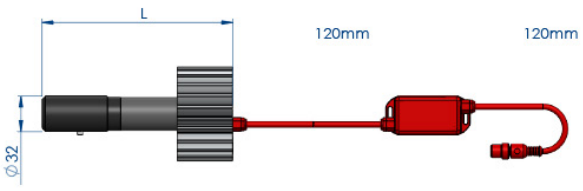
EFFI-SHARP : Power version (EFFI-SHARP-PWR-XX-ZZZ-M)

XX = CM



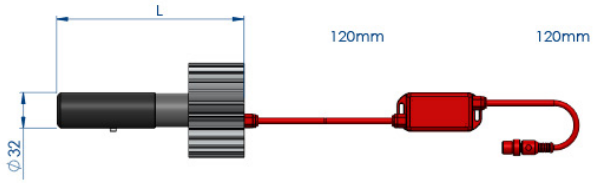
L = 113mm

XX = MF

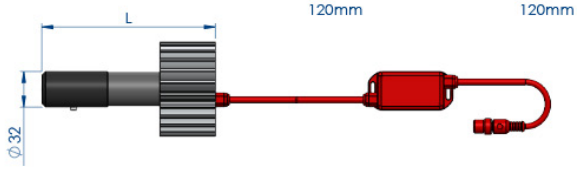


L Min (mm) : 138
L Max (mm) : 153

XX = FF



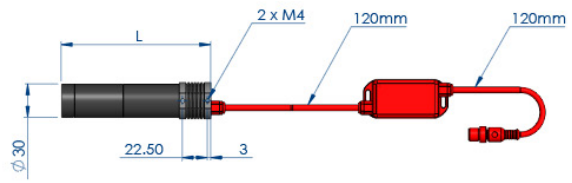
XX = NF



Notes: At the back of the chilling zone, there are two M4 holes for mountings

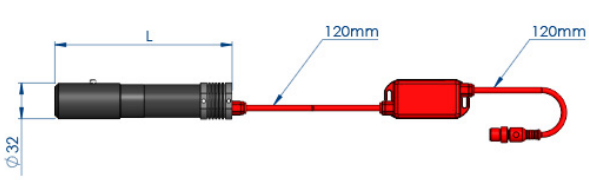
EFFI-SHARP : Focus light version (EFFI-SHARP-FL-XX-ZZZ-M)

XX = CM



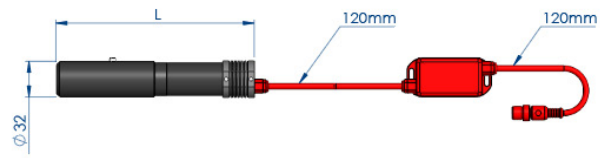
L = 135mm

XX = MF

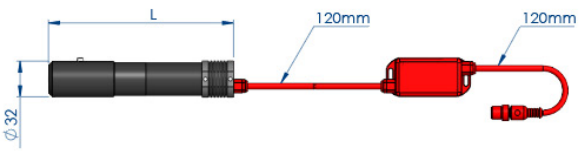


L Min (mm) : 159
L Max (mm) : 175

XX = FF

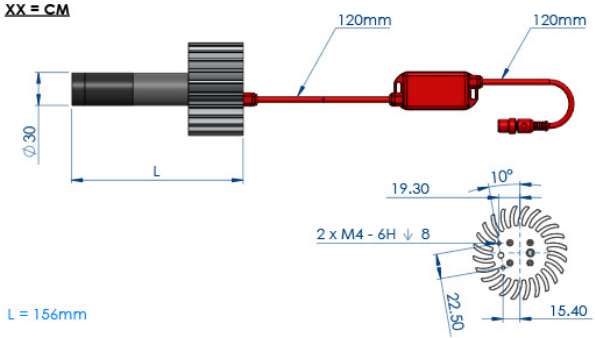


XX = NF



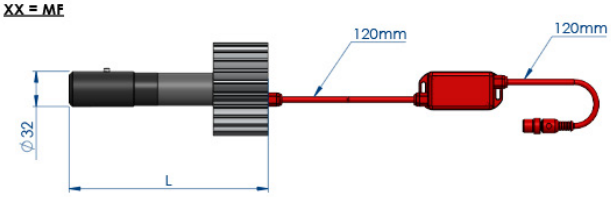
EFFI-SHARP : Power focus light version (EFFI-SHARP-PWR-FL-XX-ZZZ-M)

XX = CM



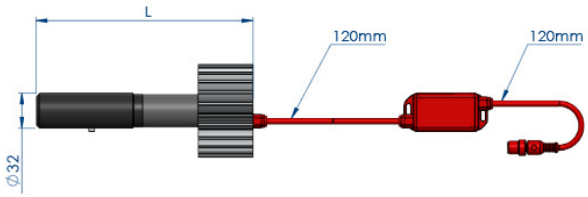
L = 156mm

XX = MF

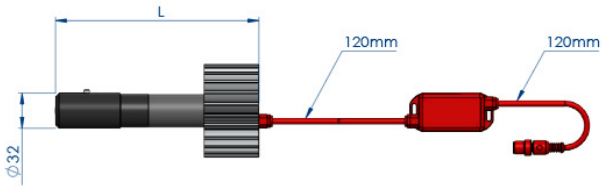


L Min (mm) : 181
L Max (mm) : 196

XX = FF



XX = NF



Notes: At the back of the chilling zone, there are two M4 holes for mountings

ACCESSORIES

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

Fasteners

Clamping: EFFM-1-0001
Pivot joint: EFFM-1-0009
Tripod adapter: EFFM-1-0027

Pulse controller

Pulse controller
EFFI-IPSC4
Cables
2 meters: EFFC-CAB-M8-SUBD-FM-3-DD-L2
5 meters: EFFC-CAB-M8-SUBD-FM-3-DD-L5
10 meters: EFFC-CAB-M8-SUBD-FM-3-DD-L10

Extension cables

M12
2meters: EFFC-CAB-M12-FM-5-DD-L2
5meters: EFFC-CAB-M12-FM-5-DD-L5
10meters: EFFC-CAB-M12-FM-5-DD-L10
M8
2meters: EFFC-CAB-M8-F-3-D-L2
5meters: EFFC-CAB-M8-F-3-D-L5
10meters: EFFC-CAB-M8-F-3-D-L10

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 January 2025 and may be changed without prior notice.

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