

KPL100



LED frontlight for Cognex In-Sight Systems

Version 1.3

KPL100

Krempien+Petersen Qualitäts-Kontrollsysteme GmbH



Features

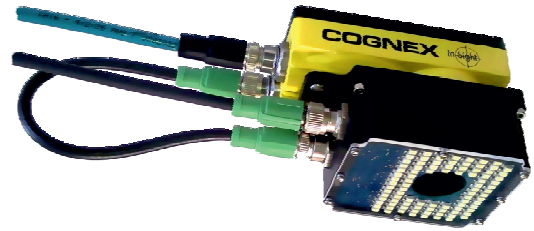
- Very homogeneous light field
- 90 high-power and high-quality LEDs
- Direct control by the camera
- Flash mode in overcurrent range without reducing lifetime
- Integrated circuit protection
- Flash duration between $16 \mu\text{s}^1$ and 1 ms
- Schutz des Objektivs vor Staub und Schmutz
- Easy mounting directly on the camera front
- Replaceable acrylic glass



¹ depending on camera model

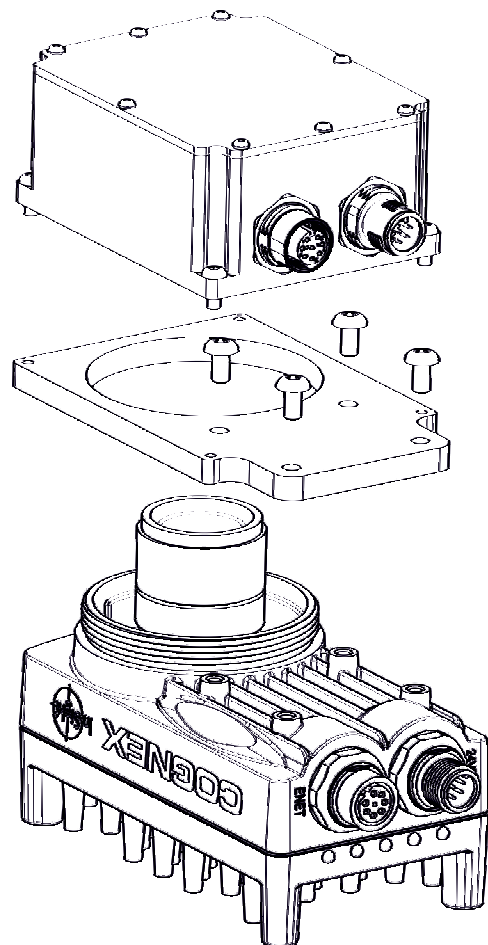
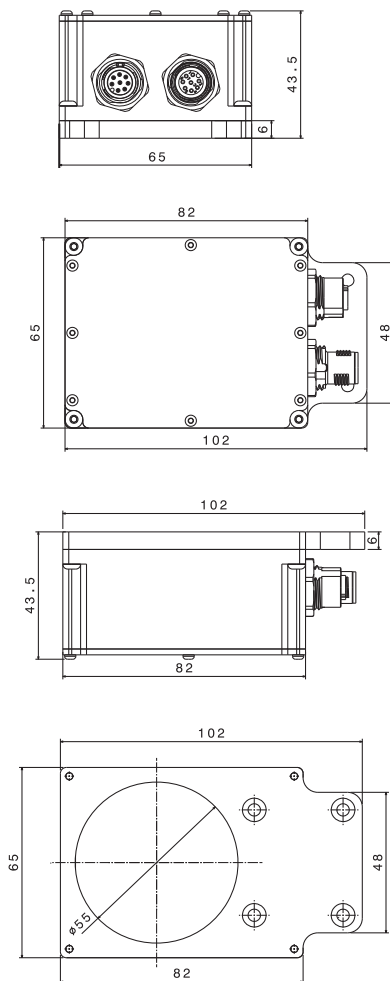
Description

The KPL100 was specially developed for applications in the field of imprint verification where a homogeneous illumination of the field of vision is essential. The lamp is space-savingsly mounted directly on the camera - a separate mounting device is not necessary. The In-Sight system is controlled via the supplied cable. The power supply is provided via the standard In-Sight connection cable. An integrated protective circuit provides reverse polarity protection and prevents the LEDs from overheating.



Due to the large number of LEDs and the possibility of very short pulse times, an almost complete independence from extraneous light sources can be ensured. Mounting the lamp directly in front of the lens also protects it from dust and dirt. The acrylic glass window in front of the LEDs can be replaced so that the original image quality can be restored if it becomes dirty or damaged.

Dimensions (mm) & Assembly of components



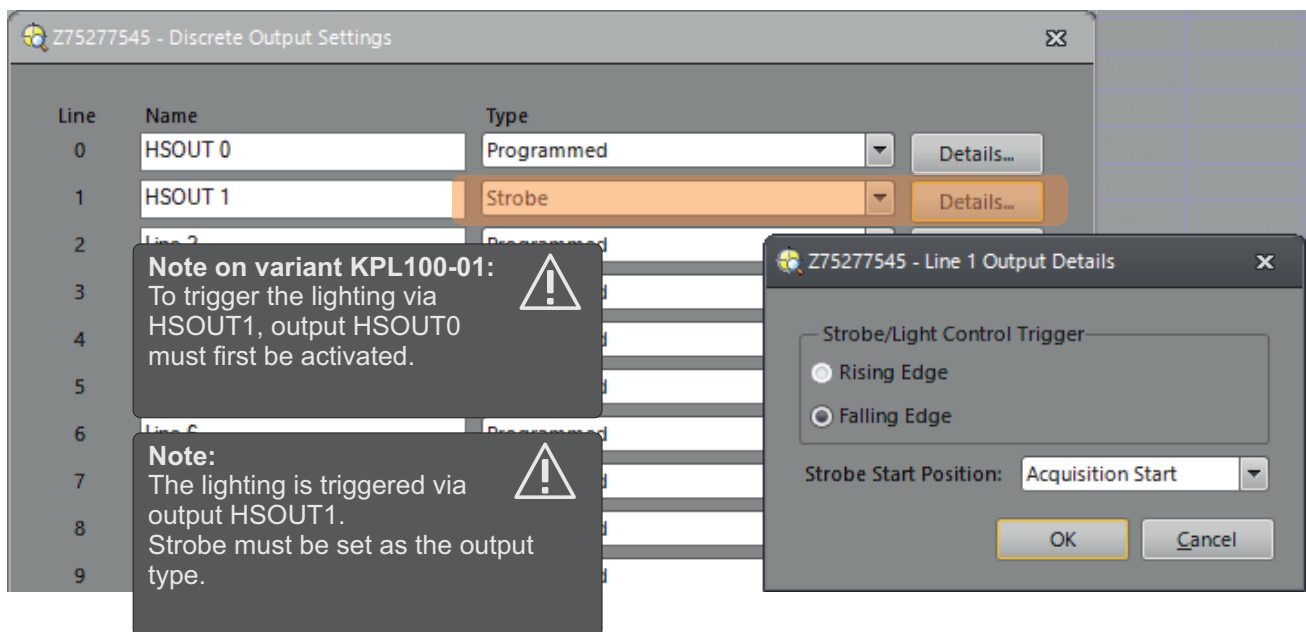
Montage

The mounting plate of the KPL100 is screwed to the In-Sight system using the 4 M4×8 screws supplied. After a lens has been inserted, the housing of the KPL100 is mounted to the mounting plate.

The standard In-Sight I/O cable is connected to the enclosure connector of the KPL100 and the connection socket of the KPL100 is connected to the 24 VDC input of the In-Sight system via the supplied connection cable. All pins of the camera are through-wired in the KPL100 and still available.

Configuration in the Cognex In-Sight Explorer

In-Sight Explorer Menu: Sensor/Discrete Output Settings/Output 1

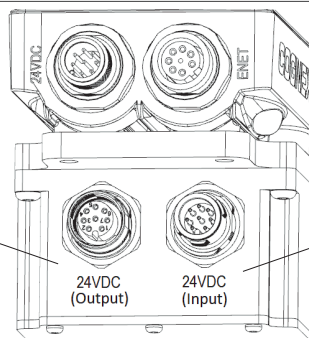
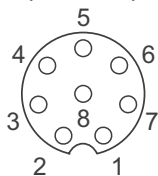


Technical data

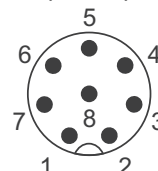
Operating voltage	24 VDC
Self-current consumption	max. 2.25 A (Puls current)
Triggerlevel Low	0 ... ≤ 2.8 V
Triggerlevel High	≥ 3.3 ... 35 V
Operating temperature	0 bis 45 °C
Protection class	IP 54
Storage temperature	- 40 bis 85 °C

Pin assignment

Camera connector
(female)



+24VDC connector
(male)



PIN	Signal	Cable color COGNEX	Cable color Phoenix Contact	Connection
1	VDC (+24 VDC)	white-green	white	VDC (+24 VDC)
2	TRG+ (Trigger+)	green	brown	TRG+ (Trigger+)
3	TRG- (Trigger-)	white-orange	green	TRG- (Trigger-)
4	HSOUT 0	blue	yellow	HSOUT 0
5	HSOUT 1	white-blue	grey	Trigger for LED lighting
6	RXD (RS 232)	orange	pink	RXD (RS 232)
7	TXD (RS 232)	white-brown	blue	TXD (RS 232)
8	GND (Ground)	brown	red	GND (Ground)



Warnings and safety instructions

Do not stare into beam.

This device produces light of high intensity. It may be harmful if exposed to prolonged exposure.

Ensure sufficient heat convection.

Clean the device regularly and do not cover it.

Do not disassemble the device and do not operate it without the protective screen.

Heavily contaminated glass prevents the light emission and increases the heat generation.

If the temperature of the lighting is permanently too high, the lifetime of the LEDs may be reduced.

Always adjust the flash duration according to the application.



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Made in Germany

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