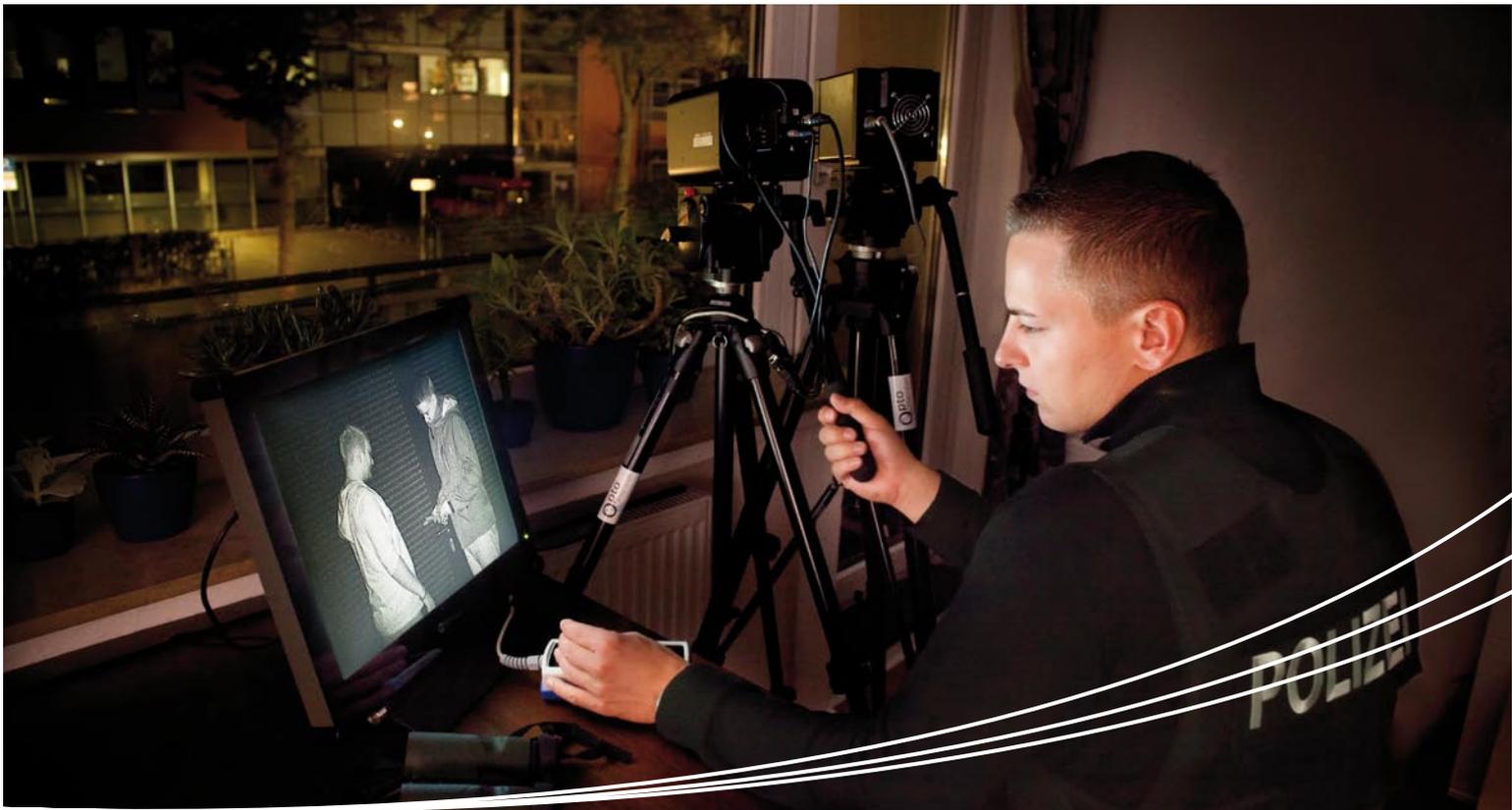


## OptoPrecision Security Systems



### **OptoPrecision LaserFlash**

*Eye-safe IR laser illumination  
for undercover operations*

# Application options for OptoPrecision LaserFlash

## Eye-safe IR laser illumination for undercover operations

Our products from the LaserFlash range offer support to police task forces, customs and other security services on undercover operations. The invisible, eye-safe laser light enables undercover forces to illuminate an object under observation without being discovered, either during bad visibility or at night, at distances of up to several hundred metres.



Left: overexposure of sensor without laser  
Right: contrast-rich video images free from interfering light

### Suppression of interfering light

Particularly in dark conditions, video cameras are very sensitive to interfering rim light and changing light conditions (e.g. from car headlights), which often results in the target object in the image being overexposed. Our LaserFlash devices suppress visible light by using interference filters. Glares from torches or other lighting are avoided. Because IR laser illumination radiates in a much narrower spectral bandwidth (2-4 nm) in comparison to LED IR illuminations, it makes the reduction of interfering light six times more efficient.



LaserFlash products support cameras with analogue and IP video outs.

### Support of IP and analogue cameras

The LaserFlash P & Plus models are available in IT and QCW operational modes. The IT version is synchronised through the video signal with the analogue camera, whereby during illumination time the maximum amount of light is made available. The QCW version operates with both, IP and analogue cameras – with this version laser pulses of 300 Hz are emitted so that a connection to the camera is not necessary. For operational convenience several cameras can be simultaneously linked.



Interfering sunlight is reduced by special filters, whilst at the same time the scene is also illuminated with IR light.

### Less interfering reflections of sunlight caused by polarised IR laser light

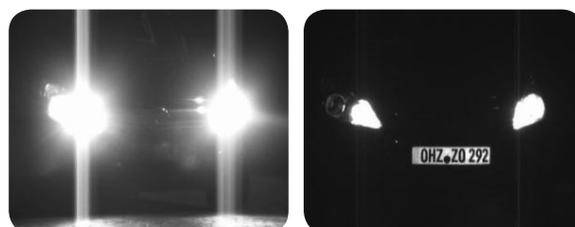
Interfering reflections caused by sunlight are reduced through a polarising filter and a powerful IR laser illumination. In comparison to other IR light sources the laser light is polarised, which occurs in the filter.



Left: A three-story building at a distance of 200 m. The interfering light caused by streetlights is suppressed.  
Right: Observation of a person from a distance of 150 m.

### Operation in public areas with eye-safe IR laser illuminations

Our IR laser illuminations are eye safe in laser class 1 and therefore can be applied in public areas. The laser safety of the products is certified by an independent laboratory.



Identification of number plates with and without laser illumination and filter.

### Identification of number plates despite backlight

Until now the reading of number plates through dipped headlights was unthinkable. For the first time, the application of powerful IR laser illuminations in connection with an interference filter allows the identification of number plates despite the interfering light.



Supportive laser light for access units and snipers with night vision devices.

### Support for night vision devices and aiming devices with image intensifiers

The LaserFlash QCW models support night vision devices and aiming devices with IR image intensifier tubes. The lasers are able to illuminate a scene giving the user a big advantage by providing a more contrast-rich and detailed view of the surrounding area.



Laser and camera observation from a flat through the glass of the window.

### Observation from a flat

A common observation from a flat involves viewing through window glass. The powerful LaserFlash P & Plus models can be used from behind the glass of the window to illuminate a scene in an outside area. The range is dependent on the IR absorption of the glass in the window.



Left: Observation from a distance of 40 m without laser. Right: Observation from a distance of 40 m with laser: the inside of the room is visible.

### Viewing inside a room through a window glass

Particularly at twilight during cloudy skies or from streetlights at night, reflections get in the way of obtaining a clear view into a room. The LaserFlash P and Plus models are especially suitable for taking contrast-rich images through glass in windows.

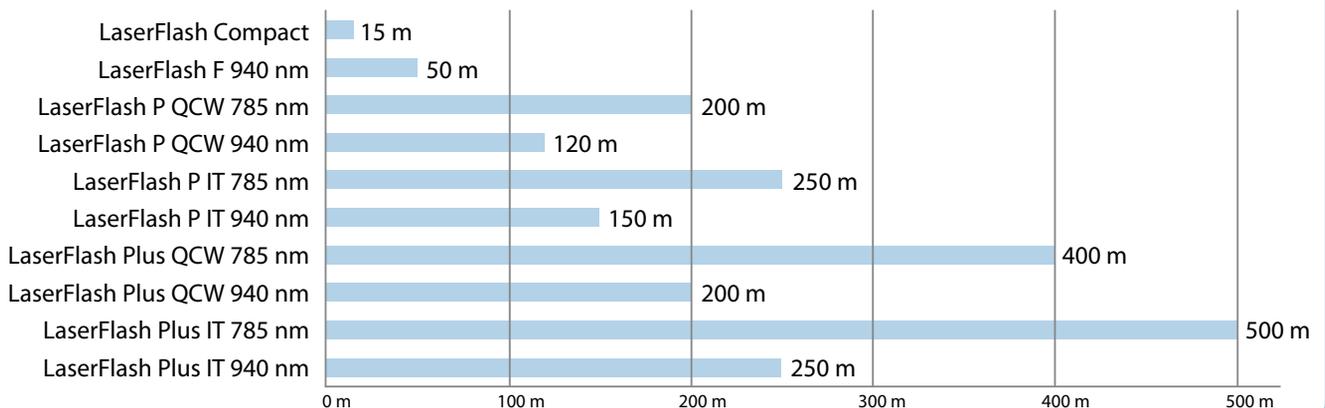


Observation without arousing suspicion at a distance of 80 m (left: without laser, right: with laser).

### Discrete CCTV surveillance at night

Our LaserFlash devices can illuminate a dark scene over long distance and is completely invisible to the human eye. We offer different models and wavelengths for various application areas. Consequently people and objects can be observed at high image quality without revealing the user.

## Ranges of the LaserFlash models



# OptoPrecision LaserFlash products

## Eye-safe IR laser illumination for undercover operations



### LaserFlash Compact

- non-visible illumination for short distances
- integrated Lithium-Ion rechargeable battery for portable operation
- 24 / 7 operation with external power supply unit
- stable lighting condition during interfering light
- can be used outdoors until IP-65

#### Product description

The **LaserFlash Compact** illuminates rooms and other settings with non-visible infrared laser light and stabilises (2) lightening conditions during undercover CCTV surveillance. Distances of up to 15 m (1) are permanently illuminated throughout the night by the in-built Lithium-Ion rechargeable battery or by using the external power supply. Since the **LaserFlash Compact** is button-operated it can be operational within seconds.

As synchronisation with the camera is not necessary no cable connection is needed. The discrete design means that the device can be left behind without arousing immediate suspicion. The laser is absolutely safe and can therefore be used without hesitation.

#### Important technical details

wavelength [nm]	905
range [m]	15
synchronisation with analogue camera	no
suitable for IP cameras	yes
available radiance angles [°]	30



### LaserFlash F

- discrete installation because of small design size
- non-visible illumination of medium range
- stable lighting condition during interfering light
- password-protected switching to laser class 3R

#### Product description

The infrared laser illumination **LaserFlash F** is suitable for discrete surveillance tasks where distances up to 50 m (1) have to be overcome. The light is directed through an optical fibre cable to a small lens that can be attached in the outside area. The optical fibre is available in lengths of up to 15 m. Hence a high degree of camouflage is possible.

Through the usage of infrared lasers interfering light effects can be reduced and dark areas can be illuminated, which allows undercover operation during the most difficult light conditions.

#### Important technical details

wavelength [nm]	940
range [m]	35 @ LK 1 / 50 @ LK 3R
synchronisation with analogue camera	yes
suitable for IP cameras	no
available radiance angles [°]	3, 5, 12, 23

(1) Range is - amongst others - dependent on the used wavelength, sensor sensitivity, reflectivity of object and transmission of lens (max @ 785 nm).

(2) For stabilisation an optional interference filter is recommended.



## LaserFlash P IT

- IR illumination at a working distance of up to 250 m (1)
- bright and cost efficient through use of an integrated TrigBox
- compact design
- non-visible and eye-safe light
- suppression of interfering light effects
- high image quality even during difficult light conditions

### Product description

With the **LaserFlash P IT** objects at a distance of up to 250 m (1) can be illuminated. To use the maximum amount of light, the integrated electronics synchronises the laser with the exposure time of the analogue video camera.

In combination with an infrared sensitive camera the **LaserFlash P IT** is extremely suitable for undercover and military operations. Also the compact design makes it particularly suitable for mobile operations. By using the available lenses the radiance angle can be easily adjusted for different operations.

#### Important technical details

wavelength [nm]	785 / 808 / 940
range [m] at 785 / 808 nm up to 500 m	up to 250 m
range [m] at 940 nm up to 250 m	up to 150 m
synchronisation with analogue camera	yes
suitable for IP cameras	no
available radiance angles [°]	3, 5, 12, 23



## LaserFlash P QCW

- IR illumination at a working distance of up to 200 m (1)
- non-visible and eye-safe light
- suitable for IP and analogue cameras without synchronisation
- compact design
- suppression of interfering light effects
- long distances usage with laser class 3R possible
- high image quality even during difficult light conditions

### Product description

With the **LaserFlash P QCW** objects at a distance of up to 200 m (1) can be illuminated with non-visible laser light without the need of synchronisation with the cameras being used. Subsequently, for challenging night observation tasks, several cameras and night vision devices can be simultaneously supported with infrared light.

The 12 V operating voltage is ideal for mobile operations. By using the available lenses the radiance angle can be easily adjusted for different operations.

#### Important technical details

wavelength [nm]	785 / 808 / 940
range [m] at 785 / 808 nm	up to 200 m
range [m] at 940 nm	up to 120 m
synchronisation with analogue camera	no
suitable for IP cameras	yes
available radiance angles [°]	3, 5, 12, 23



## LaserFlash Plus IT

- IR illumination at a working distance of up to 500 m (1)
- bright and cost efficient through use of an integrated TrigBox
- non-visible and eye-safe light
- suppression of interfering light effects
- long distance usage with laser class 3R possible
- high image quality even during difficult light conditions

### Product description

With the **LaserFlash Plus IT** objects can be illuminated at a distance of up to 500 m (1) with non-visible laser light. To use the maximum amount of light, the integrated electronics synchronises the laser with the exposure time of the camera.

In combination with an infrared sensitive camera the **LaserFlash Plus IT** is extremely suitable for undercover and military operations. By using the available lenses the radiance angle can be easily adjusted for different operations.

#### Important technical details

wavelength [nm]	785 / 808 / 940
range [m] at 785 / 808 nm	up to 500 m
range [m] at 940 nm	up to 250 m
synchronisation with analogue camera	yes
suitable for IP cameras	no
available radiance angles [°]	3, 5, 12, 23



## LaserFlash Plus QCW

- IR illumination at a working distance of up to 400 m (1)
- non-visible and eye-safe light
- suitable for IP and analogue cameras without synchronisation
- suppression of interfering light effects
- long distances usage with laser class 3R possible
- easy installation, compact and robust design
- high image quality even during difficult light conditions

### Product description

With the **LaserFlash Plus QCW** objects at a distance of up to 400 m (1) can be illuminated with non-visible laser light without the need of synchronisation with the cameras being used. Subsequently, for challenging night observation tasks, several cameras and night vision devices can be simultaneously supported with infrared light.

The 12 V operating voltage is ideal for mobile operations. By using the available lenses the radiance angle can be easily adjusted for different operations.

#### Important technical details

wavelength [nm]	785 / 808 / 940
range [m] at 785 / 808 nm	up to 400 m
range [m] at 940 nm	up to 200 m
synchronisation with analogue camera	no
suitable for IP cameras	yes
available radiance angles [°]	3, 5, 12, 23

## Accessories for LaserFlash products

Item	Function	Technical description
Interference filter	Filter for suppression of interfering light effects.	Inference filter in 5 mm c-mount spacer ring. Available wavelengths: 785, 808, 905, 940 nm.
Tripod adapter board	Attachment of camera and LaserFlash to a standard tripod.	Adapter board available for LaserFlash P und LaserFlash Plus models.
Image stabilisation	Considerable improvement of image quality and increase of information content.	Processes analogue video signals.
Front frame	The front frames determine the radiance angles of laser radiation.	Horizontal: 3°, 5°, 12° or 23° Vertical: 3°, 5°, 12° or 23°
Twilight sensor	Turns laser on when it gets dark and off again when light.	Available for current LaserFlash P, Plus and F models.

We also offer further accessories such as tripods, power supply, spacer rings, filters, bespoke transportation cases and special lenses and cameras.

## OptoPrecision Security Systems GmbH Surveillance, security and IR laser technology

OptoPrecision Security Systems was founded in 2009 as a sister company of Opto Precision GmbH and sells innovative security technology to the police, security authorities, military and companies that require the need for high security standards.

Besides the developed products by OptoPrecision (e.g. LaserFlash) OptoPrecision Security Systems offers additional products that complement the product portfolio and that perfectly meet the requirements of the target group. The whole Group (OptoPrecision GmbH, OptoPrecision Security Systems GmbH und Nägele Feinwerktechnik GmbH) currently employs around 60 members of staff.

### Further products from the product portfolio:

- cameras
- lenses
- binoculars
- recorders
- CCTV camera systems
- multi-sensor-platforms
- driver assistance systems
- thermal sensors
- acoustic effectors
- monitors
- accessories

### PROFESSIONAL VIDEO SOLUTIONS





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