

XPOSURE FLASH – 600 kHz LED LINE LIGHT

AIT's fast LED strobing technology **xposure:flash** is the perfect complement to **xposure:camera**, AIT's 600 kHz ultra-fast line scan camera. The use of ultra-fast strobing can transform a single camera into a multispectral, multichannel and photometry acquisition system.

ADVANTAGES OF HIGH SPEED STROBING

There is a trend in industrial inspection systems towards the simultaneous acquisition of more information. Even faster cameras with an increasing number of pixels are only one part of the solution. Adding high speed illumination can make more of these powerful cameras.

xposure:flash was specifically designed for industrial inline inspection. It simultaneously provides high illuminance and high homogeneity not only for one object plane, but homogenous illumination within a given 3D volume.

A specially adapted heat management system ensures maximum illumination stability and, together with the small unit size, this allows it to be used even in the tightest of installation conditions.

AIT, YOUR PARTNER FOR HIGH SPEED IMAGING

With more than 20 years of experience in developing high performance inline inspection solutions we provide:

- System solution competence for demanding topics of fast image acquisition
- Tailored solutions to fit your application needs
- Industrial standard quality through cooperation with industrial partners
- High planning competence and risk management through multi-phase project planning
- Close connection to the industry and at the same time profound knowledge of newest technological developments
- Multidisciplinary design including optics, electronics, mechanics, heat management, etc.
- Solutions at the cutting edge of technology

XPOSURE FLASH ENABLES NEW SOLUTIONS FOR INDUSTRIAL INSPECTION

Ultra-fast strobing enables new solutions for industrial inspection. It can transform a single camera into a multi acquisition unit. By changing the light, e.g. direction, color or spectral range, between consecutive frames or lines enables new possibilities for advanced single camera systems like:

- Single camera multi spectral systems
 - e.g. VIS, NIR, UV, ...
- Single camera multiple illumination systems
 - e.g. bright field, dark field, transmission, ...
- Compact and easy to use advanced industrial solutions





XPOSURE FLASH CAN MAKE MORE OF YOUR CAMERA ...

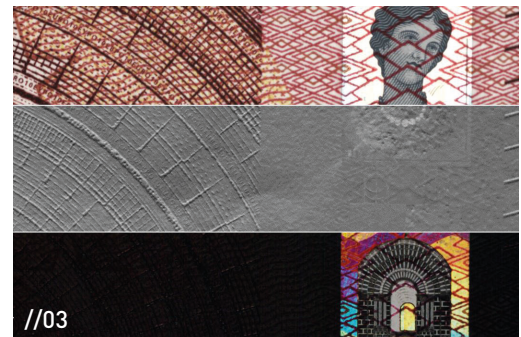
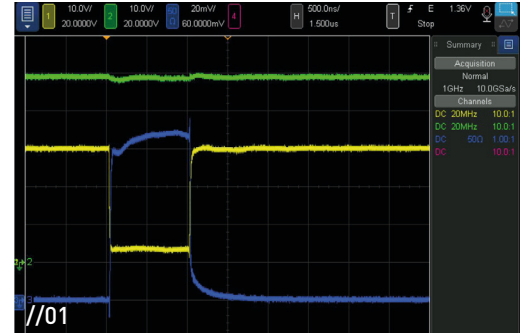
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TECHNICAL DATA OF XPOSURE FLASH

- Dual-channel LED line light (more channels on request)
- One controller per channel
- Max. strobing frequency 600 kHz | 300 kHz per channel
- Max. duty cycle 50% each channel
- High power LED's
- Illuminance: 1Mlx
- Wavelength: White and NIR (850 nm) (others available on request)
- Total power consumption: 25 W
- Number of LEDs: 24 | 12 per channel
- Dimensions LED line: 140 mm x 17 mm
- Dimensions controller: 93 mm x 55 mm
- Illumination length: 100 mm
- Designed for industrial inline inspection, and for easy integration with 600 kHz xposure camera

APPLICATION FIELDS

- Multispectral line-scan system
- Single camera inline photometric stereo
- Single camera inline lightfield imaging
- Inline inspection of challenging surfaces
 - e.g. glossy, semi-glossy, semi-transparent
- Simultaneous inspection of print and tactile features
 - e.g. intaglio print, braille embossing



//01 Fast luminous flux switching

yellow curve: 1µs LED pulse | blue curve: luminous flux

//02 VIS and NIR data stream captured with one xposure camera

bright line: VIS illumination | dark lines: NIR illumination

//03 Print inspection of 10 EURO banknote

top: RGB | middle: intaglio print | bottom: hologram

... IT ENABLES ADVANCED SINGLE CAMERA SOLUTIONS.

XPOSURE FLASH IN A NUTSHELL

- World's fastest LED strobing with 600kHz
- Multispectral LED light
- Various illumination colors possible, e.g. VIS, NIR
- High illuminance
- Homogenous light distribution
- Small mechanical dimensions
- Fully customizable to your requirements

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