

# PENLINK

## Corona Discharge, Power Line Inspection

APPLICATION NOTE

### Avoid damage to power lines and unexpected power outages with our camera solution!

In most power lines there is a risk that electrical discharge happens, which can lead to power outages. This can also happen during production of high voltage electronic products on a production line. This discharge is more commonly known as Corona Discharge.

Corona discharge is an electrical discharge that occurs when a fluid (like air) surrounding an electrically-charged conductor becomes ionized. In simple terms, it's the noise that air (surrounding the power lines) makes as electricity jumps through it.

With our camera solution you can detect the electrical discharge before it damage the power line or the cables on a production line.



# WHY YOU SHOULD CONSIDER OUR CAMERA SOLUTIONS

CORONA DISCHARGE APPLICATION NOTE



## EXTREME SENSITIVITY

Our main advantage is the extreme sensitivity of this camera and that it provides framerate of up to 60hz. The extreme sensitivity also provides us with quick detection of electrical discharge, making power lines last longer. This solution mounted on a drone probably makes it one of the best in the industry to detect corona discharge in difficult or unreachable places. Contact us for more info on drone-based solutions.

## DETECTS LOW AMOUNTS OF UV LIGHT

Our solutions consist of a combination between a solar blind image intensifier tube and our low-light camera, we are able to see even low amounts of UV light (corona discharge is visible in the UV spectrum). So we can very precisely detect where the source of the discharge is happening. This is an important feature, which means minimizing downtime and the costs that come with damaged power lines due to electrical discharge.



## FEATURES

Imaging Start-Up Time	< 5 s
Image Correction	Bad pixel replacement and 2 points non-uniformity correction (NUC)
Gain Control	Automatic gain and exposure control or manual
Windowing	Full field of view down to 1/2 vertical resolution
On-Screen Display	Display Full on-screen display capability with text, standard geometrical shapes and graphics
Digital Zoom	Up to 8x (0.0001 increment resolution)
Contrast Enhancement	Histogram stretching, equalization and adaptive equalization
Snapshots	On-board capture of .JPG or .PGM (8/10 b)

# AN AFFORDABLE SOLUTION

## CORONA DISCHARGE APPLICATION NOTE

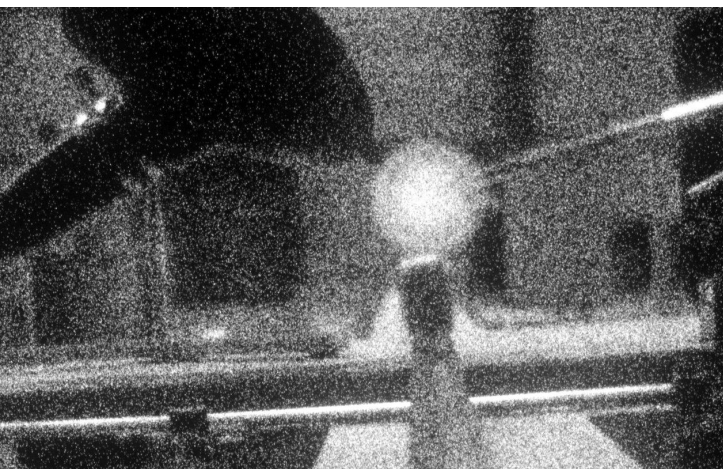
Currently power line companies use UV cameras and normal day cameras, combined in a fusion system to detect electrical discharge. They use the fused video to determine where exactly the corona discharge is happening.

There are only a few companies in the world that make these kind of systems with combined fusion systems and frankly – they are expensive. But with our UV camera solution, we are enabling other companies, such as drone operators, to use our camera in combination with a daytime camera to help them detect corona discharges.

Our solution is fully customizable as it is a camera core, it is fully open to be integrated or customized into a system. In most common cases, it would need to be combined with a day camera. Are you interested in this solution please contact us for more in-depth information about the solution and our integrated products. We will help you!

### SOLAR BLIND I-NOCTURN IMAGING

Our solution, The Solar Blind I-Nocturn Imaging consists of 3 main products that all are customizable to fit your application. Lynx Low Light Sensor, Nocturn XL and Image Intensifier Tubes.



### EXAMPLE OF CORONA DISCHARGE DETECTION

Even though there is no combination with a day camera for this picture, it is the raw image of our camera, it is detecting a spark in the UV spectrum at high voltage.

# PENLINK

Let's talk business!

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Get in touch with  
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No question is too  
small or big.



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Advanced  
Manufacturing



Value-Added  
Products & Services