



MICROTECH (PTY) LTD

condition monitoring and instrumentation

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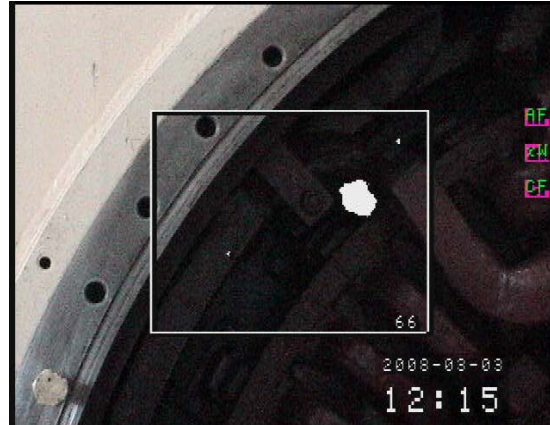
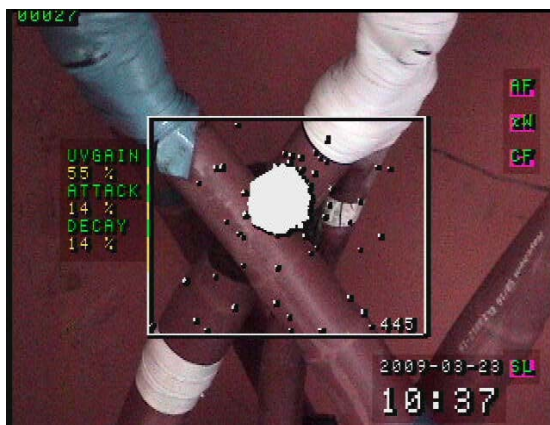
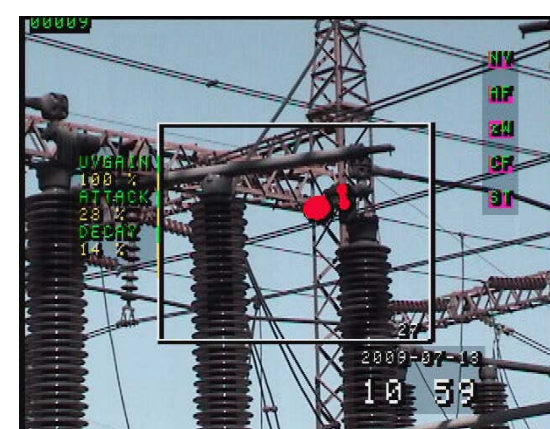
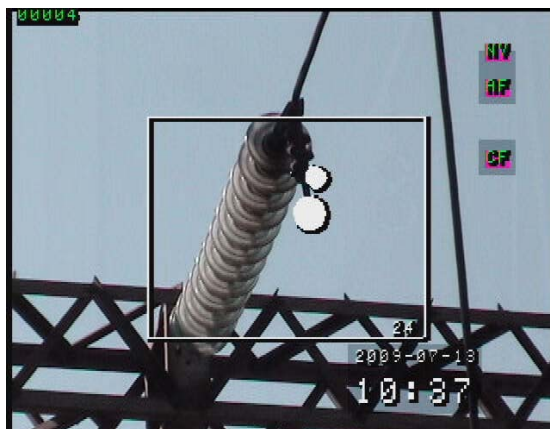
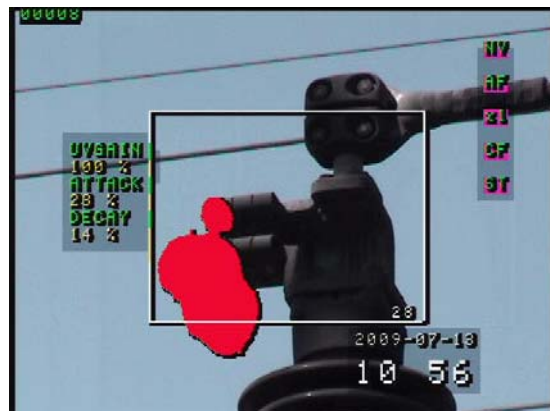
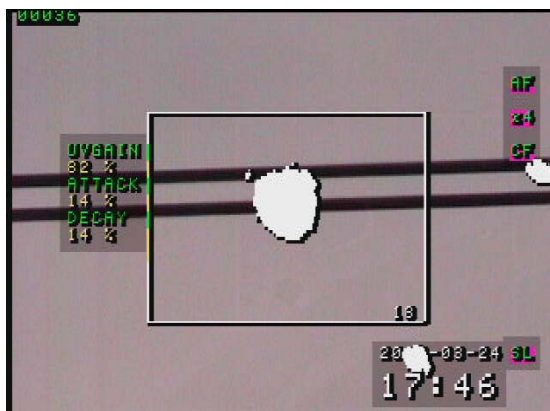
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Corona... Partial Discharge...



To all our valued customers,

Our managing director Jacques Theron welcomes you to:

Micro Tech Condition Monitoring and Instrumentation (Pty) Ltd

Micro Tech CMI (Pty) Ltd has more than 22 y- experience in the Elect & Mech Eng environment incl 15 y - spent improving and developing new Con Mon Disciplines...

By using Predictive technologies in a Pro-active way we are helping companies improve plant and machine availabilities, maximising through-put, while saving millions of rands, minimising risk to man and machine

We invite you to learn more about our company and guarantee that you will be impressed by both our professional service and attitude

Micro Tech CMI (Pty) Ltd is also a Level 2 BEE contributor.

Condition Monitoring Disciplines & Instrument Utilized

- Thermal Imaging with Inspectrend (Inframetrics, Flir & Fluke)
- Vibration Analysis including on-line (Comtest Vib 5-8, CSI 2130)
- Tribology analyses (Oil) on site & off site (PerkinElmer, etc)
- Motor Circuit Evaluation (Online - Pdma & off line All Test Pro)
- Power Quality Analyses (Fluke 435, Amprobe, Metra Gossen)
- Laser Alignment (LazerFix)
- Balancing (Comtest, CSI)
- NDT (Ultrasonic & Phase array) (G.E. - Krautkramer)
- Fluid Management (FLAC Guard & Grease-Max)
- Corona Detection (C.S.I.R. Pretoria & UVIRCO)
- Inspectrend & Tracker RMS (Logos USA)

Micro Tech CMI is the authorized distributor for the CoroCam range of Ultra Violet equipment... corona discharge...

Developed by **CSIR (UVIRCO)** in collaboration with firms such as **Eskom** and Technology Service International (TSI)

Ultra Violet systems better known as the CoroCAM made great reviews in the market of test equipment and has already achieved great success in countries such as:

Russian Federation , France, Switzerland, Japan, China, Spain, Portugal, India, North America, Canada, South Africa, Hungary, Czechoslovakia, Singapore, Malaysia, Thailand, Vietnam, Laos, Cambodia, The Scandinavian countries, Arab countries and Pakistan.

Here at Micro Tech we are proud of our products and services. We are known as innovative leaders in our field. Your company will only benefit since with Micro Tech CMI you will be able to implement the latest technologies & disciplines.

Typical UV / Corona sources on High-Voltage systems:

- Broken or damaged conductor strands
- Damaged insulator discs
- Spark gaps on loose clamps
- Pollution on conductors or insulators
- Missing or damaged corona rings
- Incorrect arc horns
- Flash-over paths
- Sharp hardware points or protrusions
- Corroded conductors

The Effects:

- Generation of light
- Audible noise
- Radio noise
- Vibration due to electric wind
- A deterioration of materials due to ion bombardment
- Generation of ozone, oxides of nitrogen, and in the presence of moisture, nitric acid
- Dissipation of energy

Corona may typically occur:

- Around line conductors
- On spacers and dampers
- Damaged insulators - ceramic or non ceramic
- Polluted insulators
- At the live ends of insulator assemblies and bushings
- At any point of your electrical equipment, where the electrical field strength exceeds 3kV/m

Another category of electrical discharge on high-voltage equipment is gap discharge. This can be described as follows:

- Spark discharge, occurring between any two metal surfaces bound together electrically
- Micro-spark discharge, occurring in a miniature air gap formed between a conducting and insulating surface
- Surface discharge, occurring across dry bands on the conductive surface of polluted insulators

In addition to light radiation the ionisation process also causes:

- Audible noise
- Radio interference
- A chemical process of nitric acid formation affecting most surfaces
- Power loss due to Corona discharges and Arcing

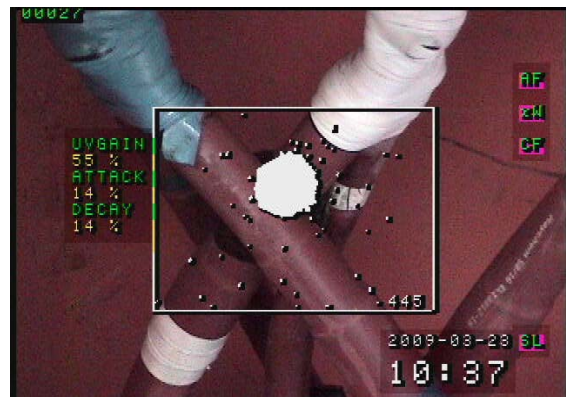
Corona occurs on high voltage equipment operating at voltages of 11 kV and above (but can even occur at lower voltages). It is not always cost effective to eliminate all corona on high voltage systems during all weather conditions and therefore the aim is to limit it to acceptable levels.

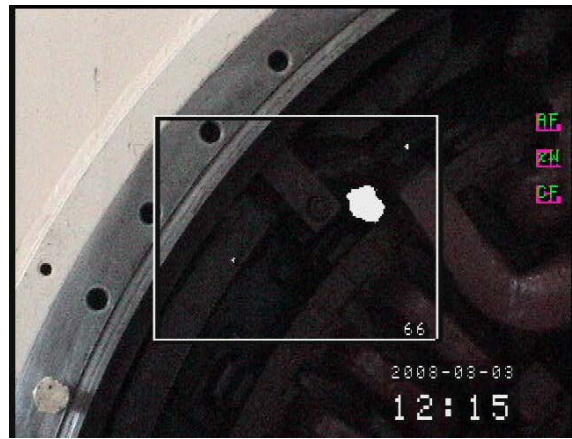
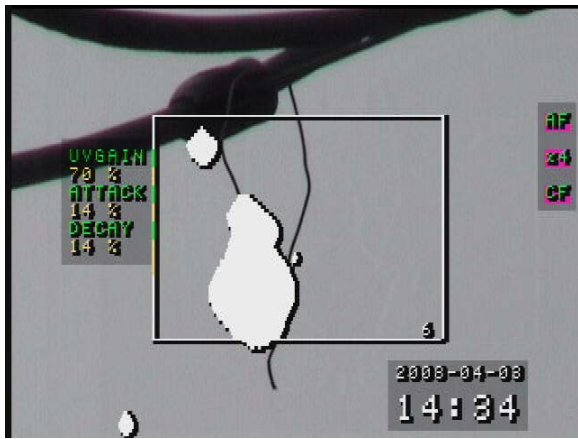
Corona is limited to acceptable levels mainly through

- Good design
- To a certain extent with good construction practices
- **And regular / scheduled maintenance**

Cameras:

CoroCAM 504 Ultra Violet for Corona Detection (Day and Night use)





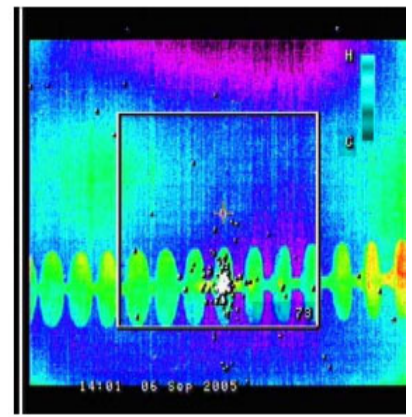
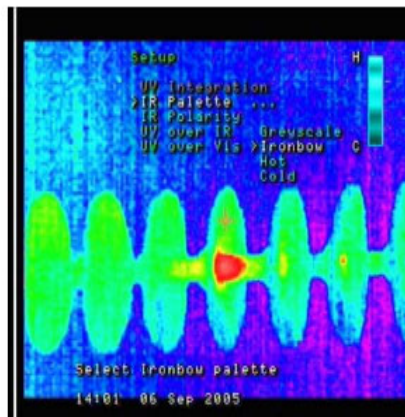
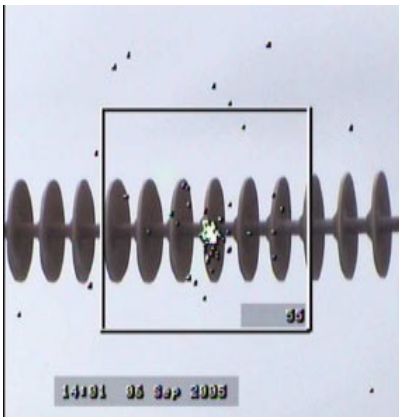
The Ultimate Daylight UV Corona Detection Tool

The CoroCAM 504 is a development of the very successful CoroCAM IV+ and daylight system with many improvements and additional features. These include on-board data storage and background UV noise reduction. It features the same solar blind optical system but is housed in a modern sleek compact and very light weight body. The ergonomic design ensures that the control buttons fall nicely to the users' hand in the palm-strap.

Features of CoroCAM 504

- Can operate in daylight or at night (with artificial light).
- Solar blind for full daylight operation.
- Lightweight.
- Very portable.
- High quality color view under display.
- On-board data storage by flash card.
- Multiple high resolution video outputs.
- Integration mode to increase sensitivity and reduce noise.
- Menu selectable image processing to enhance corona display.
- All menu driven functions easily selectable by single thumb operated joy stick.
- Photon event counting and display.
- UV image overlay on visible channel.
- Manual or auto focus of both channels.
- Multiple zoom on both channels.
- GPS option.
- Ambient temperature measurement.
- Interfacing to different display and recording peripherals.
- Software upgrade via flash card (when available).

MultiCAM UV/IR Multi-Spectral for Corona Detection (Day and Night use)



UV/IR Multispectral Daylight Camera

The MultiCAM System provides a simultaneous video image of an infrared spot and corona. This information assists the user in determining the location of the hot spot and/or corona and also, by a close examination, it's possible cause. Since the video provides a moving image, it is possible to determine the seriousness of the hotspot (i.e. how the pattern develops over time), the characteristics of the corona source and to identify the type in question.

Features of MultiCAM

- It is a diagnostic tool that enables the user to locate and identify corona discharge and infrared hot spot activity on electrical equipment.
- It can operate in daylight or at night (with the help of artificial light).
- It produces a video image of the hot spots and of a corona discharge which is superimposed on the object. This allows the user to determine the exact location of the hot spot and of the corona in respect of the real image.
- It is portable, i.e. it fits into a carry-case and is powered by a rechargeable battery lasting approximately 40 minutes per charge. The battery is fitted into the camera housing.
- It is a pick up and go device requiring little or no assembly on removal from its carry case. It is easy to carry the camera on board an aero plane.

- Its output is a standard composite video signal and it can be connected to a suitable portable video recorder that allows for the recording of results on site.
- Ergonomic design ensures that control buttons fall easily to hand when operating.
- High quality color view under display.

CoroCAM III (Low Light Corona/UV Imaging Camera)



CoroCAM III

CoroCAM III is designed for on-site inspections and to extend the working hours of CoroCAM I, to include dawn and dusk. CoroCAM III is portable, highly automated and easy to use.

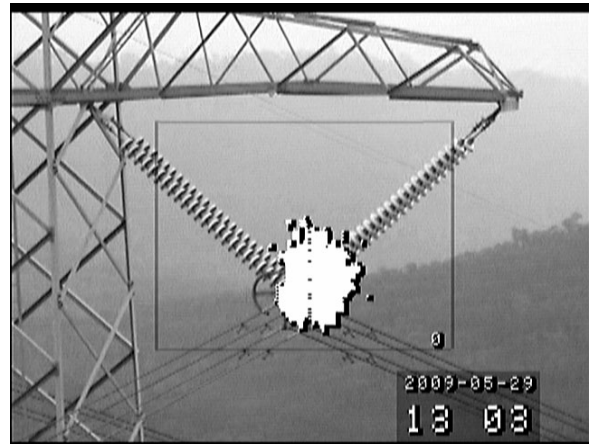
CoroCAM III is a quick diagnostic tool. It illustrates concern areas of high-stress, RIV sources, and allows for monitoring of potential flash-over areas in all conditions.

CoroCAM I (Night Time Corona/ UV Imaging Camera)



CoroCAM I is basic corona detection tool that will only operate at night, or in low light conditions. It was designed for on-site inspections, and is a quick and simple diagnostic tool, with video recording output. It illustrates concern areas of high-stress, RIV sources, and allows for monitoring of potential flash-over areas.

AirCAM



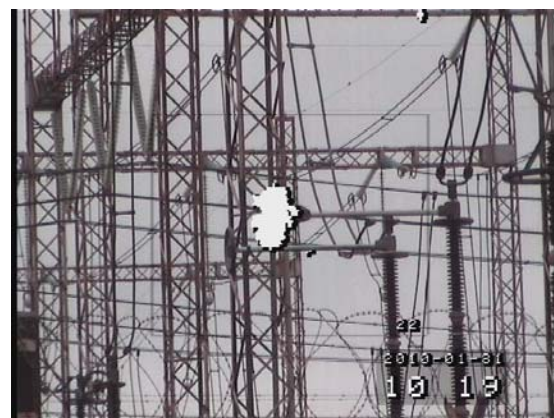
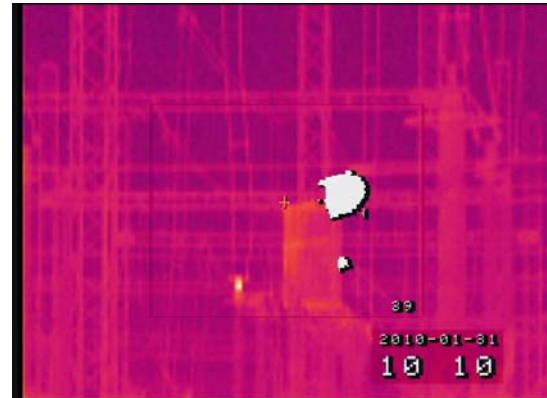
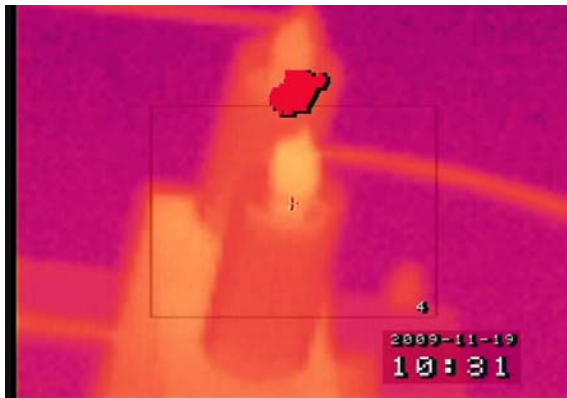
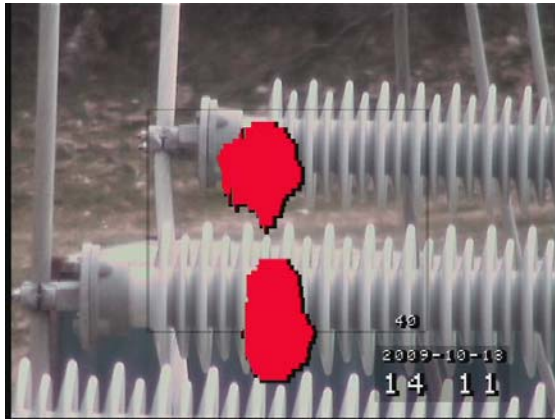
If you are interested in cooperating with us more information about our company, as well as get acquainted with our activities and products you can on our official website www.microtech.co.za At any time we can contact you.

At you request we will provide any additional information about our cameras and other products and service, send demo presentations, technical specifications and other support. We would be pleased to any business communication and cooperation!

Kind Regards
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Jacques Theron

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More Images MultiCAM



More Images from CoroCAM 504

