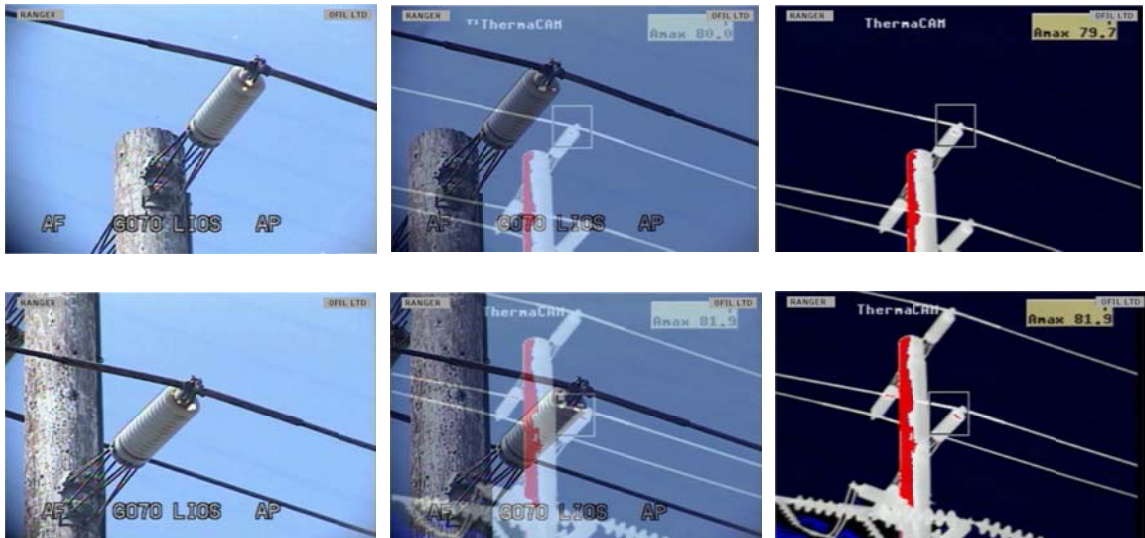


DayCor® Ranger MS – A Multi Sensors Van Mounted System



Ofil offers now an enhanced DayCor® Ranger-MS system for driven practices which includes a bundle of optical sensors and a roof pan & tilt mount. The combination of premium choice sensors is Ofil's response to the multifaceted approach of condition based maintenance that has acknowledged the need to merge complementary diagnostic data sources. The selection of sensors corresponds to the preferences of each customer and it includes a

corona camera and up to 3 additional cameras, each in its own compartment remotely controlled through a centralizing control unit.



Images taken by a UV camera showing Corona and IR camera showing hot spots

“The integrity of an overhead transmission line is directly related to the mechanical and electrical quality of the insulators that keep the line in the air. Insulators account for only 5% to 8% of the direct capital cost of the line, yet are associated with more than 70% of line outages and up to 50% of line maintenance costs. They fail most commonly from surface contamination, aging, manufacturing defects and damage due to mishandling.”^[1] Correspondingly, utilities prepare annual inspection routines to

assess the condition of their lines and related equipment at critical points, identify and correct potential problems.

To streamline inspections of overhead transmission and distribution lines utilities use airborne or driven methods. The advantages of aerial inspections are clear, yet they are costly and reserved to utilities that own helicopters or hire pricy helicopter services. Factors such as weather conditions and visibility, not to mention availability of professional cruise and the need for strict planning that lessen the aerial appeal are easily overcome by driven alternatives.

“Because of the increased requirements on distribution reliability indices (SAIDI, SAIFI and CAIDI), SDG&E distribution districts are making requests for the inspection of overhead circuits. The emphasis of the inspections is on the main feeders, capacitors and switches. All these inspections are done with the van. One district engineer attributes \$250,000 in savings to the SAIDI minutes for one year as a result of this limited inspection program.

These savings were accomplished by increasing the reliability of the system through the identification of potential problems. The savings noted previously were calculated from one district that comprises 17% of SDG&E customers. A savings of more than \$1 million would be anticipated if the inspection program were expanded to cover all SDG&E distribution districts” [2]

DayCor® Ranger-MS is designed for utilities and services providers taking into account: Performance, Manpower shortage, Budget constraints, Timelines.

Performance – a solid, durable, light weight mount that can be assembled/disassembled easily on most vehicle roofs. Sensors selected meticulously to provide precise information as required by engineers. Only a combination of sensors that complement data can provide a true picture of the monitored asset.

Manpower shortage – Driven operation with a single team using a reliable compound system such as Ranger reduces inspection duration, and requires less teams and less training.

Budget constraints – direct and indirect costs are involved. Direct – due to the use of concurrent sensors there is no need for redundant inspections. Indirect costs are the outcome of the inspection. With quality information gained maintenance tasks cost less.

Timelines – combining the above considerations leads to the imminent result of streamlined operation and the ability to withstand deadlines and be on time with projects.

PRODUCT DESCRIPTION:



DayCor® Ranger is a comprehensive driven inspection system for overhead electrical lines. Ranger offers a combination of premium imaging sensors capturing UV, IR & TV mounted on a roof mount and controlled remotely from within the vehicle. High detectivity of the sensors guarantee efficient collection of qualitative data while driving.

Ranger is attractive to electrical utilities or services providers that need to cover long distances. The offered combination of sensors fulfills the need for complementary information attained from multiple spectral ranges.

FEATURES:

Corona detection outstanding sensitivity

With absolute solar blindness and detection of at least 1pC from a distance of 10 meters and 7.7dB μ V (RIV) @ 1MHz Ranger makes the faintest corona perceivable and displayed clearly. UV events counter supported by a dedicated algorithm designate detected corona severity.

Multi sensors concurrent inspection

Ranger is set to incorporate additional camera. Suggested IR & HD cameras or customers' choice are mounted on the roof and controlled remotely from within the vehicle. Concurrent inspections with a combination of UV, IR, Visible etc, streamlines work and provides a comprehensive view of the inspected asset.

Consolidated control for multiple sensors

Ranger is operated from within the vehicle by means of a joystick and a durable notebook with 14" outdoor readable display. Laptop keystrokes invoke functions of all existing sensors. Active functions are displayed on the screen. Switching between control functions is instantaneous and seamless

Durable, full featured, high-speed pan/tilt unit

Shock absorbers protect the imaging unit and support safety off roads driving. Made from composite material Ranger is strong yet low in weight. Ranger performs smoothly in windy conditions, and allows extremely precise positioning.

Video recording & storing



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Ranger records high resolution video clips, NTSC/PAL compatible with embedded GPS, date and time; audio commentary & UV counting.

Easy installation

Ranger's installation is easy and fast. It is adjustable to most vehicle makes and sizes. Supplied with an installation kit and detailed instructions.

High speed inspection

DayCor® Ranger performs impeccably at speeds up to 100 km/hour inspecting energized high and medium voltage overhead lines and installations.

[1] RS Gorur, D. Shaffner, W. Clark and R Vinson. "Utilities Share Their Insulator Field Experience". Transmission and Distribution World .2005.
[2] David Eaton, William "Bill" Hewitt, "Inspection Cameras Focus on Reliability" Transmission and Distribution World. Apr 1, 2008

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