OFIL SYSTEMS >>*Makes UVisible*

DayCor® RAIL

DAYCOR® INSIDE

RAILWAYS CORONA INSPECTION SYSTEM

DayCor® Rail is an automatic autonomous corona and arcing partial discharge detection system designed for railways particulars and special needs. While railways are getting longer, faster and automatic their tolerance to faults gets smaller. Corona discharge both indicates existing failure processes and is in itself an active deterioration agent and therefore should be traced and eliminated. DayCor® Rail offers a desirable combination of outstanding sensitivity to Ultraviolet (UV) signals and a swift response to existing signals while on the move, and is therefore capable to capture both emission and emitting objects during fast cruises. Findings are documented, stored and rendered into reports with high resolution video clips stamped with auxiliary data such as GPS, ambient conditions and corona events count.

- >> Outstanding corona detectivity
- >> Outstanding sensitivity to UV signals
- >> Automatic UV events count
- >> Robust components
- >> Customized to customers' architecture
- >> Videos with integrated GPS and ambient conditions
- >> Single button press operation
- >> Automatic reports generation

OUTSTANDING CORONA DETECTIVITY

Sensitivity to UV of 1pC at least from a distance of 10 meters and 7.7dBµV (RIV) @ 1MHz enables detection of distant corona discharges. A fast responding camera enables capturing signals during high speed movement of up to 300 km/h. Captured scenes show corona flecks superimposed without smearing on the emitting objects.

AUTOMATIC MODE OF OPERATION

DayCor® Rail is designed to be an autonomous standalone system that is turned on at the beginning of a cruise and turned off upon arriving to the final destination stop without intermittent involvement.

RUGGED AND STABILIZED

All components have high tolerance to jerky rides and can withstand strong vibrations, resulting in smooth movie clips and continuous uninterrupted recordings.

DAYCOR® TECHNOLOGY INSIDE

With Ofil's DayCor® technology incorporated, Rail performs as a solar blind system with utmost overlaying accuracy of both UV-Visible channels and high detectivity.
[Registered Patent EP1112459B1]

VIDEO RECORDING & STORING

During a ride the DayCor® Rail records and stores video clips of encountered corona discharges. The captured media is used as a reference to findings that are classified as suspicious, in need for further investigation.

CUSTOMIZATION OPTIONS

DayCor® Rail is customizable and can be tailor made to match specific needs, architectures, platforms, languages and general preferences.

DATA PROCESSING

Detected corona events are recorded and processed automatically by Ofil's CoronaCatch application, that segregates corona events from non corona events and attaches to each event its specific meta information, including: GPS, ambient conditions and severity.

AUTOMATIC REPORTS

Ofil's CoronaCatch uses the processed information to generate reports that are compatible with Ofil's Corona-Base Reporting Software.
[Registered Patent EP1112459B1]

TECHNICAL SPECIFICATIONS

DETECTION UNIT UV-VISIBLE IMAGER	
Minimum Discharge Detection	1pC @ 10 meters (RWE certified: IEC 60270:2000)
Minimum RIV Detection	7.7dBµV (RIV) @1MHz (RWE certified: NEMA107-1987)
Minimum UV Sensitivity	$2.2x10^{-18}$ watt/cm^2
Field of View H x V	5° x 3.75°
Focus	Fix 3 meters (9.8 feet) to infinity
UV/Visible Overlay Accuracy	Deviation < 1 miliradian
Size	L25 x W18 x H15cm | L9.8" x W7" x H5.9"
Connectors	Power AC/DC, Video BNC, COM 20 pin
Nominal Power Consumption	15VDC, 18W
Power Source	110/220V universal
PROCESSOR – RECORDER – STORE DRIVE	
CPU	Intel core i7 processor
Memory	4GB DDR2 SRAM
Hard Drive	128 GB SSD & 480GB SSD
Power Input	110/220 VAC
Power Supply	400W ATX
Connectors	AC Power, Video Cable, USB, RS23
Video Recording Format	AVI
Stills Format	BMP
Recording Time	More than 10 hours of continuous recording
Rack Mount Type	3U 19"
DISPLAY MONITOR – KEYBOARD & KEYPAD	
LCD	TFT, 19", 300 nits
Resolution	1280 x 1024
Weight	12 Kg
Display Tilt	Max 130°
Power Supply	60W Built-in, 125W in use
Power Input	110/220V AC
Connectors	VGA, Power Connector
Mount Type	19" rack mount 1U Dual Rail
GPS + ANTENNA	
GPS Weight	1.3Kg (2.9lb)
Power Input	AC/DC adapter, 110/220 VAC
Antenna Weight	0.2 Kg (0.44lb)
Connectors	Antenna,Power supply, COM
CORONA CATCH APPLICATION	
Input Data	Text, Video, GPS
Output	HTML reports, AVI, BMP
Mode of Operation	Automatic corona events capture; Per demand report generation
Export Reports	Via USB flash card
Storage and Operation Temp.	-20°C up to +55°C
Vibration and Shock	ETSI EN 300 019-2-5 V3.0.0 (2002-12), IEC 60068-2-64

ACCESSORIES

Temp & Humidity meter, Ofil's Corona-Base, Train Mount, Wide Field-of-View Lens