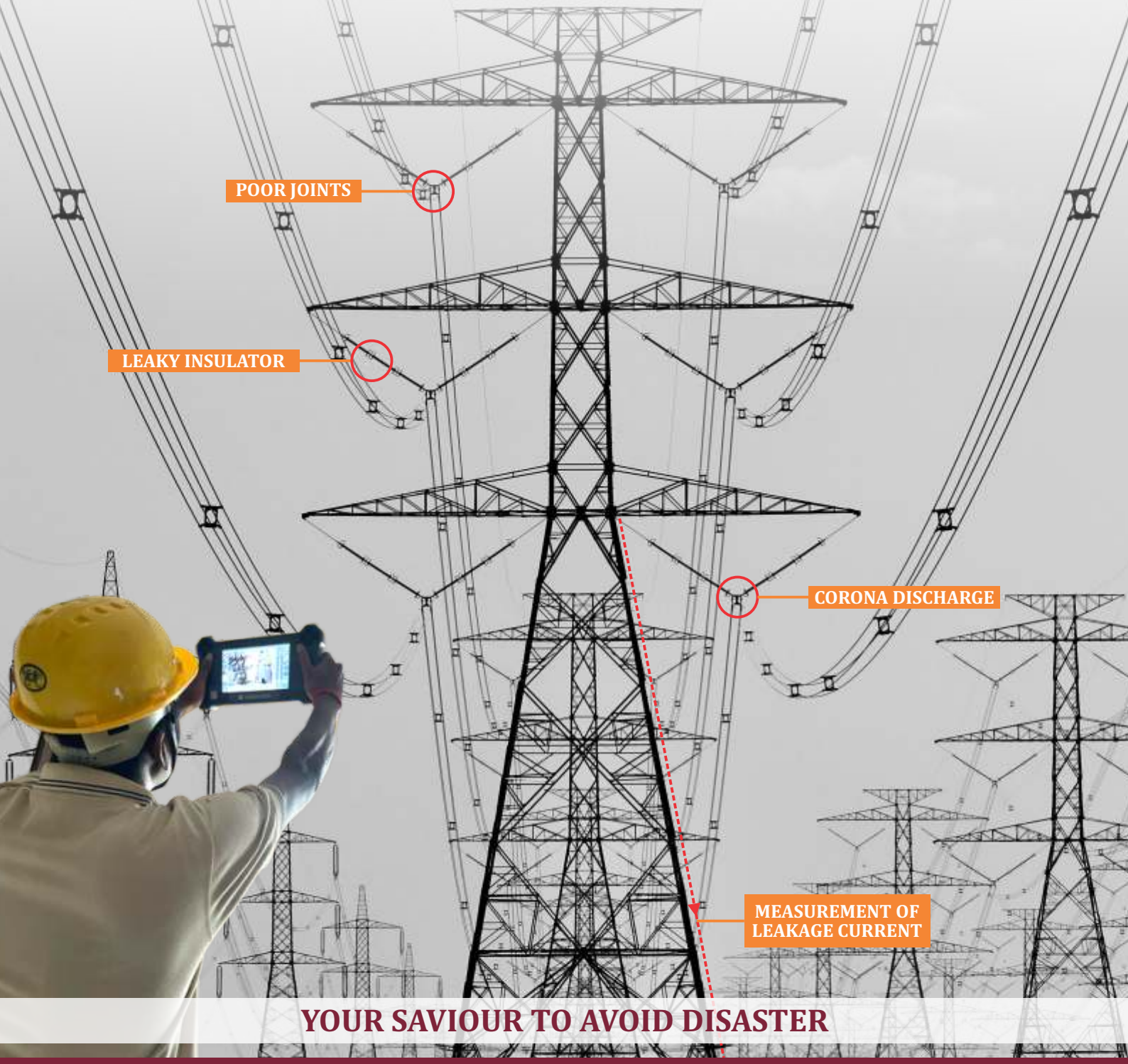
LID-VPD

LEAKY INSULATOR DETECTOR WITH VIDEO PARTIAL DISCHARGE

AVOID BAD THINGS HAPPENING TO YOUR TRANSMISSION LINES



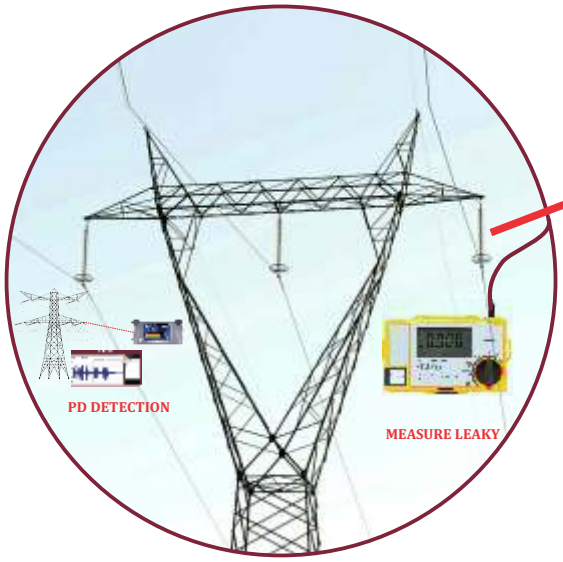
YOUR SAVIOUR TO AVOID DISASTER

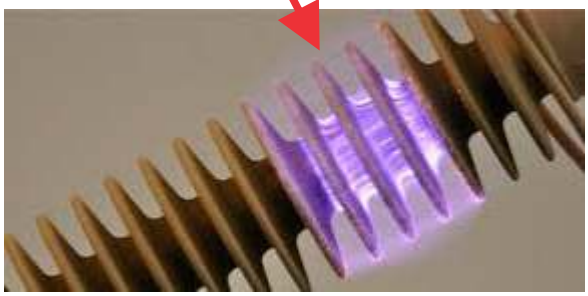
TAURUS
Innovative Technologies

PREDICTIVE

TECHNOLOGY | DATA | ANALYTICS

TOWER INSULATOR HEALTH ANALYSER





The Leaky Insulator Detector with Video Partial Discharge (LID-VPD) is hand-held non-destructive inspection system which utilises AC/ DC Current sensor and Ultrasonic technology for predictive maintenance. The (LID-VPD) has a Flexible clamp sensor and Ultrasound Imager.

The Flexible AC/DC Clamp meter is specially designed sensor to measures the AC/DC leakage current in HVAC/ HVDC Towers leg (caused due to the leaky insulator).

Tolerance Level

HVAC Transmission Line Voltage Level	Abnormal Tower AC Leakage Current in mA
132 kV Single Circuit	150 mA
132 kV Double Circuit	180 mA
220 kV Single Circuit	200 mA
220 kV Double Circuit	250 mA
400 kV Single Circuit	350 mA
400 kV Double Circuit	400 mA
765 kV Single Circuit	800 mA
765 kV Double Circuit	1000 mA

Ultrasound Imager is based on Ultrasound Technology which pick Partial Discharge Ultrasound from a distance upto 100 meters and converts Ultrasound into visual video digital image. After leakage current measurement, Ultrasound Imager is used to scan the insulator strings of leaky tower and pinpoint the phase and position of the leaky insulator.

PROCEDURE

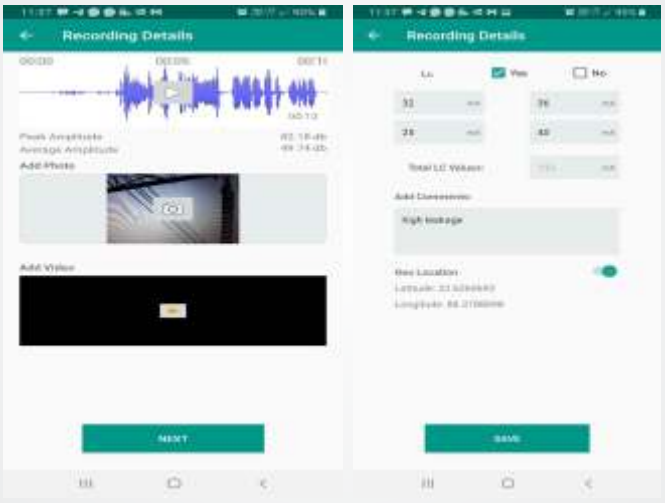
The Leakage current is measured in all four legs and summed to get the total Leakage Current. If the total Leakage Current is more than prescribed limit, the tower & insulator is declared to be leaky. Then the Ultrasound Imager discharge detector is used to scan every insulator string and pinpoint the leaky insulator string by identifying the Partial Discharge arcing in the insulator causing the leak. The graphical evidence of arcing is then recorded for future reference.

Electrical Arching, Tracking, Partial Discharge & Current Leakage

Overhead insulators provides mechanical support to high voltage cables and electrically isolate them from ground structure. In Contaminated condition, uneven resistance exist. The surface of contaminated insulator leads to formation of conductive layer causes leakage current to flow.

As quoted from IEC 60270 PD does not cause immediate breakdown of the insulation, the appearance of PD indicates the presence of fault which cause energy dissipation and further leads to insulation degradation.

SOFTWARE



ADVANTAGES OF LEAKY INSULATOR DETECTOR TEST

Improved safety when testing with ultrasound: (LID-VPD) is designed to test Transmission/ Distribution towers, insulators and transformers for external arcing and corona type partial discharge and leakage current safely. (LID-VPD) can also be used to test critical equipment from a safe area. You can improve your safety practices as well as locate potential points quickly.

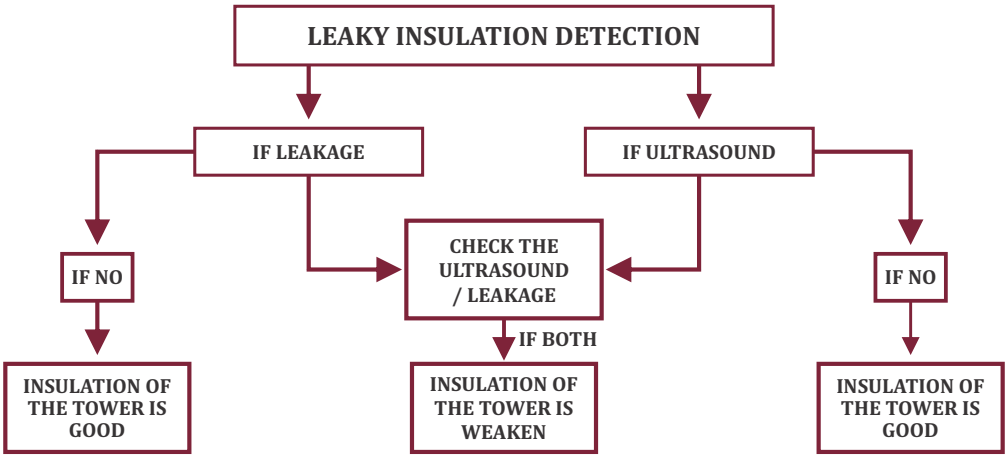
Find arcing, corona type partial discharge and leakage current: You can indicate and locate the ultrasound produced Leakage Current by arcing and corona discharge easily using the Leaky Insulator Detector (LID-VPD). In many cases, ultrasound is produced before heat. Therefore, you can implement an early cost effective routine monitoring program. Leakage Current is the most efficient technique to monitor and investigate the condition of insulator surface.

Performs better: The Leaky Insulator Detector (LID-VPD) have been tested on numerous occasions alongside competitive Technologies. The Leaky Insulator Detector (LID-VPD) detects with ultrasound technology and flexible clamp sensor with better accuracy than other devices.

Improves power transmission testing: You can increase the amount of electricity that reaches your customers and decrease power grid failure by using the Leaky Insulator Detector to routinely monitor power transmission / distribution lines and transformers.

Reason to consider Leaky Insulator Detector (LID-VPD)

- **Detect ultrasound from 100 meters:** The Ultrasound imager improves the distance of detection to 100 meters.
- **Pinpoints leaks at heights:** Many organizations have instituted routine leak detection programs for energy savings. If you have installations that are more than 40 feet high, you could use the Ultrasound Imager to locate the leaks within a few inches without climbing ladders or using lifts.
- **Best way to locate fault:** Visual way to locate Partial Discharge.
- **Optional Instant:** Ultrasound Image to capture and Analyse.
- **Leakage Current:** Measures both AC/DC leakage current
- Testing of Substation equipment, Distribution & Transmission lines
- Indication and location of arcing or Corona Discharge. Measures body leakage current and Geo magnetic DC current created due to unperiodic rotation of earth.
- Pinpoint faults at lightning Arrester, Bushings & Contaminated Insulator / Transformer.
- Indicate Broken Strands, Loose Hardware, Improper Installations, & Damaged / Punctured Insulator, Failure of Earthing.
- Other Applications in Power sector: Testing of Equipment in Generating Stations (with Optional Accessories).



SPECIFICATIONS OF LID-VPD

Functional Requirement	:	Leaky Insulator Detector with Video Partial Discharge measures Tower Leakage Current & Visually detect of Ultrasound Partial Discharge to identify the leaky insulators.
Memory	:	Instrument should have internal memory storage up to 8GB
		72 sealed microphones (spiral array) for use in industrial areas
		Real-time acoustic results at 100 fps for real time results
		Wide frequency range : 10 Hz to 100 kHz for the detection of audible sound and ultrasound
		Integrated data acquisition and analysis software
		Handheld device with IP54 protection (splash proof)
		Integrated LED lights
		8 configurable buttons for fast control
		Low weight and small size
Type of CT sensor	:	Flexible Split-Core Type
Inside Diameter	:	φ200 mm or φ400mm (User Selectable)
Measuring Function	:	AC/DC Leakage/Line Current
Measuring Method	:	Dual Integration Mode
Measuring Range	:	AC/DC 3A/30A/300A/3000A (AC50/60 Hz & DC)
Accuracy	:	±3% of reading
Display	:	LCD max. 3200 reading with Annunciators
Low Battery Indication	:	B" mark on LCD
Data Hold Function	:	"DH" Switch
Zero Adjustment	:	DC current range, by "0 SET" switch
Power Supply	:	1.5V (AA size, UM-3) ×6
Calibration Certificate	:	Calibration Certificate to be provided from any NABL accredited laboratory

TAURUS
Innovative Technologies
An ISO 9001 : 2015 Company

TAURUS POWERTRONICS PiVT LIMITED

Corporate Off.: No. 26, "Mahadimane", 12th Main, 1st Block, Rajajinagar, Bengaluru - 560 010. **INDIA.**, **Tel :** + 91 80 23012301
Email : info@tauruspowertronics.com, care@tauruspowertronics.com, **Tollfree :** 1800 425 2112, **WhatsApp :** +91 73496 44344
Sales & Service Off.: No. 648/54, KLE College 2nd Block, Rajajinagar, Bengaluru - 560 010. INDIA , **Tel :** + 91 80 2352 2136/74

BENGALURU
DELHI
KOLKATA
MUMBAI