BRIGHT LIGHTS CO

ONLINE PARTIAL DISCHARGE SOLUTION

www.blcojo.com

2024

Introduction

BLCO

Welcome to Bright Lights Co (BLCO) comprehensive product catalog. As your trusted supplier and service provider, BLCO is committed to revolutionizing the landscape of utilities and industrial sectors across Jordan and the Middle East.

At BLCO, we pride ourselves on being the official agent of IPEC in Jordan, a partnership that brings forth cutting-edge solutions and advanced technologies in asset monitoring and testing. With IPEC's expertise and a legacy of delivering turnkey solutions from their base in Manchester, UK, BLCO ensures that our clients receive nothing short of excellence.

Our catalog features a diverse array of products and services tailored to meet the evolving needs of the electrical industry. From the latest instruments for routine spot testing to sophisticated, permanently installed systems providing detailed insights into insulation conditions across transmission and distribution networks, BLCO offers a comprehensive suite of solutions.

With a focus on safety, efficiency, and reliability, BLCO's offerings encompass installation, commissioning, testing, fault location, and online partial discharge monitoring of electrical systems. Leveraging state-of-the-art technology and equipment, our team ensures the highest standards of quality and safety in every project we undertake.

As your one-stop solution for all electrical needs, BLCO goes beyond merely supplying products; we provide unparalleled customer support and consultation services. Our goal is to empower our clients to achieve their objectives and expectations seamlessly.

PD DETECTOR PRO	1
PD DETECTOR	4
PD-SGS	8
PD-SG1	10
PD Alarm	15
ASM-Portable	19
ASM-Mini	20
ASM-Remote	21
ASM-Central	22



PD DETECTOR PRO (Is designed and manufactured by IPEC Ltd)

Key Features

- **PD and Noise** Shows both PD and noise level simultaneously
- **PD Sensors** TEV, HFCT, Ultrasonic, UHF, VDS
- Audio on all Sensors Hear the PD from any sensor
 - **PD Data** PD, PRPD, PRPS
- Wireless Sync In-built Automatically locks on to exact 50/60Hz frequency from HV assets – wireless sync in-built into device
- 3.5" Widescreen Touchscreen Widescreen for larger PRPD and data views
- Save PD data for analysis & reporting
 - **Multi Language** English, Arabic, Chinese, French and more

PD Smart Hub™

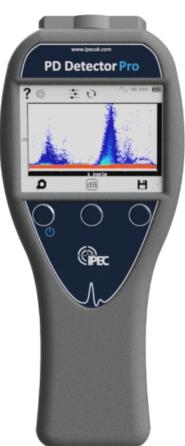
IPEC's new centralised data management and analysis tool



 \checkmark

PC or Cloud Sync

Sync data locally to your PC with the included software, or sync remotely to the cloud for access across devices



PD Detector Pro™

PD Detector™: is designed and manufactured by IPEC Ltd Pro brings new innovation, ground-breaking functionality and advanced design to deliver a new generation in handheld PD Spot Testing. Building on IPEC's market leading technology, the PD Detector Pro brings new features to ensure the most accurate testing of your HV assets.

The PD Detector Pro is an efficient and easy to use tool to detect PD in MV and HV assets. Compatible with a wide range of sensors, the PD Detector Pro can be used on multiple assets to easily identify and quantify Partial Discharge. The large colour touch screen makes analysis clear and simple and data storage with integrated software give a clear picture of asset health over time. The PD Detector Pro features advanced noise rejection algorithms to effectively filter out background electrical noise, displaying both PD and Noise level for the user.

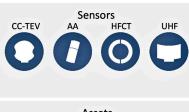
Applications, 5kV+

- Air Insulated Switchgear (AIS)
- Gas Insulated Switchgear (GIS)
- Cables
- Outdoor switchyards (with accessory)





Compatible Sensors & Asset Types







Technical Specification PD Detector Pro

Measurement	S		
PD Sensors			
		Ultrasonic (AA)	
		HFCT	
		UHF	
Other Sensors		VDS	
		Temperature and Humidity	
Hardware			
Enclosure		Injection moulded plastic case	
Display and Co	ontrol	High Resolution Colour Touchscreen	
Connectors		USB-C: Power and Communication Coded connector: Auto Detect Sensors	
Operating Env	ironment		
Operating Terr	nperature	-20°C to 50°C	
Humidity		0 - 95% RH non-condensing	
IP Rating		54	
Application		5	
Communicatio	on		
Data Storage	Local PC or Customer Cloud Server		
Data Access	Local PC or Web front end		
Results	PD Level, Noise Level, PRPD, PRPS		
Compliance	CE-compliant in accordance with EMC Directive (2014/30/EU) IEC 62478: High voltage test		
	by electromagneti	techniques - Measurement of partial discharges c and acoustic methods	
	Designed and mar	nufactured in the United Kingdom	

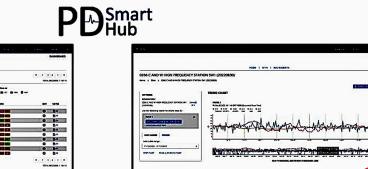


PD D	PD Detector Pro Kits				
PD D	PD Detector Pro				
Peli®	Carry case				
Function Tester					
Optional Accessories					
3M	Peltor®	Industrial	hardhat	_	
earpl	earphones UHF Sensor				
Flexible AA Probe					
Parabolic Reflector					
Contact Acoustic					
VDS	VDS				
Kit Pa	Kit Packages available				

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Features	That Ap
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Scalable PD data trends	
PRPD displays	
Alerts and Alarms	
High PD warnings	Passet
Custom Reports	



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PD DETECTOR

On-line PD Detection of HV Assets with Data Synchronisation (Is designed and manufactured by IPEC Ltd)

The Benefits

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Advanced Noise Rejection

System detects PD in higher noise environments, reducing the possibility false positives



PRPD

PRPD display allows user to distinguish between PD and Noise



PC or Cloud Sync

Sync data locally to your PC with the included software, or sync remotely to the cloud for access across devices



Rapidly survey whole substation

detects MV and HV problems before developing into tangible failure risks



Trend

Log the PD against individual assets and view data from each test ever conducted





PD Detector Switchgear – Air Insulated (AIS)

Partial Discharge activity inside metal clad high voltage plant induces small voltage impulses called Transient Earth Voltages on the surface of the metal panels. TEVs travel around the surface to the outside of the switchgear, where they can be picked up externally using the PD Detector

Defects on the surface of high voltage insulators are prone to a phenomenon known as surface tracking. Tracking causes carbon deposits that build up over time, ultimately leading to flashover and insulation failure. The PD Detector is highly sensitive to the ultrasonic emissions produced by tracking and enable the onset to be detected before insulation failure.

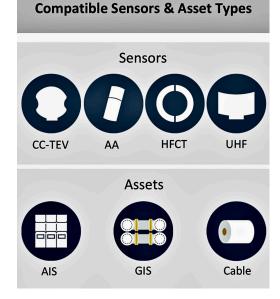
Switchgear – Gas Insulated (GIS)

IPEC's UHF (Ultra High Frequency) sensor is used to detect PD in EHV cable terminations, GIS (Gas Insulated Switchgear), GIL (Gas Insulated transmission Lines) & GIT (Gas Insulated Transformers). The sensors pick up signals in the UHF range (200MHz-2.0GHz) and are mounted against the insulating barrier spacers that separate components of the HV asset.

Cable

Partial discharge activity in solid high voltage insulation induces small high frequency currents in the earth conductor of the electrical system. These impulses travel along the equipment earth to the substation earth. Using a high frequency current transformer, they can be detected as they pass through the CT.







Technical Specification PD Detector

TEV Measurements Measurement Range 0 to 80dBmV Measurement Bandwidth 3 to 200MHz (with FM Resolution Bandstop) 1dB (Accuracy ±1dB) Noise Rejection Yes, with PRPD **Ultrasonic Measurements** Measurement Range -6dBµV to + 68dBµV Resolution 1 dB (Accuracy ±1 dB) Transducer Sensitivity -65dB (0dB = 1volt/µbar RMS SPL) Transducer Centre Frequency 40 kHz HFCT Measurements Measurement Range 0 to 50,000pC Measurement Bandwidth 100kHz to 70MHz 5pC (Accuracy ±5pC) Resolution **UHF** Measurements 0dB-75dB Measurement Range Resolution 1dB (Accuracy ±1dB) Bandwidth 200MHz - 2.0GHz Hardware Enclosure Injection moulded plastic case Control Membrane keypad Connectors Power, Headphones and optional sensors OLED with level LEDs Display **Operating Environment** 0°C to 60°C **Operating Temperature** Humidity 0 - 95% RH non-condensing Application Communication Bluetooth Data Storage Customer Server Data Access Web front end, SAP, Oracle, etc. Capability Android, iOS Reporting Yes Results PD Level, Noise Level, PRPD, Dimensions Unit Size 190 x 90 x 55 mm Unit Weight 210 g Kit Size 295 x 340 x 145 mm Kit Weight 2.9 kg Power Internal Battery Lithium Ion, 3.75V, 2.2Ah, 8.25Wh Operating Time Approx. 6 hours Battery Charge **Charging Temperature** 0°C to 45°C Rated Voltage 100 to 250 VAC, 5V, 3A Frequency 47 to 63Hz **Country Adapters** UK, EU, Australia, USA Charge time 3 hours Compliance CE-compliant in accordance with EMC Directive (2014/30/EU) IEC 62478: High voltage test techniques - Measurement of partial discharges by electromagnetic and acoustic methods

Designed and manufactured in the United Kingdom



The PD Detector kit contains
PD Detector
Headphones
Function Tester
Mains Charger
USB Charger
Hard wearing PELI™ case
Optional Accessories
HFCT Sensor
UHF Sensor
Flexible AA Probe
Parabolic Reflector

PRPD on mobile APP



PRPD on mobile APP







PD Detection

Switchgear - Air Insulated (AIS)

Partial Discharge activity inside metal clad high voltage plant induces small voltage impulses called Transient Earth Voltages on the surface of the metal panels. TEVs travel around the surface to the outside of the switchgear, where they can be picked up externally using the PD Detector.

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Cable

Partial discharge activity in solid high voltage insulation induces small high frequency currents in the earth conductor of the electrical system. These impulses travel along the equipment earth to the substation earth. Using a high frequency current transformer, they can be detected as they pass through the CT.





Advanced Noise Rejection

System detects PD in higher noise environments, reducing the possibility false positives



PRPD

PRPD display allows user to distinguish between PD and Noise

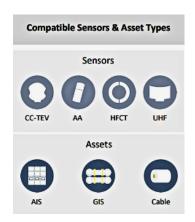


Rapidly survey whole substation

detects MV and HV problems before developing into tangible failure risks





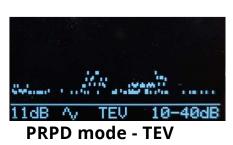


Technical Specification PD-SGS

TEV Measurements		
Measurement Range 0 to 80dBm	V	
Measurement Bandwidth 3 to 200MHz (with FM Bandstop)		
Resolution 1dB (Accuracy ±1dB)		
Ultrasonic Measurements		
Measurement Range -6dBµV to +	68dBμV	
Resolution 1 dB (Accuracy ±1 dB)		
Transducer Sensitivity -65dB (0dB	3 = 1volt/μbar RMS SPL)	
Transducer Centre Frequency 40	kHz	
HFCT Measurements		
Measurement Range 0 to 50,000	ρC	
Measurement Bandwidth 100kH: 100kHz to 70MHz	z to 70MHz	
Resolution 5pC (Accuracy ±5pC)		
UHF Measurements		
Measurement Range OdB-75dB		
Resolution 1dB (Accuracy ±1dB)		
Bandwidth 200MHz – 2.0GHz		
Hardware		
Enclosure	Injection moulded plastic case	
Control	Membrane keypad	
Connectors	Power, Headphones and optional sensors	
Display	OLED with level LEDs, dB, PRPD, Noise	
Operating Environment		
Operating Temperature 0°C to 60	0°C	
Humidity 0 - 95% RH non-conden	sing	
IP Rating 54		
Dimensions		
Unit Size 190 x 90 x 55 mm		
Unit Weight 210 g		
Kit Size 295 x 340 x 145 mm		
Kit Weight 2.9 kg		
Power		
Internal Battery Lithium Ion, 3.75	V, 2.2Ah, 8.25Wh	
Operating Time Approx. 8 hours		
Battery Charger		
Charging Temperature	0°C to 45°C	
Rated Voltage	100 to 250 VAC, 5V, 3A	
Frequency	47 to 63Hz	
Country Adapters	UK, EU, Australia, USA	
Charge time	3 hours	
Compliance	(2014/30/EU)	
Designed and m	anufactured in the United Kingdom	











PD-SG1 Is designed and manufactured by IPEC Ltd, used to detect, verify and locate PD activity in switchgear. The unit offers both TEV detection for internal discharge and ultrasonic detection for surface tracking and corona.

Key Features

• Ultrasonic detection of surface PD activity. Displayed on the LCD screen as dB reading, as well as audible signals through headphones.

- Measurement of TEV signals generated by internal PD
- PRPD Mode for viewing PD pattern in power cycle, allowing for the recognition of noise

• Precedence Mode for location of PD within the assets under test

The PD-SGI has three modes: Level Mode, used to detect presence of both TEV and ultrasonic activity; Cycle Mode, Phase Resolved Partial Discharge Display (PRPD) enables the user to verify PD activity is genuine and not from electrical noise interference before taking further remedial action; Precedence Mode, dual sensor precedence allows users to pin-point the source of PD activity.

PD Detection

Partial Discharge activity inside metal clad high voltage plant induces small voltage impulses TEV (Transient Earth Voltages) on the surface of the metal cladding. TEVs travel around the cladding surface to the outside of the switchgear panel where they can be picked up externally using CC-TEV transducers.







The Benefits



Detect MV and HV problems before they present tangible risk of failure

Personnel Safety Device

ensure the substation is clear of PD before conducting work



Locate PD Source

precedence with pico second timing accurately locates PD within Switchgear



PRPD

PRPD display allows user to distinguish between PD and Noise



Hear the PD

only instrument available that allows the user to hear both ultrasonic and TEV PD activity

Technical Specification

PD-SG1

Measurements	
	TEV Measurements
Sensor	Capacitive
Measurement Range	0 to 80 dBmV
Resolution	1 dB
Accuracy	±1 dB
Noise Rejection	Yes, with PRPD
Ultrasonic Measurements	
Measurement Range	-6dBµV to + 70dBµV
Resolution	1 dB
Accuracy	±1 dB
Transducer Sensitivity	-65dB (0dB = 1volt/µbar RMS SPL)
Transducer Centre Frequency	40 kHz
High Frequency CT (HFCT)	
Measurement Range	0 ** 2 000 000-0
Transfer Function	0 to 2,000,000pC 4.8V/A
Frequency	100 kHz to 13 MHz
Precedence	
Time Resolution Distance Resolution	240 pice seconds 85 mm
Power Cycle Mode	240 pico-seconds 85mm
Power Cycle Mode	
Frequency	50/60Hz
Display Modes Linear Range	Live & Infinite Persistence Min 0 to 20mV, Max 0 to 20V
dB Range	0 to 60dBmV
Hardware	
Enclosure	Tough Aluminium case, with rubber protective side panels
Control	Membrane keypad
Connectors	Power, Headphones and External TEV and Acoustic Sensor
Display	Back-lit LCD with precedence LEDs
Operating Environment	
Operating Temperature	-10°C to 60°C
Humidity	0 - 95% R.H non-condensing
IP Rating	54
Dimensions	
Unit Size	210 x 90 x 65 mm
Unit Weight	1.8 kg
Kit Size	565 x 340 x 230 mm
Kit Weight Power	10.25 kg
Internal Battery	Lithium Ion, 12V, 4Ah, 48Wh
Operating Time Approx.	8 hours
Battery Charger	
Charging Temperature	0°C to 45°C
Rated Voltage	100 to 250 VAC, 12.6V, 1.65A
Frequency	50 to 60Hz
Country Adapters	UK, EU, Australia, USA
Charge time	4 hours
Safety and EMC	CE-compliant in accordance with Low Voltage Directive (2014/35/EU)



The PD-SG1 kit contains
PD-SG1
Headphones
Function Tester
Sync Transmitter
2x CC-TEV PD Sensor
AA Ultrasonic PD Sensor
HFCT 48 PD Sensor
AA Ultrasonic Probe
Mains Charger

Hard wearing PELI™ case (suitable for hold luggage)

Designed and manufactured in the United Kingdom















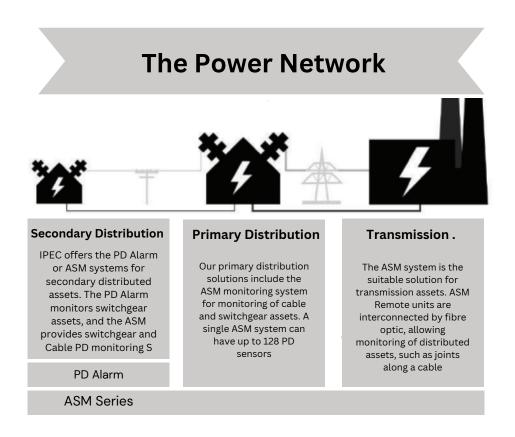


Our Products in Power Networks

IPEC's PD Monitoring systems form the core of our product range. We design, manufacture and install online PDmonitoring systems across the power network. From EHV transmission sites to small MV secondary distribution networks, IPEC has a monitoring solution to suit all customer needs.

The IPEC PD Monitoring system technology is installed in More substations worldwide than any other online PD monitoring system.

The PD monitoring systems use high resolution data acquisition, advanced noise rejection and robust data analysis solutions which give our customers peace of mind that their assets are safe, secure and being monitored 24/7 By the best technology on the market.





PD Alarm is an asset mounted device for indicating the presence of partial discharge in high voltage switchgear, ring main units (RMUs) and transformers. Designed for use in small substations, the instrument can activate local and remote alarms in addition to local indication.

The PD Alarm is built into a tough case that magnetically mounts to the RMU. Installation is very quick and simple with only a power connection required to get the system operational. Alarms can be configured to operate either locally with SCADA or remotely using an optional integrated modem. The system incorporates algorithms that distinguish noise from real PD, significantly reducing the likelihood of getting false alarms.

Avoid Power Outage	Cost Effective	Failure Prevention
Early warning about Defects that can lead to failure	Designed for larger scale roll out across distributed assets	Implement as part of a Condition Based Maintenance program

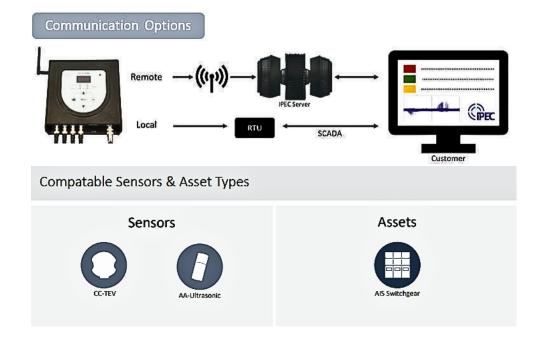
Permanent PD Monitoring for Switchgear

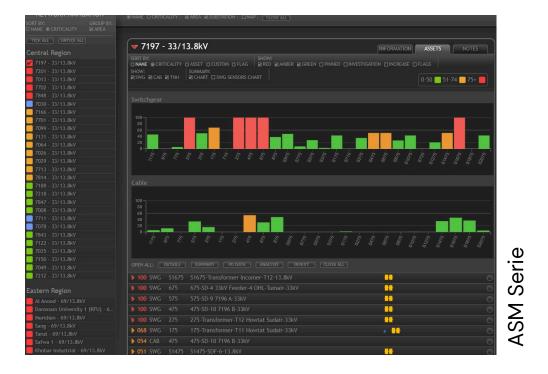
Key Features

- Display Ultrasonic and TEV level displayed in dB
- Alarms Current alarm and historical alarm indication
- **TEV** Measurement of electrical transients generated by internal PD
- Ultrasonic detection 3 independent ultrasonic channels detecting surface PD and tracking
- Integrated Noise Detection Algorithm helps avoid 'False Alarms'
- **Simple to install** No wiring required between PD detector and central hub
- **Remote Data Analysis -** the PD Alarm's optional tablet sotiware allows for data analysis on the move









ASM On-line PD Monitoring Systems are partial discharge monitors for continuous testing of cables, switchgear, GIS, dry-type transformer and other substation assets. Suitable for MV, HV and EHV equipment, the ASMTM is a powerful tool for asset managers, providing continuous on-line condition data that can be easily accessed via a secure website, called ISM. The ASM on-line partial discharge monitor can be installed in distribution substations and industrial networks. The ASM monitor including a series of product to best suits different HV network layout and requirements: ASM-Portable, ASM-Mini, ASM-Remote, ASM-Central. All products in ASMTM Series are compatible with IPEC's range of PD sensors, including high frequency CTs for monitoring cable health, capacitive and ultrasonic sensors for monitoring switchgear and transformer condition, UHF sensors for monitoring.

Online PD Detection	Fully Customisable	Remotely Accessible
The ASM uses PD sensors that couple to the HV network and equipment non-intrusively and online so that no disconnection of the circuits is required	The monitor is enclosed in a 19" cabinet allowing for customizable options such as cooling, UPS, and integration with existing equipment. For smaller sites, IPEC produce bespoke enclosures	Using a wide range of communication protocols, the ASM automatically downloads to a central database where it can be viewed on the analysis website, ISM, from any smart device

Online Partial Discharge Long Term/Medium Term Monitoring

Key Features

• Web based analysis - A client specific secure website used for review and analysis of individual asset condition, this portal is accessible locally if server integrated into client network. No internet connect required.

• Automatically download PD data - ASM is in a monitoring network and regularly download PD data automatically to a centrally located server from where it is stored in a powerful database and made available to users via the iSM website

• Alarm - ASM can send alarms through email, SMS, and SCADA

• **Channels** - The highest channel capacity in ASM-Series can reach up to 128 PD sensors on one ASM-Central









ASM-Portable is a Partial Discharge monitor for medium term testing of cables and switchgear. Based on the highly successful ASM system for permanent installation, the ASM-P is installed into a substation for 4 weeks or more in order to build up a picture of the condition of plant assets where high PD levels may have shown during a spot test and a temporary monitoring system needs to be implemented to ensure asset health in the short term.

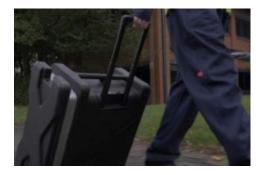
Fully Portable

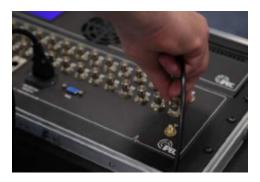
The 32-channel monitor is enclosed in a tough IP rated carry case with extendable handle. At only 24kg the monitor can be easily and quickly transported to and installed on site

Short/Medium Term

ASM-P is designed for short or medium term monitoring. The system can be configured and set up by the user to collect data from installed sensors

Portable PD Monitoring







ASM-Mini is a Partial Discharge monitor for permanent testing of cables and switchgear. The system has the full functionality of our ASM Series systems but in a small, robust package. The unit is designed for applications requiring a small number of sensors.

Light and Robust

The 4 channel monitoring system is enclosed in an IP rated case, and is wall mountable. The unit has integrated wireless communication modules for quick connection to central servers

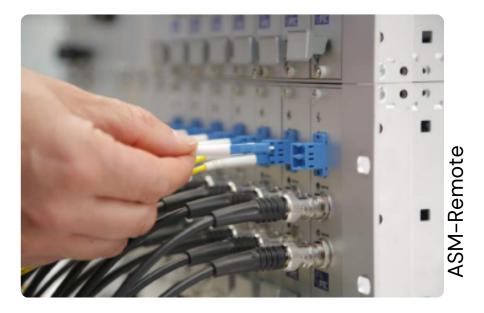
Fewer Channels

The compact design allows for up to 4 sensor channels, in any combination with IPEC's HFCT, TEV, Ultrasonic or UHF sensors

Small Scale Permanent PD Monitoring







ASM-Remote is a Partial Discharge monitor for monitoring of distributed assets across a network or site. The ASM-R is often deployed in harsh environments, such as EHV cable tunnels and joint man holes. The systems link together via fibre optic to make monitoring of widely distributed assets, such as very long EHV cables, possible.

Industrial

The ASM-R can be configured with up to 20 channels per monitoring point, and installed in industrial environments. The housing can be upgraded to IP68.

Distributed Assets

ASM-R is our cost effective solution for large scale multilocation deployment of a monitoring system across a large site or along EHV circuits, bringing data back to a central location or web-server





Distributed Asset PD Monitoring



ASM-Central is a Partial Discharge monitor for permanent testing of cables and switchgear. The latest ASM model has been upgraded offering fast data acquisition, and analysis. IPEC's PD Monitoring system technology is installed in more substations than any other online PD monitoring system.

The Benefits

World Leading

In MV substation applications, the ASM-C is world leading and has a reputation for accurate and automated PD analysis of assets

Large Capacity

ASM-C is designed for monitoring complete substations and has a huge 128 sensor channel capacity, which can be used with any of our PD sensors





Large Scale Permanent PD Monitoring



ISM is a customer specific secure website is used for review and analysis of individual asset condition. This powerful tool allows users to drill down from a basic condition overview to highly detailed data including sampled PD wave shapes. The tool operates from the servers connected to the ASM systems. The service is either hosted locally inside one of the monitoring systems, on a customer server, or via the IPEC Data Centre in the UK. iSM is a tool for PD analysis across all your monitors in your HV network.

The Benefits

Manage All Assets

iSM shows all data from substations with summarised and detailed data. Users can see all assets from all monitored Substations in the network

Criticality

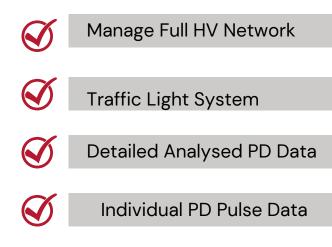
The criticality level is shown by numbers and traffic light system. Traffic light system helps users to quickly identify the problematic substations or assets

Detailed PD Data

Detailed PD data, including: PD magnitude, PD count, Phase Resolved PD, polar graph, clustering, PD Waveshape, and more

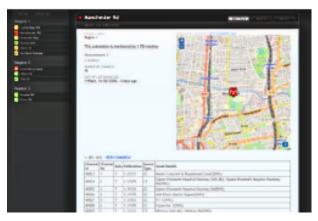
Advanced PD Data Analysis Tools

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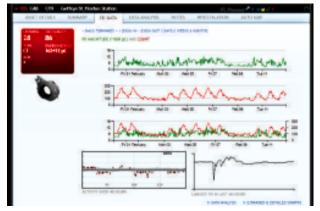


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Region 2 Greenleys Lane Hittan St	▶ Tibb St	MONALDA VOZU _ HOLD
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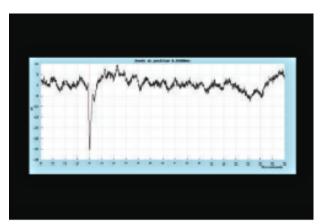
Traffic light system to show you different level of criticality for each substation and each asset



Other than PD data for each substation, iSM also shows detailed information of each substation, such as location, assets type and number, channel list...etc



Summarised PD data for each channel will be shown on iSM for users to easily identify problematic channels to examine further data analysis



In the "Data Analysis" function, iSM can present data for each individual PD pulse

Technical Specifications

Input Channels	PD Alarm	ASM-Portable	ASM-Mini
Number of Channels	4	32	4
Spike Protection	Yes	Yes	Yes
PD Monitoring			
Sensor Types	CC for TEV local PD AA for ultrasonic, surface tracking	HFCT for cable PD CC for TEV local PD AA for ultrasonic, surface tracking	HFCT for cable PD CC for TEV local PD AA for ultrasonic, surface tracking UHF for GIS PD Detection
Cable PD Range	_	10pC to 1,000,000pC+	10pC to 1,000,000pC+
TEV Range	0dBmV to 80dBmV	OdBmV to 60dBmV	0dBmV to 60dBmV
Acoustic Range	-6 dBµV to 70 dBµV	-6dBµV to 54dBµV	-6dBµV to 54dBµV
UHF Range	-	OdBmV to 50dBmV	0dBmV to 50dBmV
Test Type	PRPD – PD pattern, analysis	PRPD – PD pattern, wave shape analysis DeCIFerTM	PRPD – PD pattern, wave shape analysis DeCIFerTM
Data Acquisition			
Signal sampling	Peak Hold&320k Samples/sec, 10 bit	100MSamples/sec, 14 bit	100MSamples/sec, 14 bit
PD Analysis	Automatic	Automatic	Automatic
Reporting	Website or standalone	Website or local	Website or local
Data Analysis			
PD Wave Shape	No	yes	Ves
PRPD View	Yes	Yes	Yes
Trending Data	Yes	Yes	Yes
Reports	Yes	Yes	Yes
Alarms	Emails, SCADA, SMS	Emails, SCADA, SMS	Emails, SCADA, SMS
Operating Environment			
Temperature	-20°C to 60°C	0°C to 50°C	0°C to 50°C
Humidity	≤90% RH non-condensing	20 to 90% RH noncondensing	20 to 90% RH noncondensing
IP Rating	IP 54 standard IP 68 optional	IP 54	IP 54 standard IP 68 optional
Power			
Rated Voltage	100 to 250 VAC	100 to 250 VAC	100 to 250 VAC
Frequency	47Hz to 63Hz	47Hz to 63Hz	47Hz to 63Hz
Safety and EMC	CE-compliant in accordance with Low Voltage Directive (2014/35/EU) and EMC Directive (2014/30/EU)	CE-compliant in accordance with Low Voltage Directive (2014/35/EU) and EMC Directive (2014/30/EU)	CE-compliant in accordance with Low Voltage Directive (2014/35/EU) and EMC Directive (2014/30/EU)

Number of Observator	ASM-Remote	ASM-Central
Number of Channels Number of Channels		Up to 100
	Up to 20	Up to 128
Spike Protection	Yes	Yes
PD Monitoring		
Sensor Types	HFCT for cable PD	HFCT for cable PD
	CC for TEV local PD	CC for TEV local PD
	AA for ultrasonic, surface tracking	AA for ultrasonic, surface tracking
	UHF for GIS PD Detection	UHF for GIS PD Detection
Cable PD Range	10pC to 1,000,000pC+	10pC to 1,000,000pC+
TEV Range	0dBmV to 60dBmV	0dBmV to 60dBmV
Acoustic Range	-6dBµV to 54dBµV	-6dBµV to 54dBµV
UHF Range	0dBmV to 50dBmV	0dBmV to 50dBmV
Test Type	PRPD – PD pattern, wave shape analysis DeCIFerTM	PRPD – PD pattern, wave shape analysis DeCIFerTM
Data Acquisition		
Signal sampling	100MSamples/sec, 14 bit	100MSamples/sec, 14 bit
PD Analysis	Automatic	Automatic
Reporting	Website or local	Website or local
Data Analysis		
PD Wave Shape	Yes	Yes
PRPD View	Yes	Yes
Trending Data	Yes	Yes
Reports	Yes	Yes
Alarms	Emails, SCADA, SMS	Emails, SCADA, SMS
Operating Environment		
Temperature	0°C to 50°C	0°C to 50°C
Humidity	20 to 90% RH non-condensing	20 to 90% RH non-condensing
IP Rating	IP 54 standard	IP 54 standard
	IP 68 optional	IP 68 optional
Power		
Rated Voltage	100 to 250 VAC	100 to 250 VAC
Frequency	47Hz to 63Hz	47Hz to 63Hz
Safety and EMC	CE-compliant in accordance with Low Voltage Directive (2014/35/EU) and EMC Directive (2014/30/EU)	CE-compliant in accordance with Low Voltage Directive (2014/35/EU) and EMC Directive (2014/30/EU)
	Designed and manufactured in the United King	dom





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