

## PD Monitor GIS™

24/7 partial discharge (PD) monitoring system for gas insulated switchgear (GIS) of 110kV and above

For maintaining the reliability of mission critical assets

[www.eatechnology.com](http://www.eatechnology.com)

**PRODUCT CODE: PDMGIS**

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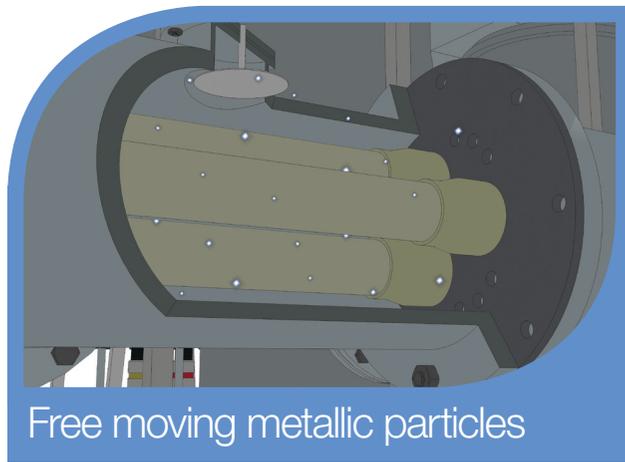
## PD in GIS assets

- Undetected PD activity is a major factor in GIS failures
- GIS switchgear should ideally be PD-free to maintain reliability
- PD levels as low as 5pC can cause problems

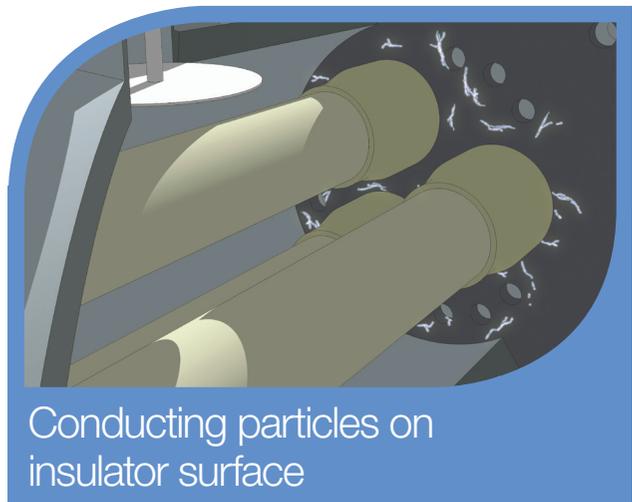


Healthy GIS installations should be PD-free

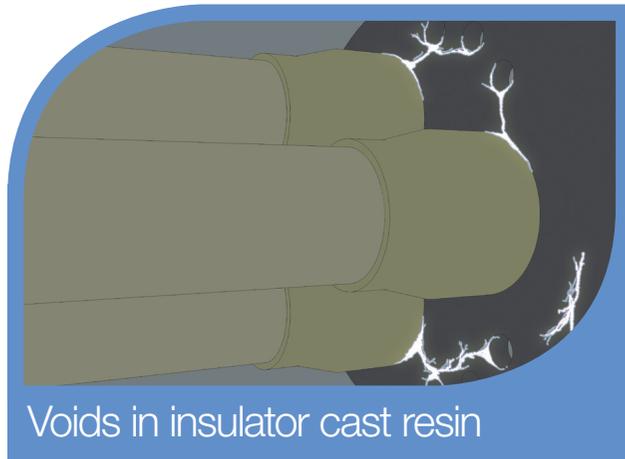
## 5 main causes of PD in GIS



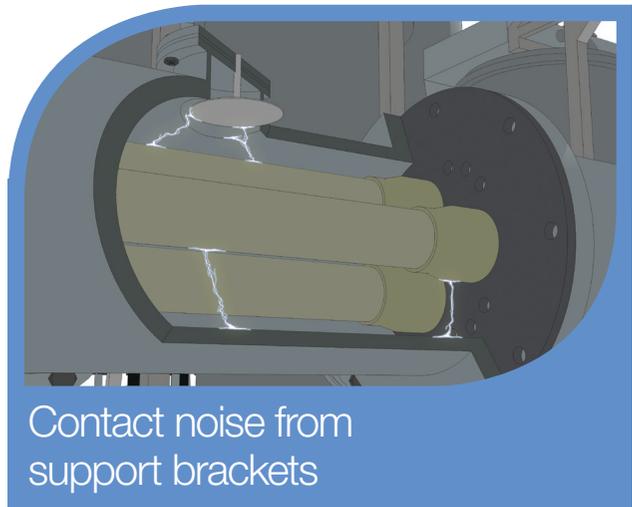
Free moving metallic particles



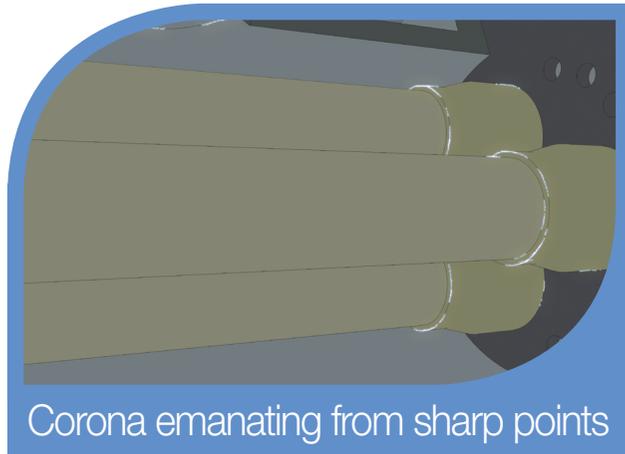
Conducting particles on insulator surface



Voids in insulator cast resin



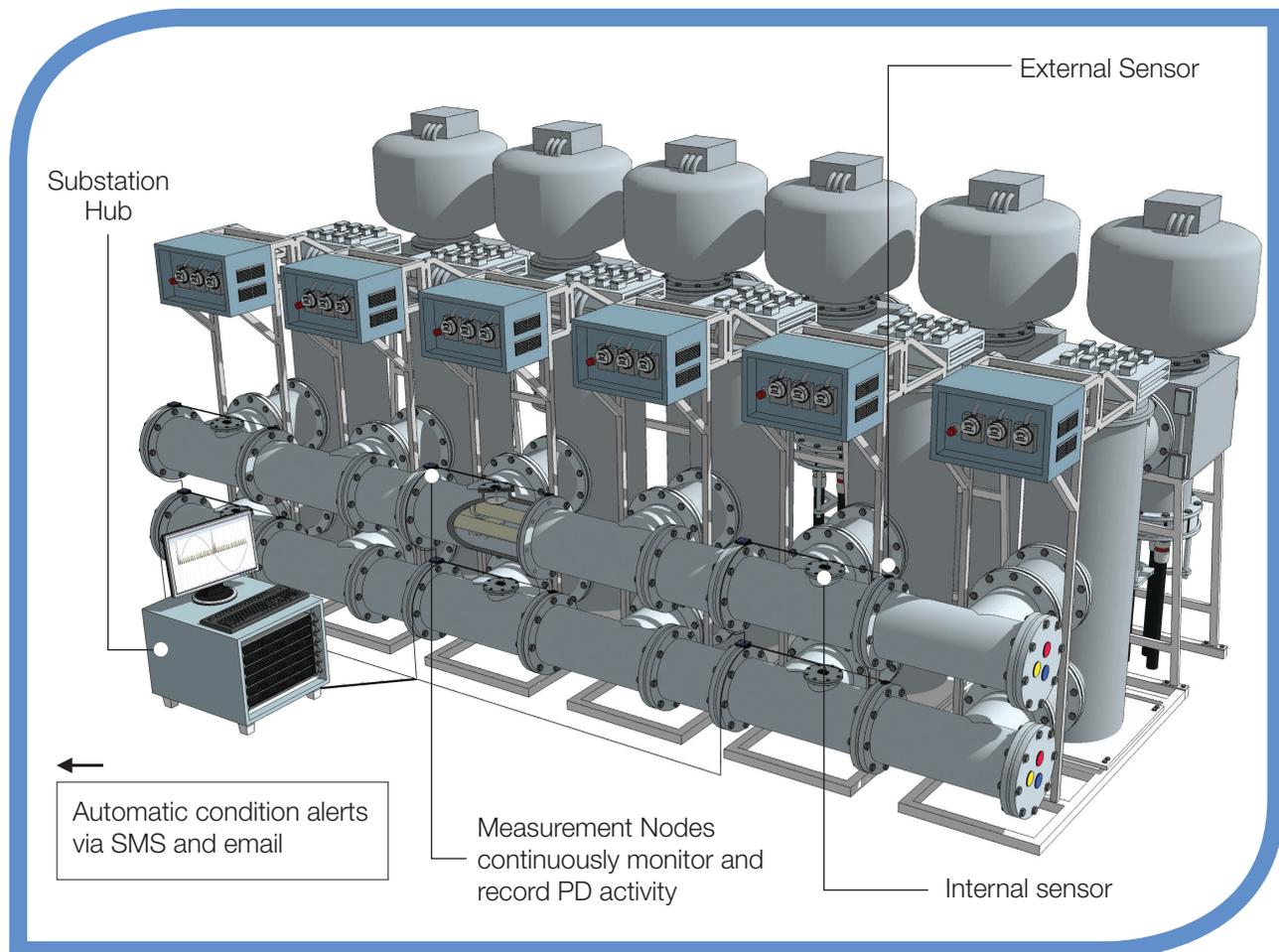
Contact noise from support brackets



Corona emanating from sharp points

# PD Monitor GIS™

gas insulated switchgear monitoring system



## cost-effective outage prevention

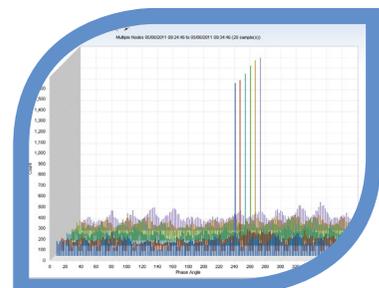
The PD Monitor GIS™ is the most cost-effective retrofit available, to maintain reliability in pressurised GIS installations of 110kV and above.

The system can simultaneously monitor assets 24/7 at over 50 sensor points. It automatically transmits alerts when PD activity reaches critical levels, with user-configurable thresholds.

## essential condition data

The system automatically produces easy-to-read graphical reports on PD activity as:

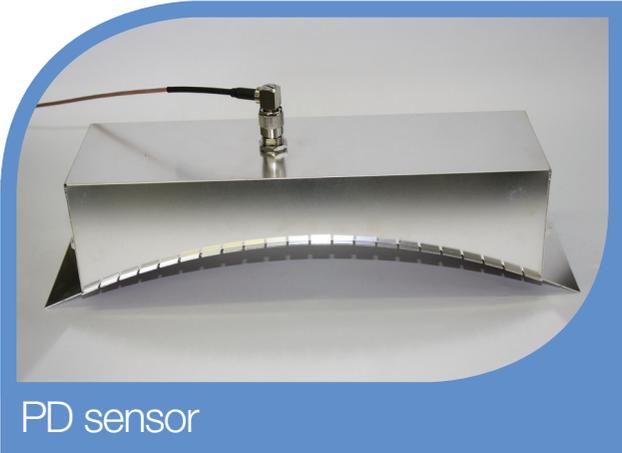
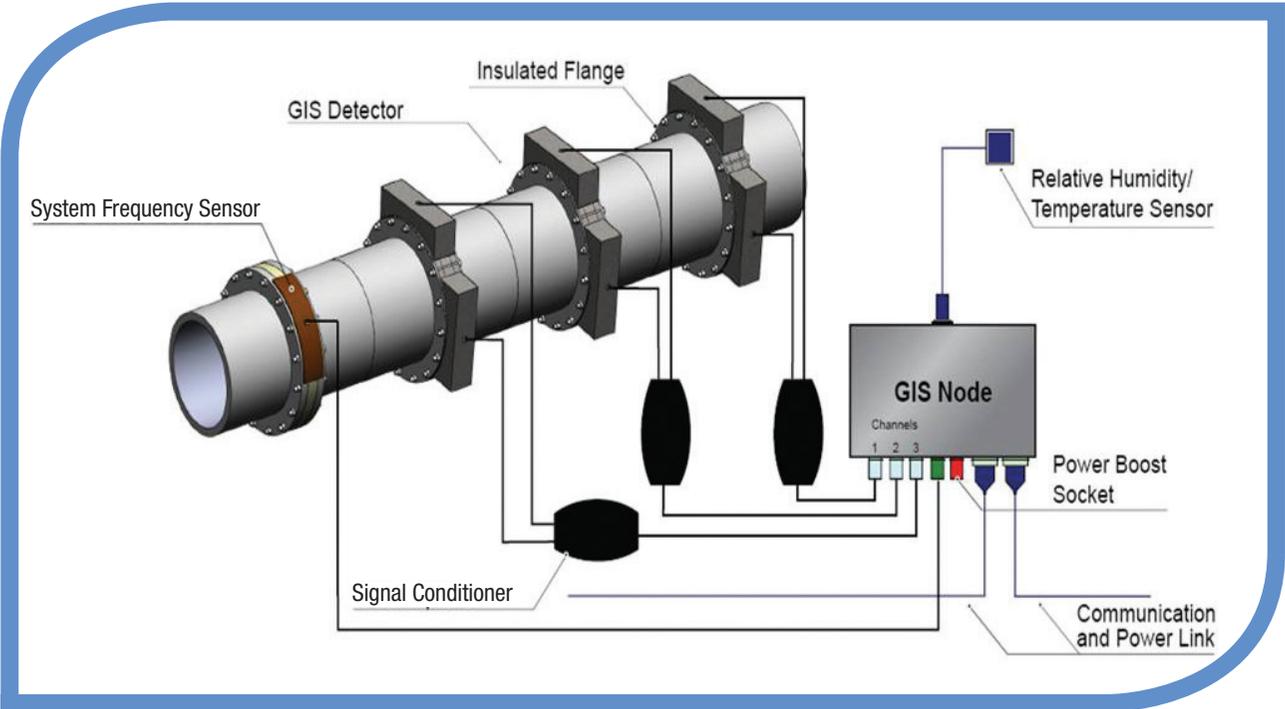
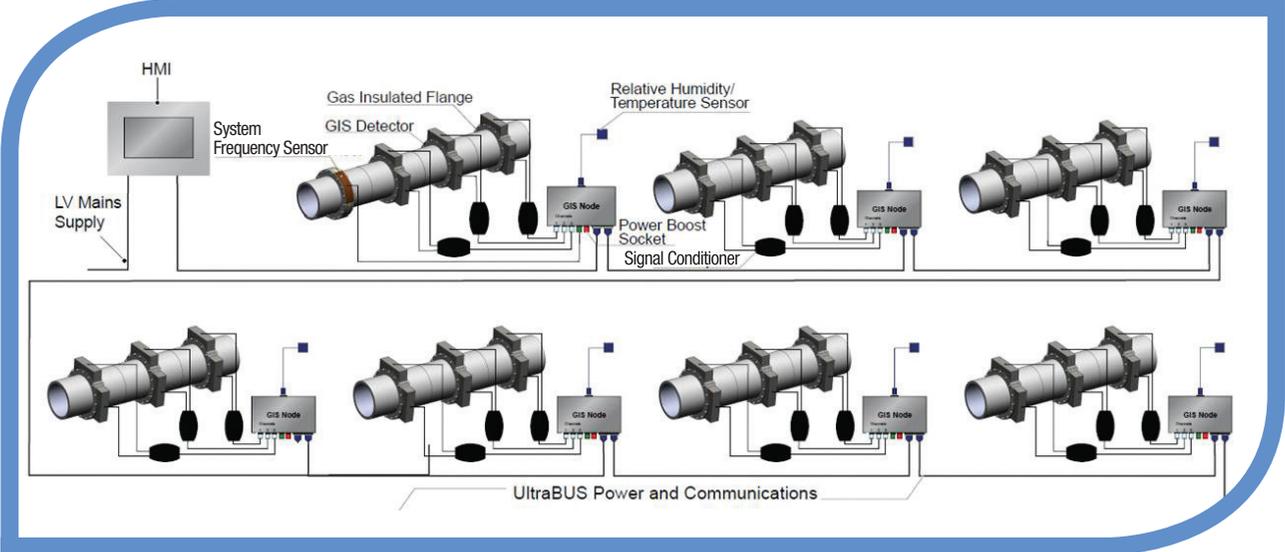
- Location
- Rate
- Magnitude
- Severity (magnitude + rate)



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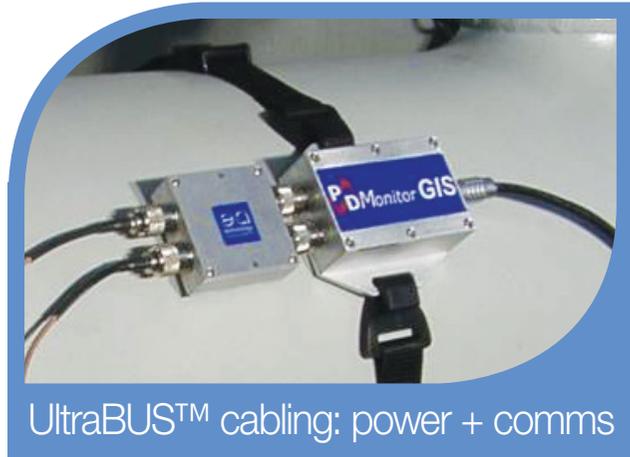
# PD Monitor GIS™

## system overview





Signal conditioner



UltraBUS™ cabling: power + comms



Node



PC hub

The PD Monitor GIS™ is the product of EA Technology's 35 year+ leadership in PD location and measurement

## benefits

- Cost-effective retrofit for 110kV GIS and above
- 24/7 monitoring of all GIS assets, with auto-alerts
- Instant outage early warning system
- Accurate PD information means shorter repair downtime
- Trend and store PD and asset condition data over years

## features

- Easy retrofit to cast resin spacers
- Non-disruptive, modular and flexible installation, with single-wire UltraBUS cabling
- Uniquely accurate time-of-flight PD location technology
- Automatic analysis and reporting of PD activity
- Remote web access to all monitored data

# PD Monitor GIS™

typical installations



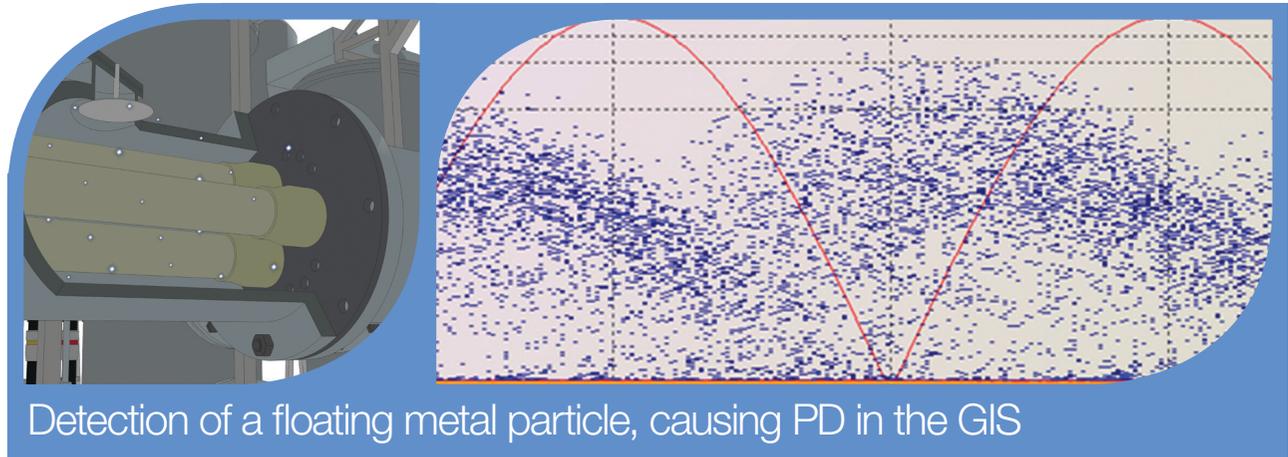
PD Monitor GIS™ sensors are simply attached to the outside of assets and easy to move for reconfiguration. More than 50 sensor points can be connected neatly to the hub, using the system's single-wire UltraBUS™, which integrates power and data communications.



# PD Monitor GIS™

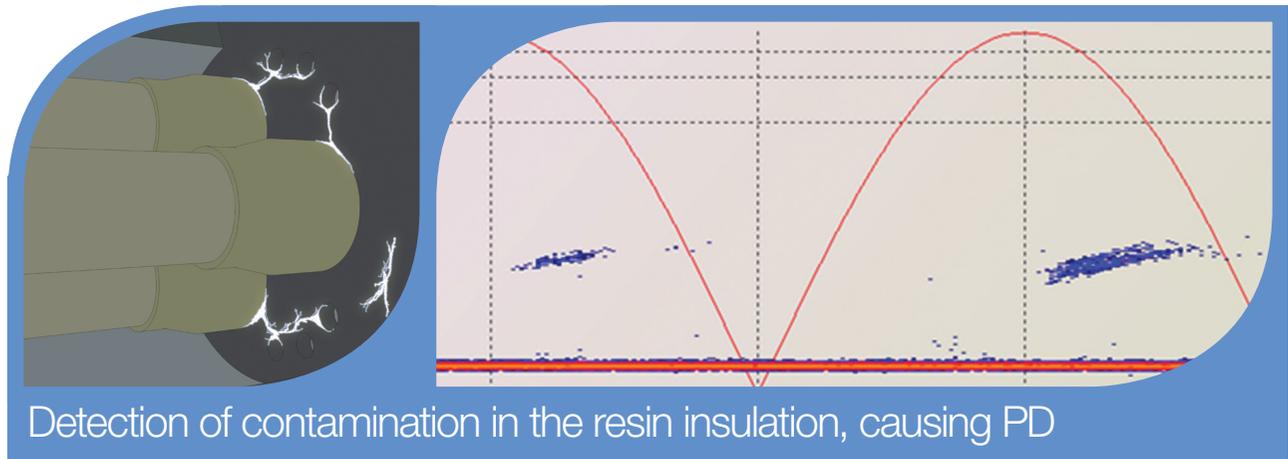
example results

## floating particle



Detection of a floating metal particle, causing PD in the GIS

## trapped particle



Detection of contamination in the resin insulation, causing PD

## PD activity and alarms report

Node	Last Received Time	Last Failed Time	Latest Alarm Category
Hub Node	19/08/2010 11:05:00	22/09/2010 14:56:55	Red Alarm
Node 01	22/09/2010 14:56:55	25/06/2010 13:58:54	Red Alarm
Node 02	22/09/2010 14:56:55	19/08/2010 11:05:00	Red Alarm
Node 03	07/09/2010 16:47:36	19/08/2010 11:05:00	Normal
Node 04	N/A	19/08/2010 11:05:00	Normal
Node 05	N/A	19/08/2010 11:05:00	Normal

Time Triggered	Alarm Category	Monitoring Point	Alarm Type	Trigger Value	Time Last Assessed	Time Alarm Stopped
25/06/2010 14:40:32	Red Alarm	Hub Node	Node Health Alarm	4	22/09/2010 14:56:55	Active
25/06/2010 14:40:32	Red Alarm	Node 01	Node Health Alarm	4	22/09/2010 14:56:55	Active
25/06/2010 14:40:32	Red Alarm	Node 02	Node Health Alarm	4	22/09/2010 14:56:55	Active
25/06/2010 14:40:32	Red Alarm	Node 02 Sensor 2	dB Mean Alarm	29	25/06/2010 14:40:32	Active

PD activity reports can be stored and used to trend asset condition over several years

Call us now to discuss how we can help prevent outages in your GIS installations.



See our latest podcasts at: [www.eapodcasts.com](http://www.eapodcasts.com)

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