

KELMAN DGA 900 PLUS INFRARED CAMERA MODULE

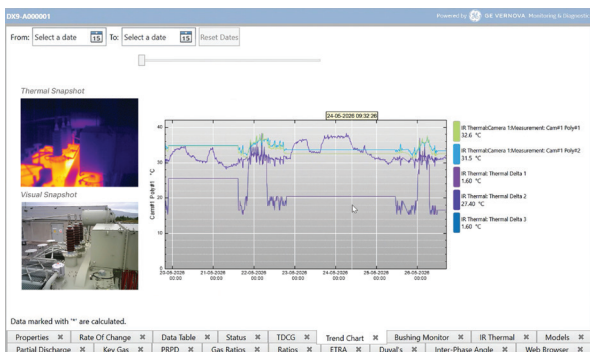
Protect Critical Transformers with DGA, Continuous Thermal and Visual Monitoring

Transformers are critical assets, and failures can have severe, long-lasting consequences. In extreme cases, a failure caused by insufficient maintenance can lead to widespread outages, costly repairs, and regulatory penalties.

The Challenge: Utilities must monitor transformer health and performance to mitigate failure risk and ensure grid reliability. Yet many struggle to detect and diagnose faults early. Periodic inspections, oil sampling, and scheduled maintenance can leave issues undetected for weeks or months between visits.

The Solution: DGA 900 PLUS with IRT (Infrared Thermography) camera monitoring solution gives utilities continuous, 24/7 visibility into high-value assets and critical infrastructure. When combined with IRT camera monitoring, these additional sensors help reduce O&M costs, improve reliability, and enable a Condition-Based Maintenance (CBM) strategy.

Provides continuous thermal data from critical subsystems: bushings, arresters, load tap changers, cooling systems, and connection points.



Detects and alarms on sudden or prolonged temperature differentials that can indicate potential faults. Automated alerts when thresholds are exceeded.

Together, DGA and IRT camera monitoring can deliver a complete picture from inside and outside of transformer monitoring its condition.

Key Benefits

- Detect faults earlier by correlating continuous IR thermal anomalies with DGA gas trends, catching issues in their infancy to reduce unplanned outages
- Triage alarms faster with time-synced DGA + IR visuals and threshold-based alerts, giving clear context so teams can prioritize maintenance confidently and quickly
- Extend coverage across bushings, arresters, LTCs, radiators, cooling systems, and connections with up to three PoE, IP67 cameras for multi-angle visibility
- Cut O&M and speed deployment with no carrier/calibration gases, PoE power supplied by the DGA unit, and simple, non-intrusive installation



Proven Thermal Monitoring

- By combining internal gas analysis with external thermal imaging, you get a complete picture of transformer condition
- Connect up to 3 cameras provide multi-angle monitoring of bushings, LTCs, radiators, and connections
- Correlate thermal anomalies and visual context from the IRT camera with gas generation trends from the DGA 900 PLUS to triage alarms faster, and prioritize maintenance

Proven DGA Technology

- 4th generation of GE Vernova's PAS technology, delivering improved accuracy with lower detection limits
- From the only vendor with over 20 years PAS experience and installed base in excess of ~20,000 units
- No carrier or calibration gas consumables
- Laboratory-grade field measurement of nine gases plus moisture
- Complete DGA analysis up to once per hour and "Rapid Mode" for critical gases in ~30 min

Analyse Visualise Integrate

- Using Perception / Gridbeats APM desktop & fleet dashboards: see time-sync DGA gas trends with IR hotspots, alarms, highlighting anomalies
- Power your data historian ecosystem: export time-stamped IR temperatures, images, and DGA values from the Kelman DGA 900 PLUS

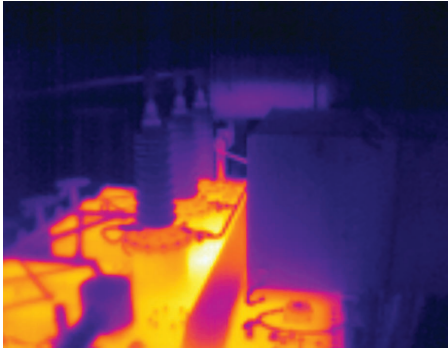


GE VERNOVA

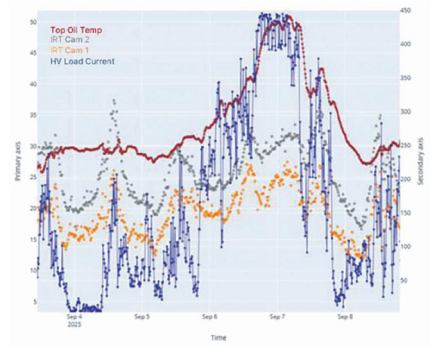
Images & Data



What You See



What IR Camera Sees



What We See

Technical Specifications

THERMAL CAMERA	
Resolution	160 × 120 pixels
Detector Type	Uncooled Vox Microbolometer
Spectral Range	8 to 14 μm
Field of View (H)	57°
Number of Polygons	8 Per Camera
VISUAL CAMERA	
Resolution	800 × 600 pixels
Sensor	1/4" CMOS
Field of View (H)	54°
Flash Light	LED, Pulsed
NETWORK AND REPORTING	
Network Options	PoE Cable - 10, 20, 50, 100m Cat5a as standard. Fiber Optic option for >100m
Camera Snapshot	Scheduled or Alarm triggered
Stored Image Frequency	Programmable minimum 15min
Thermal Reporting	Thermal box comparison / absolute temperature trigger
Thermal Analytics	Up to 15m with 0.3 × 0.3m target

ENVIRONMENTAL / MECHANICAL	
Operating Temp	-30°C to +60°C
Storage Temp	-40°C to +80°C
Enclosure	UV resistant plastic
IP Rating	IP67
Dimensions	78.5mm x 126.5mm x 41.5 mm
POWER	
Supply Method	PoE (supplied by DGA)
Connector	M12 - 4 pin power input, M12 - 8 pin I/O
Consumption	1W nominal
DIGITAL I/O	
Digital Input	1 - 30VDC, 500mA
Solid State Relay	1 x wet contact 12VDC
OPTIONS	
Mounting Options	Various; Magnetic, wall, direct on transformer, or magnetic extended selfie arm supporting multiple cameras

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