

Special technologies, Ltd. represents new system
for SF₆ leakages detection in High-Voltage GIS

Gas Leak Detector SF₆ LaserGasTest



Patented principles of laser photo-acoustic detection allow achieving record high sensitivity level.

The system can register leakages of SF₆ of following intensity:

$$1 \times 10^{-8} \text{ cm}^3/\text{sec (or 0,02 g/year)}.$$

and concentrations from 1 ppb to 50 ppm (optionally up to 1000 ppm).

Portable design and self-contained electric power supply allow making diagnostic of gas-insulated switch gear effectively, precise locating gas leakages and defect development level. The system can be used indoors and outdoors, in cable channels, and also in hard-to-reach places.

Specifications

Detected gas	SF ₆
Sensitivity for SF ₆	1×10 ⁻⁸ cm ³ /sec or 0.02 g/year
Detector type	photo-acoustic
Gas flow speed	0.6 l/min
Response time	< 2 sec
Readiness time	0,5 min
Leakage indication	digital, sound alarm, graphic
Power consumption	15 VA
Continuous operation time	6 hours
Size:	
- system block	320×190×115 mm
- probe	122×60×30 mm
- telescopic intake length	220 – 980 mm
- flexible intake length	400 mm
Weight:	
- system block	4,3 kg
- probe	0,2 kg

Built-in accumulators provide 6 hours of unbreakable work.

Sensitivity level of sound signalization can be tuned for better leakage place definition.

High speed of the gas flow and small response time of photo-acoustic detector reduce to 1-2 sec system recovery time when high concentrations are detected.

Laser radiation source and spectral photo-acoustic detection method provide high SF₆ detection selectivity. This reduces the number of false alarms. The system detects only compounds having high absorption at 10,6 μm wavelength. Absorption coefficient of SF₆ is 2-3 orders higher than those of other admixtures in the air.

User interface was developed with the regard to wishes of operational service staff. The system

does not require any additional staff training.

Gas leak detector SF₆ LaserGasTest does not require any consumables and periodical calibration service during warranty period.

The system has results memory function and USB interface for storing and further processing of the received data.

SF₆ LaserGasTest has Monitoring function for stand-alone continuous operations.