

**DATASHEET**

# 973 SF<sub>6</sub>

## ADVANCED SF<sub>6</sub> GAS ANALYZER

Measurement of humidity, SF<sub>6</sub> purity and SO<sub>2</sub> concentration in SF<sub>6</sub> gas insulated switchgears (GIS) and other high voltage equipment.

### Superior Reliability

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### Fast And Precise

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### Maximize Profits

## Applications

- SF<sub>6</sub> Gas Measurement in High Voltage Equipment
- Quality Control in Manufacturing
- Research and Development
- Environmental Monitoring
- Utilities and Power Plants



# 973 SF<sub>6</sub>

## Precise and Stable SF<sub>6</sub> Gas Analyzer

The 973-SF<sub>6</sub> is an advanced analyzer for the measurement of humidity, SF<sub>6</sub> purity and SO<sub>2</sub> concentration in SF<sub>6</sub> gas insulated switchgears (GIS) and other high voltage equipment. With its internal gas containment and recovery system, the 973-SF<sub>6</sub> provides a high quality and environmentally safe measurement solution within a single, self-contained unit.

Pure SF<sub>6</sub> is the standard filling within GIS, but over time gas compartments become contaminated with water vapor (H<sub>2</sub>O) through permeation and by desorption from internal components. Whilst water

vapor and SF<sub>6</sub> do not normally react with each other, in the presence of a high-energy discharge, hydrogen and oxygen disassociated from water vapor will react with the sulfur and fluorine from SF<sub>6</sub> to form decomposition by-products. These include sulfur dioxide (SO<sub>2</sub>) and hydrofluoric acid (HF) that are corrosive to the internal components of gas compartments. SF<sub>6</sub> with low water vapor content (low humidity) significantly reduces the potential for formation of these corrosive compounds, which is why accurate and repeatable measurement data is an invaluable part of any GIS preventative maintenance program.

### Applications

- SF<sub>6</sub> Gas Measurement in High Voltage Equipment
- Environmental Monitoring
- Quality Control in Manufacturing
- Research and Development
- Utilities and Power Plants

### Features

- High Precision Measurement
- Quick Measurement Time
- User-Friendly Interface
- Data Storage and Analysis
- Portable and Lightweight Design

### Benefits

- Environmental Compliance
- Reduced Downtime
- Cost Savings
- Improved Safety
- Sustainable Practices



## General Details

<b>Measuring Range</b>		
Frost/Dew Point	50...+20 °C	
Humidity content by volume	40...20'000 ppmv	
Humidity content by weight	5...2'500 ppmw	
Volume SF <sub>6</sub>	80...100%	
Inlet pressure	120...1'000 kPa abs	
<b>Accuracy</b>		
Frost/Dew point	≤ ± 0.5 °C	
ppm <sub>v</sub> /ppm <sub>w</sub>	≤ ± 1 ppm +6% of reading	
Volume SF <sub>6</sub>	≤ ± 0.5%	
Pressure	≤ ± 3 kPa	
<b>Standard Features</b>		
Digital I/O	RS-232	
Thermoelectric mirror cooling	3-stage	
Mirror temperature sensor	RTD (Pt100)	
Display	5.7" LCD with touch screen	
Internal gas tubes	Stainless Steel 316L / FEP	
SO <sub>2</sub> preparation	Mechanically and electrically prepared, measurement cell cover fitted	
Gas connections	Self-sealing quick connect fitting (Swagelok® QM Series)	
Couplings	Self-sealing SF <sub>6</sub> coupling DN8 (VK/F-02/8) and DN20 (VK/F-02/20)	
External sample gas tube	Self-sealing 6 m stainless steel armored PTFE tubing	
ORIS	Optimum Response Injection System	
Transport case	Custom fit foam lined Peli 1620	
Power cable	2.5 m	
Operating instructions	English, German, French or Italian	
Calibration certificate	Pressure calibration, 2-point dew/frost point, 3-point %Volume SF <sub>6</sub>	
<b>Optional</b>		
Internal SO <sub>2</sub> -Module	Measuring range: 0...100 ppmv or 0...500 ppmv Accuracy: < 2% of range < 2% of range Sensitivity drift: ≤ 5% / year ≤ 5% / year Life time: 2 years in normal operation	
<b>Additional Information</b>		
Supply voltage	100-120 VAC / 200-240 VAC, 50/60 Hz (auto switching)	
Supply voltage fluctuations	up to ± 10% of nominal voltage/Overvoltage category II Rated pollution degree 2	
Power consumption	200 Watt	
Pump back pressure max.	max. 900 kPa	
Cooling	Air	
Operational conditions	-10...+40 °C, 98 %rh, non-condensing, altitude up to 2000 m	
Storage temperature	-20 °C...+50 °C	
Outdoor use	Permissible, instrument must be protected against exposure to water	
<b>Weights &amp; Dimensions</b>		
	Instrument	In Transport Case
Width	420 mm	650 mm
Height	155 mm	370 mm
Depth	390 mm	510 mm
Weight	16.5 kg	32 kg

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