

DATASHEET

973 SF₆

ADVANCED SF₆ GAS ANALYZER

Measurement of humidity, SF₆ purity and SO₂ concentration in SF₆ gas insulated switchgears (GIS) and other high voltage equipment.

Superior Reliability

Fast And Precise

Maximize Profits

Applications

- SF₆ Gas Measurement in High Voltage Equipment
- Quality Control in Manufacturing
- Research and Development
- Environmental Monitoring
- Utilities and Power Plants



973 SF₆

Precise and Stable SF₆ Gas Analyzer

The 973-SF₆ is an advanced analyzer for the measurement of humidity, SF₆ purity and SO₂ concentration in SF₆ gas insulated switchgears (GIS) and other high voltage equipment. With its internal gas containment and recovery system, the 973-SF₆ provides a high quality and environmentally safe measurement solution within a single, self-contained unit.

Pure SF₆ is the standard filling within GIS, but over time gas compartments become contaminated with water vapor (H₂O) through permeation and by desorption from internal components. Whilst water

vapor and SF₆ 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 SF₆ to form decomposition by-products. These include sulfur dioxide (SO₂) and hydrofluoric acid (HF) that are corrosive to the internal components of gas compartments. SF₆ 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

- SF₆ Gas Measurement in High Voltage Equipment
- Environmental Monitoring
- Quality Control in Manufacturing
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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

Measuring Range		
Frost/Dew Point	50...+20 °C	
Humidity content by volume	40...20'000 ppmv	
Humidity content by weight	5...2'500 ppmw	
Volume SF ₆	80...100%	
Inlet pressure	120...1'000 kPa abs	
Accuracy		
Frost/Dew point	≤ ± 0.5 °C	
ppm _v /ppm _w	≤ ± 1 ppm +6% of reading	
Volume SF ₆	≤ ± 0.5%	
Pressure	≤ ± 3 kPa	
Standard Features		
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 ₂ preparation	Mechanically and electrically prepared, measurement cell cover fitted	
Gas connections	Self-sealing quick connect fitting (Swagelok® QM Series)	
Couplings	Self-sealing SF ₆ 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 ₆	
Optional		
Internal SO ₂ -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	
Additional Information		
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	
Weights & Dimensions		
	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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Process Insights is a full-service provider for gas and water analysis, delivering innovative and affordable sensors, monitors, analyzers, instrumentation and software that provide precise performance you can trust.

Solutions from Process Insights have prevailed for decades in harsh, hazardous and unforgiving operating environments in the most demanding, mission-critical, and highspeed applications. With

an emphasis on innovation and differentiated solutions, we provide technologies that add high value for our customers, promote operational excellence, and help them create the products and services that make our lives better. All of the solutions in our portfolio are rooted in the core values that define who we are. For a complete range of analytical instrumentation, applications, systems, and service options, please contact us.

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