

# SF<sub>6</sub> Gas Analyzer

## Transdox-3100C SF<sub>6</sub>

HIGHEST ACCURACY & LOWEST COST



## Transdox-3100C SF<sub>6</sub>

4 available configurations:

- \* Transdox 3100 CA: SF<sub>6</sub> - SO<sub>2</sub> - H<sub>2</sub>O
- \* Transdox 3100 CB: SF<sub>6</sub> - HF - H<sub>2</sub>O
- \* Transdox 3100 CC: SF<sub>6</sub> - SO<sub>2</sub> - HF - H<sub>2</sub>O
- \* Transdox 3100 CD: SF<sub>6</sub>

SF<sub>6</sub> gas recovery bag available.

**amperis**

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Regular checking of SF<sub>6</sub> gas insulated substations allows fault preventative maintenance programs to be implemented, and increases the life cycle of the SF<sub>6</sub>.

The Transdox 3100C is the latest high precision gas analyzer designed for controlling and monitoring the quality of SF<sub>6</sub> in gas insulated sub-stations and circuit breakers. Three different models of the analyzer (CA, CB and CC) not only measures the SF<sub>6</sub> purity over the full range, but depending on model also measures the H<sub>2</sub>O content of the SF<sub>6</sub> which is essential when monitoring the dielectric strength of the gas, together with the decomposition gas SO<sub>2</sub> and HF.

The analyzer simultaneously measures SF<sub>6</sub>, SO<sub>2</sub>, HF and H<sub>2</sub>O. Using an infra-red SF<sub>6</sub> detector, the analyzer offers exceptional accuracy and stability when measuring the purity of SF<sub>6</sub>. The decomposition products of SF<sub>6</sub> can be identified by analyzing the HF and/or SO<sub>2</sub> content of the gas; this forms from the breakdown of SOF<sub>2</sub> and SOF<sub>4</sub> after an electrical discharge. The analyzer incorporates two electrochemical, SO<sub>2</sub> and HF sensors to measure ppm levels. The dew-point of the gas (in ppmV or °C) is an important parameter to measure as this has an effect on the dielectric properties of SF<sub>6</sub>. The Transdox is fitted with a special high-speed dew-point sensor fitted with a system allowing stable measurements in less than three minutes.

All gases are analyzed and data-logged simultaneously and just a few minutes are required to get a stable reading. The Transdox has both on-board and software-based data-logging for full flexibility. The analyzer has a gas output nozzle allowing all sampled gas to be recovered and recycled, ensuring that no SF<sub>6</sub> gas is released into the atmosphere (in accordance with the Kyoto agreement).

The analyzer can be supplied as a bench style instrument or a full kit in a transport suitcase, with a range of DILLO compatible sampling hoses, couplings and a printer. Low-cost SF<sub>6</sub> gas recovery bags are available to ensure no gas escapes into the atmosphere when using the Transdox.

#### Features:

- Continuous gas sampling of SF<sub>6</sub> - SO<sub>2</sub> - HF - H<sub>2</sub>O.
- High precision infra-red gas detector for SF<sub>6</sub> purity over the range 0-100%.
- Electrochemical SO<sub>2</sub> sensor for trace analysis of contamination gas 0-100ppm or 0-500ppm.
- Electrochemical HF sensor for trace analysis of contamination gas 0-10ppm.
- High speed dew-point sensor for moisture analysis -65°C to + 20°Cdp (or ppmv).
- Input pressure 0.5 to 10 bar with safety blow off valve.
- Gas flow rate 0.1 - 1 litre per minute controlled by flow gauge.
- Programmable alarms with outputs and visual warning.
- RS232 / RS485, 0-5V and 4-20mA current loop outputs (all user programmable).
- On board data-logger with 2048 sample points.
- Windows data logging software with MS-Excel compatible graphing.
- Supplied with a 2m armored sampling hose with DILLO compatible fittings.
- Full sample kit available (sample hoses, DILLO couplings, printer, Peli-case).
- SF<sub>6</sub> gas recovery bag available.
- Compatible with DILLO style gas recovery systems.

#### Applications:

- Controlling SF<sub>6</sub> quality in switches, bus bars and circuit breakers in Gas Insulated Substations (GIS).
- SF<sub>6</sub> insulated devices in power stations.
- Checking for the buildup of corrosive decomposition products such as HF and SO<sub>2</sub> present in the SF<sub>6</sub>.
- Measuring the moisture content of SF<sub>6</sub> gas by using a dew-point analyzer.
- Applying a condition based maintenance program (CBM) to extend the life cycle of the SF<sub>6</sub>.
- Detecting the presence of leaks and SF<sub>6</sub> discharge.
- Indication of arcing and breakdown through the buildup of corrosive by-products.

## Specifications Transdox 3100C SF<sub>6</sub>

### Technical Data: Analyzer

<b>Voltage</b>	90-260Vac, 50/60Hz
<b>Analyzer dimensions</b>	350mm x 263mm x 150mm
<b>Weight</b>	7 kg
<b>Display</b>	20 x 4 characters (9mm) back lit LCD. Displays SF <sub>6</sub> -H <sub>2</sub> O-HF-SO <sub>2</sub> , pressure, temperature, date & time
<b>Warm up time</b>	3-4 minutes at 20°C
<b>Operating temperature</b>	-10°C to 40°C
<b>Max inlet pressure</b>	10 bar (protected)
<b>Voltage outputs</b>	0-5V linear, user-programmable
<b>Current outputs</b>	4-20mA linear, user-programmable
<b>Digital outputs</b>	RS232 (RS485 option available): data streamed on demand
<b>Flow</b>	100 to 1000 ml.min <sup>-1</sup>
<b>Data Log</b>	On board data logger with 2048 sample points

### Technical Data: Sensor

<b>SF<sub>6</sub> Sensor</b>	Infra-Red 0-100%; ± 0.5% FS accuracy; Resolution 0.1%
<b>H<sub>2</sub>O Sensor</b>	-65°C to +20°Cdp; ± 2°Cdp accuracy of reading*; Resolution 0.1°Cdp
<b>SO<sub>2</sub> Sensor</b>	Electrochemical Cell 0-100ppm or 0-500ppm; ± 2% FS accuracy; Resolution 0.1ppm
<b>HF Sensor</b>	Electrochemical Cell 0-10ppm; ± 2% FS accuracy; Resolution 0.1ppm
<b>Life expectancy</b>	2-3 years: HF & SO <sub>2</sub> , >5 years SF <sub>6</sub> & H <sub>2</sub> O
<b>Measurement time</b>	3-5 minutes
<b>Calibration</b>	SF <sub>6</sub> , HF and SO <sub>2</sub> user selectable cal gas values. H <sub>2</sub> O sensor factory fixed

\* Minimum accurate reading possible with this sensor is -60°Cdp. Sensor will respond from wet to dry in approximately three minutes.

## Optional Accessories

### Optional Transdox Gas Recovery Bag



### Optional Transdox Sampling Kit



- Transdox 3100C analyzer (CA, CB, CC or CD)
- Handle
- Set of DN8 and DN20 DILO fittings with 2m hose
- Thermal printer
- Heavy duty Peli-style case

