Product Overview
Accurate knowledge of the condition of transformers is essential for all electrical networks. This information allows valuable asset capabilities to be maximised and expensive failures to be avoided.

Dissolved Gas Analysis (DGA) is an established technique and is recognised as the most important test in monitoring power transformers. It is now being successfully extended to other oil filled equipment such as tap changers and circuit breakers.

The TRANSPORT X is a compact, portable DGA system which is designed to analyse oil samples in the field and obtain not only gas level readings but also deliver diagnostics based on standard rules.

The TRANSPORT X unit has been designed to be very rugged and user friendly with an emphasis placed on easy field operation. The unit is used by over 200 companies and utilities and has sold in excess of 1000 units worldwide.

Features & Benefits
The TRANSPORT X test uses state of the art infrared measurement technology to give accurate, reliable results in a matter of minutes. The TRANSPORT X product represents an invaluable tool for Asset Management and will increase the power of any DGA program.

Extensive field and laboratory use worldwide has proven that the TRANSPORT X test gives highly reliable results and that it is genuinely suitable for field conditions.

The TRANSPORT X equipment minimises the risk of carry-over between tests. With the ability to go from high gassed samples (such as tap changers) to subsequent low gassed samples (such as main tanks) with no contamination of results the user can confidently test all types of oil filled equipment.

Internal diagnostic software helps to translate ppm data into valuable information by employing standard DGA interpretation rules e.g. Duval’s triangle, key gas analysis etc.

These established algorithms assist the user to analyse the condition of the transformer. The accompanying TransportPro PC software allows the user to download records to a PC database for export to PERCEPTION® software or Excel.

Accurate & Sensitive
The TRANSPORT X unit has a wide detection range with excellent accuracy for all seven fault gases.

Moisture Analysis
The unit measures water content in oil. The water concentration can be expressed as parts per million or relative saturation.

Simple
Easy step-by-step operation. No extensive calibration, set-up or interpretation of results required.

Fast
On-site results in less than thirty minutes.

No Consumables
The TRANSPORT X unit requires no calibration or carrier gases.

Portable & Rugged
11kg (24lbs) in a rugged convenient carry case.

DGA Diagnostics
Includes DGA diagnostic algorithms - Rogers’ Ratios, Duval’s Triangle, Japanese ETRA and IEEE® Key gas. Also includes user settable “Caution and Warning” thresholds on all gases.

Test Gas Samples
Ability to test gas samples taken from Buchholz Relays.
PC Software
Includes TransportPro PC software package to allow storage and exporting of results.

Kelman PERCEPTION
Complimentary Kelman PERCEPTION software supplied with each TRANSPORT X for trending & analysis of results.

Technical Specifications

<table>
<thead>
<tr>
<th>PARAMETER (compound)</th>
<th>VALUE/MEETS (measurement range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen (H₂)</td>
<td>5 - 5,000 ppm</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)</td>
<td>1 - 50,000 ppm</td>
</tr>
<tr>
<td>Carbon Dioxide (CO₂)</td>
<td>2 - 50,000 ppm</td>
</tr>
<tr>
<td>Methane (CH₄)</td>
<td>1 - 50,000 ppm</td>
</tr>
<tr>
<td>Acetylene (C₂H₂)</td>
<td>0.5 - 50,000 ppm</td>
</tr>
<tr>
<td>Ethane (C₂H₆)</td>
<td>1 - 50,000 ppm</td>
</tr>
<tr>
<td>Ethylene (C₂H₄)</td>
<td>1 - 50,000 ppm</td>
</tr>
<tr>
<td>Water (H₂O)</td>
<td>0-100% relative humidity</td>
</tr>
</tbody>
</table>

(Note: Buchholz gas samples LDL is 50 ppm for all gases. Accuracy is ± 30% for all gases).

- Moisture in Oil Accuracy: ± 3ppm
- Measurement Accuracy**: ± 5% or ± 2 ppm (whichever is greater)

**Accuracy quoted is the accuracy of the detectors during calibration.

ENVIRONMENTAL

<table>
<thead>
<tr>
<th>ENVIRONMENTAL</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Range</td>
<td>5 - 40°C (41-104°F)</td>
</tr>
<tr>
<td>Power Supply</td>
<td>115/230 Vac; 50/60Hz; 40 W</td>
</tr>
<tr>
<td>Computer Interface</td>
<td>USB</td>
</tr>
<tr>
<td>Printout Hardcopy</td>
<td>2” Thermal Printer</td>
</tr>
<tr>
<td>Weight</td>
<td>11 KG (24 lbs) (unit only)</td>
</tr>
<tr>
<td>Size</td>
<td>170 X 340 X 460 mm (unit only)</td>
</tr>
<tr>
<td>Oil Sample Volume</td>
<td>50 ml</td>
</tr>
<tr>
<td>Gas Sample Volume</td>
<td>5 ml</td>
</tr>
</tbody>
</table>

Conforms to:

EMC
Emissions and Immunity Testing Performed According to
EN61326-1:2006.
EN 61326-1: 2006 Conducted Emissions (Class A).
EN 61326-1: 2006 Conducted Emissions (Class A).
EN 61000-3-2: 2000 Steady State and Fluctuating Harmonics.
EN 61000-3-3: 2001 Flicker Testing.
IEC61000-4-3: 2002 Radiated Immunity.
IEC61000-4-6: 2001 Conducted RF Immunity.
IEC61000-4-8: 2001 Magnetic Field Immunity.
IEC61000-4-11: 2001 Voltage Dips and Interrupts.

Safety
Safety requirements for electrical equipment for measurement, control and laboratory use.
IEC61010-1, EN61010-1, UL61010-1, CAN/CSA-C22.2 No. 61010-1.

Additional Features
- Records compatible with Kelman PERCEPTION software from GE Energy and Transformer Oil Analyst (TOA).
- Up to 20,000 records stored in internal memory.
- Embedded thermal printer gives hard copy of results on-site.
- Touch screen controls for easy operation.
- 4 popular diagnostic algorithms available on screen for immediate fault identification.

Additional Options
- ‘System Check Kit’ for verification of detector operation.
- Gas test kit allows analysis of Buchholz gas samples.
- Transit Case; Provides extra protection for air travel and transportation.
- Sample Cooler; Allows hot oil samples to be cooled for storage or immediate analysis.

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