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Data Sheet 5.85-71/1

Laboratory Oil Testers, Types OTS100AF and OTS80AF

Application

Monitoring and maintenance of oil quality is essential in ensuring the reliable operation of oil filled electrical equipment. One of the fundamental tests of oil quality is the breakdown voltage test, which is a measure of the oil's ability to withstand electric stress. Laboratory oil testers perform accurate breakdown voltage tests on mineral, ester and silicon insulating liquids.

Description

To perform a breakdown test an oil sample is filled into a mobile test vessel assembly that is equipped with an electrode pair according to the test standard applying to the oil. Once filled the test vessel assembly is mounted into the oil tester and the test procedure can be started with a keystroke.

Codes of practice have been established in many countries that include several different types of tests on insulating oils. Settings for tests standards are preloaded in the oil tester and new versions can be uploaded via USB flash drive. The creation of user-defined tests is supported.

Test results are identified either by a serial number or asset ID. They are time and date stamped and can be printed or stored on USB. A higher comfort in test data handling can be achieved by the use of asset and data management software providing an excellent tool for downloading and printing results.

The laboratory oil tester comes with dual redundant high voltage cut-off circuitry to ensure safety. During a test the operator can terminate the test procedure by pressing any button on the keyboard which will remove high voltage immediately and abort the test. The transparent lid provides ample visibility within the test chamber yet is protected and electrically shielded by a screen with multiple links to instrument ground.

Advantages

Moulded transparent test vessels provide repeatable results using lockable adjustment wheels for the precise setting of the electrode gap.

The transparent, shielded lid and the large, easy to clean test chamber with oil drain enable comfortable access to the test vessel.

Automatic oil temperature measurement, display with backlight and the intuitive user interface contribute to efficient operability.

Table 1: Technical Data

Technical Data	**unit**	Type **OTS100AF**	Type **OTS80AF**
Performance			
Test voltage	kV_{RMS}	0 to 100	0 to 80
Voltage resolution	kV	0.1	0.1
Accuracy		±1% ±2 digits	±1% ±2 digits
Features			
Intended Use		Laboratory	Laboratory
Temperature sensor		Yes	Yes
Programmed test sequences			
IEC60156-95		Yes	Yes
ASTM D 1816-04		Yes	Yes
ASTM D 877A-02		Yes	Yes
ASTM D 877B-02		Yes	Yes
Display		QVGA color	QVGA color
Keypad		12key alpha-numeric	12key alpha-numeric
Interface		3x USB	3x USB
Internal printer		Yes	Yes
Rugged case		No	No
Battery		No	No
Protection		dual cover switch	dual cover switch
Dimension and weights			
Length	mm	290	290
Width	mm	580	580
Height	mm	420	420
Weight	kg	30	30
Normal operating conditions			
Rated AC power supply voltage	V(AC)	100 to 240	100 to 240
Power supply frequency	Hz	50 to 60	50 to 60
Environmental conditions			
Temperature	°C	0 to 50	0 to 50
Humidity	%r.H.	20 to 80 (@ 40°C)	20 to 80 (@ 40°C)
Altitude	m	2000	2000
Accessories			
Vessel 400ml assembly		Yes	Yes
Full electrode set IEC and ASTM		Yes	Yes
Magnetic bead stirrer		Yes	Yes
Magnetic bead retriever		Yes	Yes
Feeler gauge set 1, 2, 2.5 , 2.54mm		Yes	Yes
Power cord		Yes	Yes
User Manual CD		Yes	Yes
USB cable		Yes	Yes
Software			
Power DB Lite CD ROM		Yes	Yes
Optional Accessories			
Vessel 150ml assembly		Yes	Yes
VCM100D digital voltage checker		Yes	Yes