Megger.

VAX 020 High voltage amplifier



- Separate high voltage amplifier enables capacitance and dissipation factor measurements at 2 kV test voltage
- True and proven DFR/FDS technology for highest performance
- Large frequency range, DC to 1 kHz
- Compact design, weight < 5 kg</p>

DESCRIPTION

VAX 020 expands the IDAX test voltage range from 200 V to 2 kV. This improves the capability to perform accurate measurements in extreme high-interference environments, e.g. HVDC substations.

Besides 50/60 Hz capacitance and dissipation factor (power factor) measurements, the application gives valuable information about the general condition of any high voltage insulation by measuring its dielectric response. The technique is also capable of assessing the moisture content in oil/paper insulation systems.

Test system

The IDAX line of insulation diagnostic instruments measures capacitance and dissipation factor in electric insulation systems at 50/60 Hz, as well as over a wide frequency range, typically from mHz to kHz. The variable frequency technique is called Dielectric Frequency Response measurements (DFR) or Frequency Domain Spectroscopy (FDS). The very first field instrument using this technique, IDA and VAX high voltage amplifier, was developed 15 years ago and soon became the standard test system for DFR measurements on transformers, bushings and cables.



IDAX-300 Insulation Diagnostic Analyzer

APPLICATION

Capacitance and dissipation factor measurements of:

- Power transformers
- Bushings
- Instrument transformers (CT/VT)
- Generators and motors
- Insulating oil

International standards and recommendations for DFR/FDS

CIGRE brochure 414: 2010 recognizes DFR/FDS as the preferred method for measuring moisture content in the cellulose insulation in power transformers.

FEATURES AND BENEFITS

- Dielectric response measurements is a powerful tool for evaluating insulation properties. In particular, DFR/FDS measurements is the preferred method for moisture assessment in oil-immersed power transformers. Megger instruments use true AC DFR/FDS, which is a worldwide proven method for insulation diagnostics.
- The Megger IDAX analyzers with the VAX series of high voltage amplifiers offer the widest measurement range in terms of frequency and output voltage. IDA/IDAX/VAX are the original instruments for field measurements of dielectric response and have been used all over the world for more than 15 years.
- IDAX is designed for field use in substation environment and is resistant to high electrical interference. With VAX020 high voltage amplifier, the capability to withstand interference conditions is further increased and allows measurement of any transformer or bushing correctly even under the severest interference conditions, e.g. in HVDC substations.





The test system: IDAX-300 and VAX 020
INCLUDED ACCESSORIES





Interlock, AF-90010

Postal address Megger Sweden AB Box 724 SE-182 17 Danderyd SWEDEN

T 08 510 195 00 E seinfo@megger.com





HV cable, GC-30350

VAX020_DS_en_V04a ZI-AF02E • Doc. AF0002DE • 2019 Subject to change without notice

Registered to ISO 9001 and 14001 The word 'Megger' is a registered trademark

www.megger.com

SPECIFICATIONS VAX 020

Specifications are valid at nominal input voltage and an ambient temperature of +25°C, (77°F). Specifications are subject to change without notice.

Environment

Application fieldThe instrument is intended for use in medium and high voltage substations and industrial environments.Ambient temperatureOperating-20°C to +55°C (-4°F to +131°F)Operating-40°C to +55°C (-40°F to +131°F)Humidity< 90%RH, non-condensing	Environment	
Operating Storage -20°C to +55°C (-4°F to +131°F) (-40°C to +55°C (-40°F to +131°F) Humidity < 90%RH, non-condensing	Application field	medium and high voltage substations
Storage -40° C to $+55^{\circ}$ C (-40° F to $+131^{\circ}$ F)Humidity $< 90\%$ RH, non-condensingCE-marking $2006/95/EC$ LVD $2006/95/EC$ EMC $2011/65/EC$ Classifications and standardsCategoryCAT 1IP classIP21General $100 - 240 \vee AC, 50 / 60 Hz$ Power $120 \vee A (max)$ consumption $200 \times 430 \times 220 mm (17.7" \times 6.3" \times 16.1")$ Dimensions $100 - 240 \vee AC, 50 / 60 Hz$ Instrument $335 \times 300 \times 99 mm (17.7" \times 6.3" \times 16.1")$ Transport case $520 \times 430 \times 220 mm (20.5" \times 17" \times 8.7")$ Weight $4.4 \text{ kg } (9.7 \text{ lbs}) \text{ without accessories}$ InterfaceConnects $VAX020 \text{ with IDAX}$ CONTROLConnects $VAX020 \text{ with IDAX}$ VAX020 can be used together with the following IDAX systems: IDAX-206, IDAX-206 FR, IDAX300 and IDA 200INTERLOCKConnection for the interlocking deviceOUTPUTYoltage 2 kV (peak) Current $50 mA (peak)$ above 50 Hz derating linearly to $30 \text{ mA below 10 Hz}$ Frequency rangeDC -1 kHz Capacitive load $0 - 20 \mu$ F, 80 nF at 2 kV, 50 Hz	Ambient temperature	
Humidity < 90%RH, non-condensing CE-marking 2006/95/EC LVD 2006/95/EC EMC 2011/30/EC RoHS 2011/65/EC Classifications and standards Category Category CAT 1 IP class IP21 General VAC, 50 / 60 Hz Power 120 VA (max) consumption Jon – 240 V AC, 50 / 60 Hz Power 120 VA (max) consumption Jon – 240 V AC, 50 / 60 Hz Power 120 VA (max) consumption Jon – 240 V AC, 50 / 60 Hz Power 120 VA (max) consumption Jon – 240 V AC, 50 / 60 Hz Power 120 VA (max) consumption Jon – 20 vA (max) Veight 4.4 kg (9.7 lbs) without accessories Interface Connects VAX020 with IDAX. VAX020 can be used together with the following IDAX systems: IDAX-206, IDAX-206 FR, IDAX300 and IDA200 INTERLOCK Connection for the interlocking device OUTPUT Voltage Voltage 2 kV (peak)	Operating	-20°C to +55°C (-4°F to +131°F)
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$\begin{array}{l} \mbox{derating linearly to 30 mA below 10 Hz} \\ \mbox{Frequency range} & DC - 1 \ \mbox{kHz} \\ \mbox{Capacitive load} & 0 - 20 \ \mbox{\mu}\mbox{, 80 nF at 2 kV, 50 Hz} \\ \end{array}$	Voltage	2 kV (peak)
Capacitive load $0 - 20 \ \mu\text{F}$, 80 nF at 2 kV, 50 Hz	Current	
• • • • • •	Frequency range	DC – 1 kHz
		0 – 20 μF, 80 nF at 2 kV, 50 Hz

ORDERING INFORMATION		
Item	Cat. No.	
VAX020	AF-59090	
Included accessories		
Mains cable		
Ground cable, GC-30070		
Control cable, 1 m (3 ft) GC-30601		
for connecting to IDAX		
High voltage cable, 20 m (65 ft) GC-30350		
Interlocking device, AF-90010		
Transport case, GD-30055		

