

Standards

EMC	:	IEC/EN61326-1
This instrument satisfies the requirements of European Directive 2011/65/EU (RoHS) and 2012/19/EU (WEEE)		
Instrument's safety	:	IEC/EN61010-1, IEC/EN61557-1, IEC/EN61557-2
Accessories safety	:	IEC/EN61010-031
Insulation	:	Double Insulation
Type of Protection	:	2
Mechanical protection	:	IP40 (open case), IP53 (closed case)
Over voltage category	:	CAT IV 600V to ground, max 600V between inputs
Maximum altitude	:	max altitude 2000m
Certification	:	TÜV protocol conformity, CE

Environmental Specifications:

Working temperature	:	0° to 40°C
Maximum relative humidity	:	< 80% Rh
Storage temperature	:	-10 to 60°C
Storage humidity	:	< 80% Rh

Physical Specifications:

Dimensions	:	360(L) x 310(W) x 195(H) mm 14.2" (L) x 12.2"(W) x 7.7"(H)
Weight	:	about 3.5kg

Power Supply:

Internal battery charger, power supply	:	220-240V 50/60Hz, 20VA Internal NiMH rechargeable battery
Protection fuse on power supply	:	T 200mA/250V, Ir: 1.5kA
Low battery indication	:	symbol at display
Battery life	:	>1000 Test @ 5kV on 5MΩ (test time: 5s, delay between two test: 25s) according to IEC/EN61557-2. (par. 6.7)
Auto Power OFF	:	after 5min since last operation
Battery Charging time	:	4 hours

DISPLAY, MEMORY, SERIAL INTERFACE

- Backlight LCD with three simultaneous readings
 - Group 1 (main) : Insulation Resistance, Leakage Current, PI, DAR, Capacitance
 - Group 2 : Test voltage (nominal and generated)
 - Group 3 : Test Time
- Bargraph : 32 segments
- Low battery indications
- Memory : 700 test
- Communication interface: RS232 opto-insulated

Accessories

- STANDARD
 - Set of 3 cables with alligator clips + 2 cables
 - Power cord
 - Carrying bag for accessories
 - User manual
- OPTIONAL
 - RS-232/USB adapter
 - 15 m test cables set
 - TOPVIEW : Windows software + serial cable



Insu 5Dx

A Field Insulation testing Instrument



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The Digital Insulation tester Insu 5Dx designed to perform professional insulation resistance measurements with test voltage programmable up to 5kVDC and wide measurement range up to 10Tohm which permits a large applications for each industrial LV environment (test on electrical machines, power transformers, electrical cables, switchboard panels, generic devices, etc...). Three different function modes are available on meter: FIX mode (fixed test voltage), ADJUST mode (programmable test voltage) and RAMP mode (programmable test voltage and duration time with up to 3 kind of selectable ramps) which permits to reach correct results in each situation. The Polarization Index (P.I) and Dielectric Absorption Ratio (D.A.R) available features are duration tests which permits to define a good behaviour of the global insulation. The Insulation tester Insu 5Dx is powered by a NiMH rechargeable battery with integrated adapter which permits to reach great performances during the measurements, it have a internal memory for saving results and a RS-232 interface for connection to PC and transfer saved measurements. All structure is fitted in a portable hard carrying case which assure safety typical of a "on field" Digital Insulation Tester

Features

- Measurement range up to 10Tohm
- FIX mode with test voltage of 100V, 250V, 500V, 1kV, 2.5kV & 5kV DC
- ADJUST mode with test voltage selectable from 100 to 5kVDC
- RAMP mode with selectable duration time and test voltage
- Selection of 3 type of ramp test
- Polarization Index (P.I.) measurement
- Dielectric Absorption Ratio (D.A.R) measurement
- DC/AC TRMS voltage up to 600V
- SMOOTH feature for stable measurement results
- GUARD test lead for surface leakage current compensation
- MX, MIN limit selectable threshold on measurements
- Automatic discharging of device under test
- Fuse protection on power supply
- LCD display with backlight and bargraph
- Internal memory for saving results
- Recall saved results at display
- RS-232 interface for PC connection
- Live circuit detection upto 600V, alongwith test inhibit function

Applications

- HV & MV Transformers
- HV & MV Cables
- HV & MV Motors, Generators
- Breakers

Technical Specifications

Vdc Voltage

Range	Resolution	Accuracy	Protection against overloads
10 - 600V	1V	± (2.0%rdg+2 dgt)	CAT IV 600V to earth

Vac TRMS Voltage

Range	Resolution	Accuracy	Protection against overloads
10 - 600V	1V	± (2.0%rdg+2 dgt)	CAT IV 600V to earth

Insulation resistance - Intrinsic Accuracy (at the reference conditions)

Range	Test voltage	Resolution	Accuracy (*)
0.01MΩ - 0.19MΩ (**)	≥ 100V	≥ 1%rdg	± (5%rdg.+7dgt)
0.20MΩ - 199GΩ	≥ 100V		
0.20MΩ - 499GΩ	≥ 250V		± (5%rdg+3dgt) if $R_{mis} \leq \frac{Test\ Voltage}{5\ nA}$
0.20MΩ - 999GΩ	≥ 500V		± (20%rdg+3dgt) if $R_{mis} \leq \frac{Test\ Voltage}{5\ nA}$
0.20MΩ - 1.99TΩ	≥ 1000V		
0.20MΩ - 4.99TΩ	≥ 2500V		
0.20MΩ - 9.99TΩ	5000V		

(*) Load Capacitive < 1nF

(**) Outside range indicated by IEC/EN61557

Measurement of generated voltage (*)

Test mode	Nominal test voltages	Accuracy
FIX	100V, 250V, 500V, 1kV, 2.5kV, 5kV	- 0%, +10% + 15V
ADJUSTABLE	100 - 1000V, step 25V	
	1000 - 5000V, step 50V	
RAMP	100 - 1000V, step 25V	
	1000 - 5000V, step 50V	

(*) Test voltage compliance with IEC /EN 61557-2

Test current

Test voltage	Test current
100 - 5000V	1mA ≤ Test current ≤ 3mA (*)

Test time

Setting range	Resolution
5s - 99min 59s	1s

Capacitance measurement

Range	Resolution	Load resistance	Test voltage (Vn)	Accuracy
1nF - 999nF	1nF	≥ 5MΩ	Vn ≤ 5000V	±(10%rdg+5dgt)
1.00μF - 5.00μF	0.01μF			
1nF - 999nF	1nF		Vn ≤ 2500V	
1.00μF - 9.99μF	0.01μF			
1nF - 999nF	1nF		Vn ≤ 1000V	
1.00μF - 9.99μF	0.01μF			
10.0μF - 49.9μF	0.1μF			

Charge time of capacitance (0V→5000V): < 3s x 1μF

Discharge time of capacitance (5000V→25V): < 5s x 1μF

Leakage current

Range	Resolution	Accuracy	
0.1nA - 99.9nA	0.1nA	± (7%rdg+3dgt) if $R_{mis} \leq \frac{Test\ Voltage}{5\ nA}$	
100nA - 999nA	1nA		
1.00μA - 9.99μA	0.01μA		
10.0μA - 9.99μA	0.1μA		
100μA - 999μA	1μA		± (22%rdg+3dgt) if $R_{mis} \leq \frac{Test\ Voltage}{5\ nA}$
1.00mA - 2.5mA	0.01mA		

PI - DAR

Range	Resolution	Accuracy
0.01 - 9.99	0.01	± (5%rdg+3dgt) if $R_{mis} \leq \frac{Test\ Voltage}{5\ nA}$
		± (20%rdg+3dgt) if $R_{mis} \leq \frac{Test\ Voltage}{5\ nA}$

(*) Load capacitance < 1nF