



Test &
Measuring
Equipment

Installation Testers

NIEAF
SMITT



General

In every country there are several special regulations for testing and approvals of low voltage installations. In many countries these regulations are prescribing installers, inspectors etc. to check the electrical installation periodically.

The basis for the local regulations is in many occasions the IEC EN 60364 "Electrical Installations of Buildings". In relation to this regulation, all important parts of a LV-installation need to be approved.

Prescribed tests that need to be performed are:

- RCD test
- Insulation resistance test
- Earth loop impedance test
- Line impedance test (RS test)
- Earth resistance test

Obviously, values such as voltage and frequency are part of every test as well. Secondly, the regulation EN 50110 'Operation of Electrical Installations' is translated and formed to many national regulations. This regulation is specifically for operation or maintenance of low voltage installations and distribution systems. These installations are mostly in housings, factories or office buildings. Besides the regulations, the growing number of 'aging' installations as well as the increased product liability are important reasons to test all parts of installations thoroughly.

In order to test all necessary components of any installation and to perform all tests within the regulations, Nieaf-Smitt is offering several installation testers.

The insulation resistance tester **IRT-C** is designed for measuring the insulation of installations or appliances. The instrument is integrated with 4 DC test voltages for measuring high sensitive installations and heavy machines or ground cables.

The **RCT-C** is a complete and easy RCD tester. By running the complete test program the quality of the RCD can be indicated. It tests whether the RCD trips on time, if the RCD trips by an earth leakage etc. In case of an incorrect RCD, the tester will not only indicate when the RCD is wrong, but also why.

The **Instaltest XE** excels in simplicity. All mandatory elements of the standard, including insulation resistance, earth leakage protection, impedance, voltage and current resistance can be measured. Through memory and software the results can be processed to a certificate.

The **Instaltest AT** has an unique Autotest option. This feature can save automatically up to 50 results per socket at the same time. This is considerably time saving, complete inspections are up to 5 times faster. Functions such as RCDs, insulation resistance and impedance are available in the Instaltest AT.





Portfolio



IRT-C

RCT-C

Instaltest XE

Instaltest AT

RCD tests

Contact voltage		•	•	•
Trip current		•	•	•
Trip time		•	•	•
Automatic			•	•

Insulation resistance tests

50 V test voltage			•	•
100 V test voltage	•		•	•
250 V test voltage	•		•	•
500 V test voltage	•		•	•
1000 V test voltage	•		•	•

Resistance / impedance

Earthloop impedance			•	•
Earthloop without RCD trip			•	•
Line impedance			•	•
Resistance 200 mA	•	•	•	•
Earth wire resistance 7 mA			•	•
Earth resistance			•	•
Earth resistance 3-points			•	•
Earth resistance 4-points			•	•
Soil resistivity				•*
Earth resistance with current clamp				

Other measurements

Voltage	•	•	•	•
Frequency		•	•	•
Phase rotation			•	•
True RMS			•	•

Implementation

RS232 Interface		•	•	•
IrDA interface				
Internal memory		•	•	•
USB interface			•	•
Rechargeable batteries (incl.)			•	•

* optional accessory required



IRT-C

Article number: 626000826

Insulation resistance tester

The insulation resistance tester IRT-C is engineered for accurate measuring of LV-installations and appliances according the EN 61157 regulation. The tester has been developed to measure voltage and continuity.

Also insulation resistance of high sensitive parts and even heavy machines or ground cables can be measured easily with the four different test voltages.



Measurements

- Insulation resistance with test voltages of:
 - 100 VDC
 - 250 VDC
 - 500 VDC
 - 1000 VDC
- Partial resistance of earth connection (200 mA)
- Voltage

Specifications

Functions

Voltage AC 750 V	1 V	$\pm 1.2 \% \text{ rdg} \pm 10 \text{ dgt}$
Voltage AC 1000 V	1 V	$\pm 0.8 \% \text{ rdg} \pm 3 \text{ dgt}$
Resistance 40 Ω , 400 Ω	0.01 Ω , 0.1 Ω	$\pm 1.5 \% \text{ rdg} \pm 6 \text{ dgt}$
Insulation resistance 4 M, 40 M, 400 M, 4000 M Ω	1 K Ω ~1 M Ω	$\pm 2.0 \% \text{ rdg} \pm 6 \text{ dgt}$
Test voltage & current	100 V, 250 V, 500 V, 1000 V @ 1 mA nominal	
Continuity	Test current @ 200 mA Active sound level $\leq 40 \text{ dB}$	

General

Overvoltage category	CAT III 1000 V
Standards	EN 61557, EN 61010
Supply	6x 1.5 V AA batteries
Dimensions	200 x 92 x 50 mm
Gewicht	582 g
Including	Heavy duty test leads, alligator clip test lead, batteries, rugged hard case, manual





RCT-C

Article number: 626000854

RCD tester

The RCD tester RCT-C is designed to test the RCD devices situated in portable distribution boxes. The test is done according the EN 61557 standard.

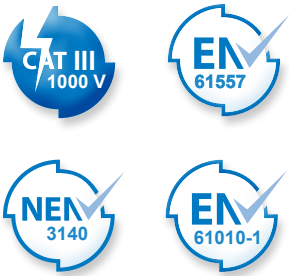


Measurements

- Trip current of the RCD
- Trip time of the RCD

Features

- Testing of normal and selective RCD's
- Start on 0 or 180 degrees
- Voltage detection phase -earth
- Testcurrent of 10/30/100/300/500 and 650 mA
- Dual colour display with backlight



Specifications

Functions

Voltage	230 V (L/N) -10/+6% 50/60 Hz
Trip time	0...2000 ms
Trip current	10/30/100/300/500/650 mA
Trip voltage	0...99.9 V

General

Overvoltage category	CAT III 600 V
Standards	EN 61557-6, EN 61010-1
Supply	4x 1.5 V AA batteries
Dimensions	210 x 71 x 51 mm
Gewicht	340 g
Including	Batteries, manual, certificate





Instaltest XE

Article number: 626000821

Article number: 626000821



Combination installation tester

The Instaltest XE is a simple and compact installation tester combining EN 61010 and EN 61557. The tester has a huge number of integrated features, each driven by separate accessories.

The user selects a measurement easily using the rotary switch. The selected test is also clearly displayed in the large LCD display. Trip time and contact current of the RCD, impedance testing, insulation resistance and phase sequence are some of the functions.

Measurements

- Insulation resistance
- Continuity
- Contact voltage
- Trip time of RCD
- Automatic RCD test
- Trip current of RCD
- Earthloop impedance without tripping RCD
- Phase rotation
- Line impedance (Z-line)
- Earthloop impedance (Z-loop)
- Voltage

Specifications

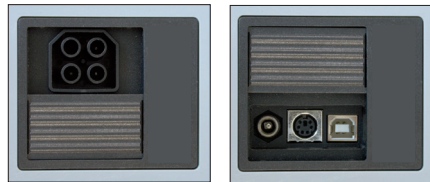
Functions

Insulation resistance	50, 100, 250, 500 and 1000 V	0.00...999 MΩ
Continuity	Test current 200 mA (LPE, NPE)	0.00...1999Ω
RCD test	Nominal voltage RCD trip current RCD contact voltage Test current RCD trip time Test current RCD Type RCD Current type	93...266 V / 40...65 Hz 10, 30, 100, 300, 500, 1000 mA 0.0...99.9 V < 0.5 x IΔn 0...999 ms 0.5 x IΔn / 1x IΔn / 2x IΔn / 5x IΔn G, S, PRCD AC / A / F
Impedance	Loop Line	0.00...9.99 kΩ 0.00... 9.99 kΩ
Voltage		0...550 V
Frequency		45...65 Hz
Phase rotation		100...550 VAC



General

PC interface	USB/RS232
Overvoltage category	CAT III 600 V / CAT IV 300 V
Protection	IP40
Supply	6xLR06 AA batteries
Dimensions	230 x 115 x 103 mm
Gewicht	1.3 kg (excl. batteries)
Including	Manual, strap, RS232 and USB cable, InstalLink Pro software, quickstart manual, rechargeable batteries, charger, alligator clamps



Automatic installation tester

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Article number: 626000717



The Instaltest AT is a versatile and easy to use installation tester according EN 61010-1 and EN 61557. Autotest is integrated; a single push on the button displays an organized program showing which tests are performed automatically.

The results are immediately stored and transported to the software where they will be transformed into a certificate. Available measurements include insulation resistance, RCD testing, impedance testing (Z-loop and Z-line) and earth resistance.

Measurements

- Insulation resistance
- Continuity
- RCD trip current
- RCD Contact voltage
- RCD trip time
- Earthloop impedance without tripping RCD (Z-loop)
- Line impedance (Z-line)
- Automatic Z-loop & Z-line limits
- Voltage
- Frequency
- Earth resistance
- Soil resistivity (adapter required)
- Varistor test
- Phase rotation
- Extra low range loop impedance

Specifications

Functions

Insulation resistance 100, 250, 500 and 1000 V		0.15...1000 MΩ
Continuity		0.16..1999 Ω
RCD test	Nominal voltage	100...264 V / 45...65 Hz
	RCD trip current	10, 30, 100, 300, 500, 1000 mA
	RCD contact voltage	0.0...99.9 V
	Test current	< 0.5 x IΔn
	RCD trip time	0...300 ms
	Test current RCD	0.5 x IΔn / 1 x IΔn (not IΔn = 1000 mA type B) / 2 x IΔn (not n = 1000 mA type A of IΔn ≤ 300 mA type B)
	Type RCD	G and S
	Current type	AC / A / B
Impedance	Loop	0.00...19.99 kΩ
	Line	0.00... 1999 kΩ
Voltage		0...550 V
Frequency		0.00...999.99 Hz
Earth resistance (3 point)		0...9999 Ω
Soil resistivity (adapter required)		0...1000 kΩ
Varistor test		0...1000 VDC, 0...625 VAC
Phase rotation		100..550 VAC
Indication phase sequence		Yes

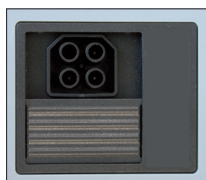
General

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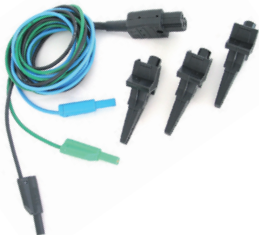










What is AutoTest?

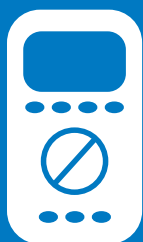
- Autotest will test an installation automatically and optimally
- There are no limits in combinin measurements on a system with the Autotest mode
- The user can select any individual test, which will simplify the use even more
- Comments, suggestions and remarks can be added to the tests to make the use and testing significantly easier
- Any combination of tests can be selected and stored
- Limiting values can be added, to show immediately a OK or reject symbol
- There are several programs available which apply to most of the occurring situations





Accessories

 <p>Test leads ELT-a2 (split test lead and 3 probe tips and alligator clamps, for 3-phase installations)</p> <p>Article number: 626000302</p>	 <p>Test lead RCT-a2 (split test lead and alligator clamps for 3-phase installations)</p> <p>Article number: 626000313</p>	 <p>Alligator clamps</p> <p>Article numbers: black 626000314 green 626000608 blue 560410076</p>	 <p>Test probes</p> <p>Art. numbers: black 626000525 green 560410002 blue 626000524</p>
 <p>Probe tips, 4 mm</p> <p>Art. numbers: red 560410029 black 560410030</p>	 <p>Test lead ELTa1 (ERTS-S/Instaltest series, Schuko plug, 2 meter)</p> <p>Art. numbers: EU 626000301 UK 500181370</p>	 <p>Earth pin ERTa5 (25 cm)</p> <p>Art. number: 626000307</p>	 <p>Fuse</p> <p>Art. numbers: F1 (315 mA 250 V) 626006036 F2&3 (4 A 500 V) 626006035</p>
 <p>3-Wire earth test set (Instaltest AT, test leads & earth pins)</p> <p>Art. numbers: 20 meter 626001015 50 meter 626001016</p>	 <p>Tip commander (Instaltest XE, model 2016)</p> <p>Art. number: 626000829</p>	 <p>3-phase adapter (Instaltest series)</p> <p>Art. number: 626000634</p>	 <p>3-phase cable (Instaltest series)</p> <p>Art. number: 626000648</p>



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