

RAPID PRO LIMITED EDITION

Italiano • English • Deutsch • Español



SCHEDA TECNICA

Base documentale ufficiale: Scheda tecnica ufficiale V1.0 • sezioni IT/EN

Edizione multilingua IT/EN/DE/ES • dati tecnici invariati

IT

RAPID PRO LIMITED EDITION

Scheda tecnica

Italiano



UNIKS
RAPID PRO
Limited Edition



SCHEDA TECNICA
V1.0



INTRODUZIONE

Congratulazioni per l'acquisto di RAPID PRO Limited Edition, il multifunzione tascabile per la verifica degli impianti elettrici, prodotto in soli **500** esemplari numerati **MADE IN ITALY**.

Rapid Pro LE rappresenta una nuova frontiera negli strumenti di verifica per impianti elettrici e, grazie al brevetto UNIKS **Digitaloop™**, si è evoluto per includere misure in ambito civile e industriale. Oltre a essere utilizzato come multimetro in TRMS e Test Prese, consente di effettuare prove di sicurezza elettrica (RCD, LOOP L-Pe - L-N) in conformità ai requisiti della norma CEI 64-8 e alle norme **IEC61557-3 e IEC61557-6**.

È dotato di un display TFT da 1,77", di memoria interna e di un SUPERCAP per alimentarlo anche quando scollegato dalla rete elettrica.

PRECAUZIONI E MISURE DI SICUREZZA



Attenzione: Attenersi alle istruzioni riportate nel manuale; un uso improprio potrebbe causare danni allo strumento o creare situazioni pericolose per l'operatore.



Pericolo Alta Tensione: rischi di shock elettrici

Lo strumento è stato progettato in conformità alla IEC/EN61010-1, relativa agli strumenti di misura elettronici. Per evitare di danneggiare lo strumento, eseguire le procedure descritte nel presente manuale.

- Non effettuare misure in ambienti umidi.
- Non effettuare misure in presenza di gas o materiali esplosivi, combustibili o in ambienti polverosi.
- Evitare contatti con il circuito in esame se non si stanno effettuando misure. Evitare contatti con parti metalliche esposte, con terminali di misura inutilizzati, ecc.
- Non effettuare alcuna misura qualora si riscontrino anomalie nello strumento come, deformazioni, rotture, fuoriuscite di sostanze, mancate visualizzazioni a display, ecc.



La massima tensione AC in ingresso è 440V . Non misurare tensioni che eccedono i limiti indicati in questo manuale e stampati sullo strumento. Il superamento dei limiti di tensione potrebbe causare shock elettrici all'utilizzatore e danni allo strumento.

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DESCRIZIONE GENERALE

Il RAPID PRO LIMITED EDITION esegue le seguenti misure:

1. Tensione L-N in TRMS o Tensione Trifase con Accessorio
2. Frequenza della Tensione di rete
3. Test Differenziali (RCD) A, AC e F fino a 1A
4. Test Differenziali Generali e Selettivi
5. Corrente di Prova $I_{\Delta n}$ 30mA, 100mA, 300mA, 500mA, 650mA e 1A
6. Modalità di test RCD AUTO.
7. Modalità a RAMPA A, AC e F solo 30mA
8. Misura della Tensione di Contatto U_c
9. Z LOOP (Resistenza Globale di Terra nei sistemi TT e impedenza L-Pe nei TN)
10. Z LINE (Impedenza L-N o L-L Trifase)
11. Corrente di Cortocircuito presunta I_{sc}
12. Armoniche di Tensione fino alla 50th
13. THD% di Tensione (Distorsione Armonica di rete)
14. Frequenza fondamentale e di tutte le armoniche
15. Socket Test (cablaggio della presa)

Ciascuna di queste funzioni può essere selezionata tramite un apposito tasto. Sono inoltre presenti tasti funzione, per cambiare i parametri delle misure o scorrere le armoniche. Lo strumento è inoltre dotato della funzione di **AUTO ALIMENTAZIONE** tramite un **SUPERCAP** interno che permette di mantenere acceso il RAPID PRO anche quando non è collegato alla rete.

Normalmente la carica può durare circa 45 secondi quando il SUPER CAP è completamente carico.

Questa funzione permette di leggere il valore del tempo di intervento del differenziale dopo lo scatto oppure di poter leggere comodamente i valori a display scollegando lo strumento dalla rete.

Tutti gli esiti delle misure sono indicate con risultato OK e NO OK attraverso una barra **VERDE** o **ROSSO** al centro del Display.

La funzione Socket Test individua i problemi più comuni del cablaggio come la mancanza della connessione alla **TERRA (NO PE)** o la FASE e NEUTRO invertiti.

L'errore di FASE e NEUTRO invertito verrà indicato nel Display VOLT e il RAPID PRO LE vi permetterà di eseguire tutte le misure anche senza invertire lo strumento nella presa.

Continuerà ad essere indicato anche nelle misure di RCD e LOOP con il simbolo 



La funzione Auto Alimentazione è disabilitata nelle funzioni LOOP L-Pe e LOOP Linea L-N

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DATI TECNICI

INPUT:

Categoria di misura:	CAT III 300V verso terra
Range di Tensione:	190 ÷ 440V AC
Range di Frequenza	42 ÷ 69 Hz
Massima corrente assorbita:	<25mA
Fluttuazione tensione di ingresso	10%

Normative:

Normative di riferimento:	IEC/EN61557-3 IEC/EN61557-6
Normative di Sicurezza :	IEC/EN61010-1 IEC/EN61010-2-030
EMC:	IEC/EN61326-1

Display e Memoria:

Display:	TFT 1,77" Display
Locazioni di Memoria:	64

Condizioni ambientali

Utilizzo:	interno
Altitudine:	0 ÷ 2000 m
Temperatura di riferimento:	0°C ÷ 23°C
Temperatura di utilizzo:	0°C ÷ 40°C
Umidità relativa ammessa:	<80%RH
Temperatura di conservazione:	-20°C ÷ 60°C
Umidità di conservazione:	<80%RH
Grado di inquinamento:	2

Caratteristiche meccaniche:

Dimensioni:	(81,5 x 70 x 83) mm
Peso:	120



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SPECIFICHE TECNICHE

TENSIONE TRMS

Tensione TRMS - Frequenza da 42Hz a 69Hz $\pm 5\%$

Range (V)	Risoluzione (V)	Precisione
0÷440	1	$\pm(1\% + 1\text{dgt})$

Protezioni da sovraccarico fino 440V
CAT III 300V

FREQUENZA

Range (Hz)	Risoluzione (Hz)	Precisione
42÷69	0,1	$\pm(2\% + 1\text{dgt})$

ARMONICHE DI TENSIONE e THD%

da 1 alla 50th

Range (V)	Risoluzione (V)	Precisione
0,8÷440	0,1	$\pm(3\% + 5\text{dgt})$

Le Armoniche con intensità inferiore a 0,8V verranno azzerate
THD% viene calcolato come

Socket Test per Cablaggio

Tensione L-PE da 190V÷269V - Frequenza 50Hz $\pm 5\%$

ERRORE	Risoluzione (V)
NO PE	Blocco Utilizzo fino alla risoluzione del problema
Vc>50V	Blocco Utilizzo fino alla risoluzione del problema
LN invertito	Tutti i Test possono essere eseguiti senza invertire
NO NEUTRO	Blocco Utilizzo fino alla risoluzione del problema
L-PE invertito	Blocco Utilizzo fino alla risoluzione del problema

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SPECIFICHE TECNICHE

RCD TIME

Tensione L-PE da 190V÷269V - Frequenza 50Hz ± 5% - NORMA IEC/EN61557-6

Range (ms)	Risoluzione (ms)	Precisione
0÷400 Generale	0.1	±(1ms + 2dgt)
0÷500 Selettivo	0.1	±(1ms + 2dgt)

Tipo di RCD AC, A e F

IΔn 30mA, 100mA, 300mA, 500mA, 650mA e 1A

Tempo massimo di Generazione: 400ms per RCD GENERALI e 500ms per RCD SELETTIVI
1s per il test X1/2

RCD RAMP

Tensione L-PE da 190V÷269V - Frequenza 50Hz ± 5% - NORMA IEC/EN61557-6

Range (mA)	Risoluzione (mA)	Precisione
0÷30 (Tipo AC)	0.1	±(2mA + 2dgt)
0÷42 (Tipo A, F)	0.1	±(2mA + 2dgt)

Tipo di RCD AC, A e F

IΔn solo 30mA

Tempo massimo di Generazione: 5s per RCD GENERALI

RCD AUTO

Tensione L-PE da 190V÷269V - Frequenza 50Hz ± 5% - NORMA IEC/EN61557-6

IΔn (mA)			1/2 IΔn (mA)			5 IΔn (mA)			
AC	A	E	AC	A	E	AC	A	E	
30	42	42	15	10	10	150	212	212	
100	141	141	50	33	33	500	707	707	
300	424	424	150	100 166	100	-	-	-	
500	707	707	250	216	166	-	-	-	
650	919	919	325	333	216	-	-	-	
1000	1410	1410	500		333	-	-	-	

Tempo massimo di Generazione: 400ms per RCD GENERALI e 500ms per SELETTIVI

Segno - significa che le misure non sono disponibili

Tutti i valori di corrente generati includono il test di polarità 0° e 180°

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SPECIFICHE TECNICHE

LOOP Z L-PE

Tensione L-PE da 190V÷269V - Frequenza 50Hz ± 5% - NORMA IEC/EN61557-3

Range (Ω)	Risoluzione (Ω)	Precisione
0.01÷9.99	0.01	±(5% + 8dgt)
10÷99.9	0.1	±(5% + 8dgt)
100÷999	1	±(5% + 8dgt)
LOW corrente di 7mA		±(8% + 12dgt)

LOOP Z L-N

Tensione L-N da 190V÷269V - Frequenza 50Hz ± 5% - NORMA IEC/EN61557-3

Range (Ω)	Risoluzione (Ω)	Precisione
0.01÷9.99	0.01	±(2% + 5dgt)
10÷99.9	0.1	±(2% + 5dgt)
100÷999	1	±(2% + 5dgt)

Protezioni da sovraccarico fino 440V

Corrente di Cortocircuito Isc da 0,1A÷24KA Precisione riferita a Z LOOP.

CAT III 300V

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EN

RAPID PRO LIMITED EDITION

Data sheet

English



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RAPID PRO

Limited Edition



DATASHEET V1.0



INTRODUCTION

Congratulations on your purchase of the RAPID PRO Limited Edition the pocket-sized multifunction for electrical installations verification produced in only 500 numbered examples **MADE IN ITALY**.

The Rapid Pro LE represents a new frontier in verification instruments for electrical installations, and thanks to the UNIKS Digitaloop™ patent, it has evolved to include measurements in both **civil and industrial** settings. In addition to being used as a multimeter in TRMS and Receptacle Test, it enables electrical safety tests (RCD, LOOP L-Pe - L-N) in accordance with the STANDARDS IEC61557-3 and IEC61557-6.

It is equipped with a 1.77" TFT Display, of internal memory and a SUPERCAP to power it even when disconnected from the mains.

PRECAUTIONS AND SAFETY MEASURES



Caution: Follow the instructions in the manual; improper use could cause damage to the instrument or create dangerous situations for the operator.



High Voltage Hazard: electrical shock hazards

The instrument is designed in accordance with IEC/EN61010-1, relating to electronic measuring instruments. To avoid damaging the instrument, carry out the procedures described in this manual.

- Do not make measurements in humid environments.
- Do not make measurements in the presence of explosive, combustible gases or materials, or in dusty environments.
- Avoid contact with the circuit under test if you are not making measurements. Avoid contact with exposed metal parts, unused measurement terminals, etc.
- Do not make any measurement if any abnormality is found in the instrument such as, deformation, breakage, spillage, missing display, etc.



The maximum input AC voltage is 440V . Do not measure voltages that exceed the limits given in this manual and printed on the instrument. Exceeding the voltage limits could cause electrical shock to the user and damage to the instrument.

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GENERAL DESCRIPTION

The RAPID PRO LIMITED EDITION performs the following measurements:

1. L-N Voltage in TRMS or Three Phase Voltage with Accessory
2. Frequency of Line Voltage
3. RCD Testing (RCD) A, AC and F up to 1A
4. General and Selective RCD Testing
5. Test Current $I_{\Delta n}$ 30mA, 100mA, 300mA, 500mA, 650mA and 1A
6. RCD AUTO test modes.
7. RCD RAMP testing A, AC and F only 30mA
8. Measurement of Contact Voltage U_c
9. Z LOOP L-PE No-trip earth loop impedance test
10. IPEFC Prospective Earth Fault Current.
11. Z LINE Impedance Z L-N or Z L-L three-phase impedance
12. ISC prospective short-circuit current
13. Assumed Short Circuit Current I_{sc}
14. Voltage harmonics up to the 50th
15. Voltage THD% (Line Harmonic Distortion)
16. Fundamental frequency and all harmonics
17. Socket Test (socket wiring)

Each of these functions can be selected by a special button. There are also function keys, to change measurement parameters or scroll through harmonics. The instrument is also equipped with an **AUTO POWER** function via an internal **SUPERCAP** that allows the RAPID PRO to be kept on even when it is not connected to the grid.

Normally charging can take about 45 seconds when the SUPER CAP is fully charged.

This function makes it possible to read the value of the differential trip time after the trip or to conveniently read the values on the display by disconnecting the instrument from the power supply.

All measurement outcomes are indicated with OK and NO OK result through a **GREEN** or **RED** bar in the center of the Display.

The Socket Test function detects common wiring problems such as missing connection to **EARTH (NO PE)** or reversed **PHASE** and **NEUTRAL**.

The 'inverted **PHASE** and **NEUTRAL** error will be indicated in the VOLT Display, and the RAPID PRO LE will allow you to make all measurements even without inverting the instrument in the socket.

It will also continue to be indicated in RCD and LOOP measurements by the symbol 



The Auto Power function is disabled in the LOOP L-Pe and LOOP Line L-N functions.

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INPUT:

Measurement Category:	CAT III 300V to ground
Voltage Range:	190 TO 440V AC
Frequency Range	42 ÷ 69 Hz
Maximum current input:	<25mA
Input voltage fluctuation	10%

Standards:

Reference Standards:	IEC/EN61557-3 IEC/EN61557-6
Safety Standards :	IEC/EN61010-1 IEC/EN61010-2-030
EMC:	IEC/EN61326-1

Display and Memory:

Display:	TFT 1.77" Display
Memory Locations:	64

Environmental Conditions

Usage:	internal
Altitude:	0 ÷ 2000 m
Reference temperature:	0°C ÷ 23°C
Usage temperature:	0°C ÷ 40°C
Allowable relative humidity:	<80%RH
Storage temperature:	-20°C ÷ 60°C
Storage humidity:	<80%RH
Pollution degree:	2

Mechanical characteristics:

Dimensions:	(81.5 x 70 x 83) mm
Weight:	120g

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TECHNICAL SPECIFICATIONS

TRMS VOLTAGE

TRMS voltage - Frequency 42Hz to 69Hz $\pm 5\%$

Range (V)	Resolution (V)	Accuracy
0÷440	1	$\pm(1\% + 1\text{dgt})$

Overload protections up to 440V
CAT III 300V

FREQUENCY

Range (Hz)	Resolution (Hz)	Accuracy
42÷69	0.1	$\pm(2\% + 1\text{dgt})$

VOLTAGE HARMONICS and THD%

1 to 50th

Range (V)	Resolution (V)	Accuracy
0.8÷440	0.1	$\pm(3\% + 5\text{dgt})$

Harmonics with intensity less than 0.8V will be reset to zero
THD% is calculated as

Socket Test for Wiring

L-PE voltage from 190V÷269V - Frequency 50Hz $\pm 5\%$

ERROR	Resolution (V)
NO PE	Lockout Use until problem resolution
Vc>50V	Lockout Use until problem resolution
LN inverted	All Tests can be performed without reversing
NO NEUTRAL	Lockout Use until the problem is resolved
L-PE inverted	Lockout Use until the problem is resolved

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TECHNICAL SPECIFICATIONS

RCD TIME

L-PE voltage from 190V÷269V - Frequency 50Hz ± 5% - IEC/EN61557-6 STANDARD

Range (ms)	Resolution (ms)	Accuracy
0÷400 General	0.1	±(1ms + 2dgt)
0÷500 Selective	0.1	±(1ms + 2dgt)

Type of RCD AC, A and F

IΔn 30mA, 100mA, 300mA, 500mA, 650mA and 1A

Maximum Generation Time: 400ms for GENERAL RCDs and 500ms for SELECTIVE RCDs
1s for the X1/2 test

RCD RAMP

L-PE voltage from 190V÷269V - Frequency 50Hz ± 5% - IEC/EN61557-6 standard

Range (mA)	Resolution (mA)	Accuracy
0÷30 (AC Type)	0.1	±(2mA + 2dgt)
0÷42 (Type A, F)	0.1	±(2mA + 2dgt)

Type of RCD AC, A and F

IΔn only 30mA

Maximum Generation Time: 5s for GENERAL RCDs

RCD AUTO

L-PE voltage from 190V÷269V - Frequency 50Hz ± 5% - IEC/EN61557-6 standard

IΔn (mA)			1/2 IΔn (mA)			5 IΔn (mA)			
AC	A	E	AC	A	F	AC	A	E	
30	42	42	15	10	10	150	212	212	
100	141	141	50	33	33	500	707	707	
300	424	424	150	100 166	100	-	-	-	
500	707	707	250	216	166	-	-	-	
650	919	919	325	333	216	-	-	-	
1000	1410	1410	500		333	-	-	-	

Maximum Generation Time: 400ms for GENERAL RCDs and 500ms for SELECTIVE RCDs

Sign - means that measures are not available

All current values generated include 0° and 180° polarity test

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TECHNICAL SPECIFICATIONS

LOOP Z L-PE

L-PE voltage from 190V÷269V - Frequency 50Hz ± 5% - IEC/EN61557-3 standard

<u>Range (Ω)</u>	<u>Resolution (Ω)</u>	<u>Accuracy</u>
<u>0.01÷9.99</u>	<u>0.01</u>	<u>±(5% + 8dgt)</u>
<u>10÷99.9</u>	<u>0.1</u>	<u>±(5% + 8dgt)</u>
<u>100÷999</u>	<u>1</u>	<u>±(5% + 8dgt)</u>
<u>LOW current of 7mA</u>		<u>±(8% + 12dgt)</u>

LOOP Z L-N

Voltage L-N from 190V÷269V - Frequency 50Hz ± 5% - IEC/EN61557-3 standard

<u>Range (Ω)</u>	<u>Resolution (Ω)</u>	<u>Accuracy</u>
<u>0.01÷9.99</u>	<u>0.01</u>	<u>±(2% + 5dgt)</u>
<u>10÷99.9</u>	<u>0.1</u>	<u>±(2% + 5dgt)</u>
<u>100÷999</u>	<u>1</u>	<u>±(2% + 5dgt)</u>

Overload protections up to 440V

Short Circuit Current I_{sc} from 0.1A÷24KA Accuracy referred to Z LOOP.

CAT III 300V

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DE

RAPID PRO LIMITED EDITION

Datenblatt

Deutsch



DEUTSCH

DATENBLATT

Rapid Pro Limited Edition · V1.0

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DATASHEET V1.0

DEUTSCH

EINFÜHRUNG

Herzlichen Glückwunsch zum Kauf des RAPID PRO Limited Edition, des Multifunktionsprüfgeräts im Taschenformat zur Prüfung elektrischer Anlagen, hergestellt in nur 500 nummerierten Exemplaren MADE IN ITALY.

RAPID PRO LE stellt eine neue Grenze bei Prüfgeräten für elektrische Anlagen dar. Dank des UNIKS-Patents Digitaloop™ umfasst es Messungen im privaten und industriellen Bereich. Neben der Verwendung als TRMS-Multimeter und für den Steckdosentest ermöglicht es elektrische Sicherheitsprüfungen (RCD, LOOP L-PE und L-N) nach IEC61557-3 und IEC61557-6.

Es verfügt über ein 1.77"-TFT-Display, einen internen Speicher und einen SUPERCAP, der das Gerät auch nach der Trennung vom Netz versorgt.

VORSICHTSMASSNAHMEN UND SICHERHEIT

Achtung: Befolgen Sie die Anweisungen im Handbuch. Unsachgemäße Verwendung kann das Gerät beschädigen oder gefährliche Situationen für den Bediener verursachen.

Gefahr durch Hochspannung: Stromschlaggefahr.

Das Gerät wurde nach IEC/EN61010-1 für elektronische Messgeräte entwickelt. Führen Sie die in diesem Handbuch beschriebenen Verfahren aus, um Schäden zu vermeiden.

- Keine Messungen in feuchter Umgebung durchführen.
- Keine Messungen in Gegenwart explosiver oder brennbarer Gase oder Materialien sowie in staubiger Umgebung durchführen.
- Den zu prüfenden Stromkreis nicht berühren, wenn keine Messung ausgeführt wird. Freiliegende Metallteile und unbenutzte Messanschlüsse nicht berühren.
- Keine Messung durchführen, wenn am Gerät eine Anomalie wie eine Verformung festgestellt wird.

Die maximale AC-Eingangsspannung beträgt 440V. Keine Spannungen messen, die die in diesem Handbuch und auf dem Gerät angegebenen Grenzwerte überschreiten. Eine Überschreitung kann zu einem Stromschlag und zur Beschädigung des Geräts führen.

RESET: Beide Tasten FUNC gleichzeitig zwei Sekunden gedrückt halten und auf den Signalton warten. Dadurch wird Rapid Pro MAX auf die Werkseinstellungen zurückgesetzt und der gesamte Speicher gelöscht. Nur bei einer Fehlfunktion verwenden.

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INTRODUCTION



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 High Voltage Hazard: electrical shock hazards

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- Do not make measurements in the presence of explosive, combustible gases or materials, or in dusty environments.
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- Do not make any measurement if any abnormality is found in the instrument such as, deformation, breakage, spillage, missing display, etc.

 The maximum input AC voltage is 440V. Do not measure voltages that exceed the limits given in this manual and printed on the instrument. Exceeding the voltage limits could cause electrical shock to the user and damage to the instrument.

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DEUTSCH

ALLGEMEINE BESCHREIBUNG

RAPID PRO LE führt folgende Messungen aus:

1. L-N-Spannung in TRMS oder Drehstromspannung mit Zubehör
2. Frequenz der Netzspannung
3. RCD-Prüfung Typ A, AC und F bis 1A
4. Allgemeine und selektive RCD-Prüfung
5. Prüfstrom $I_{\Delta n}$ 30mA, 100mA, 300mA, 500mA, 650mA und 1A
6. RCD-AUTO-Prüfmodi
7. RCD-Rampenprüfung Typ A, AC und F nur bei 30mA
8. Messung der Berührungsspannung U_c
9. Z LOOP L-PE, Erdschleifenimpedanz ohne RCD-Auslösung
10. Prospektiver Erdschlussstrom IPEFC
11. Leitungsimpedanz Z L-N oder Drehstromimpedanz Z L-L
12. Prospektiver Kurzschlussstrom ISC
13. Angenommener Kurzschlussstrom I_{sc}
14. Spannungsüberschwingungen bis zur 50. Ordnung
15. THD% der Spannung
16. Grundfrequenz und alle Oberschwingungen
17. Steckdosentest (Steckdosenverdrahtung)

Jede Funktion wird mit einer eigenen Taste gewählt. Die Funktionstasten ändern Messparameter und blättern durch die Oberschwingungen. Die interne SUPERCAP-AUTO-POWER-Funktion hält RAPID PRO LE auch nach der Trennung vom Netz eingeschaltet. Bei vollständig geladenem SUPERCAP kann das Laden etwa 45 Sekunden dauern. So lassen sich nach der RCD-Auslösung die Auslösezeit und die Displaywerte auch ohne Netzanschluss ablesen.

Alle Messergebnisse werden mit OK oder NO OK sowie einem GRÜNEN oder ROTEN Balken in der Displaymitte angezeigt. Der Steckdosentest erkennt typische Verdrahtungsfehler wie NO PE sowie vertauschte PHASE und NEUTRALLEITER. Der Fehler wird im VOLT-Display sowie bei RCD- und LOOP-Messungen durch das entsprechende Symbol angezeigt; Messungen sind auch ohne Drehen des Geräts in der Steckdose möglich.

AUTO POWER ist in den Funktionen LOOP L-PE und LOOP Line L-N deaktiviert.

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GENERAL DESCRIPTION



The RAPID PRO LIMITED EDITION performs the following measurements:

1. L-N Voltage in TRMS or Three Phase Voltage with Accessory
2. Frequency of Line Voltage
3. RCD Testing (RCD) A, AC and F up to 1A
4. General and Selective RCD Testing
5. Test Current $I_{\Delta n}$ 30mA, 100mA, 300mA, 500mA, 650mA and 1A
6. RCD AUTO test modes
7. RCD RAMP testing A, AC and F only 30mA
8. Measurement of Contact Voltage U_c
9. Z LOOP L-PE No-trip earth loop impedance test
10. IPEFC Prospective Earth Fault Current
11. Z LINE Impedance Z L-N or Z L-L three-phase impedance
12. ISC prospective short-circuit current
13. Assumed Short Circuit Current I_{sc}
14. Voltage harmonics up to the 50th
15. Voltage THD% (Line Harmonic Distortion)
16. Fundamental frequency and all harmonics
17. Socket Test (socket wiring)

Each of these functions can be selected by a special button. There are also function keys, to change measurement parameters or scroll through harmonics. The instrument is also equipped with an **AUTO POWER** function via an internal **SUPERCAP** that allows the RAPID PRO to be kept on even when it is not connected to the grid.

Normally charging can take about 45 seconds when the SUPER CAP is fully charged.

This function makes it possible to read the value of the differential trip time after the trip or to conveniently read the values on the display by disconnecting the instrument from the power supply.

All measurement outcomes are indicated with OK and NO OK result through a **GREEN** or **RED** bar in the center of the Display.

The Socket Test function detects common wiring problems such as missing connection to **EARTH (NO PE)** or reversed **PHASE** and **NEUTRAL**.

The "inverted PHASE and NEUTRAL error will be indicated in the VOLT Display, and the RAPID PRO LE will allow you to make all measurements even without inverting the instrument in the socket.

It will also continue to be indicated in RCD and LOOP measurements by the symbol 

 The Auto Power function is disabled in the LOOP L-Pe and LOOP Line L-N functions.

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TECHNISCHE DATEN

EINGANG:
 Messkategorie: CAT III 300V gegen Erde
 Spannungsbereich: 190 BIS 440V AC
 Frequenzbereich: 42 ÷ 69 Hz
 Maximale Eingangsstromaufnahme: <25mA
 Schwankung der Eingangsspannung: 10%
 Normen:
 Bezugsnormen: IEC/EN61557-3; IEC/EN61557-6
 Sicherheitsnormen: IEC/EN61010-1; IEC/EN61010-2-030
 EMV: IEC/EN61326-1
 Display und Speicher:
 Display: TFT-Display 1.77"
 Speicherplätze: 64
 Umgebungsbedingungen:
 Verwendung: Innenbereich
 Höhe: 0 ÷ 2000 m
 Referenztemperatur: 0°C ÷ 23°C
 Betriebstemperatur: 0°C ÷ 40°C
 Zulässige relative Feuchte: <80%RH
 Lagertemperatur: -20°C ÷ 60°C
 Lagerfeuchte: <80%RH
 Verschmutzungsgrad: 2
 Mechanische Eigenschaften:
 Abmessungen: (81.5 x 70 x 83) mm
 Gewicht: 120g

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INPUT:	
Measurement Category:	CAT III 300V to ground
Voltage Range:	190 TO 440V AC
Frequency Range:	42 ÷ 69 Hz
Maximum current input:	<25mA
Input voltage fluctuation:	10%
Standards:	
Reference Standards:	IEC/EN61557-3 IEC/EN61557-6
Safety Standards :	IEC/EN61010-1 IEC/EN61010-2-030
EMC:	IEC/EN61326-1
Display and Memory:	
Display:	TFT 1.77" Display
Memory Locations:	64
Environmental Conditions	
Usage:	internal
Altitude:	0 ÷ 2000 m
Reference temperature:	0°C ÷ 23°C
Usage temperature:	0°C ÷ 40°C
Allowable relative humidity:	<80%RH
Storage temperature:	-20°C ÷ 60°C
Storage humidity:	<80%RH
Pollution degree:	2
Mechanical characteristics:	
Dimensions:	(81.5 x 70 x 83) mm
Weight:	120g

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TECHNISCHE SPEZIFIKATIONEN

TRMS-SPANNUNG
 TRMS-Spannung – Frequenz 42Hz bis 69Hz $\pm 5\%$
 Bereich (V) | Auflösung (V) | Genauigkeit
 0÷440 | 1 | $\pm(1\% + 1\text{dgt})$
 Überlastschutz bis 440V
 CAT III 300V
FREQUENZ
 Bereich (Hz) | Auflösung (Hz) | Genauigkeit
 42÷69 | 0,1 | $\pm(2\% + 1\text{dgt})$
SPANNUNGSÜBERSCHWINGUNGEN und THD%
 1. bis 50. Ordnung
 Bereich (V) | Auflösung (V) | Genauigkeit
 0,8÷440 | 0,1 | $\pm(3\% + 5\text{dgt})$
 Oberschwingungen mit einer Amplitude unter 0.8V werden auf null gesetzt. THD% wird gemäß der im Originaldokument angegebenen Formel berechnet.
STECKDOSENTEST FÜR VERDRAHTUNG
 L-PE-Spannung 190V÷269V – Frequenz 50Hz $\pm 5\%$
 NO PE: Verwendung bis zur Fehlerbehebung gesperrt
 Vc>50V: Verwendung bis zur Fehlerbehebung gesperrt
 LN vertauscht: Alle Prüfungen ohne Umstecken möglich
 NO NEUTRAL: Verwendung bis zur Fehlerbehebung gesperrt
 L-PE vertauscht: Verwendung bis zur Fehlerbehebung gesperrt

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TECHNICAL SPECIFICATIONS

TRMS VOLTAGE		
TRMS voltage - Frequency 42Hz to 69Hz $\pm 5\%$		
Range (V)	Resolution (V)	Accuracy
0÷440	1	$\pm(1\% + 1\text{dgt})$
Overload protections up to 440V CAT III 300V		
FREQUENCY		
Range (Hz)	Resolution (Hz)	Accuracy
42÷69	0.1	$\pm(2\% + 1\text{dgt})$
VOLTAGE HARMONICS and THD%		
1 to 50th		
Range (V)	Resolution (V)	Accuracy
0.8÷440	0.1	$\pm(3\% + 5\text{dgt})$
Harmonics with intensity less than 0.8V will be reset to zero THD% is calculated as		
Socket Test for Wiring		
L-PE voltage from 190V÷269V - Frequency 50Hz $\pm 5\%$		
ERROR	Resolution (V)	
NO PE	Lockout Use until problem resolution	
Vc>50V	Lockout Use until problem resolution	
LN inverted	All Tests can be performed without reversing	
NO NEUTRAL	Lockout Use until the problem is resolved	
L-PE inverted	Lockout Use until the problem is resolved	

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TECHNISCHE SPEZIFIKATIONEN

RCD-AUSLÖSEZEIT
L-PE-Spannung 190V÷269V – Frequenz 50Hz ± 5% – IEC/EN61557-6
Bereich (ms) | Auflösung (ms) | Genauigkeit
0÷400 Allgemein | 0,1 | ±(1ms + 2dgt)
0÷500 Selektiv | 0,1 | ±(1ms + 2dgt)
RCD-Typ AC, A und F
IΔn 30mA, 100mA, 300mA, 500mA, 650mA und 1A
Maximale Erzeugungszeit: 400ms für ALLGEMEINE RCDs und 500ms für SELEKTIVE RCDs; 1s für die Prüfung X1/2.
RCD-RAMPE
L-PE-Spannung 190V÷269V – Frequenz 50Hz ± 5% – IEC/EN61557-6
Bereich (mA) | Auflösung (mA) | Genauigkeit
0÷30 (Typ AC) | 0,1 | ±(2mA + 2dgt)
0÷42 (Typ A, F) | 0,1 | ±(2mA + 2dgt)
RCD-Typ AC, A und F; IΔn nur 30mA; maximale Erzeugungszeit 5s für ALLGEMEINE RCDs.
RCD-AUTO
L-PE-Spannung 190V÷269V – Frequenz 50Hz ± 5% – IEC/EN61557-6
IΔn (mA) | 1/2 IΔn (mA) | 5 IΔn (mA)
AC/A/F: 30/42/42 | 15/10/10 | 150/212/212
AC/A/F: 100/141/141 | 50/33/33 | 500/707/707
AC/A/F: 300/424/424 | 150/100/100 | -/-/-
AC/A/F: 500/707/707 | 250/166/166 | -/-/-
AC/A/F: 650/919/919 | 325/216/216 | -/-/-
AC/A/F: 1000/1410/1410 | 500/333/333 | -/-/-
Maximale Erzeugungszeit: 400ms für ALLGEMEINE RCDs und 500ms für SELEKTIVE RCDs. Das Zeichen - bedeutet, dass die Messung nicht verfügbar ist. Alle erzeugten Stromwerte umfassen die Polaritätsprüfung bei 0° und 180°.

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TECHNICAL SPECIFICATIONS

RCD TIME		
L-PE voltage from 190V÷269V - Frequency 50Hz ± 5% - IEC/EN61557-6 STANDARD		
Range (ms)	Resolution (ms)	Accuracy
0÷400 General	0.1	±(1ms + 2dgt)
0÷500 Selective	0.1	±(1ms + 2dgt)

Type of RCD AC, A and F
IΔn 30mA, 100mA, 300mA, 500mA, 650mA and 1A
Maximum Generation Time: 400ms for GENERAL RCDs and 500ms for SELECTIVE RCDs
1s for the X1/2 test

RCD RAMP		
L-PE voltage from 190V÷269V - Frequency 50Hz ± 5% - IEC/EN61557-6 standard		
Range (mA)	Resolution (mA)	Accuracy
0÷30 (AC Type)	0.1	±(2mA + 2dgt)
0÷42 (Type A, F)	0.1	±(2mA + 2dgt)

Type of RCD AC, A and F
Use only 30mA
Maximum Generation Time: 5s for GENERAL RCDs

RCD AUTO		
L-PE voltage from 190V÷269V - Frequency 50Hz ± 5% - IEC/EN61557-6 standard		
IΔn (mA)		
1/2 IΔn (mA)		
5 IΔn (mA)		
AC	A	F
30	42	42
100	141	141
300	424	424
500	707	707
650	919	919
1000	1410	1410
15	10	10
50	33	33
150	100	100
250	166	166
325	216	216
500	333	333
150	212	212
500	707	707
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Maximum Generation Time: 400ms for GENERAL RCDs and 500ms for SELECTIVE RCDs
Sign - means that measures are not available
All current values generated include 0° and 180° polarity test

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TECHNISCHE SPEZIFIKATIONEN

LOOP Z L-PE
L-PE-Spannung 190V÷269V – Frequenz 50Hz ± 5% – IEC/EN61557-3
Bereich (Ω) | Auflösung (Ω) | Genauigkeit
0,01÷9,99 | 0,01 | ±(5% + 8dgt)
10÷99,9 | 0,1 | ±(5% + 8dgt)
100÷999 | 1 | ±(5% + 8dgt)
LOW-Strom 7mA | | ±(8% + 12dgt)
LOOP Z L-N
L-N-Spannung 190V÷269V – Frequenz 50Hz ± 5% – IEC/EN61557-3
Bereich (Ω) | Auflösung (Ω) | Genauigkeit
0,01÷9,99 | 0,01 | ±(2% + 5dgt)
10÷99,9 | 0,1 | ±(2% + 5dgt)
100÷999 | 1 | ±(2% + 5dgt)
Überlastschutz bis 440V. Kurzschlussstrom I_{sc} von 0.1A÷24KA; Genauigkeit bezogen auf Z LOOP. CAT III 300V.

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TECHNICAL SPECIFICATIONS

LOOP Z L-PE		
L-PE voltage from 190V÷269V - Frequency 50Hz ± 5% - IEC/EN61557-3 standard		
Range (Ω)	Resolution (Ω)	Accuracy
0.01÷9.99	0.01	±(5% + 8dgt)
10÷99.9	0.1	±(5% + 8dgt)
100÷999	1	±(5% + 8dgt)
LOW current of 7mA		±(8% + 12dgt)
LOOP Z L-N		
Voltage L-N from 190V÷269V - Frequency 50Hz ± 5% - IEC/EN61557-3 standard		
Range (Ω)	Resolution (Ω)	Accuracy
0.01÷9.99	0.01	±(2% + 5dgt)
10÷99.9	0.1	±(2% + 5dgt)
100÷999	1	±(2% + 5dgt)

Overload protections up to 440V
Short Circuit Current I_{sc} from 0.1A÷24KA Accuracy referred to Z LOOP.
CAT III 300V

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RAPID PRO LIMITED EDITION

Ficha técnica

Español

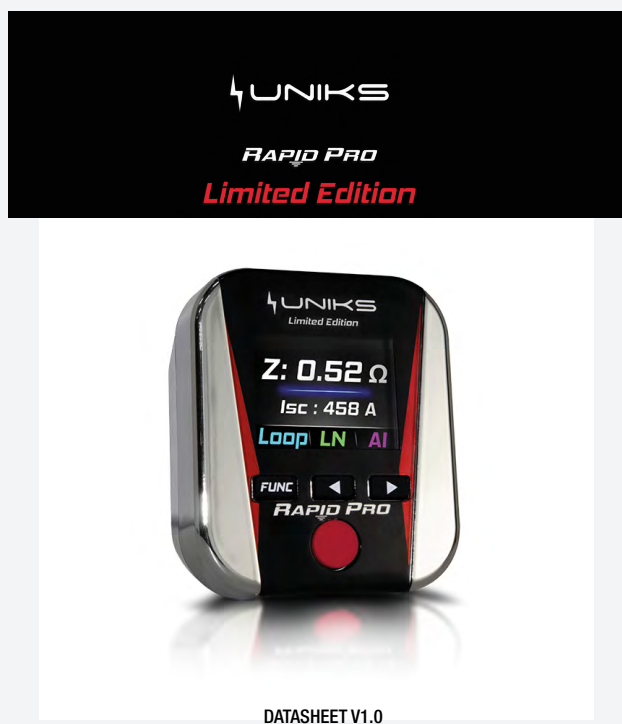


ESPAÑOL

FICHA TÉCNICA

Rapid Pro Limited Edition · V1.0

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ESPAÑOL

INTRODUCCIÓN

Enhorabuena por la compra de RAPID PRO Limited Edition, el comprobador multifunción de bolsillo para la verificación de instalaciones eléctricas, fabricado en solo 500 ejemplares numerados MADE IN ITALY.

RAPID PRO LE representa una nueva frontera entre los instrumentos de verificación de instalaciones eléctricas. Gracias a la patente UNIKS Digitaloop™, incorpora medidas tanto en entornos residenciales como industriales. Además de utilizarse como multímetro TRMS y para la prueba de tomas, permite realizar pruebas de seguridad eléctrica (RCD, LOOP L-PE y L-N) conforme a IEC61557-3 e IEC61557-6.

Dispone de una pantalla TFT de 1.77", memoria interna y un SUPERCAP que lo alimenta incluso cuando se desconecta de la red.

PRECAUCIONES Y MEDIDAS DE SEGURIDAD

Atención: sigue las instrucciones del manual. Un uso inadecuado puede dañar el instrumento o crear situaciones peligrosas para el operador.

Peligro de alta tensión: riesgo de descarga eléctrica.

El instrumento se ha diseñado conforme a IEC/EN61010-1 para instrumentos electrónicos de medida. Para evitar daños, realiza los procedimientos descritos en este manual.

- No realices medidas en ambientes húmedos.
- No realices medidas en presencia de gases o materiales explosivos o combustibles ni en ambientes polvorientos.
- Evita el contacto con el circuito bajo prueba si no estás realizando medidas. Evita tocar partes metálicas expuestas y terminales de medida no utilizados.
- No realices ninguna medida si observas una anomalía en el instrumento, como una deformación.

La tensión máxima de entrada AC es 440V. No midas tensiones que superen los límites indicados en este manual y en el instrumento. Superar esos límites puede causar una descarga eléctrica y dañar el instrumento.

RESET: mantén pulsados simultáneamente los dos botones FUNC durante dos segundos y espera la señal acústica. El procedimiento restablece Rapid Pro MAX a los ajustes de fábrica y borra toda la memoria. Úsalo solo en caso de funcionamiento anómalo.

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INTRODUCTION



Congratulations on your purchase of the RAPID PRO Limited Edition the pocket-sized multifunction for electrical installations verification produced in only 500 numbered examples **MADE IN ITALY**.
The Rapid Pro LE represents a new frontier in verification instruments for electrical installations, and thanks to the UNIKS Digitaloop™ patent, it has evolved to include measurements in both **civil and industrial** settings. In addition to being used as a multimeter in TRMS and Receptacle Test, it enables electrical safety tests (RCD, LOOP L-Pe - L-N) in accordance with the STANDARDS IEC61557-3 and IEC61557-6.
It is equipped with a 1.77" TFT Display, of internal memory and a SUPERCAP to power it even when disconnected from the mains.

PRECAUTIONS AND SAFETY MEASURES

 Caution: Follow the instructions in the manual; improper use could cause damage to the instrument or create dangerous situations for the operator.

 High Voltage Hazard: electrical shock hazards

The instrument is designed in accordance with IEC/EN61010-1, relating to electronic measuring instruments. To avoid damaging the instrument, carry out the procedures described in this manual.

- Do not make measurements in humid environments.
- Do not make measurements in the presence of explosive, combustible gases or materials, or in dusty environments.
- Avoid contact with the circuit under test if you are not making measurements. Avoid contact with exposed metal parts, unused measurement terminals, etc.
- Do not make any measurement if any abnormality is found in the instrument such as, deformation, breakage, spillage, missing display, etc.

 The maximum input AC voltage is 440V. Do not measure voltages that exceed the limits given in this manual and printed on the instrument. Exceeding the voltage limits could cause electrical shock to the user and damage to the instrument.

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DESCRIPCIÓN GENERAL

RAPID PRO LE realiza las medidas siguientes:

1. Tensión L-N en TRMS o tensión trifásica con accesorio
2. Frecuencia de la tensión de red
3. Prueba RCD tipo A, AC y F hasta 1A
4. Prueba RCD general y selectiva
5. Corriente de prueba IΔn 30mA, 100mA, 300mA, 500mA, 650mA y 1A
6. Modos de prueba RCD AUTO
7. Prueba de rampa RCD A, AC y F solo a 30mA
8. Medida de la tensión de contacto Uc
9. Z LOOP L-PE, impedancia de bucle de tierra sin disparo
10. Corriente de defecto a tierra prospectiva IPEFC
11. Impedancia de línea Z L-N o impedancia trifásica Z L-L
12. Corriente de cortocircuito prospectiva ISC
13. Corriente de cortocircuito presunta Isc
14. Armónicos de tensión hasta el orden 50
15. THD% de tensión
16. Frecuencia fundamental y todos los armónicos
17. Prueba de toma (cableado de la toma)

Cada función se selecciona con un botón específico. Las teclas de función permiten cambiar los parámetros y recorrer los armónicos. La función AUTO POWER utiliza un SUPERCAP interno para mantener RAPID PRO LE encendido incluso cuando se desconecta de la red. Con el SUPERCAP totalmente descargado, la carga puede tardar unos 45 segundos. Así se puede leer el tiempo de disparo del RCD y consultar la pantalla tras desconectar el instrumento.

Todos los resultados se indican como OK o NO OK mediante una barra VERDE o ROJA en el centro de la pantalla. La prueba de toma detecta problemas habituales como NO PE y FASE/NEUTRO invertidos. El error se muestra en VOLT y continúa indicado durante las medidas RCD y LOOP; las pruebas pueden realizarse sin girar el instrumento en la toma.

AUTO POWER está desactivado en LOOP L-PE y LOOP Line L-N.

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GENERAL DESCRIPTION



The RAPID PRO LIMITED EDITION performs the following measurements:

1. L-N Voltage in TRMS or Three Phase Voltage with Accessory
2. Frequency of Line Voltage
3. RCD Testing (RCD) A, AC and F up to 1A
4. General and Selective RCD Testing
5. Test Current IΔn 30mA, 100mA, 300mA, 500mA, 650mA and 1A
6. RCD AUTO test modes.
7. RCD RAMP testing A, AC and F only 30mA
8. Measurement of Contact Voltage Uc
9. Z LOOP L-PE No-trip earth loop impedance test
10. IPEFC Prospective Earth Fault Current.
11. Z LINE Impedance Z L-N or Z L-L three-phase impedance
12. ISC prospective short-circuit current
13. Assumed Short Circuit Current Isc
14. Voltage harmonics up to the 50th
15. Voltage THD% (Line Harmonic Distortion)
16. Fundamental frequency and all harmonics
17. Socket Test (socket wiring)

Each of these functions can be selected by a special button. There are also function keys, to change measurement parameters or scroll through harmonics. The instrument is also equipped with an AUTO POWER function via an internal SUPERCAP that allows the RAPID PRO to be kept on even when it is not connected to the grid.

Normally charging can take about 45 seconds when the SUPERCAP is fully charged.

This function makes it possible to read the value of the differential trip time after the trip or to conveniently read the values on the display by disconnecting the instrument from the power supply.

All measurement outcomes are indicated with OK and NO OK result through a GREEN or RED bar in the center of the Display.

The Socket Test function detects common wiring problems such as missing connection to EARTH (NO PE) or reversed PHASE and NEUTRAL.

The "inverted PHASE and NEUTRAL error will be indicated in the VOLT Display, and the RAPID PRO LE will allow you to make all measurements even without inverting the instrument in the socket.

It will also continue to be indicated in RCD and LOOP measurements by the symbol ⚡



The Auto Power function is disabled in the LOOP L-Pe and LOOP Line L-N functions.

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DATOS TÉCNICOS

ENTRADA:

Categoría de medida: CAT III 300V respecto a tierra

Rango de tensión: 190 A 440V AC

Rango de frecuencia: 42 ÷ 69 Hz

Corriente máxima de entrada: <25mA

Fluctuación de la tensión de entrada: 10%

Normas:

Normas de referencia: IEC/EN61557-3; IEC/EN61557-6

Normas de seguridad: IEC/EN61010-1; IEC/EN61010-2-030

EMC: IEC/EN61326-1

Pantalla y memoria:

Pantalla: TFT de 1.77"

Posiciones de memoria: 64

Condiciones ambientales:

Uso: interior

Altitud: 0 ÷ 2000 m

Temperatura de referencia: 0°C ÷ 23°C

Temperatura de uso: 0°C ÷ 40°C

Humedad relativa admisible: <80%RH

Temperatura de almacenamiento: -20°C ÷ 60°C

Humedad de almacenamiento: <80%RH

Grado de contaminación: 2

Características mecánicas:

Dimensiones: (81.5 x 70 x 83) mm

Peso: 120g

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INPUT:

Measurement Category:	CAT III 300V to ground
Voltage Range:	190 TO 440V AC
Frequency Range	42 ÷ 69 Hz
Maximum current input:	<25mA
Input voltage fluctuation	10%

Standards:

Reference Standards:	IEC/EN61557-3 IEC/EN61557-6
Safety Standards :	IEC/EN61010-1 IEC/EN61010-2-030
EMC:	IEC/EN61326-1

Display and Memory:

Display:	TFT 1.77" Display
Memory Locations:	64

Environmental Conditions

Usage:	internal
Altitude:	0 ÷ 2000 m
Reference temperature:	0°C ÷ 23°C
Usage temperature:	0°C ÷ 40°C
Allowable relative humidity:	<80%RH
Storage temperature:	-20°C ÷ 60°C
Storage humidity:	<80%RH
Pollution degree:	2

Mechanical characteristics:

Dimensions:	(81.5 x 70 x 83) mm
Weight:	120g

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ESPECIFICACIONES TÉCNICAS

TENSIÓN TRMS

Tensión TRMS – Frecuencia de 42Hz a 69Hz ± 5%

Rango (V) | Resolución (V) | Precisión

0÷440 | 1 | ±(1% + 1dgt)

Protección contra sobrecargas hasta 440V

CAT III 300V

FRECUENCIA

Rango (Hz) | Resolución (Hz) | Precisión

42÷69 | 0,1 | ±(2% + 1dgt)

ARMÓNICOS DE TENSIÓN y THD%

Del 1.º al 50.º

Rango (V) | Resolución (V) | Precisión

0,8÷440 | 0,1 | ±(3% + 5dgt)

Los armónicos con amplitud inferior a 0.8V se ponen a cero. THD% se calcula según la fórmula indicada en el documento original.

PRUEBA DE TOMA PARA EL CABLEADO

Tensión L-PE de 190V÷269V – Frecuencia 50Hz ± 5%

NO PE: uso bloqueado hasta resolver el problema

Vc>50V: uso bloqueado hasta resolver el problema

LN invertidos: todas las pruebas pueden realizarse sin invertir la conexión

NO NEUTRAL: uso bloqueado hasta resolver el problema

L-PE invertidos: uso bloqueado hasta resolver el problema

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TECHNICAL SPECIFICATIONS

TRMS VOLTAGE		
TRMS voltage - Frequency 42Hz to 69Hz ± 5%		
Range (V)	Resolution (V)	Accuracy
0÷440	1	±(1% + 1dgt)
Overload protections up to 440V CAT III 300V		
FREQUENCY		
Range (Hz)	Resolution (Hz)	Accuracy
42÷69	0.1	±(2% + 1dgt)
VOLTAGE HARMONICS and THD%		
1 to 50th		
Range (V)	Resolution (V)	Accuracy
0.8÷440	0.1	±(3% + 5dgt)
Harmonics with intensity less than 0.8V will be reset to zero THD% is calculated as		
Socket Test for Wiring		
L-PE voltage from 190V÷269V - Frequency 50Hz ± 5%		
ERROR	Resolution (V)	
NO PE	Lockout Use until problem resolution	
Vc>50V	Lockout Use until problem resolution	
LN inverted	All Tests can be performed without reversing	
NO NEUTRAL	Lockout Use until the problem is resolved	
L-PE inverted	Lockout Use until the problem is resolved	

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ESPAÑOL

ESPECIFICACIONES TÉCNICAS

TIEMPO RCD

Tensión L-PE de 190V÷269V - Frecuencia 50Hz ± 5% - IEC/EN61557-6

Rango (ms) | Resolución (ms) | Precisión

0÷400 General | 0,1 | ±(1ms + 2dgt)

0÷500 Selectivo | 0,1 | ±(1ms + 2dgt)

Tipo de RCD AC, A y F

IΔn 30mA, 100mA, 300mA, 500mA, 650mA y 1A

Tiempo máximo de generación: 400ms para RCD GENERALES y 500ms para RCD SELECTIVOS; 1s para la prueba X1/2.

RAMPA RCD

Tensión L-PE de 190V÷269V - Frecuencia 50Hz ± 5% - IEC/EN61557-6

Rango (mA) | Resolución (mA) | Precisión

0÷30 (tipo AC) | 0,1 | ±(2mA + 2dgt)

0÷42 (tipo A, F) | 0,1 | ±(2mA + 2dgt)

Tipo de RCD AC, A y F; IΔn solo 30mA; tiempo máximo de generación 5s para RCD GENERALES.

RCD AUTO

Tensión L-PE de 190V÷269V - Frecuencia 50Hz ± 5% - IEC/EN61557-6

IΔn (mA) | 1/2 IΔn (mA) | 5 IΔn (mA)

AC/A/F: 30/42/42 | 15/10/10 | 150/212/212

AC/A/F: 100/141/141 | 50/33/33 | 500/707/707

AC/A/F: 300/424/424 | 150/100/100 | -/-/-

AC/A/F: 500/707/707 | 250/166/166 | -/-/-

AC/A/F: 650/919/919 | 325/216/216 | -/-/-

AC/A/F: 1000/1410/1410 | 500/333/333 | -/-/-

Tiempo máximo de generación: 400ms para RCD GENERALES y 500ms para RCD SELECTIVOS. El signo - indica que la medida no está disponible. Todos los valores de corriente generados incluyen la prueba de polaridad a 0° y 180°.

Referencia visual de la página oficial original · valores, pantallas y esquemas sin cambios



TECHNICAL SPECIFICATIONS

RCD TIME

L-PE voltage from 190V÷269V - Frequency 50Hz ± 5% - IEC/EN61557-6 STANDARD

Range (ms)	Resolution (ms)	Accuracy
0÷400 General	0.1	±(1ms + 2dgt)
0÷500 Selective	0.1	±(1ms + 2dgt)

Type of RCD AC, A and F
IΔn 30mA, 100mA, 300mA, 500mA, 650mA and 1A
Maximum Generation Time: 400ms for GENERAL RCDs and 500ms for SELECTIVE RCDs
1s for the X1/2 test

RCD RAMP

L-PE voltage from 190V÷269V - Frequency 50Hz ± 5% - IEC/EN61557-6 standard

Range (mA)	Resolution (mA)	Accuracy
0÷30 (AC Type)	0.1	±(2mA + 2dgt)
0÷42 (Type A, F)	0.1	±(2mA + 2dgt)

Type of RCD AC, A and F
Use only 30mA
Maximum Generation Time: 5s for GENERAL RCDs

RCD AUTO

L-PE voltage from 190V÷269V - Frequency 50Hz ± 5% - IEC/EN61557-6 standard

IΔn (mA)			1/2 IΔn (mA)			5 IΔn (mA)		
AC	A	F	AC	A	F	AC	A	F
30	42	42	15	10	10	150	212	212
100	141	141	50	33	33	500	707	707
300	424	424	150	100	166	-	-	-
500	707	707	250	216	166	-	-	-
650	919	919	325	333	216	-	-	-
1000	1410	1410	500	333	333	-	-	-

Maximum Generation Time: 400ms for GENERAL RCDs and 500ms for SELECTIVE RCDs
Sign - means that measures are not available
All current values generated include 0° and 180° polarity test

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ESPECIFICACIONES TÉCNICAS

LOOP Z L-PE

Tensión L-PE de 190V÷269V - Frecuencia 50Hz ± 5% - IEC/EN61557-3

Rango (Ω) | Resolución (Ω) | Precisión

0,01÷9,99 | 0,01 | ±(5% + 8dgt)

10÷99,9 | 0,1 | ±(5% + 8dgt)

100÷999 | 1 | ±(5% + 8dgt)

Corriente LOW de 7mA | ±(8% + 12dgt)

LOOP Z L-N

Tensión L-N de 190V÷269V - Frecuencia 50Hz ± 5% - IEC/EN61557-3

Rango (Ω) | Resolución (Ω) | Precisión

0,01÷9,99 | 0,01 | ±(2% + 5dgt)

10÷99,9 | 0,1 | ±(2% + 5dgt)

100÷999 | 1 | ±(2% + 5dgt)

Protección contra sobrecargas hasta 440V. Corriente de cortocircuito I_{sc} de 0.1A÷24KA; precisión referida a Z LOOP. CAT III 300V.

Referencia visual de la página oficial original · valores, pantallas y esquemas sin cambios



TECHNICAL SPECIFICATIONS

LOOP Z L-PE

L-PE voltage from 190V÷269V - Frequency 50Hz ± 5% - IEC/EN61557-3 standard

Range (Ω)	Resolution (Ω)	Accuracy
0.01÷9.99	0.01	±(5% + 8dgt)
10÷99.9	0.1	±(5% + 8dgt)
100÷999	1	±(5% + 8dgt)
LOW current of 7mA		±(8% + 12dgt)

LOOP Z L-N

Voltage L-N from 190V÷269V - Frequency 50Hz ± 5% - IEC/EN61557-3 standard

Range (Ω)	Resolution (Ω)	Accuracy
0.01÷9.99	0.01	±(2% + 5dgt)
10÷99.9	0.1	±(2% + 5dgt)
100÷999	1	±(2% + 5dgt)

Overload protections up to 440V
Short Circuit Current I_{sc} from 0.1A÷24KA Accuracy referred to Z LOOP.
CAT III 300V

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