



## You might think I am just a multimeter...











- Autorange measurements with automatic AC/DC detection.
- DC, AC TRMS, AC+DC TRMS voltage up to 690V.
- Low impedance voltage input to eliminate ghost voltage readings.
- DC, AC TRMS, AC+DC TRMS current by means of external transducer.
- **Frequency** of voltage and/or current.
- Resistance and continuity with buzzer.
- MIN/MAX/PEAK/HOLD functions.
- 6000 counts.



Optec AG | Guyer-Zeller-Strasse 14 | CH-8620 Wetzikon ZH

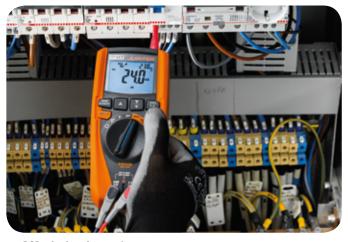
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TRMS AC+DC current measurement.



AC current measurement with flexible transducer F3000U.



RCD tripping time and current measurement.



Current **harmonic** measurement.

# My name is Jupiter. Why to choose me? Just because I am out of this world.

- > I am the only multimeter capable of testing the electrical installation safety.
- 🕨 I **compare** each measure with the **limits** provided by the **guidelines**, so to provide a clear **OK** 🕒 / **NOT OK** 👎 result.
- My functions are available on high-end instruments only.
- I allow a wide range of external transducers to measure AC TRMS, DC, AC+DC, and inrush current.
- I am Portable, Rugged and Compact.



## ... but I have a multifunction soul!

## RCD tripping time and current: full control!

## RCD tripping time and current.

- > I can measure the **tripping time of RCDs** type **A** and **AC** up to **300mA**\*\* and the **tripping current of RCDs** type **AC** up to **30mA** (RAMP test).
- > My AUTO function makes everything more immediate: my display will show you the 6 consecutive tests (x½, x1, x2, x5, 0°, 180°) for a full RCD check.
- > I will show you an unequivocal **response OK** or **NOT OK**.

## I'm Jupiter... and I'll show you the Earth.

### Non-trip earth ground resistance and Line (Loop) impedance.

- > In TT systems I measure the non-trip earth ground resistance.
- ➤ I can identify incorrect connections of the protection cable, I can detect dangerous voltages on the metal masses and I constantly keep under control the contact voltage in order to prevent dangerous conditions due to an inefficient earthing system.
- I measure the Line-to-Neutral, Line-to-Line and Line-to-Ground impedance and I calculate the prospective short-circuit/fault current.

## Harmonics have no secret for me.

#### Harmonics and THD%.

- I measure voltage and current harmonics showing both numeric and percentage terms.
- > I measure the THDV%, and the THDI%
- ➤ My function **H**<sub>2</sub>**0** (Higher Harmonic Ordering) sorts harmonics **showing highest values first**, so you can easily size filters and protections.

## I don't follow a current, I follow them all!

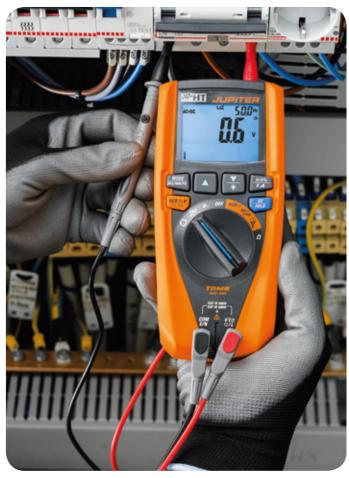
#### **Current measurement.**

- I can measure DC, AC TRMS, AC+DC TRMS current by means of external transducer up to 3000A.
- > With the optional transducer HT96U\*\*\* I can measure the leakage current.
- > I can select the time base to measure the **dynamic inrush current** of motors and loads (DIRC function).

## **Everything in its right... sequence.**

#### Phase sequence.

I need just one lead to detect the phase sequence.



**Ghost voltage** cancellation.



Non-trip earth ground resistance measurement.



Leakage current measurement.



 $\label{lem:measurement} \textbf{Measurement comparison: } 3.9A: with RMS \ clamp - 4.7A: with TRMS \ clamp \\ \textbf{6.1A: correct reading with AC+DC TRMS clamp}.$ 



Inrush Current measurement.

#### Standard accessories

- C2065 Three wire cable Red, Black, Green with Shuko plug
- 4324-2 Pair of test tips Red/Black 2/4mm straight banana
- YABAT0001HT0 Alkaline battery 1.5V, type AAA, IEC LR03, 4 pcs
- YABRS0002HT0 Carrying bag
- YAMUM0066HT0 User manual on CD-ROM
- YAMUM0065HT0 Quick reference guide
- Calibration certificate ISO9000

The standard accessories can be different depend on countries.

## **Optional accessories**

AC flexible clamp with 30/300/3000A full scales • HT96U\* AC current clamp with 1/100/1000A full scales • HT97U\* AC current clamp with 10/100/1000A AC full scales HT98U\* DC current clamp with 1000A full scale • HT4006 AC/DC current clamp with 40/400A full scales

NOCANBA Hypertac-to-banana adapter

### **Technical specifications**

#### **DC Voltage**

Measurement range: 0.0V ÷ 690.0V

Resolution: 0.1V

Accuracy:  $\pm (0.5\% \text{ reading} + 2 \text{ digits})$ 

#### AC TRMS, DC, AC+DC TRMS, LoZ Voltage

Measurement range: 0.5V ÷ 690.0V Frequency range: 32Hz ÷ 1kHz Resolution: 0.1V

Accuracy: ±(0.5%reading + 2digits)

#### AC TRMS Current with Flexible clamp F3000U

Measurement range: 1A ÷ 3000A

Basic resolution: 0.01A

Accuracy:  $\pm (0.5\% \text{ reading} + 2 \text{ digits})$ 

#### AC TRMS, DC, AC+DC TRMS Current with Standard clamp

Measurement range: 1mV ÷ 1000mV

Resolution: 1mV

Accuracy:  $\pm (0.5\% \text{ reading} + 2 \text{ digits})$ 

#### Inrush current (DIRC) - Flexible clamp F3000U

Measurement range: 1A ÷ 3000A

Basic resolution: 0.01A Frequency range: 42.5Hz ÷ 69Hz

Accuracy: ±(2.0%reading + 2digits)

Peak response time: 1ms

Max RMS response times: 16.6ms, 20ms, 50ms, 100ms, 150ms, 175ms, 200ms

#### Inrush current (DIRC) - Standard clamp

Measurement range: 1mV ÷ 1000mV

Resolution: 1mV

Frequency range: 42.5Hz ÷ 69Hz Accuracy: ±(2.0%reading + 2digits)

Peak response time: 1ms

Max RMS response times: 16.6ms, 20ms, 50ms, 100ms, 150ms, 175ms, 200ms

#### **Resistance and Continuity test**

Measurement range:  $0.0\Omega \div 1999\Omega$ Basic resolution:  $0.1\Omega$ Accuracy:  $\pm (1.0\%$  reading + 5 digits)

Buzzer sound: R<30Ω

#### **Voltage / Current Harmonics**

Harmonic order: DC, 1st ÷ 25th + THD% Frequency range: 42.5Hz ÷ 69Hz Resolution: 0.1V / 0.1A

Basic accuracy: ±(5.0%reading + 10digits)

#### Phase rotation test with 1-wire method

Measurement range: 100V ÷ 690V Frequency range: 42.5Hz ÷ 69Hz

#### **Test on RCD protection devices**

RCD type: AC, A, General

Trip-out time measurement (ms) / Trip-out current measurement (mA)

L-PE voltage range: 100V ÷ 690V Frequency range: 42.5Hz ÷ 69Hz

Trip-out time measurement: I∆N selectable among 30mA, 100mA, 300mA

Trip-out current measurement for I∆N of 30mA

#### Overall earth resistance without RCD tripping

L-PE voltage range: 100V ÷ 690V Frequency range: 42.5Hz ÷ 69Hz

Test current: <15mA

Measurement range:  $1\Omega \div 1999\Omega$ 

Resolution: 1Ω

Accuracy: 5.0% reading  $+3\Omega$ 

#### L-N, L-L, L-PE Loop / Line Impedance

L-PE, L-N voltage range: 100V ÷ 690V Frequency range: 42.5Hz ÷ 69Hz

Test current: 100mA

Measurement range:  $0.1\Omega \div 199.9\Omega$ Basic accuracy: ±(5.0%reading + 3digits)

## **General specifications**

#### **General characteristics**

Instrument safety: IEC/EN61010-1, IEC/EN61010-2-030, IEC/EN61010-2-033

EMC: IEC/EN61326-1 RCD test: IEC/EN61557-6

Loop L-L, L-N, L-PE, Ra test: IEC/EN61557-3

Phase rotation test: IEC/EN 61557-7 Insulation: double insulation Pollution degree: 2

Measurement category: CAT IV 600V, CAT III 690V to ground and between inputs

#### **Mechanical characteristics**

Dimensions (L x W x H): 175 x 85 x 55mm Weight (batteries included): 420g Mechanical protection: IP40

#### **Power supply**

Battery type: 4x1.5V alkaline type AAA IEC LR03 Auto Power OFF: after15min of idleness

#### Display

Display type: 4 LCD, max 9999 counts, sign, decimal point backlight and bargraph, polarity indication

Frequency rate: 2times/s









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<sup>\*</sup> Adapter NOCANBA required.