

JUPITER

MULTIMETER & MULTIFUNCTION



You might think I am just a multimeter...

690V

TRMS
AC+DC

LoZ

CAT IV
600V

autoRange

optec

energie ist messbar

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- › **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**.



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**.



HT JUPITER

RCD Δ
 $I_{\Delta N}$
180ms
25.0 mA
OK

MODE
MX/MN/PK

▲

▼
☀

H/H%
H

RCD $I_{\Delta N}$

LoZ
 V_{\sim}

OFF

RCD \sim

GO HOLD

V_{\sim}

OFF

RCD \sim

Ra+
Loop

Ω

TRMS
AC+DC

CAT IV 600V
CAT III 690V

COM
E/N

V Ω
/L



... 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 **H₂O** (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.



Inrush Current measurement.



Measurement comparison: 3.9A: with RMS clamp - 4.7A: with TRMS clamp
6.1A: correct reading with AC+DC TRMS clamp.

Standard accessories

- **C2065** Three wire cable Red, Black, Green with Shuko plug
- **4324-2** Pair of test tips Red/Black 2/4mm straight banana
- **YABAT0001HTO** Alkaline battery 1.5V, type AAA, IEC LR03, 4 pcs
- **YABRS0002HTO** Carrying bag
- **YAMUM0066HTO** User manual on CD-ROM
- **YAMUM0065HTO** Quick reference guide
- **Calibration certificate** ISO9000

The standard accessories can be different depend on countries.

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

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: $\pm(2.0\% \text{reading} + 2 \text{digits})$

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: $\pm(2.0\% \text{reading} + 2 \text{digits})$

Peak response time: 1ms

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

Resistance and Continuity test

Measurement range: 0.0 Ω ÷ 1999 Ω

Basic resolution: 0.1 Ω

Accuracy: $\pm(1.0\% \text{reading} + 5 \text{digits})$

Buzzer sound: R<30 Ω

Voltage / Current Harmonics

Harmonic order: DC, 1st ÷ 25th + THD%

Frequency range: 42.5Hz ÷ 69Hz

Resolution: 0.1V / 0.1A

Basic accuracy: $\pm(5.0\% \text{reading} + 10 \text{digits})$

Phase rotation test with 1-wire method

Measurement range: 100V ÷ 690V

Frequency range: 42.5Hz ÷ 69Hz

Optional accessories

- **F3000U** 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

* Adapter NOCANBA required.

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: ΔN selectable among 30mA, 100mA, 300mA

Trip-out current measurement for ΔN 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 Ω ÷ 1999 Ω

Resolution: 1 Ω

Accuracy: 5.0%reading + 3 Ω

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 Ω ÷ 199.9 Ω

Basic accuracy: $\pm(5.0\% \text{reading} + 3 \text{digits})$

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: after 15min 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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