





## 1. ELECTRICAL SPECIFICATIONS

Accuracy calculated as [%reading + (num. dgt\* resolution)] at 23°C ±5°, &lt;80%RH

### DC VOLTAGE (Aurorange)

Range [V]	Resolution [V]	Accuracy	Input impedance	Overload protection
0.0 ÷ 999.9	0.1	±(0.5%lettura + 2cifre)	5MΩ	1000VDC/ACrms

### AC, AC+DC, LoZ TRMS VOLTAGE (Aurorange)

Range [V]	Resolution [V]	Frequency range	Accuracy	Overload protection
0.5 ÷ 999.9	0.1	32Hz ÷ 1kHz	±(0.5%lettura + 2cifre)	1000VDC/ACrms

Input impedance VAC function: 5MΩ, Input impedance LoZ function: 3.5kΩ

Auto detection DC mode, Max crest factor: 1.5

### VOLTAGE/CURRENT FREQUENCY (Aurorange)

Range [Hz]	Resolution [Hz]	Accuracy
32.00 ÷ 99.99	0.01	±(0.1%rdg+1dgt)
100.0 ÷ 999.9	0.1	

Voltage range: 0.5V ÷ 999V, Current range: 0.5A ÷ 3000A (Flex clamp F3000U), 1mV ÷ 1000mV (STD Clamp)

### DC, AC, AC+DC CURRENT (STANDARD RIGID CLAMP + FLEX CLAMP FS=1V) – (Aurorange)

Range [mV]	Resolution [mV]	Accuracy (*)
1 ÷ 1000	1	±(0.5%rdg + 2dgt)

(\*) For frequency &gt;100Hz the accuracy is: ±(1.5%rdg + 5dgt)

Max crest factor: 3, Frequency bandwidth: 1kHz

Current zeroed for value &lt;1%FS [A] (1V Flex clamp), Current zeroed for value &lt;1%FS [A] (STD clamp)

### AC TRMS CURRENT (FLEXIBLE CLAMP F3000U) – (Aurorange)

Range [mV]	Resolution [mV]	Accuracy (*)
1 ÷ 3000	1	±(0.5%rdg + 2dgt)

(\*) For frequency &gt;100Hz the accuracy is: ±(1.5%rdg + 5dgt)

Max crest factor: 3, Frequency bandwidth: 1kHz; Current zeroed for value &lt;1%FS [A]

### INRUSH CURRENT – DC, AC, AC+DC TRMS (STANDARD RIGID CLAMP + FLEX CLAMP FS=1V)

Range [mV]	Resolution [mV]	Accuracy (*)
1 ÷ 1000	1	±(2%rdg + 2dgt)

(\*) Accuracy declared for frequency: DC, 42.5 ÷ 69Hz; Max crest factor: 3; Sample frequency: 4kHz

Detection threshold: 1%FS [A] fixed

Response time: 1ms (Peak), 16.7ms, 20ms, 50ms, 100ms, 150ms, 175ms, 200ms (max RMS)

### INRUSH CURRENT – AC TRMS (FLEXIBLE CLAMP F3000U)

Range [mV]	Resolution [mV]	Accuracy (*)
1 ÷ 3000	1	±(2%rdg + 2dgt)

(\*) Accuracy declared for frequency: DC, 42.5 ÷ 69Hz; Max crest factor: 3; Sample frequency: 4kHz

Detection threshold: 1%FS [A] fixed

Response time: 1ms (Peak), 16.7ms, 20ms, 50ms, 100ms, 150ms, 175ms, 200ms (max RMS)

### RESISTANCE AND CONTINUITY TEST (Aurorange)

Range [Ω]	Resolution [Ω]	Accuracy	Buzzer
0.0 ÷ 199.9	0.1	±(1.0%rdg + 5dgt)	<30Ω
200 ÷ 1999	1		

**HARMONIC VOLTAGE AND CURRENT – (Autorange)**

Harmonic order	Fundamental frequency	Resolution	Accuracy (*) (not zeroed values)
DC	42.5Hz ÷ 69Hz	0.1V / 0.1A / 0.1%	±(5.0%rdg+20dgt)
1 ÷ 25			±(5.0%rdg+10dgt)
THD%		0.1%	±(10.0%rdg+10dgt)

Accuracy of harmonics amplitudes expressed in % is evaluated considering the accuracy of parameters ratio

(\*) Harmonic voltages are zeroed in the followed conditions:

- 1° harmonic: value <0.5V
- DC, 2° to 25° harmonics: harmonic value <0.5% fundamental value or value <0.5V

(\*) Harmonic currents are zeroed in the followed conditions:

- 1° harmonic: value <1%FS[A]
- DC, 2° to 25° harmonics: harmonic value <0.5% fundamental value or value <1%FS[A]

**INSULATION RESISTANCE (MΩ)**

Test voltage [V]	Range [MΩ]	Resolution [MΩ]	Accuracy
50	0.01 ÷ 9.99	0.01	±(5.0%rdg + 2dgt)
	10.0 ÷ 99.9	0.1	
100	0.01 ÷ 9.99	0.01	±(2.0%rdg + 2dgt)
	10.0 ÷ 99.9	0.1	±(5.0%rdg + 2dgt)
	100.0 ÷ 199.9		
250	0.01 ÷ 9.99	0.01	±(2.0%rdg + 2dgt)
	10.0 ÷ 99.9	0.1	±(5.0%rdg + 2dgt)
	100 ÷ 499	1	
500	0.01 ÷ 9.99	0.01	±(2.0%rdg + 2dgt)
	10.0 ÷ 199.9	0.1	
	200 ÷ 499	1	±(5.0%rdg + 2dgt)
	500 ÷ 999		
1000	0.01 ÷ 9.99	0.01	±(2.0%rdg + 2dgt)
	10.0 ÷ 199.9	0.1	
	200 ÷ 999	1	±(5.0%rdg + 2dgt)
	1000 ÷ 1999		

Open voltage:

nominal test voltage-0% +10%

Nominal test current

&gt;1mA at 1kΩ x Vnom (50V, 100V, 250V, 1000V), &gt;2,2mA at 230kΩ @ 500V

Short circuit current:

&lt;6.0mA for each test voltage

Safety protection:

error message for input voltage&gt; 10V

**CONTINUITY OF EARTH CONDUCTORS (LoΩ)**

Range [Ω]	Resolution [Ω]	Accuracy
0.00 ÷ 9.99	0.01	±(2.0%rdg+2dgt)
10.0 ÷ 199.9	0.1	

Test current:

&gt;200mA DC for R≤5Ω; DC Current resolution :1mA, Accuracy: ±(5.0%rdg+5dgt)

Open voltage:

4V ≤ V<sub>0</sub> ≤ 12V

Safety protection:

error message for input voltage&gt; 10V

**PHASE SEQUENCE ROTATION WITH 1-WIRE METHOD (\*)**

Voltage range [V]	Frequency range
100.0 ÷ 999.9	42.5 ÷ 69Hz

(\*) Measurement is only carried out by direct contact with metal live parts (not on insulation sheath).



## 2. GENERAL SPECIFICATIONS



### Display:

- 4 LCD, (max 9999 counts), sign, decimal point and bargraph
- Automatic polarity indication
- Backlight
- Refresh frequency: 2/s
- Conversion: TRMS

### Features:

- Data HOLD
- MAX/MIN
- PEAK (Voltage and Current), response time = 1ms
- Autorange
- Automatic detection of AC/DC signals
- Auto Power OFF after 15 minutes of idleness

### Power supply:

- 4x1.5V alkaline batteries type AAA IEC LR03
- Battery life: V, A,  $\Omega$ ,  → approx 132h (backlight OFF)  
V, A,  $\Omega$ ,  → approx 68h (backlight ON)  
M $\Omega$  (@500V) → approx 400 test (backlight OFF)  
Lo $\Omega$  → approx 2000 test (backlight OFF)

### Mechanical specifications:

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

### Environmental conditions:

- Reference temperature: 23°C  $\pm$  5°C
- Working temperature: 5°C  $\div$  40°C
- Working humidity: <80%RH
- Storage temperature: -20°C  $\div$  60°C
- Storage humidity: <80%RH
- Max height of use: 2000m

### Reference guidelines:

- Safety: IEC/EN61010-1, IEC/EN61010-2-030, IEC/EN61010-2-033
- EMC: IEC/EN61326-1
- Test M $\Omega$ : IEC/EN61557-2
- Test Lo $\Omega$ : IEC/EN61557-4
- Phase sequence rotation: IEC/EN 61557-7
- Insulation: double insulation
- Pollution degree: 2
- Category of measure: CAT IV 600V, CAT III 1000V to ground and between inputs

**This product conforms to the prescriptions of the European directive on low voltage 2014/35/EU and to EMC directive 2014/30/EU**

**This product conforms to the prescriptions of the European directive 2011/65/EU (RoHS) and the European directive 2012/19/EU (WEEE)**

# Diensten van EURO-INDEX

EURO-INDEX is fabrikant, importeur en distributeur van diverse A-merken op het gebied van test- en meetinstrumenten. Daarnaast leveren wij een groot aantal diensten om het gebruik van deze instrumenten in uw bedrijfsvoering te optimaliseren. Dit omvat uiteraard onderhoud, reparatie en kalibratie van de instrumenten, maar ook kennisdeling via de EURO-INDEX Academy en verhuur van instrumenten.

## Geautoriseerd Service Centrum

EURO-INDEX b.v. is van alle vertegenwoordigde merken een Geautoriseerd Service Centrum. Dit betekent dat uw instrumenten worden behandeld door technici die zijn opgeleid door de fabrikant en beschikken over de juiste gereedschappen en software. Er worden uitsluitend originele onderdelen toegepast en de garantie van uw instrument, evenals de certificering (ATEX, EN50379, etc.) blijven intact.

## Kalibratielaboratorium

Ons moderne service- en kalibratielaboratorium beschikt over een RvA accreditatie naar NEN-EN-ISO/IEC 17025. Deze accreditatie geldt voor grootheden, zoals gespecificeerd in de scope bij accreditatienummer K105.



Kijk voor een overzicht van al onze diensten op [euro-index.nl/diensten](http://euro-index.nl/diensten)



## Mobiele Service

Naast de vaste kalibratielaboratoria in Capelle aan den IJssel en Zaventem beschikken wij ook over een laboratorium op wielen met de naam "Mobiele Service". Dit biedt vertrouwde service en kwaliteit, bij u voor de deur!

## KWS®

KWS® is een uniek servicesysteem voor uw meetinstrumenten met periodiek onderhoud en kalibratie tegen vaste, lage kosten. Via een gratis webportal ([mijnkws.nl](http://mijnkws.nl)) heeft u altijd en overal beschikking over uw kalibratiecertificaten.

## Verhuur van meetinstrumenten

- Uitgebreid assortiment
- Nauwkeurigheid aantoonbaar door actueel kalibratiecertificaat
- Deskundig advies
- Complete levering inclusief accessoires

## EURO-INDEX Academy

- Trainingen (individueel en klassikaal)
- Cursussen en workshops
- Demonstratie- en instructievideo's
- Whitepapers



Servicebalie



Onderhoud, reparatie en kalibratie



Cursussen en workshops



Mobiele Service

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