1 - ELECTRICAL SPECIFICATIONS

Accuracy indicated as ± [%rdg + (no. dgts * resolution)] at 23°C ± 5°C, <75%HR

DC Voltage

Range [V]	Resolution [V]	Accuracy
10.0 ÷ 265.0	0.1	±(0.7% rdg + 0.4V)

Voltage values <10.0V are zeroed

AC TRMS Voltage – Phase to Neutral

Range [V]	Frequency [Hz]	Resolution [V]	Accuracy
10.0 ÷ 265.0	42.5 ÷ 65.0	0.1	±(0.5% rdg + 0.2V)

Max Crest Factor =1.5, Voltage values <10.0V are zeroed

AC TRMS Voltage – Phase to Phase

Range [V]	Frequency [Hz]	Resolution [V]	Accuracy
50.0 ÷ 460	42.5 ÷ 65.0	0.1	±(1.0%rdg + 0.2V)

Max Crest Factor =1.5, Voltage values <10.0V are zeroed

Voltage Anomalies – Phase to Neutral

Range [V]	Resolution Voltage [V]	Resolution Time	Accuracy Voltage	Accuracy [ms]
15.0 ÷ 265.0	0.2	10ms	±(1.0%rdg + 2dgt)	± ½ cycle

DC TRMS Current by external clamp transducer – STD clamps

Range [mV]	Resolution [mV]	Accuracy	Overload protection
5.0 ÷ 219.9	1	±(0.7%rdg + 1mV)	10V
220.0 ÷ 999.9		±0.7% rdg	

Current values correspondent to a voltage < 5mV are zeroed

AC TRMS Current by external clamp transducer – STD clamps

Range [mV]	Frequency [Hz]	Resolution [mV]	Accuracy	Overload protection
5.0 ÷ 219.9	42.5 ÷ 65.0	1	±(0.5%rdg + 0.6mV)	10V
220.0 ÷ 999.9			±0.5% rdg	

Current values correspondent to a voltage < 5mV are zeroed

AC TRMS Current by external clamp transducer – Flex (100A AC range – 85uV/A)

Range [mV]	Frequency [Hz]	Resolution	Accuracy	Overload protection
0.085 ÷ 8.50	42.5 ÷ 65.0	8.5µV	±(0.5%rdg +0.007mV)	10V

Max Crest Factor =1.5, Current values <1A are zeroed

AC TRMS Current by external clamp transducer – Flex (1000A AC range – 85uV/A)

Range [mV]	Frequency [Hz]	Resolution	Accuracy	Overload protection
0.425 ÷ 85.0	42.5 ÷ 65.0	85µV	±(0.5%rdg + 0.15mV)	10V

Max Crest Factor =1.5, Current values <5A are zeroed

Frequency

Range [Hz]	Resolution [Hz]	Accuracy
42.5 ÷ 65.0	0.1	±(0.2% rdg + 0.1Hz)

DC Power – (Vmeas>200V)

Clamp FS [A]	Range [W] [Wh]	Resolution [W] [Wh]	Accuracy
1< FS ≤ 10	0.000k ÷ 9.999k	0.001k	±(1.0%rdg + 5W)
	10.00k ÷ 99.99k	0.01k	±(1.0%rdg + 50W)
10< FS ≤ 200	0.00k ÷ 99.99k	0.01k	±(1.0%rdg + 50W)
	100.0k ÷ 999.9k	0.1k	±(1.0% rdg + 500W)
200< FS ≤ 1000	0.0k ÷ 999.9k	0.1k	±(1.0%rdg + 0.5kW)
	1000k ÷ 9999k	1k	±(1.0% rdg + 5kW)

Vmeas = Voltage in which the power is measured

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Power/Energy – (Vmeas>200V, Pf=1)

Clamp FS [A]	Range [W] [Wh]	Resolution [W] [Wh]	Accuracy
1< FS ≤ 10	0.000k ÷ 9.999k	0.001k	±(0.7%rdg + 3W/Wh)
	10.00k ÷ 99.99k	0.01k	±(0.7%rdg+30W/Wh)
10< FS ≤ 200	0.00k ÷ 99.99k	0.01k	±(0.7%rdg+30W/Wh)
	100.0k ÷ 999.9k	0.1k	±(0.7%rdg+300W/Wh)
200< FS ≤ 1000	0.0k ÷ 999.9k	0.1k	±(0.7%rdg+0.3kW/kWh)
	1000k ÷ 9999k	1k	±(0.7%rdg+3kW/kWh)

Vmeas = Voltage in which the power is measured

Power factor (Cosφ)

Range (cosφ)	Resolution	Accuracy (°)
0.20 ÷ 0.50	0.01	0.6
0.50 ÷ 0.80		0.7
0.80 ÷ 1.00		1.0

Voltage/Current harmonics

Range	Maximum resolution	Base accuracy
DC ÷ 25th	0.3V / 0.1% FS clamp	±(5.0% rdg + 2dgt)
26th ÷ 33th		±(10% rdg + 2dgt)
34th ÷ 49th		±(15% rdg + 2dgt)

Harmonics will be zeroed:

- DC harmonics: DC value <0.5% 1st Harmonic value or if DC value < 0.5% FS clamp
- 1st Harmonic: 1st Harmonic value <0.5% FS clamp
- 2nd ÷ 49th Harmonics: 2nd ÷ 49th values <0.5% 1st Harmonic value or <0.5% FS clamp

2. GENERAL SPECIFICATIONS

ELECTRICAL SYSTEMS

- Single Phase,
- 3 Phase without Neutral
- 3 Phase with Neutral

CHANNELS RECORDED SIMULTANEOUSLY

- Phase to Neutral and Phase to Phase voltages
- Voltage anomalies (sags, swells, breaks)
- Voltage unbalance
- Phase currents, neutral current
- Voltages and currents harmonics (DC,1,2,…49)
- Phase and Total Active, Reactive, Apparent power
- Phase and Total Power factor and Cosφ
- Phase and Total Active energy (Class 2 EN61036), Reactive energy (Class 3 IEC1268)
- All channels concerning Powers, Pf, cosφ and Harmonics are automatically managed as generated and consumed.
- Number of recorded parameters: 383 (fixed)
- Max number of voltage anomalies: 65530
- Integration Period: 5, 10, 30s, 1, 2, 5, 10, 15, 60min.
- Recording autonomy: > 30 days with integrated period of 10 minutes
- Memory capacity: 8Mbyte

POWER SUPPLY:

Internal power supply:	Rechargeable battery LI-ION
Battery autonomy:	> 6h (WiFi on), >15h (WiFi off)
External power supply:	By mean Red/Yellow plugs, 100V ÷ 415V, 50/60Hz 45mA@100V, 30mA@230V, 20mA@415V

COMMUNICATION INTERFACE

PC (Windows), Tablet/Smartphone(iOS, Android):	USB (PC only) / WiFi

MECHANICAL FEATURES:

Dimensions (L x W x H):	245 x 210 x 110mm
Weight:	1.5kg

WORKING ENVIRONMENTAL CONDITIONS:

Reference temperature:	23°C ± 5°C
Working temperature:	0°C ÷ 40°C
Allowed relative humidity:	<80%RH
Storage temperature:	-10°C ÷ 60°C
Storage humidity:	<80%RH

POWER/ENERGY MEASUREMENTS REFERENCE GUIDELINES:

Features of voltage supplied by public utilities:	EN50160 (flicker and frequency analysis not performed)
Active energy static counters for AC current	EN61036 (Class 2)
Reactive energy static counters for AC current	IEC1268 (Class 3)

GENERAL REFERENCE GUIDELINES:

Safety of measuring instruments:	IEC/EN61010-1
Insulation:	double insulation
Pollution degree:	2
Encapsulation:	IP65 (case board closed)
Measurement category:	CAT IV 300VAC to ground, max 460V between Inputs
Max height of use:	2000m

This instrument complies with the prescriptions of the European directive on low voltage 2014/35/EU (LVD) and EMC directive 2014/30/EU

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 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

Het laboratorium in Nederland beschikt over een RvA accreditatie naar EN-ISO/IEC 17025. Deze accreditatie geldt voor grootheden, zoals gespecificeerd in de scope bij accreditatienummer K105. RvA kalibratiecertificaten zijn internationaal geaccepteerd en is gelijkwaardig aan BELAC.

Meer info

Mobiele Service

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

Meer info

KWS®

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

Meer info

Verhuur van meetinstrumenten

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

Meer info

EURO-INDEX Academy

- Trainingen, seminars en workshops
- Demonstratie- en instructievideo’s
- Application notes

Meer info

Servicebalie

Onderhoud, reparatie en kalibratie

Trainingen en seminars

Mobiele Service

Wijzigingen voorbehouden EURO-INDEX® VL 23001

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