

ELECTRICAL SPECIFICATIONS

Accuracy is indicated as \pm (% readings + no. of digits) at 23°C \pm 5°C, con relative humidity <60%UR.

AC/DC Voltage – Single phase / Three phase systems (Aurange)

Range (V)	Resolution (V)	Accuracy	Input Impedance
15 ÷ 310	0.2	$\pm(0.5\% \text{ rdg} + 2\text{dgt})$	300 k Ω (Phase-Neutral)
310 ÷ 600	0.4		300 k Ω (Phase-Phase)

Voltage Anomalies – Single / Three phase systems (Manual range)

Range (V)	Resolution Voltage (V)	Resolution Time	Accuracy Voltage	Accuracy Time (ref. 50Hz)
15 ÷ 310	0.2	10ms	$\pm(1.0\% \text{ rdg} + 2\text{dgt})$	$\pm 10\text{ms}$
30 ÷ 600	0.4			

Input Impedance: 300 k Ω (Phase-Neutral and Phase-Phase)

AC TRMS Current by external clamp transducer – STD and FlexEXT clamps

Range (*)	Resolution (mV)	Accuracy	Input Impedance	Overload protection
0.005 ÷ 0.26V	0.1	$\pm(0.5\% \text{ rdg} + 2\text{dgt})$	100k Ω	5V
0.26 ÷ 1V	0.4			

(*) Minimum detectable value: 0.5% of full scale clamp

AC TRMS Current by external clamp transducer – FlexINT (1000A AC range)

Range (A) (*)	Voltage input	Resolution	Accuracy	Input Impedance
5.00 ÷ 19.99	425 μ V ÷ 1.7mV	0.85 μ V	$\pm(4.0\% \text{ rdg} + 8.5\mu\text{V})$	9.166k Ω
20.00 ÷ 99.99	1.7mV ÷ 8.499mV		$\pm(1.0\% \text{ rdg} + 8.5\mu\text{V})$	
100.0 ÷ 999.9	8.5mV ÷ 84.99mV	8.5 μ V	$\pm(1.0\% \text{ rdg} + 85\mu\text{V})$	

(*) Minimum detectable value: 0.5% of full scale clamp

AC TRMS Current by external clamp transducer – FlexINT (3000A AC range)

Range (A)	Voltage input	Resolution	Accuracy	Input Impedance
15.00 ÷ 99.99	1.27mV ÷ 8.499mV	0.85 μ V	$\pm(1.0\% \text{ rdg} + 8.5\mu\text{V})$	9.7k Ω
100.0 ÷ 270.0	8.5mV ÷ 22.75mV	85 μ V	$\pm(1.0\% \text{ rdg} + 42.5\mu\text{V})$	
270.0 ÷ 999.9	22.75mV ÷ 84.99mV		$\pm(1.0\% \text{ rdg} + 85\mu\text{V})$	
1.00k ÷ 3.00k	85.0mV ÷ 255mV	850 μ V	$\pm(0.5\% \text{ rdg} + 8.5\text{mV})$	

(*) Minimum detectable value: 0.5% of full scale clamp

Power/Energy – Single / Three phase systems

Measures type	Range	Resolution	Accuracy
ACTIVE POWER	100.0 ÷ 999.9W 1.000kW ÷ 999.9kW 1.000MW ÷ 999.9MW	0.1W 0.1kW 0.1MW	±(1.0% rdg + 2dgt)
REACTIVE POWER	100.0 ÷ 999.9VAR 1.000kVAR ÷ 999.9kVAR 1.000MVAR ÷ 999.9MVAR	0.1VAR 0.1kVAR 0.1MVAR	
APPARENT POWER	100.0 ÷ 999.9VA 1.000kVA ÷ 999.9kVA 1.000MVA ÷ 999.9MVA	0.1VA 0.1kVA 0.1MVA	
ACTIVE ENERGY (Class 2 EN61036)	100.0 ÷ 999.9Wh 1.000kWh ÷ 999.9kWh 1.000MWh ÷ 999.9MWh	0.1Wh 0.1kWh 0.1MWh	
REACTIVE ENERGY (Class 3 IEC1268)	100.0 ÷ 999.9VARh 1.000kVARh ÷ 999.9kVARh 1.000MVARh ÷ 999.9MVARh	0.1VARh 0.1kVARh 0.1MVARh	

Power factor (Cosφ) - Single / Three phase systems

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

Harmonics - Single / Three phase systems

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

3. GENERAL SPECIFICATIONS

SINGLE/THREE PHASE RECORDING:

STORED PARAMETERS:

- Phase and delta voltages
- Phase currents, neutral current
- Phase and total three phase Active, Reactive, Apparent power
- Active energy (Class 2 EN61036), Reactive energy (Class 3 IEC1268)
- Phase and total three phase Power factor $\cos\phi$
- Voltages, currents harmonics (DC,1,2,...49)
- Voltage anomalies (sags, swells, breaks)
- Predefined recordings (EN50160, Voltage anomalies, Harmonics, Start up, Power & Energy)
- Max selectable parameters: 63 or 3 AUX (Environmental and/or leakage)
- Integrated period: 5 ÷ 3600 sec.
- Recording autonomy: > 30 days with integrated period of 15 minutes
- Memory capacity: 2Mbyte

DISPLAY AND MEMORY:

Features:	Dot matrix with backlight
Resolution:	128x128 dots
Visible area:	73x73 mm

POWER SUPPLY:

Batteries:	6 batteries 1.5V type LR6-AA-AM3-MN 1500
External power supply adapter:	Code A0050 230V/50Hz standard adapter

MECHANICAL FEATURES:

Dimensions:	225 (W)x165(L)x105(D) mm
Weight (included batteries):	about 0.7kg

WORKING ENVIRONMENTAL CONDITIONS:

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

POWER/ENERGY MEASUREMENTS REFERENCE STANDARDS:

Features of voltage supplied by public utilities:	EN50160
Active energy static counters for AC current	EN61036 (Class 2)
Reactive energy static counters for AC current	IEC1268 (Class 3)

GENERAL REFERENCE STANDARDS:

Safety of measuring instruments:	EN61010-1
Insulation:	class 2 (double insulation)
Pollution degree:	2
Overvoltage category:	CAT III 300V~ ; CAT III 350V~ (Phase-Ground) CAT III 600V~ (Phase-Phase)
Use:	max altitude: 2000m
EMC:	EN61326-1 (1998) + A1 (1999)

This instrument complies with the prescriptions of the European directive on low voltage 73/23/CEE (LVD) and EMC directive 89/336/EEC, amended by 93/68/EEC.