



### Description

- It measures the main parameters of 3- and 4-wire single-phase and three-phase electrical networks in 2 quadrants
- True root mean square measure (TRMS)
- Measurement of power quality supply parameters in voltage
- Energy meter (4 quadrants)
- 4 voltage channels and 3 current channels
- Configurable via a PC application
- Recording of parameters and quality events on SD card (up to 2 GB)
- Compatible with PowerVision software **EN 50160**
- Possibility of custom-made independent power supply allowing power supply ranges of 100...400 Vac and 70...315 Vdc.
- Compact size, allowing the unit to be installed in standard double insulation boxes
- Light and easy to transport
- Self-detection of clamps
- Indication of poor connection of voltages and current clamps
- Compatible with CIR-e web application for processing data via a web site.
- Magnetic attachment to facilitate fastening to an electric panel or metal supports.

### Applications

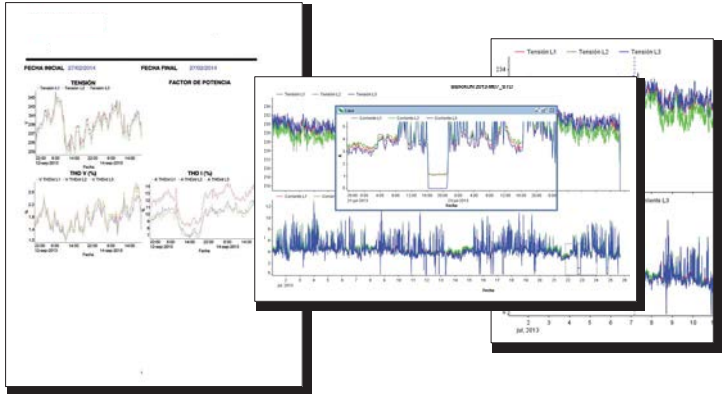
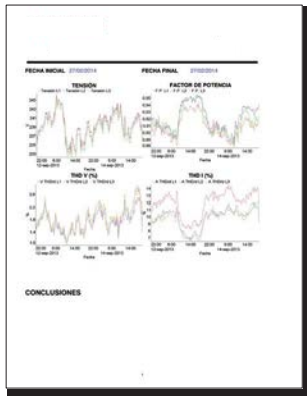
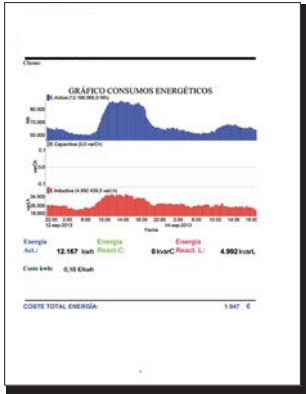
- The perfect unit for performing energy audits.
- Analysis of networks with power quality supply problems

### Technical features

|  |   |  |                |
|--|---|--|----------------|
| <b>Power circuit</b>   | Voltage   | 100...400 Vac, 70...315 Vdc              |                |
|  | Frequency   | 50...60 Hz                               |                |
|  | Consumption   | 9 VA                                     |                |
|  | $I_{min}$   | 0.01 x $I_n$                             |                |
| <b>Measurement circuit</b>   | Voltage (V P-N)   | 10...400 Vac $\pm$ 10%                   |                |
|  | Voltage (V P-P)   | 17...690 Vac $\pm$ 10%                   |                |
|  | Current (.../2 V)   | 2.5%...100% F.E. of clamp (within class) |                |
|  | Frequency   | 45...65 Hz                               |                |
| <b>Minimum/maximum current, in accordance with the clamp and scale</b> |   |  |                |
| <b>Clamp</b>   | <b>Scale</b>  | <b>Range</b>                             |                |
|  | L1 / sc1  | 200 A                                    | 5...200 A      |
|  | L2 / sc2  | 2,000 A                                  | 50...2,000 A   |
| <b>E-FLEX 20/54 cm</b>   | L3 / sc3  | 20,000 A                                 | 500...20,000 A |
|  | <b>CP-5</b>   | 5 A                                      | 0.05...5 A     |
| <b>CP-100</b>  | 100 A   | 1...100 A                                |                |
| <b>Accuracy</b>  | Voltage   | 0.5% F.E.                                |                |
|  | Current   | 1% F.E.                                  |                |
|  | Power   | 2% F.E.                                  |                |
|  | Energy  | 2% F.E.                                  |                |
| <b>Build features</b>  | Operating temperature   | 10 °C...50 °C                            |                |
|  | Altitude  | 2,000 m                                  |                |
|  | Humidity  | 95% RH without condensation              |                |
|  | Storage temperature   | -10 °C...65 °C                           |                |
|  | Protection degree   | IP 53                                    |                |
|  | Weight (only CIR-e <sup>+</sup> )   | 0.677 kg                                 |                |
|  | Weight (with packaging)   | 0.733 kg                                 |                |
| <b>Standards</b>   | ELECTRICAL SAFETY STANDARD: <b>IEC 60664-1, IEC 61010-1, IEC 62053-21, UL 94, VDE 110</b><br>ELECTROMAGNETIC EMISSIONS: <b>IEC 61000-3-2, IEC 61000-3-3, IEC 61000-6-4, EN 55011, EN 55022</b><br>ELECTROMAGNETIC IMMUNITY: <b>IEC 61000-6-2, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-8, IEC 61000-6-1, IEC 61000-4-11, ENV 50141</b> |  |                |

# CIR-e+

## Portable power analyzer



### Parameters measured

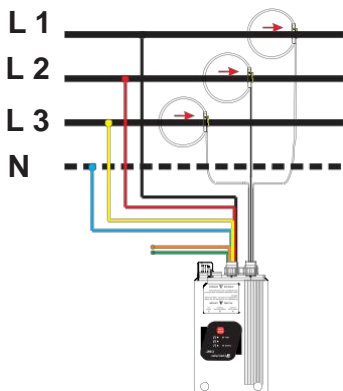
| Parameter                         | Symbol (unit) | L1 | L2 | L3 | LIII | Max / Min |
|-----------------------------------|---------------|----|----|----|------|-----------|
| Voltage                           | V             | ●  | ●  | ●  |      | ●         |
| Current                           | A             | ●  | ●  | ●  |      | ●         |
| Frequency                         | Hz            | ●  |    |    |      | ●         |
| Active power                      | W             | ●  | ●  | ●  | ●    | ●         |
| Reactive power (L and C)          | varL, varC    | ●  | ●  | ●  | ●    | ●         |
| Apparent power                    | V · A         | ●  | ●  | ●  | ●    | ●         |
| Power factor                      | FP            | ●  | ●  | ●  | ●    | ●         |
| Active energy                     | W·h           |    |    | ●  |      | ●         |
| Reactive energy (L and C)         | var·hL,var·hC |    |    | ●  |      | ●         |
| Apparent energy                   | VA·h          |    |    | ●  |      |           |
| Harmonic decomposition U, I (50)  |               | ●  | ●  |    |      |           |
| THD (%) U, I                      | % THD         | ●  | ●  |    |      |           |
| MD (Max. demand) - Active power   | W (MD)        |    |    | ●  |      | ●         |
| MD (Max. demand) - Apparent power | VA (MD)       |    |    | ●  |      | ●         |
| Fundamental U, I                  |               | ●  | ●  |    |      |           |
| WA flicker                        | WA            | ●  | ●  |    |      |           |
| PST flicker                       | Pst           | ●  | ●  | ●  |      | ●         |
| Imbalance                         | kd V          |    |    | ●  |      | ●         |
| Asymmetry                         | Ka V          |    |    | ●  |      | ●         |
| Overvoltage                       |               | ●  | ●  |    |      |           |
| Voltage gaps                      |               | ●  | ●  |    |      |           |
| Interruptions                     |               | ●  | ●  |    |      |           |

### References

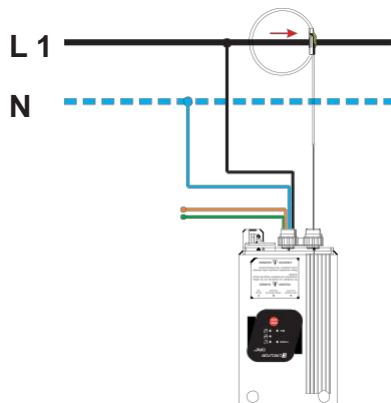
| Kit type            | Clamps           |
|---------------------|------------------|
| CIR-e+              | -                |
| CIR-e+ / 3 CPG-100  | 3x 3x CP100      |
| CIR-e+ / 3 EFLEX 54 | 3 x E-FLEX 54 cm |

### Connections

Unbalanced three-phase system with neutral



Single-phase system



### Dimensions

