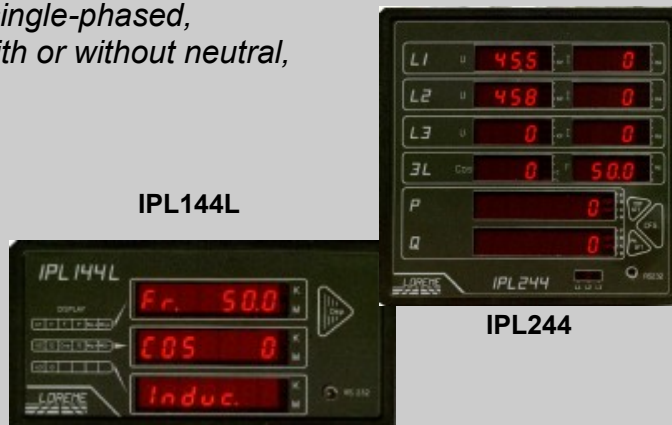


- **High adaptability:** direct, alternative, single-phased, three-phased balanced, unbalanced, with or without neutral,
- **8 output slots:** analog, relay, RS485, ...
- **Fully insulated 3U, 3I**
- **High display capacity:**  
10 simultaneous values (IPL244)  
3 simultaneous values (IPL144L)
- **Universal power supply**



**IPL144V is universal analyser of electrical network, it has 8 site intended to measure read (analog output, digital link, relay ...)**

**Applications:**

- Measure, control, pilot, regulation, protection.

**Measures:**

Thanks to its integrated calculation functions, the IPL244/144L allows the measure of all electric measures:

- direct voltage and current (700 Vdc, 5 Adc),
- effective alternating voltage and current (500 Vac, 5 Aac),
- inverse current,
- active (P), reactive (Q), apparent (S), power (generated-consumed),
- $\cos \varphi$  (power factor) inductive-capacitive,
- frequency (35 to 400 Hz),
- active, reactive, generated, consumed energy, with independant addition by channel (saved), reset in configuration or with keyboard (lockable in the configuration),
- configurable transformation ratio (current and voltage).

**Display:**

**IPL244:**

- 10 values displayed simultaneously, selected by 3 press-buttons and/or RS232 configuration
- 8 values of 3 digits 1/2 and 2 values of 7 digits 1/2 ( L1, L2, L3 / I1, I2, I3 / ... )

**IPL144L:**

- 3 values displayed simultaneously, selected by 1 press-button
- 3 values of 7 digits
- display of the type and the value

- Display with red leds 7.62 mm great luminosity
- Automatic change of the scale factor (V-kV, A-kA, kW-MW)
- Automatic positioning of the decimal point.

**Outputs slots:**

The IPL244/144L is equipped with 8 slots. Each slot can receive either:

- one insulated analog output, assigned to any chosen measure,
- one configurable relay in alarm or energy counting,
- one digital RS485 link with MODBUS/JBUS protocol. (data in integer 32 bits and floating 32 bits IEEE (optional))

**GENERAL CHARACTERISTICS:**

- DIN panel plastic case, U-link fastening
  - IPL244: 144 x 144 x 175, cut-off 139 x 136,
  - IPL144L: 144 x 72 x 175, cut-off 139 x 66,
- Plug-in connector, connection with screw-terminals (2.5 mm<sup>2</sup>) or with threaded rod for current input (optional),
- Tightness IP20 (option IP54, RS232 on back side).

**CONFIGURATION:**

Thanks to its front-side keyboard, the IPL244/144L allows to reset the energy meters, to change the pages of visualization, ...

The user can visualize and configure all the parameters of the IPL244/144L via the RS232 link.

The device can interact via the RS232 serial link (jack 3.5, or option: DB9 on back side), with any system emulating a terminal.

Example: Terminal program in Windows: ---->  
(Free supply of cable on single request).

- Through the terminal, the user will be able to:
- visualize the measures, the actual configuration,
  - make a new configuration of the IPL244/144L.

The configuration mode allows to choose:

- the wiring type (direct, alternative, single-phase, three-phase, balanced, unbalanced, with or without neutral, 3 independant wattmeters, ...),
- the PT and CT ratio,
- the working relays mode,
- the RS485 link parameters,
- the type and the scale of the analog outputs,
- the display type.

INPUTS		
TYPE	RANGE	ACCURACY
Alternative voltage	500 V (direct)	+/- 1.5 V
Direct voltage	+/- 700 V (direct)	+/- 1.5 V
And		
Alternative voltage	125 V (direct)	+/- 0.37 V
Direct voltage	+/- 175 V (direct)	+/- 0.37 V
Input impedance	2 M / 500 kOhms	
Overload	3 x UN during 3 s	
Measure threshold	5 V / 1.5 V	
Absorbed power	0.12 W / 0.03 W	
Alternative current	5 A (direct)	+/- 15 mA
Direct current	+/- 5 A (direct)	+/- 15 mA
Input impedance	0.05 Ohms	
Overload	6 x IN during 3 s	
Measure threshold	0.1 A	
Absorbed power	1.25 W	
Other calibers on request, 1A current, 100V voltage		
<b>Note: use a transformer for an upper range</b>		
Frequency	35 to 400 Hz	+/- 0.2 %
METROLOGY		
(accuracy is given in percentage of the full calibers)		
Active power	+/- 0.6 %	
Reactive power	+/- 1 %	(in % app. P)
COS φ	+/- 0.6 %	
Active energy	+/- 0.6 %	
Reactive energy	+/- 1 %	
(conditions: freq. 45/65 Hz, cos φ > 0.7 ; peak factor 1.4 ; calibres U/I 10 to 90%)		
Sampling rates / response time accordinging of the configuration:		
Sampling rate:	1 to 3 per second	
Response time:	from 300 to 900 ms	

OUTPUTS		
TYPE	RANGE	ACCURACY
Current	0 ... 4 ... 20 mA	+/- 10 µA
Load:	500 Ohms	
Voltage	0 / 10 V	+/- 5 mV
External shunt	500 Ohms (supplied separately)	
RELAYS		
Switching power		5 A / 250 V
Reverse contact		Type RT
Impulse rate in counting		2 / s max.
Impulse width		200 ms
POWER SUPPLY		
(to specify at the order)		
20 to 70 Vac / Vdc, 7 VA		
80 to 265 Vac / Vdc, 7 VA		
RECOMMENDED OPERATING CONDITIONS		
Temperature		
Operating		-10 to 60 °C
Storage		-20 to 85 °C
Influence (of the full scale)		< 0.03 % / °C
Relative humidity	85 % (not condensed)	
Weight	~ 950 g	
Tightness	IP20 (option IP54, RS232 on back side)	
Dielectric strength	1500 Veff continuous (Input/Outputs/Pwr./Contacts)	
Electromagnetic compatibility		
Generic standards: NFEN50081-2 / NFEN50082-2		
<b>CE</b>		
EN55011	meet	group 1 / class A
EN61000-4-2	no influence	B ENV50140 < +/- 5 % A
EN61000-4-4	< +/- 5 %	B ENV50141 < +/- 10 % A
EN61000-4-5	< +/- 5 %	B ENV50204 no influence A
EN61000-4-8	no influence	A
EN61000-4-11	< +/- 5 %	B DBT 73/23/CEE

**WIRING AND OUTLINE DIMENSIONS:**

Identical wiring for IPL244 and IPL144L.  
 Cut-off: 66 x 139 mm - IPL144L, 136 x 139 mm - IPL244  
 Insertion depth: 175

