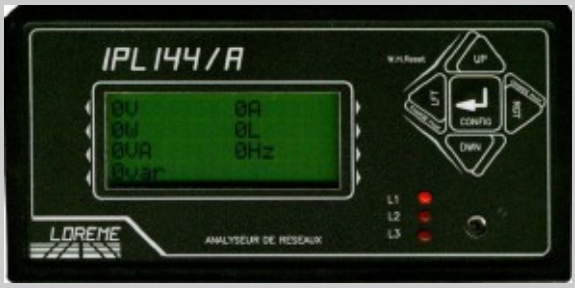
PROGRAMMABLE ELECTRICAL NETWORK ANALYSER IPL144

- ***High adaptability:*** *direct, alternative, single-phased, three-phased, balanced, unbalanced, neutral, CT-PT ratio*
- ***8 input - output slots:*** *analog, relay, RS485, logical*
- ***Fully insulated 3U, 3I***
- ***Alphanumeric display*** *(liquid crystals)*
- ***Universal power supply***



IPL144V is universal analyser of electrical network, it has 8 site (SLOTS) intended to receive the input output interface (analog output, digital link, relay...).

Applications:
- measure, control, pilot, regulation, protection.

Measures:
Thanks to its integrated calculation functions, the IPL144 allows the measure of all electric values:
- direct voltage and current (700 Vdc, 5 Adc),
- effective alternative voltage and current (500 Vac, 5 Aac),
- active (P), reactive (Q), apparent (S), power (generated-consumed),
- cos φ (power factor) inductive-capacitive,
- frequency (35 to 400 Hz),
- active consumed and generated, reactive inductive and capacitive energy, independent addition by channel or by slot time, saving, reset in configuration or with keyboard (lockable in the configuration),
- downstream power, configurable time (option)
- configurable transformation ratio (current and voltage),
- time slot function, off peak hours, on peak hours and peak hours (2 time slot) time slot configuration, time control.

Display:
The IPL144 has a LCD display (4 lines of 16 characters, back-lighted).
The latter allows to visualize all the pieces of information measured or calculated (U, I, F, cos φ, P, Q, S, W) simultaneously or by page accessible by keyboard.
Additionally, in time slot configuration, it has an hour-time slot page.

Inputs/outputs slots:
The IPL144 has 8 slots, which can receive either:
one insulated analog output, assigned to any chosen measure,
- one relay configurable in alarm, energy counting or directly switched via RS485 serial link,
- one digital RS485 link with MODBUS/JBUS protocol,
- one logical input which can be displayed or read by RS485 serial link,
- power cut option soon available.

GENERAL CHARACTERISTICS:
- DIN panel plastic case: (144 x 72 x 175),
- cut off: 139 x 66, U-link fastening,
- plug-in connector, screw-terminal connection (2.5 mm²) or with lead connection on threaded rod for current input (optional),
- Protection index IP20 (option IP54, RS232 on the back side).

CONFIGURATION:
Thanks to its front-side keyboard, the IPL144 allows to reset the energy meters, to change the pages of visualization, ...
The user can visualize and configure all the parameters of the IPL144 via the RS232 link.
The device can interact via the RS232 serial link (jack 3.5), 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 the new configuration of the IPL144.

The configuration mode allows to choose:
- the wiring type (direct, alternative, monophase, three-phase, balanced, unbalanced, neutral, CT-PT ratio,
- the type and the range of the analog outputs.
- the working relay mode,
- the RS485 link parameters,

Version and order code:

IPL144/A: - display of measured information per phase

voltage	current
Cos	active p.
apparent p.	frequency
reactive p.	

Tthe IPL144/A has not time slot mode.

90 days accuracy (20 °C +/- 2 °C) *DATA SHEET CAN BE DOWNLOADED ON* WWW.LOREME.FR

TECHNICAL SPECIFICATIONS

INPUT

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	10 V / 2.5 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 ...

Frequency	35 to 400 Hz	+/- 0.2 %

METROLOGY

(the precisions are given in percentage of the full calibres)

Activ power	+/- 0.6 %	
Reactiv power	+/- 1 %	(in % of app. P.)
Cos φ	+/- 0.6 %	
Activ energy	+/- 0.6 %	
Reactiv 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 according of the configuration

Sampling rate:	1 to 3 per second
Response time:	from 300 to 900 ms

OUTPUT

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)	

RELAY

Switching power	5 A / 250 V
Reverse contact	Type RT
Rate of impulse 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 the back side)	
Dielectric strength	1500 Veff continuous

Electromagnetic compatibility

Generic standards: **NFEN50081-2 / NFEN50082-2**

CE

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:

Cut off format 139 x 66