

- **Network:** *direct, alternative, single phase, three-phase, balanced, unbalanced, with or without neutral,*
- **Display:** *3 values on 3 digits display, 1 value on 4 digits display, available in red, green, yellow, blue,*
- **IPL144V/R:** *2 relays in alarm or counting,*
- **IPL144V/CM:** *MODBUS/JBUS RS485 link,*
- **IPL144V/CP:** *PROFIBUS DP RS485 link,*
- **IPL144V/CMTCP:** *Ethernet Modbus TCP link*



The IPL144V is an universal electrical network analyser, low cost. The device disposes in standard of measure functions, analysis and feedback informations allowing it to meet to the most of applications.

Applications:

- Measure, control, pilot, regulation, protection.

Measures:

- Direct current and voltage (700 Vdc, 5 Adc),
- Rms alternative current and voltage (500 Vac, 5 Aac),
- Consumed / generated active power, inductive / capacitive reactive power, apparent power,
- Inductive / capacitive $\cos \varphi$ (power factor),
- Frequency, 45 to 65 Hz,
- Consumed / generated active energy, inductive / capacitive reactive energy, totalization, saving, Reset in local configuration or in front face buttons (if access allowed in configuration),
- Configurable voltage and current transformation ratio.

- 1 configurable RS485 MODBUS/JBUS digital link: address, speed, 600 to 38400 bauds, parity, even, odd or none, data format, 32 bits integer.

Front face:

- High luminosity 7 segments display with 14.2 mm red leds, automatic change of scale factor, V-kV, A-kA, kW-MW ..., automatic positioning of decimal point, 2 push buttons of display value selection and reset of energy counters (if access allowed in configuration).

- 3 values of 3 digits, resolution 1000 pts, L1, L2, L3 display, selection of values by push button, star voltage, current, frequency, $\cos \phi$, active power, reactive power, interlinked voltage.

- 1 value of 4 digits, resolution 10000 pts, display of phase sum, selection of value by push button, active power, reactive power, consumed active energy, inductive reactive energy, generated active energy, capacitive reactive energy.

Outputs:

The device can include in option :

- 2 configurable relays:
 - in alarm with selection of parameter to monitoring, sense, threshold and hysteresis.
 - in energy counting with counting selection and impulse load.

GENERAL CHARACTERISTICS:

- Plastic DIN panel case: 144 x 72 x 175,
- Cut-off: 139 x 66, U-link fastening,
- Connection with screw-terminal, section 7.5 mm² for currents inputs, section 2.5 mm² for voltages inputs, outputs and power supply.
- Tightness IP20 (IP54 in option).

CONFIGURATION:

The device can interact via the RS232 link with any system emulating a terminal. Example: HyperTerminal in Windows.

Through the terminal, the user will be able to:

- visualize the measures,
- configurate device

Version and order code:

[Request a quote](#)

- IPL144V/R:** 2 configurable relays in alarm or counting.
- IPL144V/CM:** RS485 MODBUS RTU link.
- IPL144V/CP:** RS485 PROFIBUS DP link.
- IPL144V/CMTCP:** Ethernet Modbus TCP link.

Note: The options /C and /R can be held concurrently.

INPUTS

TYPE	RANGE	ACCURACY
Voltage	500 Vac (direct)	+/- 1.5 V
Voltage or on request	+/- 700 Vdc (direct)	+/- 1.5 V
Voltage	125 Vac (direct)	+/- 0.37 V
Voltage	+/- 180 Vdc (direct)	+/- 0.37 V
Input impedance	2 MOhms / 500 kOhms	
Overload	3 x UN during 3 s	
Measure threshold	2 % of caliber	
Absorbed power	0.125 W / 0.026 W	
Current	5 Aac (direct)	+/- 15 mA
Current or on request	+/- 5 Adc (direct)	+/- 15 mA
Current	1 Aac (direct)	+/- 3 mA
Current	+/- 1 Adc (direct)	+/- 3 mA
Input impedance	0.05 Ohms / 0.25 Ohms	
Overload	6 x IN during 3 s	
Measure threshold	2 % of caliber	
Absorbed power	1.25 W / 0.25 W	

Remark: use a transformer for an upper range (only in alternating)

Frequency 45 to 65 Hz +/- 0.25 %

- Sampling rate: 1 to 5 per second
- Response time: 200 to 600 ms

METROLOGY

(The precisions are given in % of the full caliber)

Active power:	+/- 0.6 %
Reactive power:	+/- 1 % (in % of apparent power)
COS φ:	+/- 0.6 %
Active energy:	+/- 0.6 %
Reactive energy:	+/- 1 %

(conditions: freq. 45/65 Hz, cos φ>0.7, peak factor 1.4, calibers U/I 10 to 90 %)

RELAY

Switching power	1 A / 250 V
Reverser contact	RT type
Counting Rate	2 / s max.
impulse width	200 ms

RS485 LINK

	MODBUS	PROFIBUS
Adress	1 to 255	1 to 126
Speed	600 to 38400 bps	9600 to 1,5 Mbps
Parity	even, odd, none	even
Format	32 bits integer	32 bits integer
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POWER SUPPLY

(to specify at the order)
20 to 70 Vac / Vdc, 2 VA
80 to 265 Vac / Vdc, 2 VA

RECOMMENDED OPERATING CONDITIONS

Operating Temperature	-10 to 60 °C
Storage temperature	-20 to 85 °C
Influence (% of full scale)	< 0.015 % / °C
Relative humidity	85 % (not condensed)
Weight	~ 950 g
Tightness	IP20 (IP54 in option)
Dielectric strength	1500 Veff
	Inputs / Outputs / Power supply

Electromagnetic compatibility

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



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:

Format: 144 x 72 x 175 mm. Cut-off: 66 x 139 mm

