

• **measures AC + DC:**

Single phase or balanced three phase 0...440Hz
PWM, wave train,
Phase angle variation,
high level harmonics signals.

• **Multi sensor for current measurement:**

Shunt, transformer, Rogowski coil,
Hall effect sensor or direct input 1A and 5A.

• **Programmable:**

function: voltmeter, ammeter, frequency meter

• **6 digits measure display**

4 digits alphanumerical display for the unit
Display: U, I, Hz

• **option:**

isolated analog output, 2 relay outputs
RS485 Modbus RTU
Ethernet Modbus TCP (6 concurrent connections) and SNMP

• **Universal ac/dc wide range power supply**



The IPL36L is a digital panel meter, transducer for measuring, monitoring and for the transmission of current, voltage and frequency of an AC or DC electrical network. Implementation is fast by simple configuration of input parameters. The various output options allow a wide range of application: measurement, protection, control,

Measurement:

- Direct current or alternative current, single phase or balanced three phases (configurable PT and CT ratio or shunt sensitivity).
- 2 voltage input ranges: 150V, 600V others on request up to 1000V.
- 2 current input range: 200mV (external shunt), 1A or 5A internal shunt.
- external Hall effect current sensor (+/- 4V rated, +/-10V peak)
- configurable integration time from 0.01s to 60 seconds for the measurement in slow waves train applications.
- frequency from 1Hz to 440 Hz.
- function : hold time of maximal value (voltage and current)

Front face:

- 6 digits LED display, 14,2 mm height for the measure
- 4 digits alphanumeric LED matrix display for the units
- 2 red LEDs for relay status indication
- 3 push buttons:
 - * Full configuration of device
 - * Select of displayed value (U, I, Hz)
 - * Setting of alarm thresholds,

Relays (/R option):

1 or 2 relays, configurable in alarm with selection of the monitored measure (U, I, Hz). Threshold, direction, hysteresis and delay are individually adjustable on each relay (on & off delay).

Analog output (/S option):

1 galvanically isolated analog output, fully configurable:
type and range for monitor measure: (U, I, Hz)
type and range for analog output (0 .. 10 V, 0 ... 4 ... 20 mA)
response time (filter), limitation....

Communication (/C option):

RS485 link Modbus RTU
Ethernet (RJ45) link Modbus TCP / SNMP , Web server

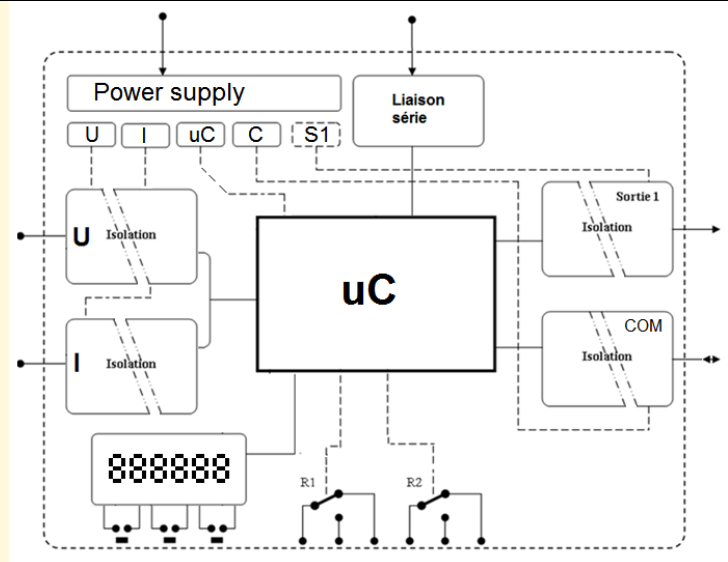
Configuration:

- The IPL36L can be configured via the front face or with the serial RS232. (USB cable -> 3.5 jack supplied separately)
- Firmware update is possible via this USB link.

Feature:

- DIN panel case : 96x48 mm, pluggable connectors,
- protection rating IP20 option IP65, conformal coating,

Synoptic:



Version and order code:

IPL36L	Direct input 1A / 5A or mV with remote shunt
IPL36L-Hall	Input for Split-core Hall effect sensor HcO type (up to +/-1200 A dc+ac)
IPL36L-Rogo	Input for Rogowski coil Rogoflex LT type (up to 2000Arms)
IPL36L/R1	+ 1 relay
IPL36L/R2	+ 2 relays
IPL36L/S	+ 1 isolated analog output
IPL36L/CM	+ RS485 MODBUS RTU
IPL36L/CMTCP+	ETHERNET MODBUS TCP / SNMP
<i>options /S, /CM, /CMTCP are not combinable.</i>	

INPUT

TYPE	RANGE	ACCURACY
AC Voltage	150V ; 600 V	+/- 0.3% full scale
DC Voltage	+/-200 ; +/- 1000 V	+/- 0.3% full scale
Input impedance	500Kohms - 2Mohms	
Overload	2 x Un during 3 s	
Measure threshold	0.5% of full scale	
Power consumption	0.12 W	

Current ac/dc +/-250mV (200mVac) for shunt 50mV; 60mV; 100mV or "Tio" split-core current sensor
 1Aac / 5Aac direct input or for current transformer
 +/- 10Vmax for Hall effect sensor
 (sensor power supply: +/- 15V)

Input impedance	0.05 ohms: 5A / 0.25 ohms: 1A
Overload	6 x IN during 3 s
Measure threshold	0.5% of input range
Power consumption	max 1.25 W

Frequency 0Hz / 1Hz....440 Hz +/- 0.2 %

- measures / response time:
 sampling integration time programmable from 10ms to 60s.

Communication

RS485	600...19200 bps	Modbus RTU
Ethernet (RJ45)	10/100 M	Modbus TCP/SNMP

ANALOG OUTPUT

TYPE	RANGE	ACCURACY
Current	0 ... 4 ... 20 mA	+/- 10 µA
Load	0 ... 750 Ohms	
Voltage on shunt	0 ... 5 ... 10 V 500 Ohms	+/- 5 mV

RELAY

Changeover contact. Switching power:
 dc: 220Vdc-0.24A-60W; 125Vdc-0.24A-30W; 30Vdc-2A-60W
 ac: 250Vac-0.25A-62.5VA; 125Vac-0.5A-62.5VA
 surge voltage: 3Kv coil/contact ; 2.5Kv contact/contact
 mechanical endurance: 10⁸ operations
 Shock resistance : 300g functional

POWER SUPPLY

Universal: (2 versions: non polarized standard or low voltage)
 standard: 21Vdc, 55Vac.....to.....265Vac/dc, 3VA
 low voltage: 12Vdc.....to.....30Vdc, 3VA

ENVIRONMENT

Operating temperature	-25 to 60 °C
Storage temperature	-25 to 85 °C
Thermal drift (% of full scale)	< 0.03 % / °C
Humidity	85 % not condensed
Weight	~ 250 g
Protection rating	IP20 (IP65 front face in option)
Dielectric strength	1500 Vrms continuous
MTBF (MIL HDBK 217F)	Inputs / Power / Outputs / Relays > 2 000 000 Hrs @ 25°C
Life time	> 200 000 Hrs @ 30°C
Shock IEC 60068-2-27 (operating)	15 G / 11 ms
Bump IEC 60068-2-29 (transportation)	40 G / 6 ms
Vibration IEC 60068-2-6 (operating)	1 G / 10 - 150 Hz
Vibration CEI 60068-2-6 (transportation)	2 G / 10 - 150 Hz

Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE

Immunity standard for
 industrial environments
 EN 61000-6-2

Emission standard for
 industrial environments
 EN 61000-6-4

EN 61000-4-2 ESD	EN 61000-4-8 AC MF	EN 55011
EN 61000-4-3 RF	EN 61000-4-9 pulse MF	
EN 61000-4-4 EFT	EN 61000-4-11 AC dips	group 1
EN 61000-4-5 CWG	EN 61000-4-12 ring wave	class A
EN 61000-4-6 RF	EN 61000-4-29 DC dips	



WIRING AND OUTLINE DIMENSIONS:

panel cutout : 92.5 x 42.5 mm

