Transducer for TRMS AC and DC measurement
Wattmeter, Voltmeter, Ammeter,….

CPL35

LOREME

- **RMS measure AC + DC:** *0...440Hz*
  Single-phase, bi-phase, balanced three-phase
  with or without neutral
  PWM, wave train, phase angle variation,
  high level harmonics signals
- **wide variety of sensor for current measurement:**
  Shunt, transformer, Rogowski coil,
  Hall effect sensor or direct input 1A and 5A
- **Programmable:**
  Voltmeter, ammeter, wattmeter, varmeter,
  power factor, Cos phi, frequency meter
  AC or DC energy counter
- **4 digits measure display:** *U, I, Cos, P, Q, Hz*
- **Outputs :** *2 analog outputs, 3 relays outputs,*
  Ethernet link Modbus-TCP and SNMP
- **Wide range ac/dc power supply**

The CPL35 is a converter for measuring, monitoring and retransmission of electrical parameters. Implementation is fast by simple setting of transformer ratio or shunt sensitivity. The various output options allow a wide range of application : measurement, protection, control.

Measurement:
- DC or AC network, single-phase, bi-phase, balanced three-phase
        (configurable PT, CT ratio or shunt sensitivity),
- Up to 1200V for AC input, and +/- 1800V for DC input
- 3 current input ranges: 250mV (external shunt) ,1A or 5A internal shunt
- current by Hall effect sensor (+/-4V nominal input, +/-10V peak)
- Signed active power (P) : consumed / generated
- Reactive power (Q), apparent power (S), active energy
- cos φ (power factor) , frequency 1Hz…..440 Hz,
- configurable integration time from 10 ms to 60 seconds
        for the measurement in waves train applications.

Front face:
- 4 digit alphanumeric LED matrix display for the measurement
- 3 red LEDs for relay status indication
- 2 push buttons for:
    The full configuration of device
    Selection of displayed value (U, I, Cos, P, Q, S, Hz, KWhrs)
    Setting of alarm thresholds, reset of energy counter, ...

Relays (/R option): Up to 3 configurable relays:
- In alarm on monitoring measure (U, I, Cos, P, Q, S, Hz)
- Threshold, direction, (and window alarms) hysteresis and delay individually adjustable on each relay (activation and deactivation delays), HOLD function (alarm memorization with RESET by front face)
- with the integrator option, the relay can be used to have pulse output for energy counter (configurable pulse weight).

Analog output (/S option):
- 1 or 2 isolated analog outputs, fully configurable:
        type and measure range to monitor: U, I, Cos, P, Q, S, Hz,
        type and output range (0 .. 10Volt, 0 ... 4 ... 20mA),
        bipolar output (+ /-10V) with coupling of the two outputs,
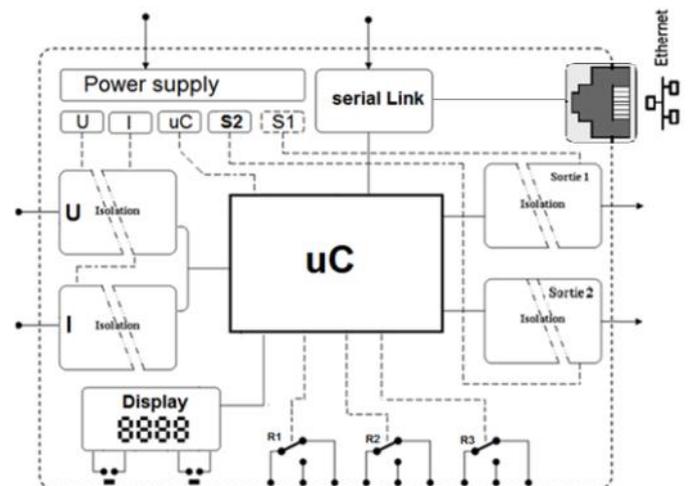   Response time (filter), limitation… setting for each outputs.

Configuration:
The CPL35 can be configured via the front face or via the RS232 link.
 (USB -> 3.5mm jack cable available separately)
- Firmware update is possible via this USB-serial link.

Feature:
- DIN rail mounting (symmetrical), pluggable terminals blocks,
- protection rating: IP20, conformal coating,
- Hinged front face (buttons and serial access),

Synoptic:

Version and order code:

Request a quote ✉

CPL35	1 analog output, 1A / 5A / shunt and voltage inputs		
CPL35/R1	+ 1 electromechanical relay	**/RS1**	+ 1 static relay
CPL35/R2	+ 2 electromechanical relays	**/RS2**	+ 2 static relays
CPL35/R3	+ 3 electromechanical relays	**/RS3**	+ 3 static relays
CPL35/S2	2 analog outputs		
CPL35/CMTCP	Ethernet Modbus TCP link (no analog outputs)		
CPL35/CMTCP-NAV1	Ethernet Modbus TCP link NAVAL GROUP		
CPL35/CM	Modbus RS485 (no analog output)		
CPL35-Rogo	Input for Rogowski coil (40...70Hz).		
	Type: Rogoflex LT (Up to 2000 Arms)		
CPL35-Hall	+ input for Hall effect sensor, supply +/-15V, output 4V		
CPL35i	+ integrator option for Ac and Dc energy counting		
	(in standard for the CMTCP model)		

Note : All options can be combined (except communication and analog outputs).

TECHNICAL SPECIFICATIONS

INPUT

ac Voltage on 2 ranges	150Vac / 600 Vac	+/- 0.3%
dc voltage on 2 ranges	+/- 225Vdc / +/-900Vdc	+/- 0.3%
High voltage	+/-1200Vac / +/-1800Vdc	+/- 0.5%
Input impedance	500Kohms - 4Mohms - 8Mohms	
Overload	3 x full range during 3 s	
Measure Threshold	0.5% of Full Range	
Power consumption	0.12 W	

TRMS ac+dc current	250mV / 1A / 5 A	+/- 0.3% of F.R
on 4 ranges	+/- 4V for Hall effect sensor	
	(+/-15V 50mA sensor supply)	
Input impedance	0.05 ohms: 5A / 0.25 ohms: 1A	
Overload	6 x IN during 3 s	
Measure Threshold	0.5% of F.R	
Power consumption	1.25 W	
Frequency	1Hz….440 Hz	+/- 0.2 %

Other input ranges on request.
Note: use transformer for higher range.

METROLOGY

(the accuracies are given in percentage of full scales)

Active or dc power	+ / - 0.5%
Reactive power	+ / - 1% (in % of apparent power)
Cos phi	+ / - 0.5%

(conditions: Freq 45/65 Hz, power factor> 0.7; peak factor 1.4; input U/I 10 to 90%)
- measures / response time:
sampling integrator programmable from 10ms to 60s.

COMMUNICATION

Ethernet (RJ45) 10 /100 Base T   HTTP / Modbus-TCP / SNMP
- Embedded web server measures display

RELAYS

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
Dielectric strength 3 kV coil/contacts
Mechanical life: 10^8 operations
Shock resistance: 300G (functional)
max counting rate : 5 pulses / second

ANALOG OUTPUT

TYPE	RANGE	ACCURACY
current S1 and S2:	0 ... 4 ... 20 mA	+/- 20 µA
permissible load:	0.....850 Ohms	
voltage S2 and S2:	0 ... 10 V	+/- 10 mV
output impedance:	500 Ohms (internal 0.1% shunt)	
or 1 bipolar output	-10V … +10V (coupling of 2 outputs)	

POWER SUPPLY

Universal: (2 versions: not polarized standard or low voltage)
       standard: 21Vdc, 55Vac....to......265Vac/dc, 3VA
       low voltage: 12Vdc....to.....30Vdc, 3VA

ENVIRONMENT

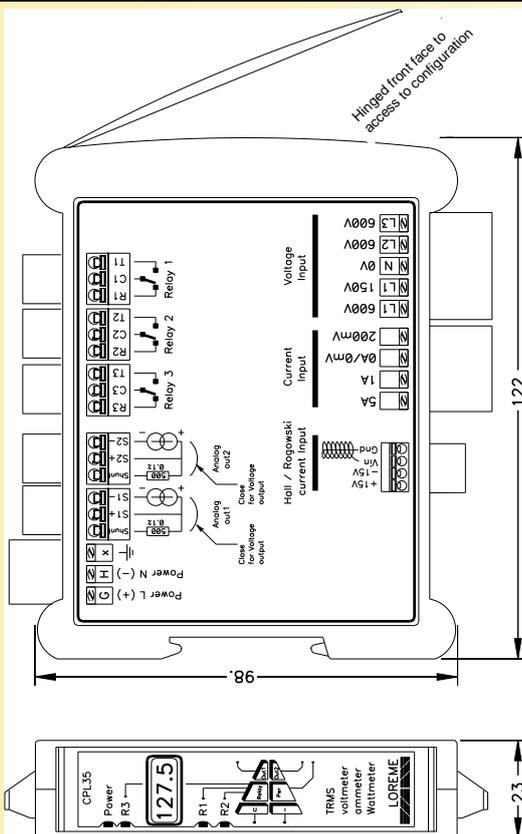|	
Operating temperature	-20 / 60 °C (75°C peak)
Storage temperature	-40 / 85 °C
Drift (% of full scale)	< 0.03 % / °C
Humidity	85 % not condensed
Weight	~ 250 g
Protection rating	IP20
Shock IEC 60068-2-27 (operating)	15 G / 11 ms
Bump IEC 60068-2-29 (transportation)	40 G / 6 ms
Vibration IEC 60068-2-6 (operating)	1 G / 10 - 150 Hz
Vibration CEI 60068-2-6 (transportation)	2 G / 10 - 150 Hz
Dielectric strength (Inputs/Power-Outputs-Relays)	2500 Vrms
MTBF (MIL HDBK 217F)	> 3 000 000 Hrs @ 25°C
Life time	> 200 000 Hrs @ 30°C

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	CE
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:

CPL35: up to 2 analog outputs + 3 relays maxi

CPL35/CMTCP: Ethernet link Modbus TCP + 3 relays maxi