

Measurement unit for distribution panel

Wattmeter, Energy meter CPL165

LOREME

- **Energy meter for 18 electrical feeders.**

Three-phase or single-phase, measure U, I, Cos, P, W

- **Measure current from 10A to 500A**

With small split-core current transformers (CT)

Diameter of passage: 12 to 36mm

- **Ethernet Modbus TCP or SNMP link**

Embedded Web Server

6 Modbus TCP concurrent connections

Bus connection possibility directly onto the

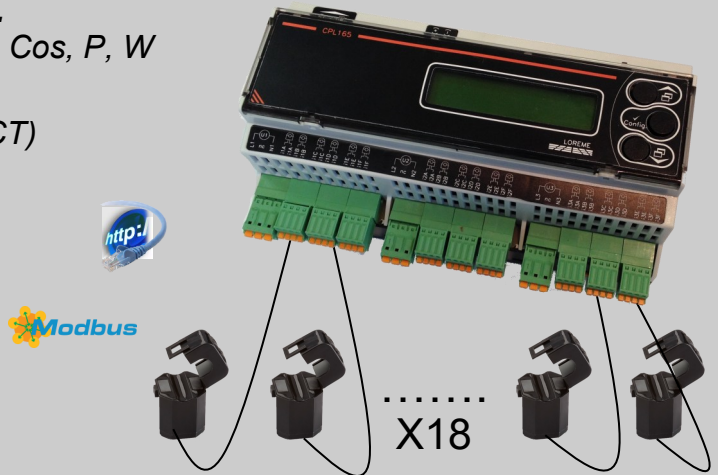
DIN rail

Modbus link possibility over RS485

- **Application:**

Energy efficiency, building management

Data center : intelligent **PDU**, Measure of **PUE** (Power Usage Effectiveness)



The CPL165 is a complete and very compact measuring unit for power consumption measurement (building management, workshops, data center, ...) in an energy efficiency approach. The Ethernet link allows measures supervision while ensuring easy and fast integration into existing networks. The internal bus allows multiple modules focused on Ethernet. The product can be used independently on a three-phase or a single-phase network.

Benefits:

- Low cost per measurement point
- Monitoring 18 feeders with a single device
- Installation without circuit interruption
- Suitable for new or existing installations (retrofit)
- Wide range of current measurement
- Measuring three-phase or single-phase networks
- Multi-protocol communication

Measures and display:

- Alternative voltages and currents.
- Active power.
- Cos phi "power factor".
- Active consumed energy (memorized).

Current measure inputs:

With small opening CTs of type "Tio", low level output 500mV (measuring up to 500 Arms, backwardation > 30 meters)

Voltage measure inputs:

- 3 phases / neutral measures (max voltage 300 Vrms)

Realization:

- DIN standard modular housing (9 modules approx. 165mm)
- connection on screw or spring terminal block (max section 1.5 mm²)
- degree of protection (housing / terminals): IP20
- Conformal coating.

Front face:

- LCD display with 2 lines of 16 characters (back-lighted) for the measurements display ("display" button).
- Three push buttons to configure the product:
 - Ratio of current transformers, Reset or prepositioning of the energy meter, IP address, mask

Communication:

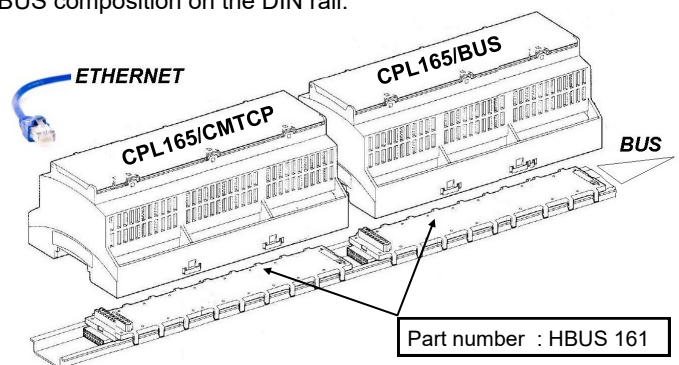
- Ethernet 10/100 T base (RJ45 connection) Modbus TCP or Profinet io with the possibility of bus link directly onto the DIN rail (Modbus TCP).
- Embedded Web Server for direct visualization of measures
- Modbus RS485 (connection on screw terminal)

Version and order code:

CPL165/CMTCP	Ethernet MODBUS TCP link
CPL165/BUS	Slave version on internal Bus (Modbus TCP)
CPL165/SNMP	Ethernet link SNMP protocol (no internal bus)
CPL165/CM	RS485 MODBUS 9600/19200 bps link (no internal bus)

(the version /CM and /SNMP are not suitable with the internal Bus)

BUS composition on the DIN rail.



MEASURE INPUT

TYPE	RANGE
Voltage	0...265Vac (phase / neutral)
Input impedance	> 100 kohms (phase / neutral)
Power consumption	< 0.5 Watt
Current	0...500mVac for split-core CT (1 to 500A)
Frequency	45 à 65 Hz

METROLOGY

TYPE	RANGE	CONDITIONS
Current	+/- 0.5%	from 20 to 105% of the I caliber
Voltage	+/- 0.5%	from 80 à 120% of the U caliber
Cos phi	+/- 0.5%	for power factor > 0.75
Active power	+/- 0.5%	for the following conditions (u,i cos)
Energy	+/- 0.5%	for the following conditions (u,i cos)

(the precisions are given in percentage of full scales)

Measuring conditions:

frequency : 45...65 Hz, cos phi > 0.75 ; peak factor <1.5, harmonic 10 max, ambient temperature from 15 to 30°C

Note: non-compliance with the above conditions (caliber underutilization, harmonic distortion, saturated climate conditions, ...) leads to a downgrade of the metrological performances.

COMMUNICATION

Ethernet link 10 /100 T Base, RJ45 connector
Modbus TCP protocol: Port 502 or SNMP protocol
Web server HTTP protocol: Port 80

POWER SUPPLY

20...265Vac-dc; 2.5VA	standard
12...30Vdc ; 2.5VA	on request

ENVIRONMENT

Operating temperature	-20 to 60 °C
Storage temperature	-20 to 85 °C
Relative humidity	85 % not condensed
Weight	300 g
Protection	IP 20
Dielectric strength	2500 Vrms continuous
Inputs / Power / Communication / Relay	
MTBF (MIL HDBK 217F)	> 500 000 Hrs @ 30°C
service life	> 200 000 Hrs @ 30°C

Electromagnetic compatibility 2004/108/CE / Low Voltage Directive 2006/95/EC

Immunity standard for industrial environments
EN 61000-6-2Emission standard for industrial environments
EN 61000-6-4

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

EN 55011
group 1
class A



WIRING AND OUTLINE DIMENSIONS:

