



## PROGRAMMABLE POWER CONVERTER

CPL 48

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## CONFIGURATION HANDBOOK

LOREME 12, rue des Potiers d'Etain  
Actipole BORN Y - B.P. 35014 - 57071 METZ CEDEX 3  
Telephone 03.87.76.32.51 - Fax 03.87.76.32.52  
Contact: Commercial@Loreme.fr - Technique@Loreme.fr

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## DIALOGUE - TERMINAL MODE

Numeric devices can converse with all terminal emulation mode systems. As the dialogue and configuration part are in device's memory, no software or specific interface are necessary for their configuration.

Two terminal emulation mode systems are presented: the PSION and the PC. Different procedures are enumerated below.

### **1) PSION serie 2:**

First of all manipulation, plug in "COMMS LINK" on the PSION. To start up the PSION, push on the "ON" key.

The PSION displays this menu:

**RECH SAUV AGENDA  
CALC PROG EFFACE**

Push on the "C" key until the menu "COMMS", and validate with "EXE".

The PSION displays this menu:

**TRANSMIT RECEIVE  
SETUP TERM AUTO**

Push on the "T" key until the menu "TERM", and validate with "EXE" to obtain a empty screen. The PSION is now in terminal mode and you can link the PSION to the device, by plugging in the RS 232. The measure is displayed, to configurate, push on the "C" key.

### **2) PSION Workabout:**

To start up the PSION push on the "ON" key.

At the presentation, push on the "MENU" key. Select "SYSTEME SCREEN" mode and validate by "ENTER".

Icons display: **DATA CALC SHEET PROGRAM COMMS**

Select icon "COMMS" and validate by "ENTER", on display, a cursor flashing. The PSION is in terminal mode. Plug in "RS232" on PC. The measure is displayed and, to configure, push "C" on keyboard.

To quit terminal mode and switch off PSION, push on "OFF" key. When you re-start the PSION in terminal mode, it start automaticaly and directly in terminal mode without re-start configuration.

### 3) PC with DOS:

The terminal emulation mode software with DOS "IBM®-PC KERMIT-MS V2.26" is available at simple request. After the PC has booted, type "a: k" then press "ENTER". The PC is in terminal mode and uses COM port 1.

If you want to use the second serial communication port (COM2), type:

- "A:KERMIT" and "ENTER" to launch the program,
- "SET PORT 2" and "ENTER" to select COM2,
- "SET BAUD 9600" and "ENTER" to select speed,
- "CONNECT" and "ENTER", to enter in the terminal mode.

The PC is now emulating a terminal and may be connected to the device by plugging in the RS 232 link cable.

Measure is now displayed and configuration's acces allowed by a press on "C" key.

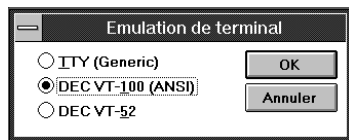
To quit kermit, press "CTRL-\$" then press the key "C". When the message KERMIT-MS appears, type "QUIT" to return to MS-DOS commands.

### 4) PC with WINDOWS 3.11:

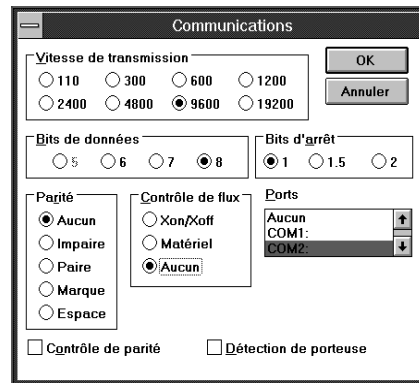
Start **WINDOWS** and in "**ACCESSOIRES**" group, double-click on icon wich get access to terminal mode.

In "**PARAMETRES**" menubar, click on "**COMMUNICATION**" sub-menu. We access to the following windows. Configure communication parameters, 9600 bauds, no parity, 8 data bits, 1 stop bit, no flow control and validate.

Begin terminal emulation by click on "**PARAMETRES**", then on "**EMULATION TERMINAL**". the following board is displayed.



Choose terminal mode **DEC-VT-100(ANSI)** and validate. The PC is in terminal mode, connect it to device by plugging the RS232 link cable. Measure is now displayed and to access at configuration, press on "C" key.



### 5) PC with WINDOWS 95/98:

To start up terminal program:

- 1 - Cliquez on button "START",
- 2 - Tick off "PROGRAMS", "ACCESSOIRES", and "HYPER TERMINAL",
- 3 - Click twice on 

Hypertrm.exe

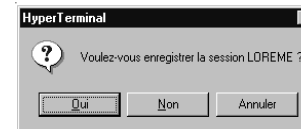
The following window is displayed. Enter a name for a new connection and validate, the hereunder window will appear



Choose a communication port and validate. The belowing window is displayed




Configure communication parameters, 9600 bauds, no parity, 8 data bits, 1 stop bit, no flow control and validate. The PC is in terminal mode, connect to device by plugging in the RS232 link cable. Measure is now displayed and to access at the configuration, press on "C" key .



When quitting HyperTerminal will be diplayed the following window. To dialog with all LOREME devices without re-start all the method, click on "OK"

To load LOREME session directly:

- 1 - Click on button "Start".
- 2 - Tick off "Programs", "Accessories", and "HyperTerminal".
- 3 - Click twice on the icon 

LOREME.ht

### 6) Visualization:

When switching on, the analyzer is automatically put in operating mode. The user will be able to visualize the measures on differents forms.

- Visualisation of one measure:
 

380 V	Measure
S1 18.50 mA	Output 1 or output 2

Press any keys on terminal allows to change measure and to visualize successively U, I, F, P, Q, S, cos. Alternatively, value of each output is transmitted on the second line of transmission.

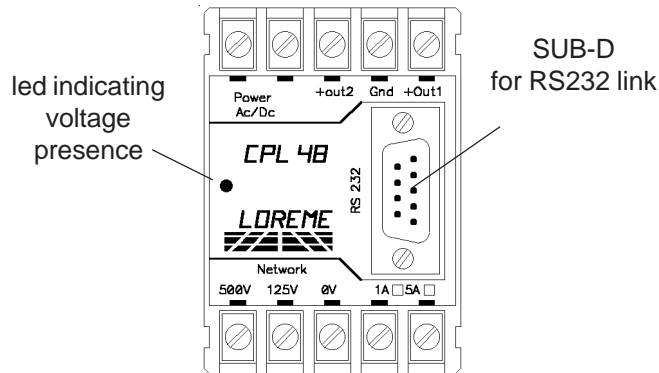
- Visualisation of all measures:
 

232 V	Voltage
2.05 A	Current
50.0 Hz	Frequency
1212 W	Active power
751 var	Reactive power
1426 VA	Apparent power
0.85	Cos
S2 16.32 mA	Output 1 or output 2

It is possible to visualize all measures simultaneously by pressing "\$" key (on PC). To go back to 2 lines mode, press "ENTER".

### DEVICE PRESENTATION

The purpose of this handbook is to allow to become familiar with the different device possibilities. This device allows to realize different measure types, direct or alternative, one-phase or three-phases balanced, with or without neutral.



### CONFIGURATION

The handbook explains in detail different possibilities of configuration: Language, caliber, network, output 1, output 2. To enter configuration mode, just press "C" key.

#### 1) Method:

At the configuration, the user is asked different types of questions. For each one, several answers are possible. You will find below the detailed description of each case.

#### 1.1) Menu selection:

example: INPUT  
Y - N

The user makes a choice by pressing the keys "Y" or "N". This choice allows to access the different menus of configuration.

#### 1.2) Parameter selection:

example: VOLTAGE or VOLTAGE  
(Y - N) YES (Y - N) NO

Previous choice = YES: - pressing "Y" => choice validation = YES,  
- pressing "←" => choice validation = YES,  
- pressing "N" => choice changing = NO.

Previous choice = NO: - pressing "N" => choice validation = NO,  
- pressing "←" => choice validation = NO,  
- pressing "Y" => choice changing = YES.

Choice is made by pressing "Y" or "N" keys, and validation is made by pressing corresponding key to displayed answer ("Y" for YES and "N" for NO) or "←" (PC)/"EXE" (PSION). Pressing key "← / EXE" without modification allows to validate the previous answer.

#### 1.3) Value acquisition:

example: LOW SCALE  
4 mA

Two cases are possible:

- validation without modification, just press "← / EXE",
- value modification on keyboard (simultaneous display), followed by validation with "← / EXE".

#### Note:

- It is possible, when a mistake is made during a value acquisition, before validating it, to go back by pressing "DEL" key (only on PSION), which re-displays the message without taking notice of the wrong value.
- In configuration mode, if there is no action, device goes back in operating mode after a two minutes delay without taking notice of modifications made before.
- In configuration mode, if you want to shift to measure mode without taking notice of the modifications made before, you just have to press "ESC" (PC) or "SHIFT + DEL" (PSION) key.

## 2) Language:

Language possibilities are:

- French,
- English.

## 3) Caliber:

On inputs voltage, 2 calibers are available in standard. To use one of twos, just select it in configuration:

- voltage 125 V,
- voltage 500 V.

## 4) Network:

Network wiring possibilities are:

- direct,
- alternative :
  - one phase,
  - balanced three-phase without neutral,
  - balanced three-phase with neutral.

It is also necessary to configure:

- PT ratio, potential transformer,
- CT ratio, current transformer.

## 5) Analogical outputs:

The configuration of 2 analogical outputs is the same. Analogs outputs configuration is presented through 2 rubrics :

- output assignement:
  - measured value:
    - voltage,
    - current,
    - frequency,
    - cos phi,
    - active, reactive, apparent power
  - measure scale, low and high.
- output parameter:
  - type, current or voltage,
  - scale, low and high,
  - response time,
  - output limitation.

**The response time** is adjustable from 200 ms to 60 s. This adjust allows to realize a numerical filter smoothing analogical output of witch measure would be disrupted, fluctuating or exposed to interferences.

**Limitation** allows, for all measured signal values, to peak clip output signal swing at scale configuration.

Remarque: It is possible to use the 2 analogical outputs as 1 only output to double load. For that, connect load between two connectors "+" of each output and configure:

- Range and type measure identical
- Output type identical
- Output range opposed ex: S1 = 4 à 20 mA  
S2 = -4 à -20 mA

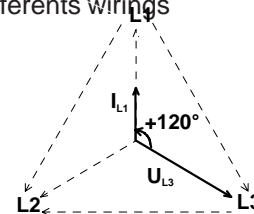
## AUTOMATICAL ADAPTATION OF THE WIRING

This function is used only for a triphase network. It allows a adaptation of the device on an existing wiring. The choice of wiring allows to use any voltage phase with any current phase.

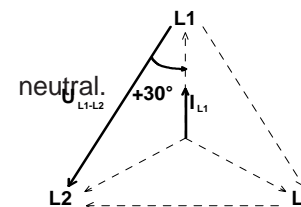
To modify wiring, you must:

- be in measure mode,
- pressing key "+" or "-", function access
- visualization of terminal becomes:
  - 0.86** measured value
  - WIRING 1** wiring type
- use key "+" and "-" to modify wiring.
- visualization of terminal becomes:
  - 0.99** measured value
  - WIRING 2** wiring type
- Tape on "**ENTER**" to save new wiring

The wiring proposed are functions of network configuration, three-phase balanced with or without neutral. For each of 2 cases, it is possible to select 3 differents wirings



Exemple in three-phase balanced with neutral. Voltage used is L3, current is I1. Phase-shift is 120°. The function allows to adapt the wiring to the network with a phase-shift of 120°.



Exemple in three-phase balanced without

Voltage used is L21, current is I1. Phase-shift is 30°. The function allows to adapt the wiring to the network with a phase-shift of 30°.

When device is off or during reconfiguration, wiring is always on. If in wiring change mode, there is no action on "+", "-" or "ENTER" key, device goes back in operating mode after a 30 s delay without taking notice of modifications made before.

## **EMC CONSIDERATION**

### **1) Introduction:**

In order to satisfy its policy as regards EMC, based on the Community directive 89/336/CE, the LOREME company takes into account the standards relative to this directive from the very start of the conception of each product.

As the devices are devised to work in industrial environments, the various tests are carried out in the sight of the EN 50081-2 and EN 50082-2 standards, in order to make out a statement of conformity.

As the devices lie in certain typical configurations during the tests, it is not possible to secure the outcomes in any possible configuration.

To ensure the best functioning possible of each device, it would be judicious to comply with several recommendations of use.

### **2) Recommendations of use:**

#### **2.1 ) General remarks:**

- Comply with the recommendations of assembly indicated in the technical sheet (direction of assembly, spacing between the devices, ...).
- Comply with the recommendations of use indicated in the technical sheet (temperature range, protection index).
- Avoid dust and excessive humidity, corrosive gas, considerable sources of heat.
- Avoid disturbed environments and disruptive phenomena or elements.
- If possible, group together the instrumentation devices in a zone separated from the power and relay circuits.
- Avoid the direct proximity with considerable power distance switches, contactors, relays, thyristor power groups, ...
- Do not get closer within fifty centimetres of a device with a transmitter (walkie-talkie) of a power of 5 W, because the latter can create a field with an intensity higher than 10 V/M for a distance fewer than 50 cm.

#### **2.2 ) Power supply:**

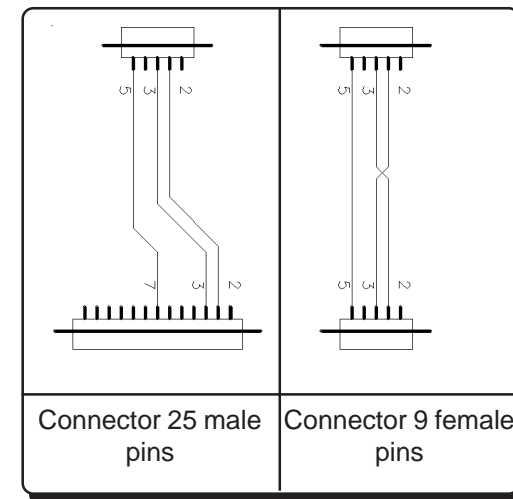
- Comply with the features indicated in the technical sheet (power supply voltage, frequency, allowance of the values, stability, variations ...).
- It is better that the power supply should come from a system with section switches equipped with fuses for the instrumentation element and that the power supply line be the most direct possible from the section switch.
- Avoid using this power supply for the control of relays, of contactors, of electrogates, ...

- If the switching of thyristor static groups, of engines, of speed variator, ... causes strong interferences on the power supply circuit, it would be necessary to put an insulation transformer especially intended for instrumentation linking the screen to earth.
- It is also important that the installation should have a good earth system and it is better that the voltage in relation to the neutral should not exceed 1V, and the resistance be inferior to 6 ohms.
- If the installation is near high frequency generators or installations of arc welding, it is better to put suitable section filters.

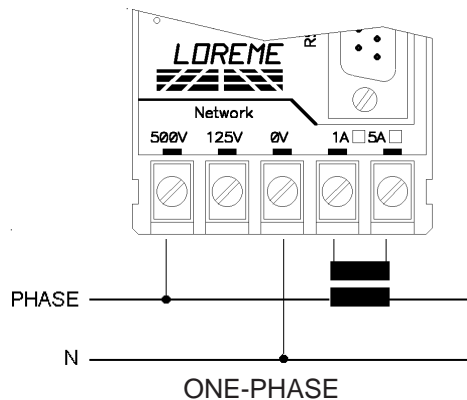
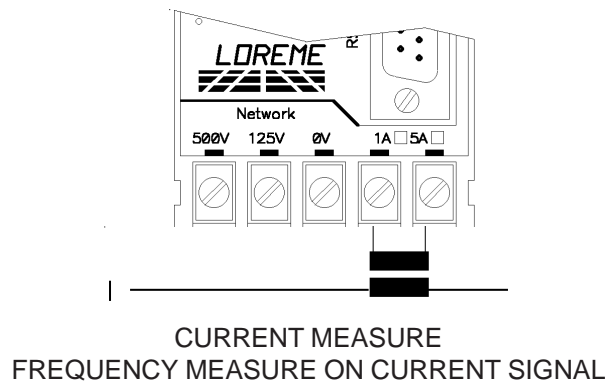
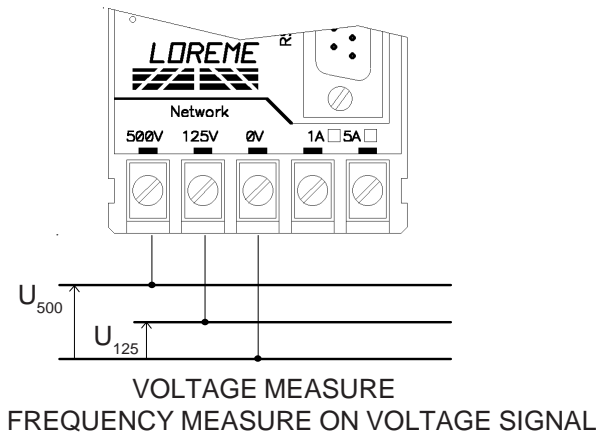
#### **2.3 ) Inputs / Outputs:**

- In harsh conditions, it is advisable to use sheathed and twisted cables whose ground braid will be linked to the earth at a single point.
- It is advisable to separate the input / output lines from the power supply lines in order to avoid the coupling phenomena.
- It is also advisable to limit the lengths of data cables as much as possible.

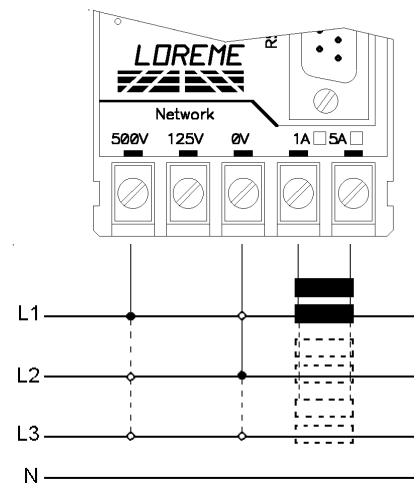
### **TERMINAL - ANALYZER LINK**



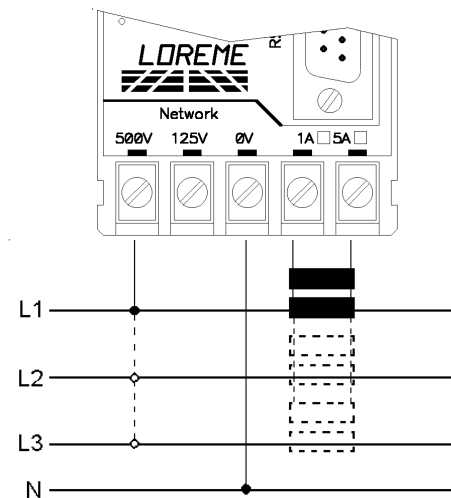
DIAGRAMS OF CONNECTION



DIAGRAMS OF CONNECTION



THREE-PHASE BALANCED WITHOUT NEUTRAL  
See rubric "wiring adaptation"



THREE-PHASE BALANCED WITH NEUTRAL  
See rubric "wiring adaptation"