CONFIGURATION HANDBOOK

CTL105

REV0.1 - 26/06/09

Table of contents

Device Presentation

LOREME

The CTL105 is a converter with 6 temperature inputs (RTD 2,3 wires) and 6 voltage outputs (0 to 10 V).
A RS232 link allow a easy configuration of the device.

USER INTERFACE

Output connectors   RS232
                           Connector   Power supply
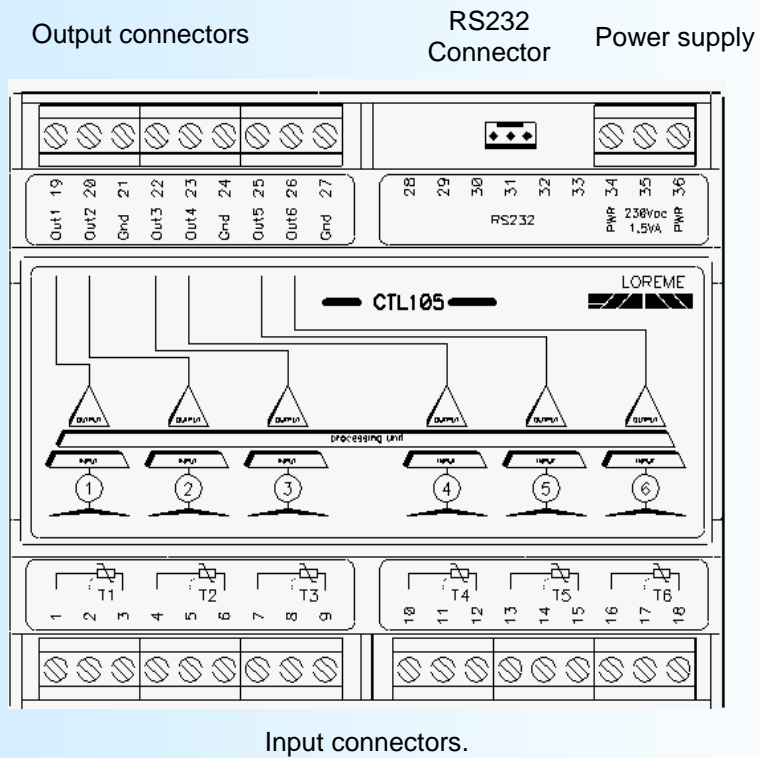
Input connectors.

RS232 link setting

LOREME

The device can visualize the measurements and be configured in terminal mode via an RS232 link.

Step 1: Driver installation for USB / RS232 adapter

- download driver at www.loreme.fr:
        http://www.loreme.fr/aff_produits.asp?rubid=53&langue=fr

- Click on executable file to install the driver,
- Plug the cable on a USB port, Windows install a new serial communication port **COMx** (x >= 4).

Note :
The use of the cable on another USB port don't generates a new communication port. Use of another adapter generates another communication port number (COMx) and requires the reconfiguration of the HyperTerminal.

Step 2: Setting of terminal emulation software (PC with Windows).

1 The terminal emulation software for PC « HyperTerminal » is resident in windows up to XP version. For later versions, it is downloadable on : **www.loreme.fr in download part** (http://www.loreme.fr/HyperTerm/htpe63.exe)

=> Run the downloaded software to install it.

2 Start a "hyper Terminal" connection :
- Click on **"START"** button
Up to XP version
- Go to **"Programs \ Accessories \ Communication \ Hyper Terminal"**
- Click on **"Hypertrm.exe"**
Or if the software was downloaded
- Go to **"All programs \ HyperTerminal Private Edition"**
- Click on **"HyperTerminal Private Edition"**

3 Enter name for the new connection

4 Choose the communication port related to the adapter.

5 Choose:
- 9600 bauds
- 8 DATA bits
- no parity
- 1 stop bit
- No handshake

6 The PC is now in terminal mode, connect it to the device by plugging the RS232 cable. The measure is now displayed on the terminal. To access configuration, press 'C' key.

7 When leaving Hyper terminal, the following window will appear. By saving, the terminal session will start with the same configuration.

Thus, the shortcut LOREME.ht will permit to communicate with all LOREME devices.

Note: to modify the parameters of terminal mode whereas this one is already started, it is necessary, after having carried out the modifications, to close the terminal and to open it again so that the modifications are effective.

Terminal mode

LOREME

Visualization

At the power on, the device is in measure mode. Two information's are send to the terminal:

     CHANNEL 1   Input channel (1 to 6). Press the <SPACE> key to display another channel.
     55.2 DEG   Measure value.

Configuration

The handbook explains in detail the different configurations possibilities:
Language, input scale, output scale, outputs security value, all channels offset.
To enter configuration mode, just press **"C"** key.

1) Method

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

1.1) Menu selection

example: INPUTS CONFIGURATION   The user makes a choice by pressing the keys **"Y"** or **"N"**.
          (Y-N)

1.2) Parameter selection

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

Previous choice = YES: - pressing **"Y"** or **"Enter"** => choice validation = YES.
                              - pressing **"N"** => choice changing = NO.

Previous choice = NO: - pressing **"N"** or **"Enter"** => choice validation = NO.
                              - pressing **"Y"** => choice changing = YES.

1.3) Value acquisition

Example: LOW SCALE
          4 mA

There are two possibilities:
- The validation without modification by typing "**Enter**",
- The modification with simultaneous display followed by validation with "**Enter**".

Remarks:
*- It is possible, when a mistake is made during a value acquisition, before validating it, to go back by pressing on
  backspace key. This re-displays the message without taking notice of the mistake.*
*- In configuration mode, if there is no action on a key during 2 minutes, device goes back in measure mode without
  taking notice of the modifications made before.*
*- In configuration mode, if you want go back to measure mode without taking notice of modifications made before,
  just press the escape key.*

Configuration

LOREME

2) Configuration details

2.1)	**LANGUAGE?** **(Y-N)**	Access to the language of the massages.
2.2)	**CHANNEL 1 CONFIGURATION?** **(Y-N)**	Access to the channel configuration.

2.2.1) INPUT
(Y-N) — Press « Y » to change the input scale.

LOW SCALE
0 DEG — Enter the value of the low scale.

HIGH SCALE
100 DEG — Enter the value of the High scale.

2.2.2) OUTPUT
(Y-N) — Press « Y » to change the output scale.

LOW SCALE
0 V — Enter the value of the low scale.

HIGH SCALE
10 V — Enter the value of the High scale.

LIMITATION
(Y-N) NO — The **limitation** clamp the output signal swing to the scale configuration. Only security value goes beyond this function.

…….. — Same for channel 2 to 6.

2.3)	**OUTPUT SECURITY VALUE** **11.0 V**	Enter the value of output in case of sensor breakdown detection.
2.4)	**OFFSET ALL CHANNELS** **0 DEG**	Enter the offset value for all input if needed.

3) CHANNEL OFFSET

Sometimes, it may be interesting to modify measure by a keyboard intervention. It can be used in many situations (Sensor's degradation, to calibrate the input with magnifying effect to obtain a better accuracy in the measure window)
The user can set an offset for each channel. For do this, display the channel to modify, (with the <space> key) and :
- Press « +» or « - » to access to the offset mode,
- The visualization in the terminal become:

CHANNEL 1
10.5 DEG — Channel measure with the offset,
OFFSET 10 — Offset value.

- Use the « **+** » and « **-** » to set the offset,
- Press to « Enter » to store the channel offset.

Note:

The value of measurement shift is memorized and remains active after a new configuration, or after the power on.
To annulated the shift effect, recall the shift function, put back offset at zero and validate by **"ENTER".**

EMC Consideration

LOREME

1) Introduction

To meet its policy concerning EMC, based on the Community directives **2014/30/EU** & **2014/35/EU**, the LOREME company takes into account the standards relative to this directives from the very start of the conception of each product.

The set of tests performed on the devices, designed to work in an industrial environment, are made in accordance with **IEC 61000-6-4** and **IEC 61000-6-2** standards in order to establish the EU declaration of conformity. The devices being in certain typical configurations during the tests, it is impossible to guarantee the results in every possible configurations. To ensure optimum operation 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 data sheet (direction of assembly, spacing between the devices, ...).
- Comply with the recommendations of use indicated in the technical data 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 centimeters 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 statical 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.

Wirings

LOREME

TERMINAL - DEVICE LINK

3 pin female
Plug to the
device

5

3

2

Female
SUBD9
Plug to the
PC

DIAGRAM OF CONNECTION

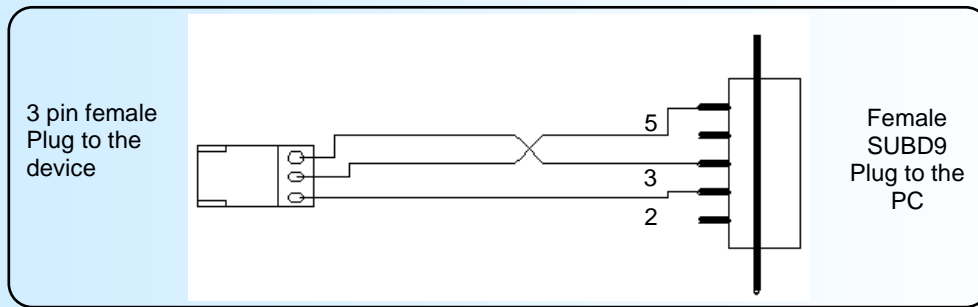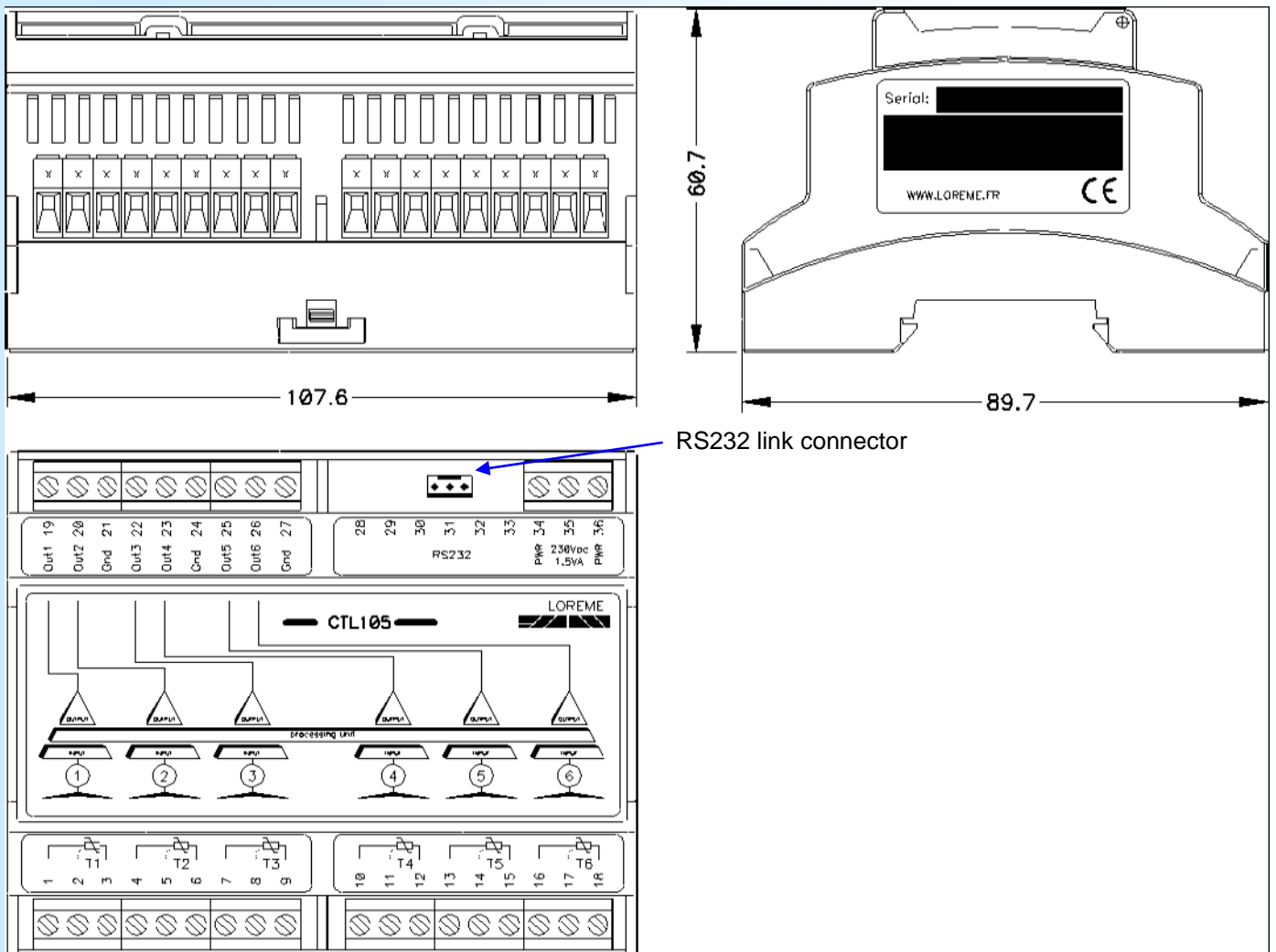RS232 link connector

Chanel 1 3 wires RTD input: Pin 1, 2, 3
Chanel 2 3 wires RTD input: Pin 4, 5, 6
Chanel 3 3 wires RTD input: Pin 7, 8, 9
Chanel 4 3 wires RTD input: Pin 10, 11, 12
Chanel 5 3 wires RTD input: Pin 13, 14, 15
Chanel 6 3 wires RTD input: Pin 16, 17, 18
Power supply 230 Vac: Pin 34, 36

Voltage output: Pin 19, 21
Voltage output: Pin 20, 21
Voltage output: Pin 22, 24
Voltage output: Pin 23, 24
Voltage output: Pin 25, 27
Voltage output: Pin 26, 27