

## CONFIGURATION HANDBOOK

### GNL35LA



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Download manual at : [www.loreme.fr](http://www.loreme.fr)

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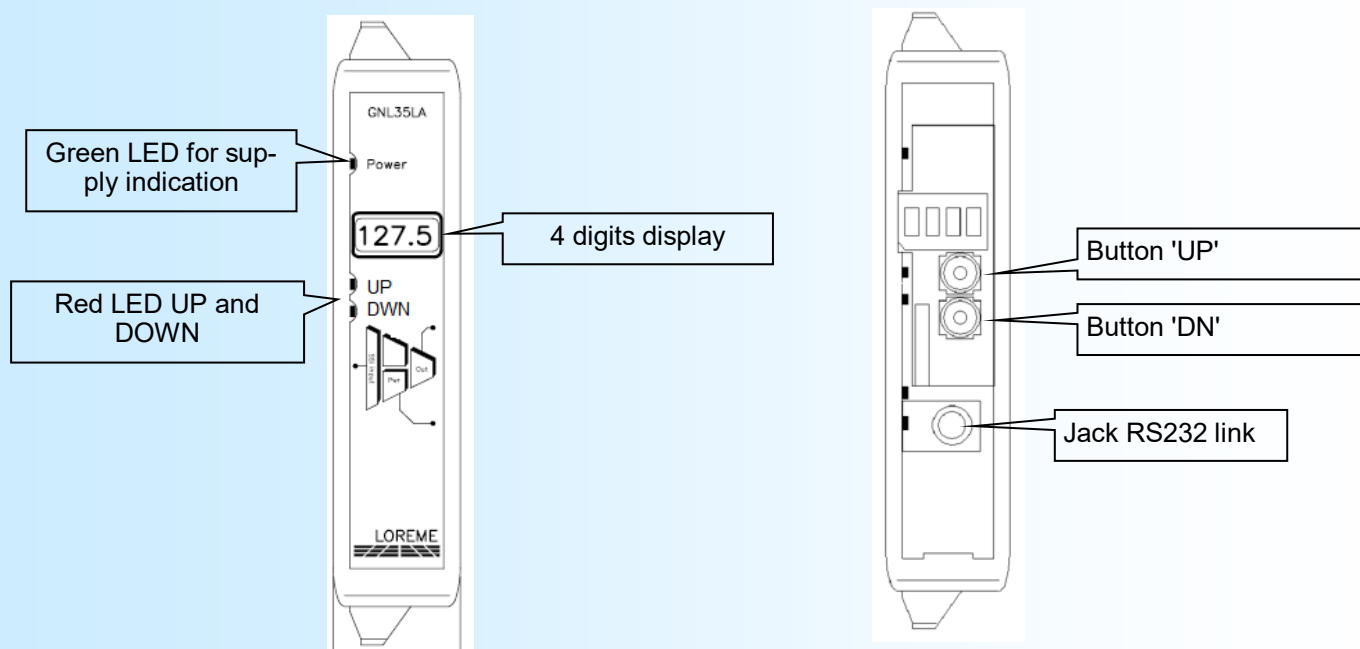
## Device overview

The GNL35LA is a programmable setpoint generator. Its analog output can generate a signal 0..4..20mA or 0..5..10V. The GNL35LA is fully configurable with front face buttons or via the RS232 terminal link. The configurable parameters are: language, output low and high scales, the setting speed evolution, the start value, the display range. Press the top button or bottom button to modify setpoint value at the configured speed and with limitation to configured high and low scales. The set value is automatically saved and is active after a power off. At each power on, the setpoint evolves from the start value to the saved value.

The datasheet can be downloaded at : [http://www.loreme.fr/fichtech/GAL48-GAL96-GAL144\\_eng.pdf](http://www.loreme.fr/fichtech/GAL48-GAL96-GAL144_eng.pdf)

### USER INTERFACE

Under the front face



The front face is composed of :

- 1 4 digits alphanumeric display. For setpoint value and configuration messages
- 2 red LED (lit on at each action on push buttons)
- 1 Ø 3,5 mm jack plug for the RS232 link,
- 2 push buttons:

|             |                                         |
|-------------|-----------------------------------------|
| button 'UP' | Increase setpoint or value, answer YES. |
| button 'DN' | Decrease setpoint or value, answer NO.  |
| 'UP' + 'DN' | Access to configuration.                |

## 1) Visualization

At the power on, the device display it's revision number (The message looks like 'r- x.y' where **x** is the Hard version number and **y** is soft version number.) and after the setpoint value is display.

This value change from the start value to the last saved setpoint value at the configured rise time.

### Note:

*If the start value and setpoint value are the same, there is no change after power on.*

The following messages can be display:

|            |                                                                              |
|------------|------------------------------------------------------------------------------|
| <b>LLo</b> | The setpoint setting is out of limit (output low scale).                     |
| <b>LHi</b> | The setpoint setting is out of limit (output high scale).                    |
| <b>Lo</b>  | Indicate that display value is lower than -999 (overflow display capacity).  |
| <b>Hi</b>  | Indicate that display value is higher than 9999 (overflow display capacity). |

## 2) Front face configuration

The device is fully configurable with front face push buttons. This mode can be locked by user (terminal mode, special function rubric).

To access configuration, press simultaneously the 2 buttons during 2 seconds. If configuration is locked, the message « **NON AUTORISE!** » is display. If not, A version number message is temporarily display « **Rev0.1** »

For each rubrics, a message is scrolling on alphanumeric display. The UP button validate the choice (YES) or allows to access to the parameter setting. The DN button validate the choice NO or skip to the next proposal.

When change a value, UP is for increase and DN is for decrease display value. During setting, the value and unit are displaying alternatively. All parameters are limited except the display range (**LOW** or **HIGH** appears on overflow). The device return to measure mode if no action are made within a 5 seconds delay.

At the end of configuration, the message "OK !" is display when all parameters are saved in memory.

### 2.1) Language configuration

|                                |                                                                  |
|--------------------------------|------------------------------------------------------------------|
| <b>LANGUAGE CONFIGURATION?</b> | Press button UP to modify parameter.<br>Press button DN to skip. |
| <b>FRENCH?</b>                 | Language choice.                                                 |
| <b>ENGLISH?</b>                |                                                                  |

### 2.2) Output setpoint configuration

|                       |                                                                          |
|-----------------------|--------------------------------------------------------------------------|
| <b>OUTPUT CONFIG?</b> | Access to setpoint output configuration.                                 |
| <b>CURRENT?</b>       | Choice of output type.                                                   |
| <b>VOLTAGE?</b>       | In voltage output, don't forget to wired the shunt (see wiring page 11). |
| <b>LOW SCALE?</b>     | Set the low scale (0 to 22 mA or 0 to 11 V).                             |
| <b>4 . 00</b>         | Setting of value with alternative display of unit.                       |
| <b>HIGH SCALE?</b>    | Set the high scale (0 to 22 mA or 0 to 11 V).                            |
| <b>20 . 00</b>        | Setting of value with alternative display of unit.                       |

**SETTING SPEED?**

1.00 Setting from 0,01 mA/s or V/s à 420 mA/s ou 210 V/s).

**START VALUE?**

4.00 Start value of setpoint after power on

Setting from 0 to 22 mA or 0 to 11 V).

**START SPEED?**

1.00 Speed of setpoint.  
Setting from 0,01 mA/s or V/s à 420 mA/s or 210 V/s).

**2.3) Display range**

The range converts the input signal to a physical quantity. This one facilitates the measures interpreting.

Ex: Output scale: 4 and 20 mA / Display range: 0 and 100.0

→ Setpoint = 12 mA => display = 50.0

**DISPLAY CONFIG?**

Access to setting of display (number of decimal, scales).

**NUMBER OF DECIMAL?**

1 Setting from 0 to 3.

**GAMME BASSE?**

0 Setting value without limitation and unit.

**GAMME HAUTE?**

100.0 Setting value without limitation and unit.

**Note:**

*By default, the display range are equal to output range.*

**2.4) End of configuration**

**OK !** End of configuration, parameters are saved in memory.

By default, the device configuration is:

|                     |         |
|---------------------|---------|
| Language:           | French  |
| Output type:        | current |
| Low scale:          | 4 mA    |
| high scale:         | 20 mA   |
| Setting speed:      | 1 mA/s  |
| Start value:        | 4 mA    |
| Start speed:        | 1 mA/s  |
| Number of decimal:  | 2       |
| Low display range:  | 4       |
| High display range: | 20      |

## RS232 link setting

The device can be configured or updated in terminal mode via an RS232 link.

### Step 1: Driver installation for USB / RS232 adapter



- download driver at [www.loreme.fr/download/](http://www.loreme.fr/download/) rubric accessories

- 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).

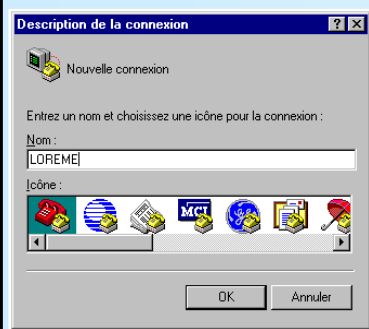
1 The terminal emulation software for PC « HyperTerminal » is resident in windows up to XP version. For later versions, it is downloadable on : **www.loreme.fr in download part** ( [www.loreme.fr/download/](http://www.loreme.fr/download/) )

=> Run the downloaded software to install it.

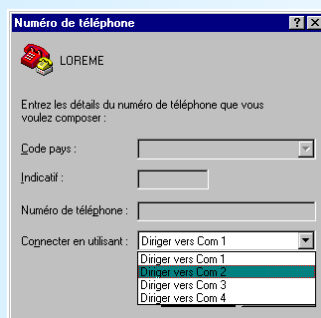
2 Start a "hyper Terminal" connection :

- Click on **"START"** button
- Go to **"All programs \ HyperTerminal Private Edition"**
- Click on **"HyperTerminal Private Edition"**

3 Enter name for the new connection

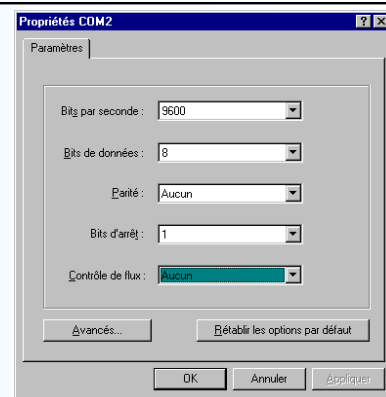


4 Choose the communication port related to the adapter.



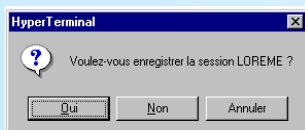
5

- Choose:
- 9600 bauds
  - 8 DATA bits
  - no parity
  - 1 stop bit
  - **XON/XOFF**



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 session whereas this one is connected, it is necessary to disconnect it, modify the parameters and then to reconnect it.

## Terminal mode

### 1) Visualization

At the power on, the **GNL36LA** is automatically in setpoint generator mode.

2 information are display on terminal:

|          |                                            |
|----------|--------------------------------------------|
| 10.00 mA | Setpoint value.                            |
| 10.00    | Setpoint value interpret by display range. |

### 2) Configuration

To enter configuration mode, just press "**C**" key.

#### 2.1) 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.

##### 2.1.1) Menu selection

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

##### 2.1.2) 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.

##### 2.1.3) 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**".

#### Remarque:

- *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.*

### 2.2) Language

The language available are :

- French
- English

### **2.3) Setpoint output**

The configuration of output setpoint is composed of :

- Output type:
  - current (mA) or voltage (V)
- Low and High scale (limitation of setpoint setting).
- Setting speed.
- Start value.
- Start speed.

### **2.4) Display range**

The range converts the input signal to a physical quantity. This one facilitates the measures interpreting.

Ex: Output scale: 4 and 20 mA / Display range: 0 and 100.0  
 → Setpoint = 12 mA => display = 50.0

To display parameters are:

- number of decimal
- Low range
- High range

**The number of decimal** is the number of digits displayed after the decimal point. The limit is 3.

### **2.5) Special function**

The function « **Front face config locking** » is use to deactivate the access of configuration with the front face buttons.

### **2.6) End of configuration**

Saving of parameters is indicate by the message« **OK** ».

## Firmware update

To access to the firmware update function, you must first open an HyperTerminal session on a PC, connect the device to the PC with the RS232 link cable and then power on the device.

The following character is send to the terminal:

> <————— The device sends this character then it waits the « F » key during 0.5 s.

If the « F » key has been pressed in the allowed time, the device enters the firmware loader and displays the following message:

### FIRMWARE LOADER Rev3 READY TO TRANSFER...

The device is in “file waiting” mode. This file is provided by LOREME and contains the firmware code in Intel HEX format. Selected the « Transfer », « Send a text file ... » in the HyperTerminal menu. Select the directory and open the file. The HyperTerminal program begins to send the file to the device.

### FIRMWARE LOADER Rev3 READY TO TRANSFER

\*\*\*\*\* <————— The star characters appears to show the progress of the uploading.

At the end of data loading, the message « **PROGRAMMING OK !** » is displayed if no error occurs. Otherwise, one of the following messages can be displayed:

- **SERIAL COM ERROR !**      Error during data transfer.
- **SERIAL TIMEOUT !**      Time elapsed.
- **PROGRAMMING FAILED !**      Programming error in the internal flash memory.

#### Notes:

*If an error occurs during the programming process, the device will be non-functional. It is then necessary to restart all of the procedure.*

## EMC Consideration

### **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.

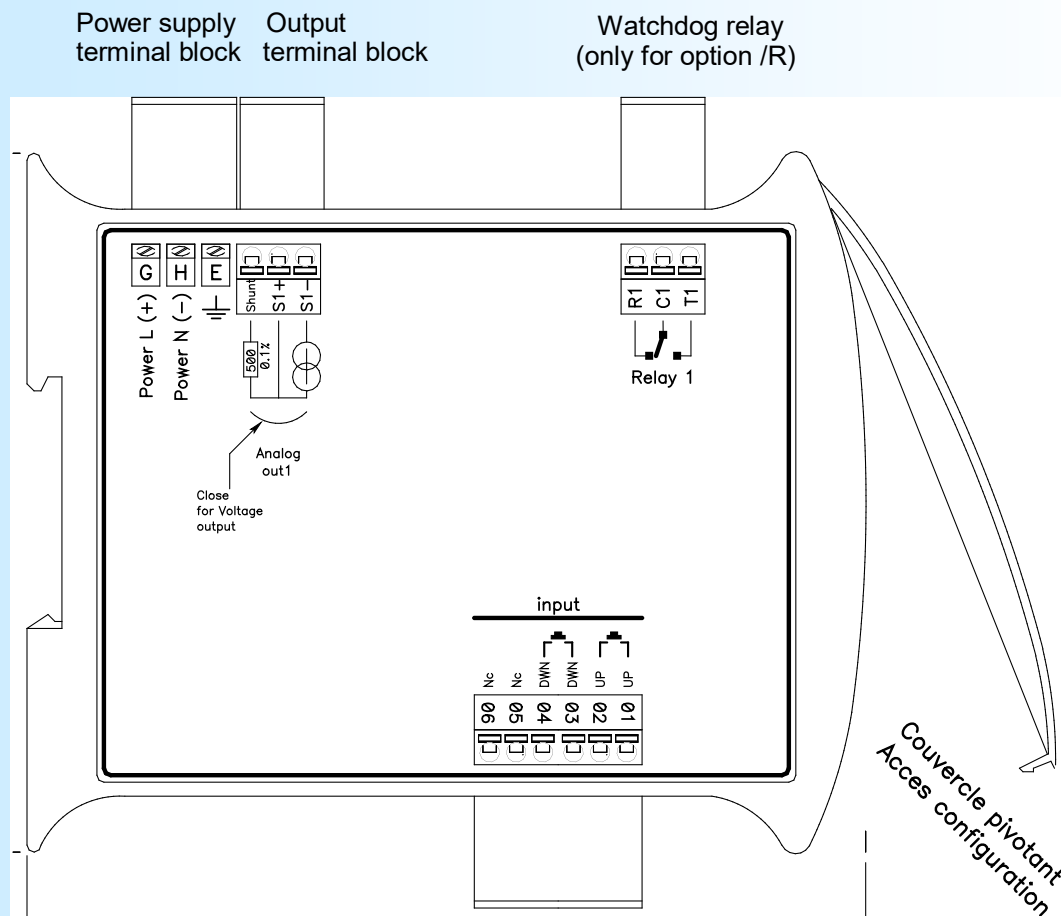
#### **2.2 ) Power supply**

- 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



Watchdog relay:  
(GNL35LA/R)

terminal C1 (common), R1 (NC), T1 (NO).  
The relay is activate when the device is power on.

Output mA:  
Output Volt:

terminal S1+ , terminal S1- , no strap.  
terminal S1+ , terminal S1- , wiring strap between Shunt and S1- terminal

Universal power supply:  
(20 to 265 Vac/dc or 10 to 30 Vdc)

terminals Power L(+), Power N(-).