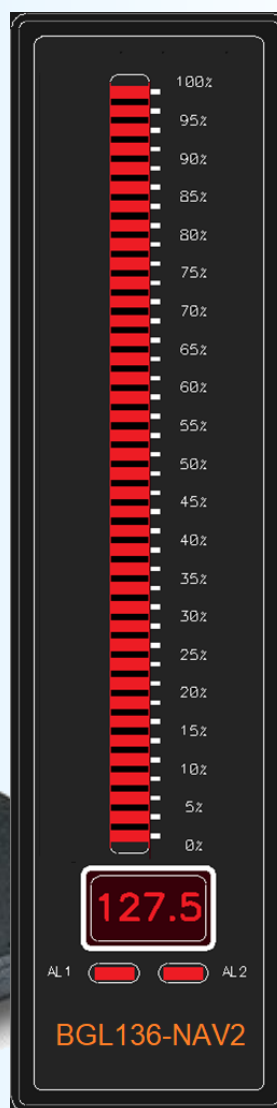


CONFIGURATION HANDBOOK

BGL136-NAV2



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Download manual at : www.loreme.fr

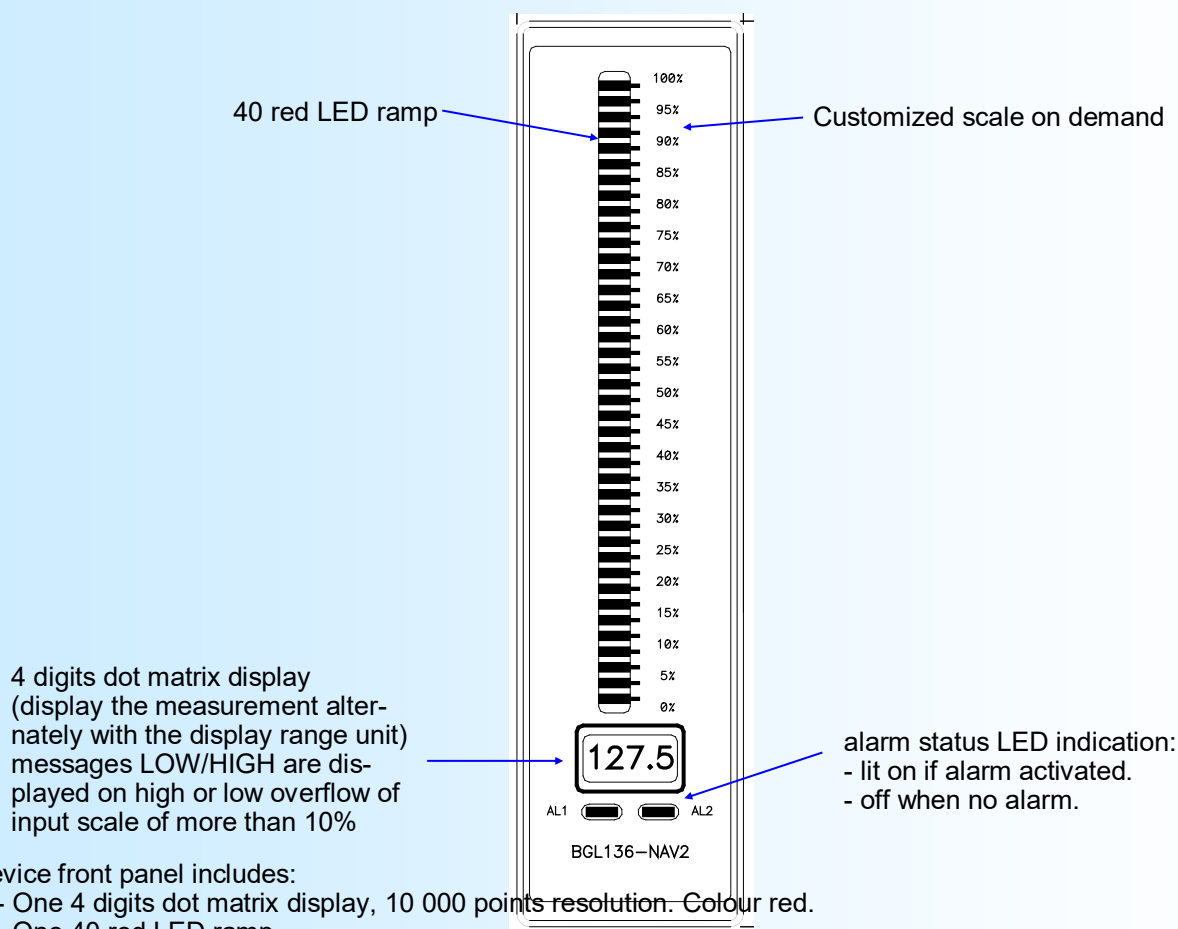
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Device Presentation

The BGL136 device is a single ramp numeric bar graph that allows with it's LED bar to quickly evaluated the measure order of input as well as it's variation. It's digital display provide a more accurate reading of value input. The BGL 136-NAV2 is compatible to the European ROHS directive to reduce the use of some dangerous materials. The RoHS certificate is provided by LOREME on request.

USER INTERFACE



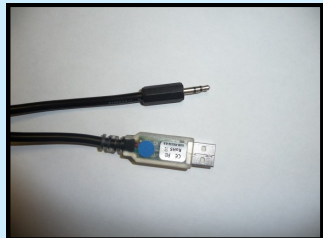
The device front panel includes:

- One 4 digits dot matrix display, 10 000 points resolution. Colour red.
- One 40 red LED ramp.
- Two red LEDs (AL1, AL2) for alarm status indication.

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/ 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.

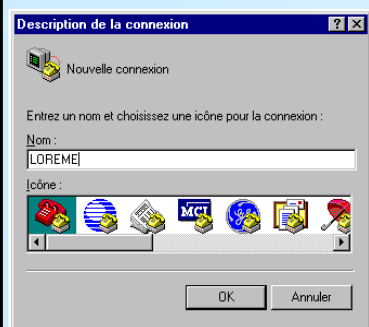
Step 2: Setting of terminal emulation software (PC with windows).

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/)

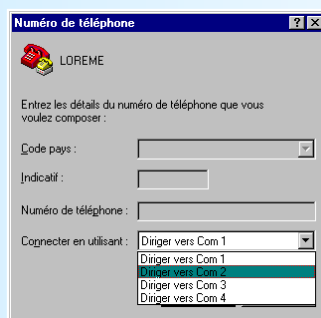
=> Run the downloaded software to install it.

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

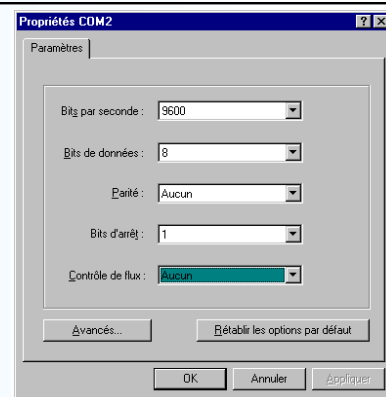


4 Choose the communication port related to the adapter.



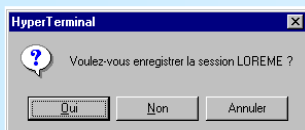
5

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

The BGL136-NAV2 can be connected to a PC in terminal mode via the stereo jack on the rear. This requires a USB/Jack or DB9/jack adapter cable, depending on connectors available on the PC, and have a ASCII emulation program like 'HyperTerminal ' or else on the PC.

Note:

For program and cable driver installation, see page "**RS232 link setting**".

Once the device is connected to the PC, it displays the following measurements page every 3 seconds.

11.22 V Measure of voltage Input within default display range.
or
330.3 m3 Measure with user display range.

2) Setting of display brightness

To access setting, press the « **L** » on keyboard. The following message displayed:

RAMP BRIGHTNESS +/- (1 to 12) Ramp brightness setting.
12 Modify value with « - » or « + » on keyboard.
For each key press, terminal send a sound.
Press on « **enter** » key to validate the new parameter.

DISPLAY BRIGHTNESS +/- (1 to 12) Display brightness. Change the brightness of the 4 digits display.
12

2) Configuration

To enter the configuration mode, press the "**C**" key. The message '**CONF**' is displayed in front. And on the Terminal screen:

CONFIGURATION
Rev0.0 This message indicates the revision of the device in the form **Hard.Soft**.

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 CONFIGURATION
 (Y-N)

The user makes a choice by pressing the keys "**Y**" or "**N**".
This choice permits to access or skip the different configuration rubrics.

2.1.2) Parameter selection

example: CURRENT or CURRENT
 (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**".

Notes:

- *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.*

3.2) Configuration of message language

LANGUAGE

(Y-N)

FRENCH
(Y-N)NO

ENGLISH
(Y-N)YES

3.3) Input configuration

The inputs available are:

- Current (mAdc).
- Voltage (Vdc).

With for each input type, the entry of scales (0..10..20 mA, 0..10...20 V).

INPUT CONFIGURATION

(Y-N)

CURRENT
(Y-N)NO

VOLTAGE(V)
(Y-N)YES

LOW SCALE
4.00 V Enter the low scale measurement.

HIGH SCALE
20.00 V Enter the high scale measurement.

3.4) Display range

The display range converts the input signal into a physical quantity, which makes it easier to read the measure information.

Ex: Input 4-20 mA / Display 0-1000 kg
→ Input = 12 mA, Display = 500 kg

To setting the display range, set the following parameters:

- unit.
- Decimal Number.
- Display low scale.
- Display high scale.

The **unit** is limited to 4 characters. the characters are type on keyboard and display on screen. the Enter key is use to validate the unit.

The **decimal number** is the number of digits that the user want to display after the decimal point. It is limited to 3.

DISPLAY RANGE

(Y-N)

UNIT
m3

NUMBER OF DECIMAL
1

LOW SCALE
0 m3

HIGH SCALE
500.0 m3

3.5) Relays configuration

The device have 2 alarm relays. Each of them is individually configurable. The relays parameters are :

- Type of detection:
 - break detection
 - threshold detection

This 2 types may are cumulative.

The **break detection** occurs when the measure is 10% lower than the low scale (LOW message) or 10% higher than the high scale (HIGH message).

The **threshold detection** activate the alarm on threshold overflow. It is necessary to choose the sense of alarm, the threshold value and the hysteresis.

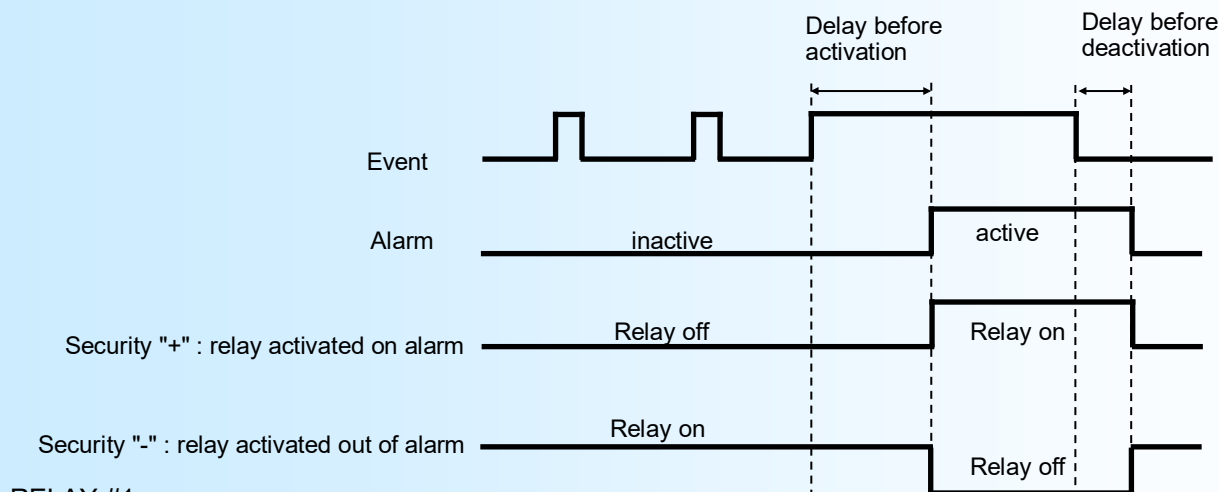
The **threshold detection** works like this:

- **High threshold detection:**
 - .the alarm is activated when the measure goes above the threshold,
 - .the alarm is release when the measure down under to threshold minus hysteresis.
- **Low threshold detection:**
 - .the alarm is activated when the measure goes under the threshold,
 - .the alarm is release when the measure goes above threshold plus hysteresis.
- Relay parameters:
 - Setting, security, delay.

The "setting" parameter is not used. Always answer NO.

The "security" is configurable for each relays. This parameters allows to user to choose the relays state when the alarm is activated.

The "Delay" is configurable from 0 to 7200seconds. This parameter fixe the time after which the alarm changes state after the event appears and disappears. The device has for each relay a delay for the activation and for the deactivation of alarm.



RELAY #1
(Y-N)

BREAK DETECTION (Y-N)YES Activation/deactivation of relay on breaking sensor detection.

THRESHOLD DETECTION (Y-N)YES Activation/deactivation of relay on threshold detection.

LOW / HIGH THRESHOLD THRESHOLD Sense of detection.
10.0 m3 Threshold setting.

HYSTERESIS Hysteresis setting.
0.5 m3

FRONT FACE THRESHOLD ADJUST (Y-N)NO Not used. Answer NO.

ou **RELAY CLOSED IN ALARM** Type of security for relay.

RELAY CLOSED OUT OFF ALARM

ACTIVATION DELAY Alarm activation delay (0 à 7200 s).
0 s

DEACTIVATION DELAY Alarm deactivation delay (0 à 7200 s).
0 s

RELAY #2
(Y-N)

same configuration as relay #1

.....

3.6) Special functions

The device has some functions called "special" allowing user to adapt the operation of the device.

Measure filtering: Application of filter to smooth a fluctuating measurement.

Square root: Calculate the square root on the percentage of the measurement relative to the input physical scale.

Special linearization: Allows the user to specific response curve. Configuration of a list of point for the input value and it's associated output values.

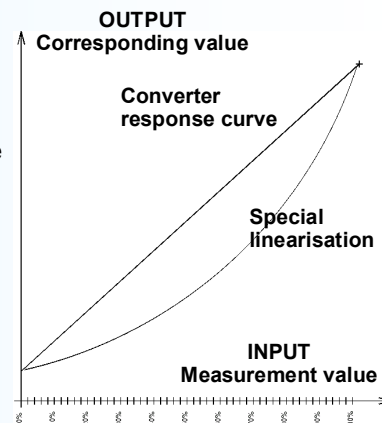
When you choose this function, she's automatically validated. But the configuration of linearization points are unchanged For modify the value of the linearization points, answer "YES" at the message CONFIGUARTION.

When **special linearization** is enabled, the device uses linearization curve corresponding to configured points.

To personalize a response curve, it's necessary to set for each curve point the input value, the corresponding display range value and, if activated, the corresponding ramp display point. A maximum of 26 points including input points 0 % and 100 %. So, for each measured point, the device will make correspondence to the linearized display range value and the linearized ramp value. If the ramp is not linearized it will then be the percent of the display range linearized value relative to the display range scale (point100% - point0%).

Display mode:

- Ramp / Bar mode : The LED's are lit from the first one to the actual position.
- Dot mode: Only the LED indicating the actual position is lit.



SPECIAL FUNCTIONS? (Y-N)

Press 'Y' to access the special function configuration.

MEASURE DAMPING

0 s

Enter of the measurement filter response time (0 to 60 s).

SQUARE ROOT

(Y-N)NO

Activation / deactivation of the square root calculation.

If the square root is active, then the special linearization function is deactivated and inaccessible.

SPECIAL LINEARISATION

(Y-N)YES

Activation / deactivation of the square root calculation.

If the square root is active, then the special linearization function is deactivated and

RAMP LINEARISATION

(Y-N)YES

Activation / deactivation of the square root calculation.

If the square root is active, then the special linearization function is deactivated and

CONFIGURATION

(Y-N)YES

Configuration of special linearization points

NUMBER OF POINT

3

Number of linearized point (3 to 26)

INPUT POINT 01

4.00mA

Value of input point

DISPLAY POINT 01

0.50m3

Value display for this input point

RAMP POINT(%)

20%

Display only if the ramp linearization is activated

Value of ramp for this input point

... ..

DISPLAY MODE

(Y-N)YES

Configuration of display mode for the LED ramp

RAMP

(Y-N)NO

Display all LED between 0 and measure value

POINT

(Y-N)YES

Display only one LED corresponding to measure value

FRONT FACE CONFIG. LOCK

(Y-N)NO

Not used.

3.7) End of configuration

OK!

End of configuration. All parameters was saved in memory.

Measure offset

Sometimes, it may be interesting to modify the measure by a simple terminal keyboard action. It can be used in many situations as sensor aging, an input refinement as a result of magnifying effect, etc...

To offset the measure, it is necessary:

- To be in measure mode,
- type on "+" or "-" to access the function,
- on terminal the display become:

OFFSET 0.5	offset function, offset value in Analog to digital conversion points.
15.1 m3	Measure with offset.

- Use keys "+" and "-" to adjust offset, measure is directly modified.
- Type on **"ENTER"** to memorize the offset value.

Notes:

- *When the device is not supplied or is in configuration mode, offset stay active. To reset the offset, it is necessary to start the **"OFFSET"** function, set the offset value to zero with the "+" and "-" keys, then validate it by **"ENTER"**.*
- *In offset control mode, when there is no action on "+", "-" or **"ENTER"** keys during 2 minutes, the device leaves the mode without taking account of the adjusted offset value.*

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 user has pressed the « F » key in the allowed time, the following message is displayed in the HyperTerminal window:

FIRMWARE LOADER Rev3 READY TO TRANSFER...

The device is now in the firmware load mode and is waiting for the firmware file. This file is provide by LOREME and contain the firmware code in Intel HEX format.

Select 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, the message « **PROGRAMMING OK !** » is display if no errors occurs. Otherwise, these following message could be displayed:

- | | |
|-------------------------------|---|
| - SERIAL COM ERROR ! | Error during receipt. |
| - SERIAL TIMEOUT ! | Waiting time of receipt elapsed (60 s). |
| - PROGRAMMING FAILED ! | Programming error in the internal flash memory. |

Attention

*If an error occurs during the programming process, it is necessary to start again the whole procedure.
A bad programming leads to an inoperative device.*

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

