

# PANEL METER SETPOINT GENERATORS

## 4..20mA or 0..10V analog output

**LOREME**



- **Setpoint generator voltage or current output** 0..10V , 4..20mA , 0..20mA , ....
- **Several setting mode** potentiometer, push button, switches, logical input
- **Wide range of enclosure size** 72x36mm , 96x48mm , 96x 96mm , 144 x 72 mm



**GNL35LA**



**GAL36BP**



**GAL48**



**GAL48BP**



**GAL96A**



**GAL96A/1**



**GAL96L**



**GAL144**



**GAL96/C4**



**GAL96/COM**



**GAL96BP**

This setpoint generators provide an analog output signal (0... 4... 20mA or 0... 1... 5... 10V), enable to manually drive a machine or an installation. Some version allows to switch between an external setpoint (provide by a PLC, control unit, ...) and internal setpoint.

Depend to model, the local setpoint can be setting by potentiometer (single or multi turn) or by push buttons. The GAL48BP can generate a setpoint and simultaneously display an analog measure input ( for example the return measure of setpoint).

### Common characteristics

#### analog OUTPUT

VOLTAGE	0 / 10 V
CURRENT	0 / 20 mA or 4 / 20 mA
Max load	800 Ohms
other output on request	

#### external setpoint

VOLTAGE	0 / 10 V
CURRENT	0 / 20 mA or 4 / 20 mA
other setpoint type on request	

#### POWER SUPPLY (to define at order)

230 Vac 50-60 Hz +/- 10 % ; 115 Vac 50-60 Hz +/- 10 %  
 20 to 70 Vac / Vdc ; 80 to 265 Vac / Vdc ; 9 to 30 Vdc  
 Consumption 3 VA ,reverse polarity protected  
**GAL96L:** Powered by the 4/20mA current loop (15..40Vdc)

### Environment

Operating temperature	-20 to 60 °C
Storage temperature	-25 to +85 °C
thermal drift (% of full scale)	<0.010 % / °C
Humidity	85 % (non condensing)
Protection rating	IP20, IP54 in option (or IP65 protective cover)

### Features

DIN panel enclosure with lateral fastening clamp  
 Connection with screw terminal blocks ( up to 2.5 mm<sup>2</sup>)  
 Custom engineering unit marking on front face on request

### Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE

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





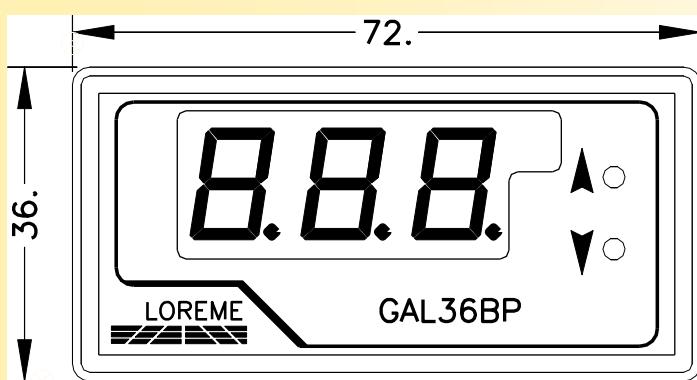
### • GAL36BP

- 3 digits LED display (1000 points)
- Adjustment of setpoint by pushbuttons
- Setpoint display
- enclosure dimension 72 x 36mm, 70mm depth
- output signal: 4....20mA , 0....20mA or 0...10V



The GAL36BP is a small size setpoint generator with pushbuttons for setpoint setting. It is fully configurable via the front face buttons. Available for a wide range of auxiliary power supply. A engineering unit marking on the front face is possible by simple request.

#### WIRING AND OUTLINE DIMENSIONS:



#### Description:

##### Front face :

- 14.2mm height, 3 digits, 7 segments LED display (1100 pts)
- 2 pushbuttons for setpoint adjustment and device configuration (current output, display range, setpoint parameters)

##### Functions :

- Configurable display range in physical unit
- Configurable starting value (output value at power on)
- Configurable rising time (it is the time delay an user need to vary the output signal over the full range.)  
This value is in second unit (0 to 600s). The setpoint adjustment step is directly related to this rise time.

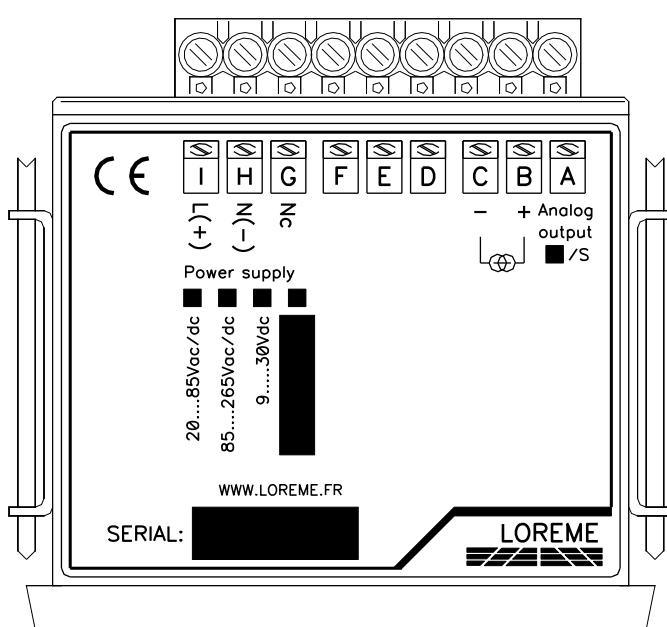
##### - Output limitation:

By default the output is limited. The user can vary the setpoint from 0% to 100% of range. Without this limitation, the setpoint can vary from -10% to 110% of range.

##### - Setpoint reset:

The user can press the buttons **▲ + ▼** during 2 seconds to set the setpoint at his starting value.

The "rSt" message is then displayed. By pressing the **▲** (Yes) button, the setpoint is equal to the start value. By pressing the **▼** (No) button, the user access to configuration).



panel cutout size : 68.5 x 32.5 mm

Version and order code:

[Request a quote](#)

GAL36BP power supply and output signal must be defined at order



- **GAL48**

- *Blind version*
- *Full analog device, not configurable*
- *Setpoint adjustment : with single turn potentiometer or multi-turn and lockable knob with counting dial*

- **GAL48/1**

- *With setpoint switch between internal / external (local / remote)*



**GAL48 single turn potentiometer**



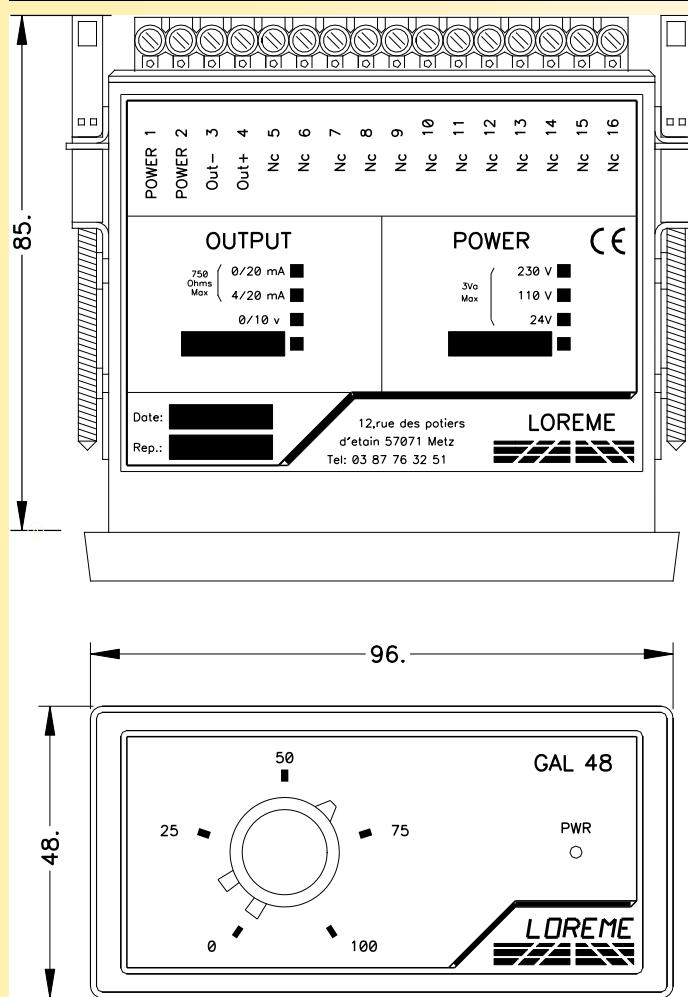
**GAL48 multi-turn potentiometer**



**GAL48/1 setpoint switch**

The **GAL48** is an analog setpoint generator preconfigured in factory, who generate a voltage or current output signal. All output range are possible. Available for a wide range of auxiliary power supply. A engineering unit marking on the front face is possible by simple request.

**WIRING AND OUTLINE DIMENSIONS:**



**Description:**

**Front face:**

- setpoint setting via single turn potentiometer
- option: multi-turn potentiometer with lockable knob and counter dial.
- option: internal / external setpoint switch in front face + output contact for selected setpoint mode indication.

**Feature:**

DIN panel enclosure 96x48mm, 85mm depth  
panel cutout size : 92 x 42 mm  
Lateral fastening clamp  
Connection with screw terminal blocks ( 2.5 mm<sup>2</sup> maxi)  
engineering unit marking on front face possible on request  
Protection rating IP20  
IP54 in option ( sealed potentiometer )  
IP65 in option ( with protective cover )

It is also possible to generate bipolar output signal  
+/-10V , +/- 20mA

**Version and order code:**

**Request a quote**

**GAL48** power supply and output signal must be defined at order  
potentiometer single or multi-turn must be defined

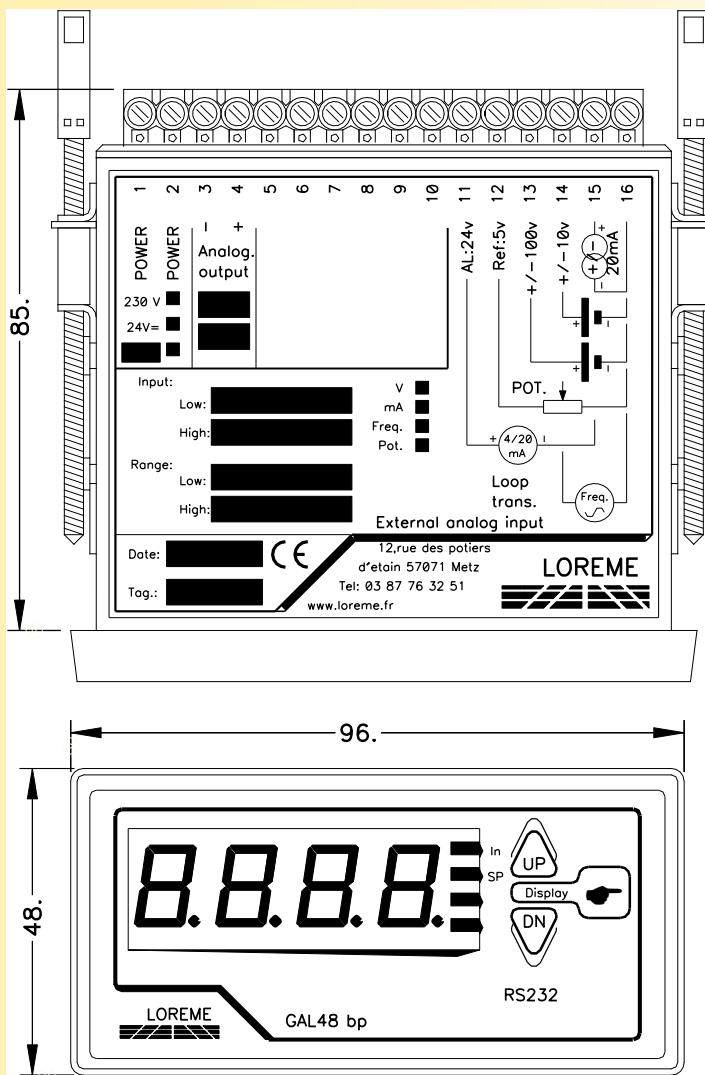
**GAL48/1** with switch for setpoint selection ( local or remote ).

- **GAL48BP** with 4 digits LED display
  - Setpoint setting by pushbuttons in front face
  - display setpoint or external measure input
- **GAL48BP** with 4 digits LED display
  - Setpoint setting by pushbuttons in front face
  - Setpoint selection (internal / external) in front face
  - Output relay for setpoint selected indication



The GAL48BP is a setpoint generator with digital setting. It also allows the display of an external analog input to control the setpoint feedback for example. The display value (setpoint or measure) can be selected with the pushbutton.

#### WIRING AND OUTLINE DIMENSIONS:



panel cutout size : 92 x 42 mm

#### Description:

##### Front face :

- 14.2mm height, 4 digits, 7 segments LED display (10000 pts)
- 2 pushbuttons for setpoint setting.
- 1 pushbutton to select the display value.

##### Generator function:

- Configurable display range in engineer unit
- Configurable starting value (output value at power on)
- Configurable rising time (it is the time delay an user need to vary the output signal over the full range)

This value is in second unit (0 to 600s). The setpoint adjustment step is directly related to this rise time.

##### Setpoint reset:

The user can press the buttons  $\Delta$  +  $\nabla$  during 2 seconds to set the setpoint at his starting value.

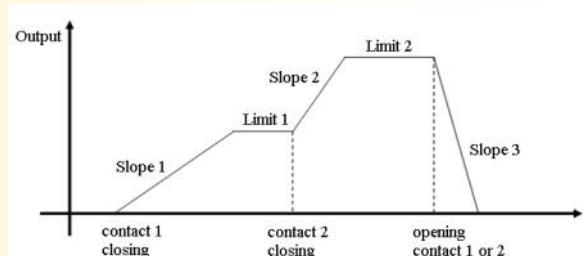
##### Measure functions:

- current 0..4..20mA ; +/- 20 mA
- voltage 0...10V , +/- 10 V , +/- 100 V
- frequency up to 35kHz
- potentiometer

Special function: custom linearization, square root, polynomial correction function  $Dx^3 + Cx^2 + Bx + A$  , Offset

##### Special model GAL48BP-GR :

2 digital inputs to generate automatically a ramp until a limit value and a falling slop.



#### Version and order code:

<b>GAL48BP</b>	Setpoint generator + analog measure input
<b>GAL48BP1</b>	Setpoint generator + setpoint selection (internal/external)
<b>GAL48BP-GR</b>	Special model, ramp generator.

- **GAL96** - blind version
- **GAL96A** - model with 4 digits LED display, in option: 1 analog outputs
- **GAL96A/S2** - model with 4 digits LED display, in option: 2 analog outputs
- **GAL96A/1** - model with 4 digits display and internal / external setpoint selection in front face + output contact for selected setpoint indication.



**GAL96**  
multi-turn potentiometer



**GAL96A**  
single turn potentiometer



**GAL96A**  
multi-turn potentiometer



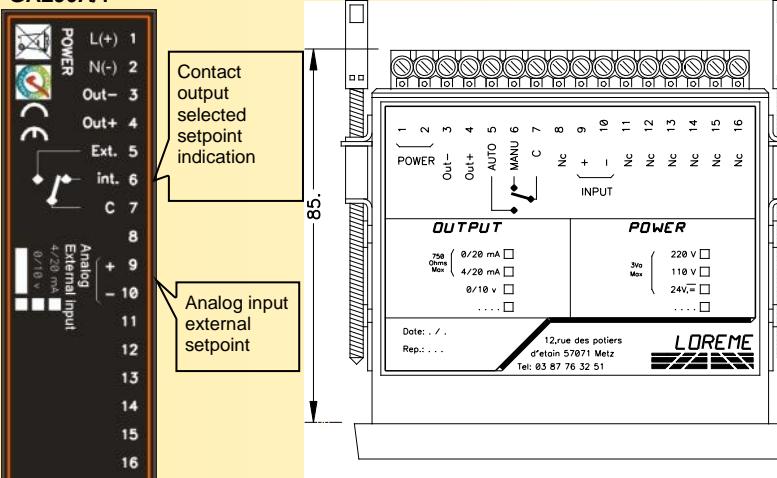
**GAL96A/1**  
single turn potentiometer  
setpoint switching

The GAL96 is a setpoint generator configurable with the serial link : Display parameters, output signal (voltage or current). Available in a wide range of auxiliary power supply.

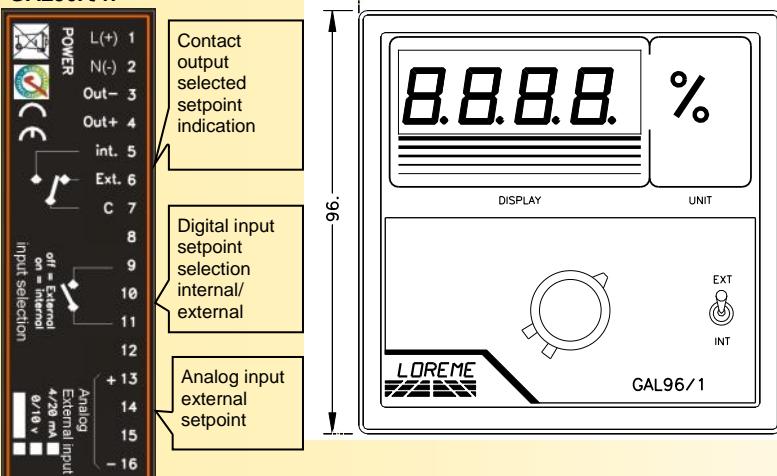
A engineering unit marking on the front face is possible by simple request.

### WIRING AND OUTLINE DIMENSIONS:

**GAL96A/1**



**GAL96A/1i**



### Front face description:

- 14.2mm height, 4 digits, 7 segments LED display
- setpoint setting via single turn potentiometer
- option: multi-turn potentiometer with lockable knob with counter dial.
- option: internal / external setpoint switch in front face + output contact for selected setpoint indication.

### Features:

DIN panel enclosure 96x96mm, 85mm depth  
panel cutout size : 92 x 89 mm  
Lateral fastening clamp  
Connection with screw terminal blocks ( 2.5 mm<sup>2</sup> maxi)  
engineering unit marking on front face possible on request  
Protection rating IP20, IP54 in option  
( sealed potentiometer )

Programmable via serial link : output signal ( 0...4...20mA or 0..10V ), display range.  
programming serial cable is available separately

Option : 2 outputs version : analog output, individually programmable.

### Version and order code:

<b>GAL96</b>	blind version
<b>GAL96A</b>	4 digits display
<b>GAL96A/1</b>	with switch for setpoint selection local / analog remote signal (4-20mA ; 0-10V).
<b>GAL96A/1i</b>	with logical input for setpoint selection local / remote analog signal (4-20mA ; 0-10V).
<b>GAL96A/S2</b>	version with 2 analog outputs, 4 digits display, power supply and analog output be defined.
<b>All versions</b>	potentiometer type (single turn or multi turn), power supply and analog output must be defined



**• GAL96/C2 GAL96/C3 GAL96/C4**

model with 2 to 4 independent setpoints. Setting separately with potentiometers on front face and selected by dry contact inputs on rear terminal block

**• GAL96/COM 2..12**

model with 2 up to 12 position rotary switch for the selection of a predefined setpoint value and a switch for a free setting of setpoint value with potentiometer. ( option: output on front face )



**GAL96/C4**

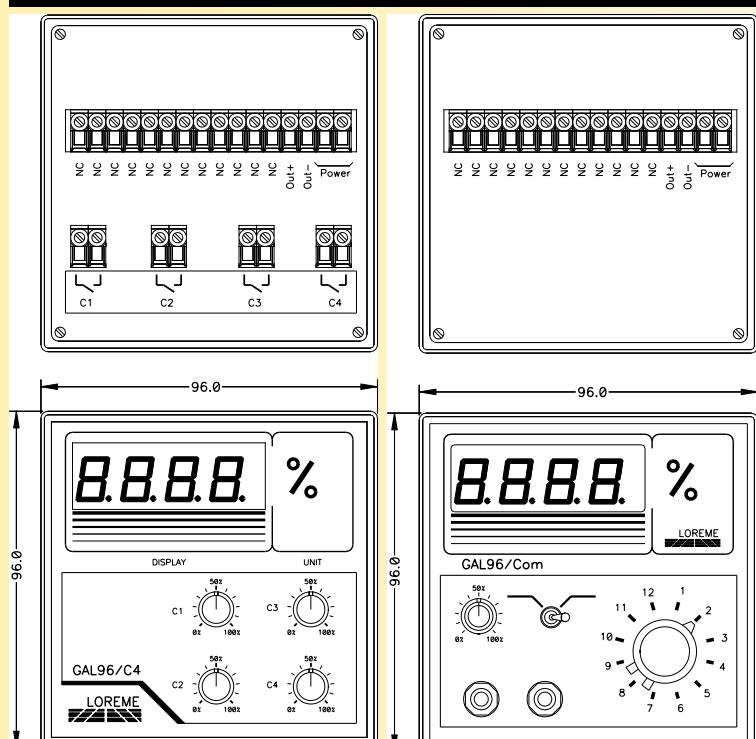


**GAL96/COM12**

The GAL96/C series are setpoint generators specially designed for test bench or for remotely driven automatic systems. Available in a wide range of auxiliary power supply.

A engineering unit marking on the front face is possible by simple request.

**WIRING AND OUTLINE DIMENSIONS:**



panel cutout size : 92 x 89 mm

**Description:**

**GAL96/C2 to /C4**

**Front face :**

- 14.2mm height, 4 digits, 7 segments LED display, 10000 pts
- 2 to 4 single turn potentiometers for setpoint adjustment
- option : multi-turn trimmers. Adjustable with screwdriver

**GAL96/COM2 à /COM12**

**Face avant :**

- 14.2mm height, 4 digits, 7 segments LED display, 10000 pts
- rotary switch (12 position max) for predefined setpoint values (setpoint values are setting in factory)
- switch for selection of predefined setpoint or free setting. The manual setting is made with the front face potentiometer.
- option: 4mm banana plugs in front face for the output signal

**Feature:**

DIN panel enclosure 96x96mm, 85mm depth  
panel cutout size : 92 x 89 mm

Lateral fastening clamp

Connection with screw terminal blocks ( 2.5 mm<sup>2</sup> maxi)  
engineering unit marking on front face possible on request  
Protection rating IP20, in option IP54 (sealed potentiometer)

**Version and order code:**

**GAL96/Cx**      x from 2 to 4 = number of selectable setpoints  
power supply and output signal to define

**GAL96/Comx**      x from 2 to 12 = number of predefined setpoints  
(number of rotary switch position)  
power supply and output signal to define



**• GAL96BP**

- 4 digits LED display (10 000 points)
- setpoint adjustment with pushbuttons on front face
- programmable via serial link  
output signal, rise time, security value,  
external setpoint input, display range,...
- automatic loading of the external setpoint value when switching to internal setpoint (manual) setting

**• GAL96bp/o front face pushbuttons**

- + output contact for selected setpoint mode indication

**• GAL96bp/i digital inputs for setpoint setting (dry contact)**

- + digital input for setpoint mode selection (internal / external)

**• GAL96bp/io digital inputs for setpoint setting**

- + output contact for selected setpoint mode indication

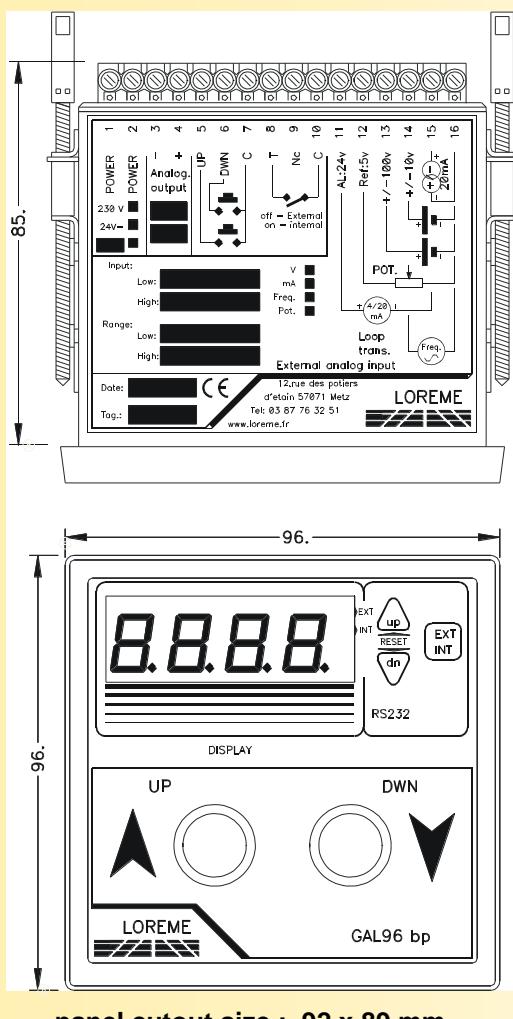
**• GAL96BP-RAZ with external input for reset the setpoint value**

(no external setpoint input for this model)



Le GAL96BP est un générateur de point de réglage avec boutons d'ajustement ou via les entrées numériques. Il permet le basculement entre une entrée de point de réglage externe et un point de réglage local avec un bouton de face avant. Le point de réglage local charge la valeur de point de réglage externe lorsque l'on passe au réglage interne (éviter la glitch dans le signal de sortie).

**WIRING AND OUTLINE DIMENSIONS:**



**Description:**

**Front face :**

- 14.2mm height, 4 digits, 7 segments LED display, 10000 pts
- 2 pushbuttons for setpoint adjustment.
- 1 pushbutton for setpoint switching (internal / external)

**Generator function :**

- Configurable display range in engineer unit
- Configurable starting value (output value at power on)
- Configurable rising time (it is the time delay an user need to vary the output signal over the full range). This value is in second unit (0 to 600s). The setpoint adjustment step is directly related to this rise time.
- Output limitation : limit the evolve of output signal to the configured range.
- Setpoint reset :

The user can press the buttons **▲** + **▼** during 2 seconds to set the setpoint at his starting value.

**Measure function (external setpoint) :**

- current 0..4..20mA ; +/- 20 mA
- voltage 0...10V , +/- 10 V , +/- 100 V
- potentiometer
- complementary functions : Offset and measure filtering

**Version and order code :**

<b>GAL96BP</b>	Front face setting. Power supply and output signal to define
<b>GAL96BP/o</b>	with output contact for selected setpoint mode indication
<b>GAL96BP/i</b>	Digital inputs for external setpoint setting (dry contact)
<b>GAL96BP/io</b>	Digital inputs for external setpoint setting (dry contact) + output contact for selected setpoint mode indication
<b>GAL96BP/raz</b>	reset of setpoint value via front face buttons or via digital input

# SETPOINT GENERATOR standard dimension 96 x 96

Current (4-20mA) or voltage (0-10V) source

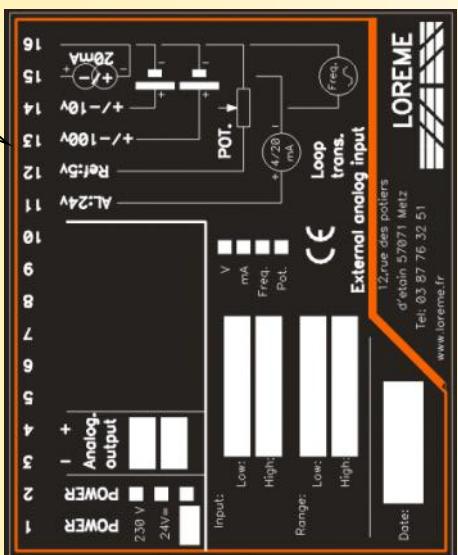
**LOREME**

GAL96BP

## WIRING : view of different models

**GAL96BP**

Analog input.  
External  
setpoint

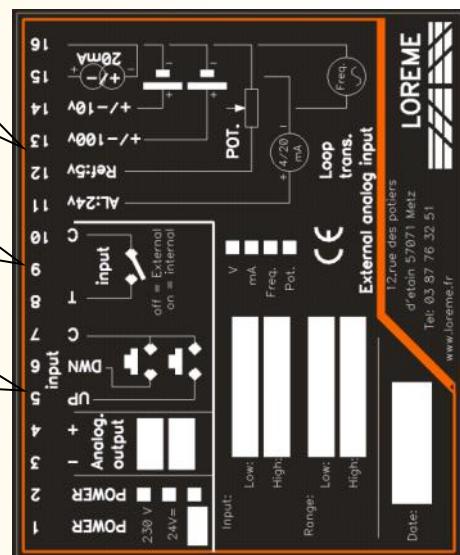


**GAL96BP-i**

Analog input.  
External  
setpoint

Contact input.  
setpoint internal / external  
select

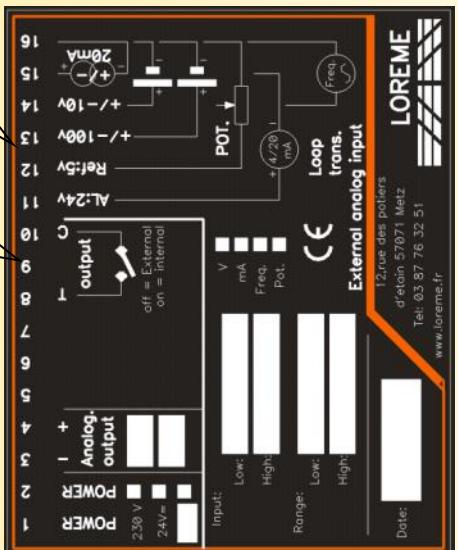
Contact input.  
increase or  
decrease  
setpoint



**GAL96BP-o**

Analog input.  
External  
setpoint

Contact output.  
Selected set-  
point (internal /  
external)

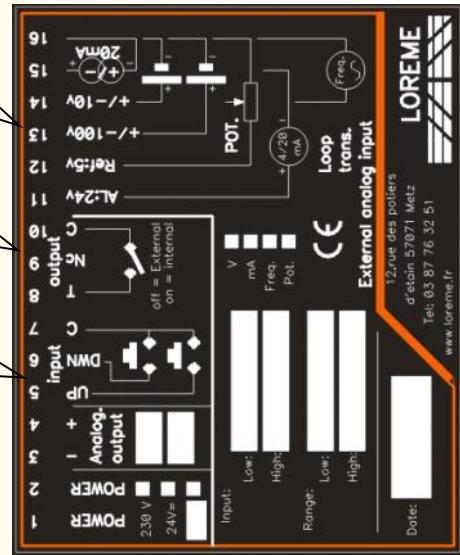


**GAL96BP-io**

Analog input.  
External  
setpoint

Contact output.  
Selected set-  
point (internal /  
external)

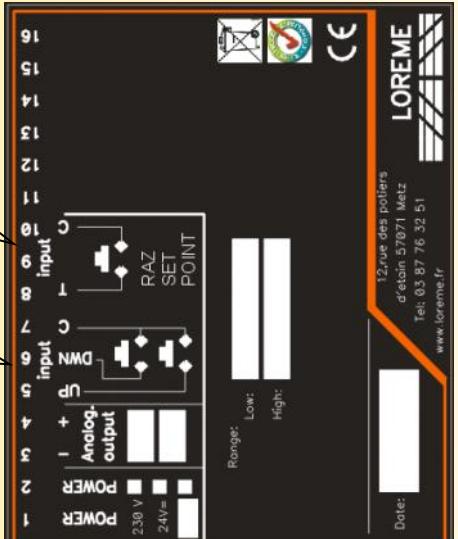
Contact input.  
increase or  
decrease  
setpoint



**GAL96BP-RAZ**

Contact input.  
RESET  
setpoint

Contact input.  
increase or  
decrease  
setpoint

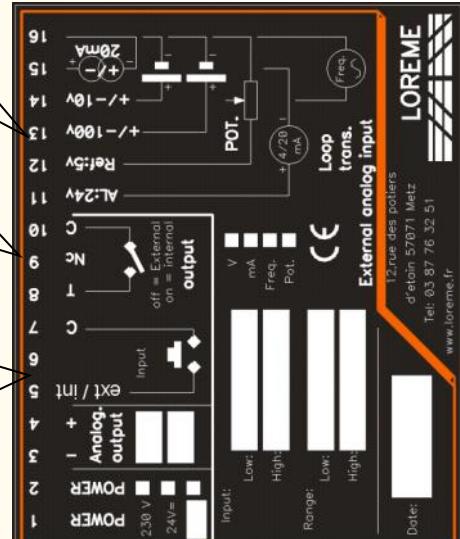


**GAL96BP-io1**

Analog input.  
External  
setpoint

Contact output.  
Selected set-  
point (internal /  
external)

Contact input.  
Pulse input for  
setpoint selec-  
tion (internal /  
external)



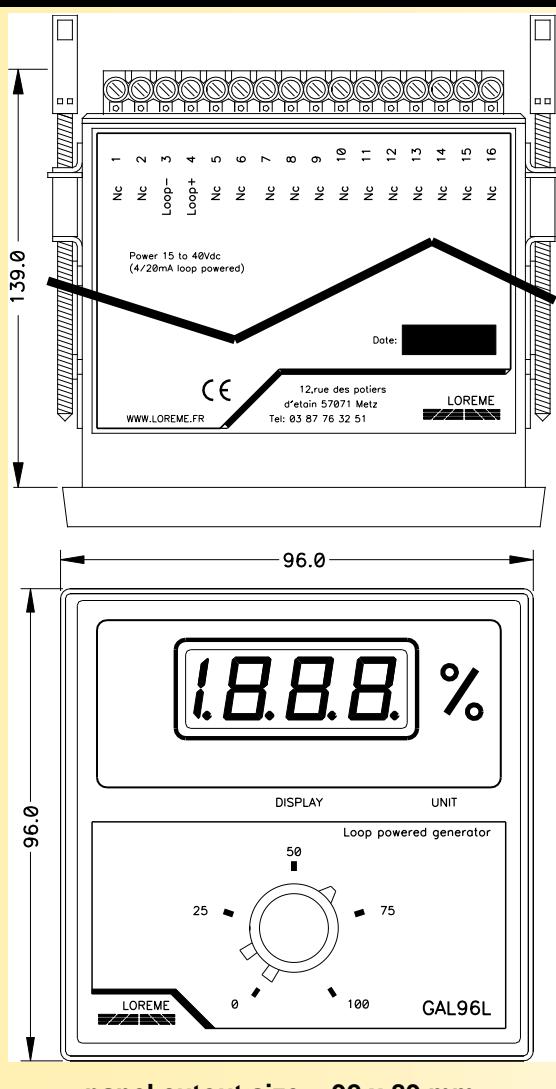
• **GAL96L**

- 2 wires technology current generator  
4...20mA loop powered (15 to 40Vdc)
- 3½ digits LCD display (2000 points)  
display range on request  
0..100% , 4...20mA , or engineering unit
- Setpoint setting  
with single turn potentiometer  
or multi-turn with lockable knob with counter dial



The GAL96L is a analog setpoint generator powered by the 4...20mA current loop. It forces the current consumed in a current loop who have it's own supply. It can for example, take the place of a 2 wires converter for simulating the measure in a 4...20mA current loop. A engineering unit marking on the front face is possible by simple request.

**WIRING AND OUTLINE DIMENSIONS:**



panel cutout size : 92 x 89 mm

**Description:**

**Front face :**

- Liquid crystal display with extend temperature range 3½ digits ( 2000 points)
- single turn potentiometer for setpoint setting
- option : multi-turn potentiometer with lockable knob with counting dial.

**Power supply / output :**

2 wires technology (supply and output current are confused)  
voltage supply range : from 15V to 40Vdc  
setpoint setting range : 4...20mA  
Max load : 500 ohms @ 24Vdc

**Features:**

DIN panel enclosure 96x96mm, 139mm depth  
panel cutout size : 92 x 89 mm  
Lateral fastening clamp  
Connection with screw terminal blocks ( 2.5 mm² maxi)  
engineering unit marking on front face possible on request  
Protection rating IP20,  
IP54 in option ( sealed potentiometer )  
IP65 in option ( with protective cover )

Reverse polarity protected

**Version and order code :**

**GAL96L**

Display range to define

Setpoint setting mode to define



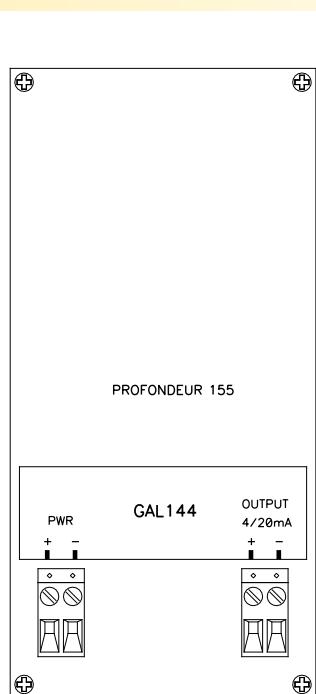
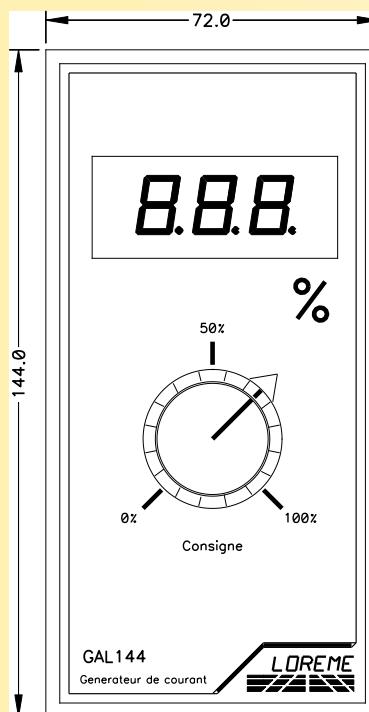
• **GAL144** standard format 72x144

- Vertical mounting
- Full analog model. Not configurable
- 3 digits LED display (1000 points)  
display range on request  
0..100% , 4...20mA , or engineering unit
- Setpoint setting  
with single turn potentiometer  
or multi-turn with lockable knob with counter dial



The GAL144 is an analog setpoint generator preconfigured in factory, who generate a voltage or current output signal. All output range are possible. Available for a wide range of auxiliary power supply. A engineering unit marking on the front face is possible by simple request.

**WIRING AND OUTLINE DIMENSIONS:**



panel cutout size : 139 x 66 mm

**Description:**

**Front face :**

- 3 digits, 7 segments LED display (1100 pts), 14.2mm height
- single turn potentiometer for setpoint setting
- option : multi-turn potentiometer with lockable knob with counting dial.

**Features:**

DIN panel enclosure 144x72mm vertical mounting. 155mm depth  
Lateral fastening clamp  
Connection with screw terminal blocks ( 2.5 mm<sup>2</sup> maxi)  
engineering unit marking on front face possible on request  
Protection rating IP20,  
IP54 in option ( sealed potentiometer )

It is also possible to generate bipolar output signal  
+/-10V , +/- 20mA

**Version and order code :**

**GAL144** power supply, display range and output signal to define

# SETPOINT GENERATOR DIN rail mounted

## 4..20mA / 0..10V output or frequency output

**LOREME**  
GNL35LA

### • GNL35LA

4 digits display (LED matrix 10000 points)

Setpoint setting by pushbuttons under the front face  
setpoint display

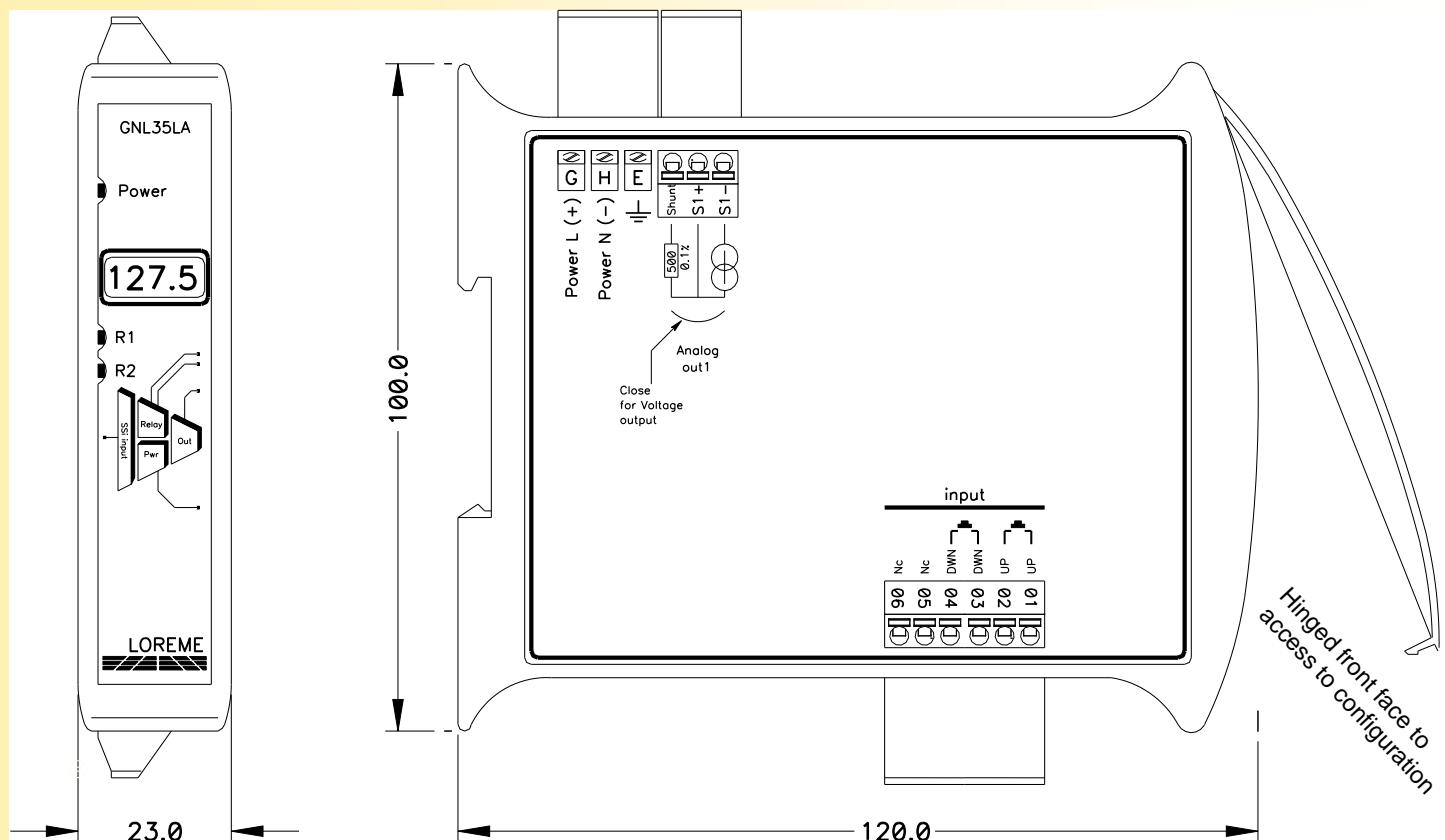
output : 4....20mA , 0....20mA or 0...10V

**GNL35LA-BPi** : in option: external BP input for setpoint setting

**GNL35LA-F** : model with frequency output (150Hz to 2800Hz )



The GNL35LA is a DIN rail mounted setpoint generator with push buttons setting. Fully configurable by front face. Its power supply can be Ac or Dc, from 20 to 265V.



The GNL35LA is a programmable setpoint generator. its versatile output can generate 0..4..20mA or 0..5..10V signals.

It is fully configurable by the front face. The user can modify the output scales, the speed of setting, the starting value, and the range display.

Pressing the UP or DOWN buttons, changes the setpoint value with the setting speed and within the limitations to the high and low output scale.

The setpoint value is automatically saved in non volatile memory and it is effective after every power on.

At power on, the setpoint evolve from the starting value to the saved value at the staring speed defined.

Version and order code:

**GNL35LA** universal power supply 20...265Vac/dc

**GNL35LA-BPi** with option: external BP inputs for setpoint setting

**GNL35LA-F** model with frequency output : 150Hz to 2800Hz  
TTL level (5V, 30mA) setting with 1Hz step