

# PANEL METER SETPOINT GENERATORS

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



- **Setpoint generator with 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, DIN rail



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 the local setpoint. Depend to model, the local setpoint can be adjusting by potentiometer (single or multi turn) or by push buttons. The GAL48BP and the GAL96D can generate a setpoint and simultaneously display an analog measure input ( the setpoint feedback measurement for example). Some models embedded some functions like : soft start, rise time limitation, starting setpoint predetermined or setpoint limitation. Also available, models with switchable or preset multi-setpoint.

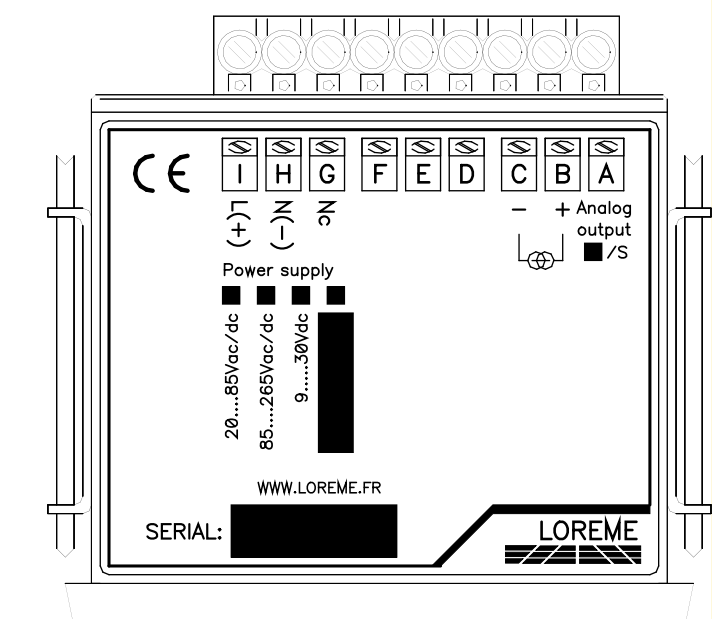
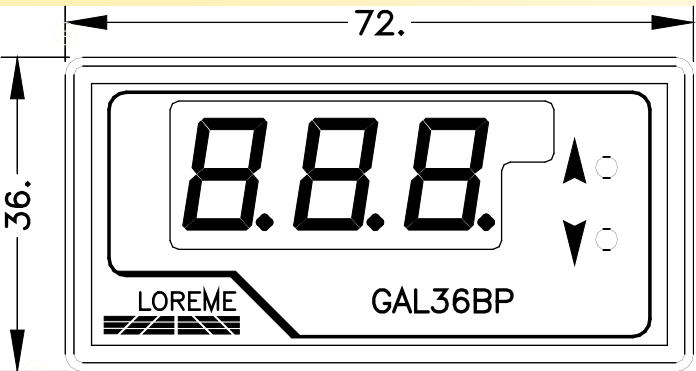
• **GAL36BP**

- 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:**



panel cutout size : 68.5 x 32.5 mm

**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 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 it's start value. By pressing the ▼ (No) button, the user access to configuration.

Version and order code: [Request a quote](#)

**GAL36BP** power supply and output signal must be defined at order

**SETPOINT GENERATOR standard dimension 96 x 48**  
**Current (4-20mA) or voltage (0-10V) output**

**GAL48**



**• GAL48**

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

**• GAL48/A**

- version with 4 digits display, potentiometer 1 or 5 turns

**• GAL48/1**

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



**GAL48/A with display**



**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:**

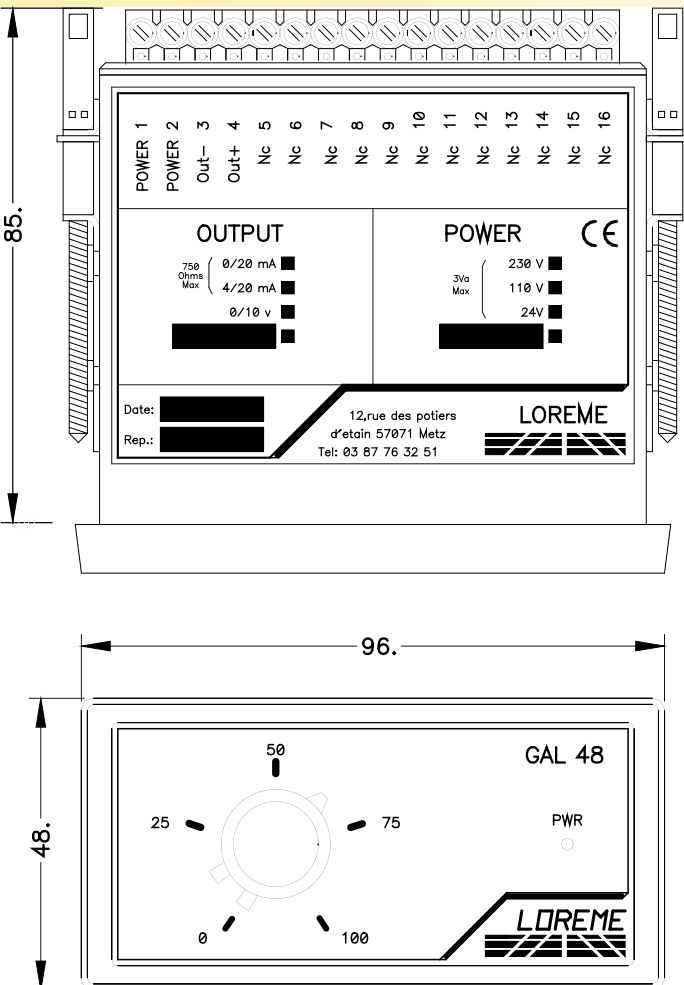
**Front face:**

- single turn potentiometer for set point setting +/- 2%
- option: multi-turn potentiometer with lockable knob and counter dial ( blind version) setting +/- 0.25%
- option: internal / external setpoint switch in front face + output contact for selected setpoint mode indication.

**Feature:**

- Box : 96x48mm DIN format, 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 on request
- Protection rating IP20
- IP54 in option ( sealed single turn 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
- GAL48A** with display and 1 or 5 turns potentiometer (display range configurable with USB cable)
- GAL48A-RAZ** With dry contact input to reset the setpoint



**SETPOINT GENERATOR standard dimension 96 x 48**  
**Current (4-20mA) or voltage (0-10V) output**

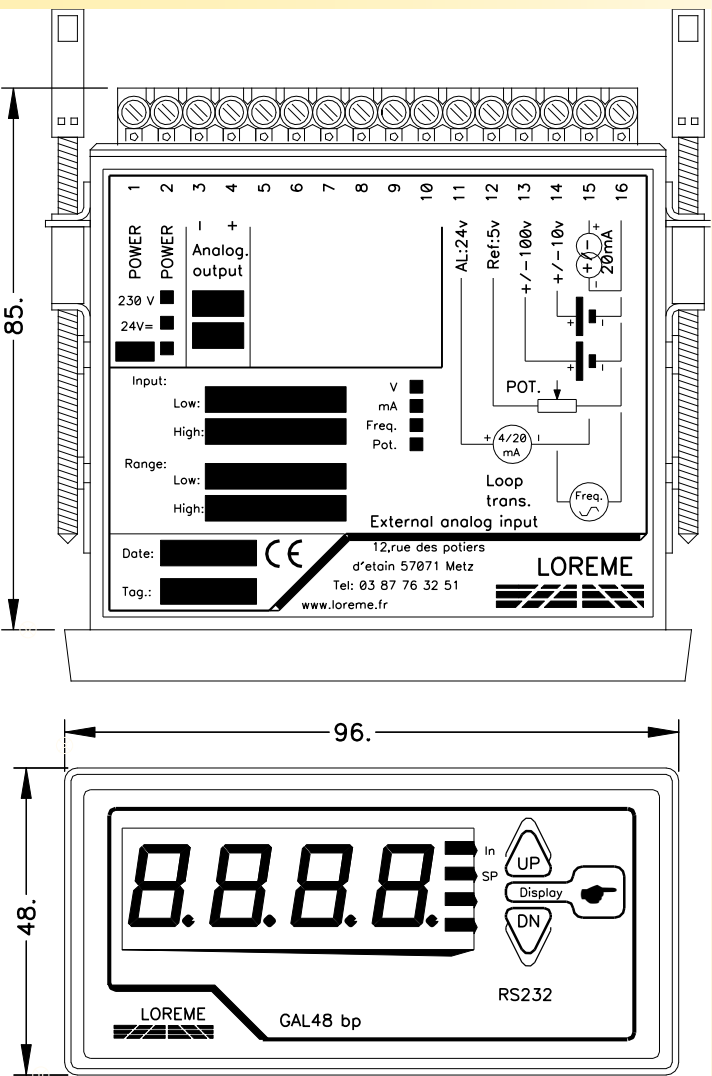


- **GAL48BP** with 4 digits LED display
  - Setpoint setting by pushbuttons
  - display setpoint or external measure input
- **GAL48BP1** with 4 digits LED display
  - Setpoint setting by pushbuttons
  - Setpoint selection (internal / external) in front face
  - Output relay for setpoint selected indication



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: (setting with serial link)**

- 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 ▲ + ▼ during 2 seconds to reset the setpoint at his starting value.

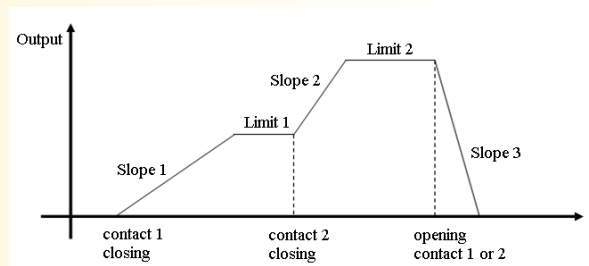
**Measure functions:**

- 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:

[Request a quote](#)

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

# SETPOINT GENERATOR standard dimension 96 x 96

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



- **GAL96** - blind version
- **GAL96A** - model with 4 digits LED display, 1 analog outputs
- **GAL96A/S2** - model with 4 digits LED display, 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

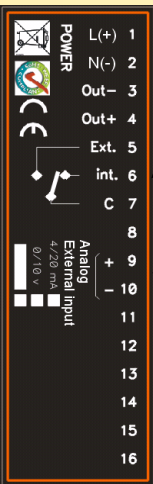


**GAL96A/1**  
single turn potentiometer  
setpoint switching

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

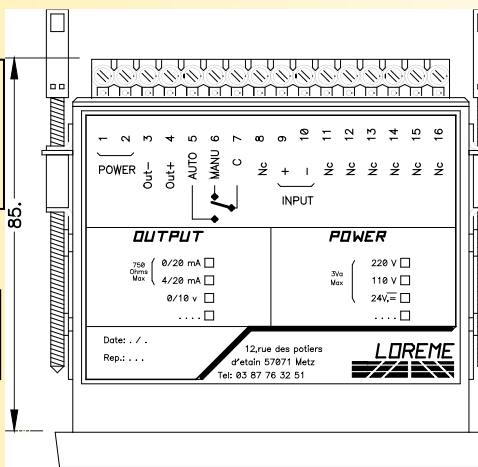
## WIRING AND OUTLINE DIMENSIONS:

### GAL96A/1



Contact output selected setpoint indication

Analog input external setpoint



### Front face description:

- 14.2mm height, 4 digits, 7 segments LED display
- set point setting via single turn potentiometer +/- 2%
- option: multi-turn potentiometer with lockable knob with counter dial
- option: internal / external setpoint switch in front face + output contact for selected setpoint indication.

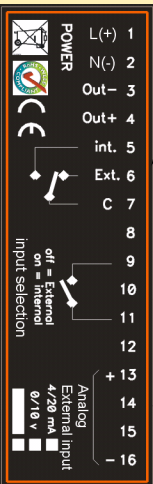
### Features:

- Box : 96x96mm DIN format, 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 USB cable is available separately

Option : 2 analog outputs, individually programmable.

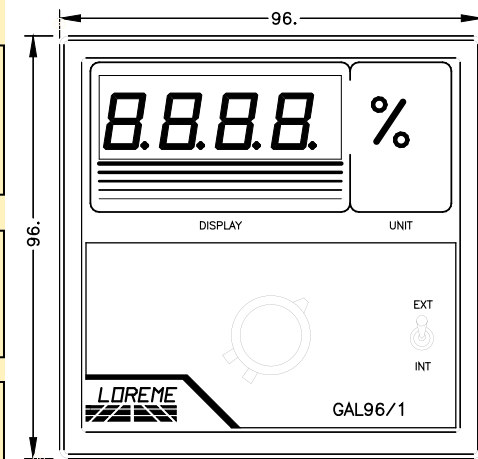
### GAL96A/1i



Contact output selected setpoint indication

Digital input setpoint selection internal/ external

Analog input external setpoint



### Version and order code:

[Request a quote](#)

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

# SETPOINT GENERATOR standard dimension 96 x 96

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

GAL96/C



- **GAL96/C2 GAL96/C3 GAL96/C4**

2, 3 or 4 independent setpoint. 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 )



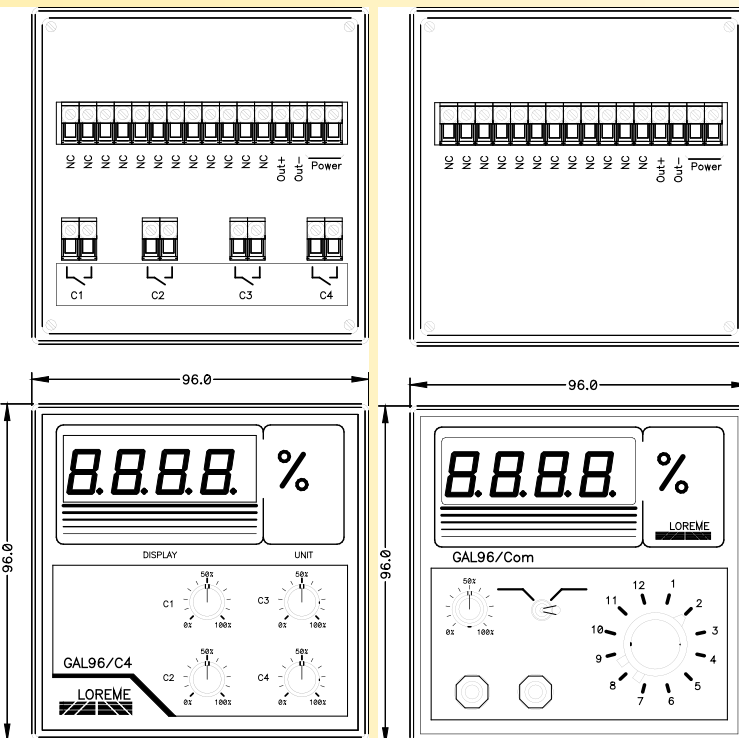
**GAL96/C4**



**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

##### Front face :

- 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 manual setting. The manual setting is made with the front face potentiometer.
- option: 4mm banana plugs in front face for the output signal

### Feature:

- Box : 96x96mm DIN format, 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:

[Request a quote](#)

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

**GAL96/Comx** x from 2 to 12 = number of predefined setpoint (number of rotary switch position)  
power supply and output signal to define  
Display range configurable via the serial link



**SETPOINT GENERATOR** standard dimension 96 x 96  
**Measurement input and analog output**

**GAL96D**



**• GAL96D**

Analog setpoint generator coupled with a configurable input panel meter

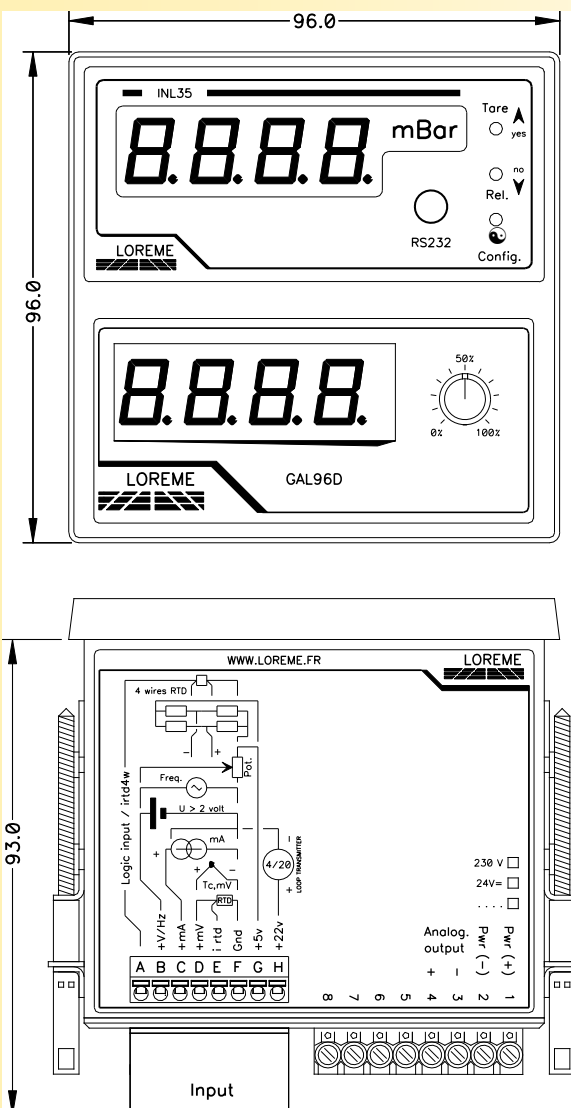
Generator with 4 digits display  
 Setpoint adjustment by 1 or 5 turns potentiometer  
 output: 0-20mA, 4-20mA, 0-10V, 0-5V

Panel meter with 4 digits display and programmable unit, universal input  
 (Voltage, current, frequency, temperature,...)



The GAL96D is a setpoint generator, allowing the simultaneous display of the local setpoint as well as an external analog measurement. Both functions are programmable and available in a wide range of auxiliary power supplies.

**WIRING AND OUTLINE DIMENSIONS:**



**Description:**

**Front face :**

- 14.2mm height, 4 digits, 7 segments LED display, 10000 pts (measure and setpoint display)
- unit display on 4 digits alphanumeric dot matrix display
- Potentiometer for setpoint adjustment (1 or 5 turn).
- 3 pushbutton for measure input configuration

**Generator function :**

- 1 analog isolated output :  
 Current or voltage : 0...4...20mA or 0...1...5...10V
- Configurable response time

**Measure meter:**

**Process input:**

- current 0...4...20mA with or without sensor supply
- voltage 0...10V...200V
- resistance
- potentiometer
- frequency and duty cycle
- strain gauge
- Namur sensor

**Calculation function:**

- square root calculation
- special linearization on 26 points

**Features:**

- Box : 96x96mm DIN format, 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 :

[Request a quote](#)

**GAL96D**

Combined generator and meter  
 Setpoint adjustment via potentiometer 1 or 5 turn  
 (to be defined)  
 Display range configurable with USB cable

coupling the indicator with the generator (display simultaneously the setpoint and the output signal) makes it possible to reach the SIL2 level

**SETPOINT GENERATOR standard dimension 96 x 96**  
**Current (4-20mA) or voltage (0-10V) output**

**GAL96BP**



**• GAL96BP**

- 4 digits LED display (10 000 points)
- setpoint adjustment with pushbuttons on front face
- programmable via the 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

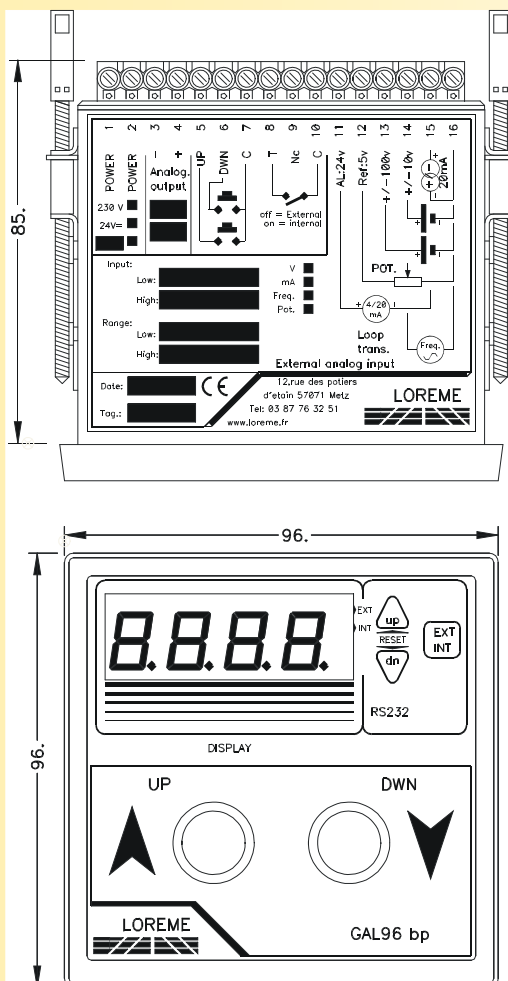
**• GAL96BP-RAZ with digital input for reset the setpoint value**

- + dry contact inputs for setpoint setting ( no external setpoint input for this model )



**Le GAL96BP is a setpoint generator with pushbuttons adjustment or by digital inputs. It allows the switching between an external setpoint input and a local setpoint with a front face pushbutton. The local setpoint load the external setpoint value when switching to internal setpoint setting (avoid glitch in output signal).**

**WIRING AND OUTLINE DIMENSIONS:**



panel cutout size : 92 x 89 mm

**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 : (setting with serial link)**

- 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 60s). The setpoint adjustment step is directly related to this rise time.
- Output limitation function: to 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 :

[Request a quote](#)

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



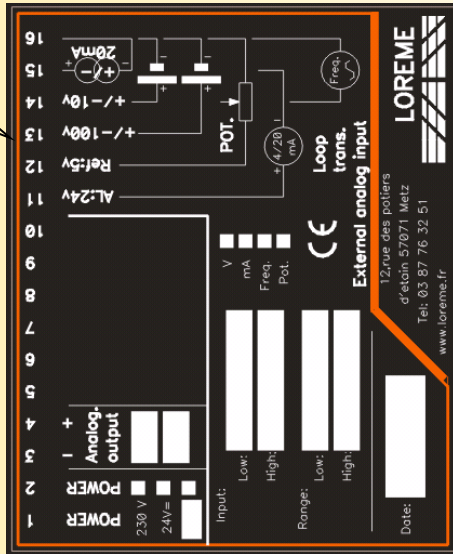
**SETPOINT GENERATOR** *standard dimension 96 x 96*  
 Current (4-20mA) or voltage (0-10V) output

**WIRING : view of different models**

**GAL96BP**

**GAL96BP-i**

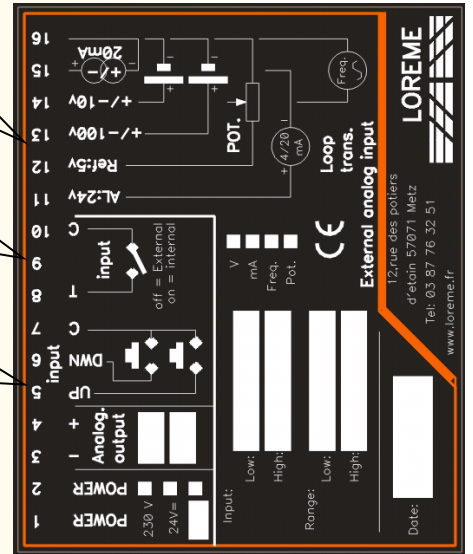
Analog input.  
External  
setpoint



Analog input.  
External  
setpoint

Contact input.  
setpoint internal /  
external  
selection

Contact input.  
increase or  
decrease  
setpoint

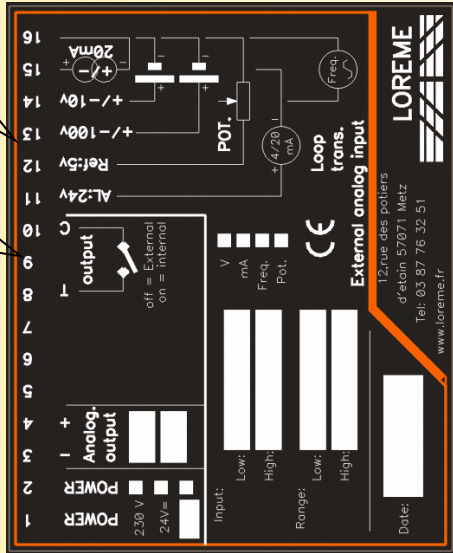


**GAL96BP-o**

**GAL96BP-io**

Analog input.  
External  
setpoint

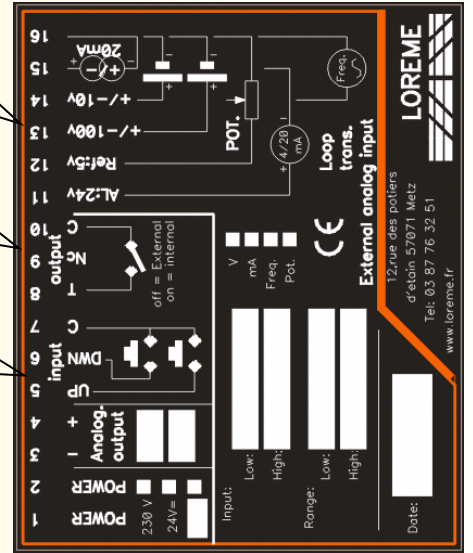
Contact output.  
Selected set-  
point (internal /  
external)



Analog input.  
External  
setpoint

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

Contact input.  
increase or  
decrease  
setpoint

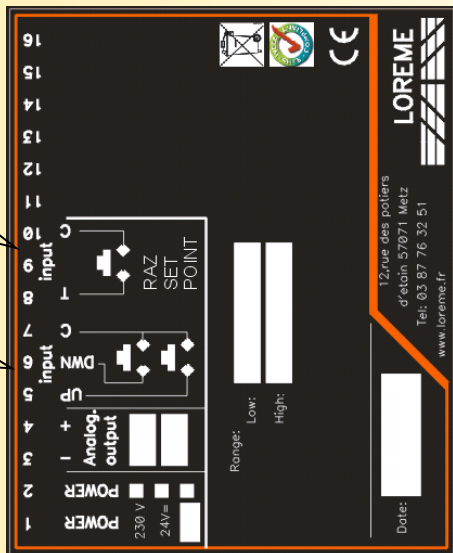


**GAL96BP-RAZ**

**GAL96BP-io1**

Contact input.  
RESET  
setpoint

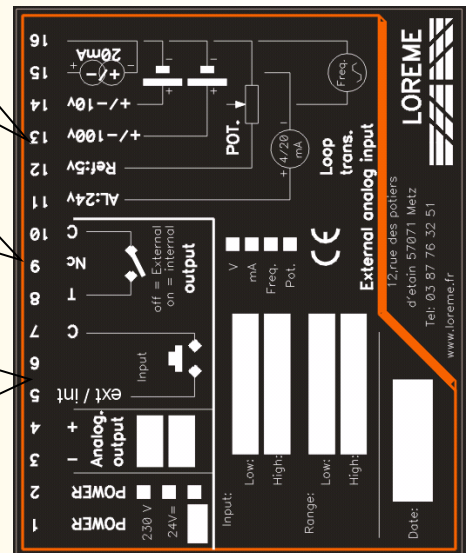
Contact input.  
increase or  
decrease  
setpoint



Analog input.  
External  
setpoint

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

Contact input.  
Pulse input for  
setpoint selection  
(internal /  
external)



**SETPOINT GENERATOR standard dimension 96 x 96**  
**4...20mA output current in 2 wires technology**

**GAL96L** **LOREME**

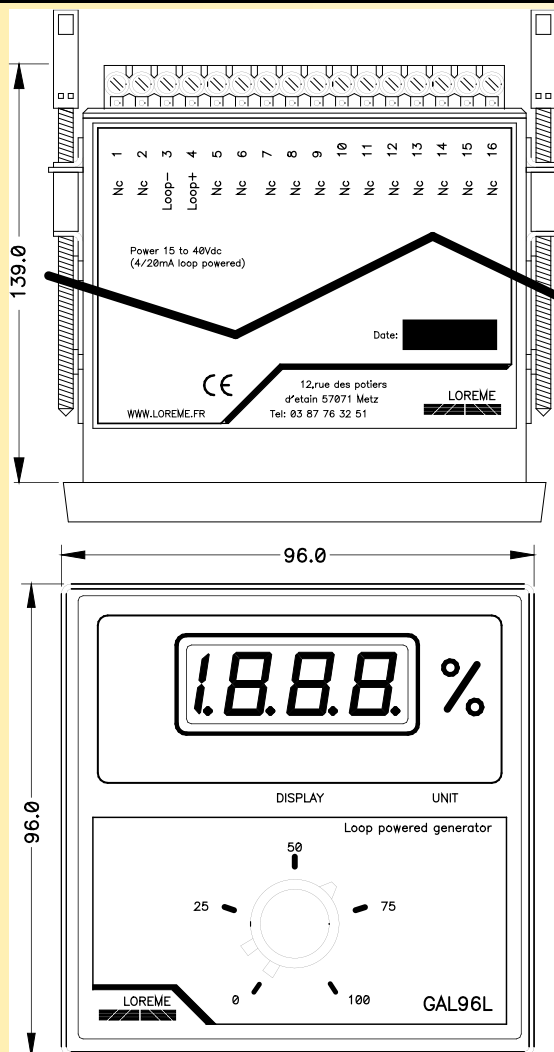
• **GAL96L**

- 2 wires technology current generator  
4...20mA loop powered (15 to 40Vdc)
- 3+1/2 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 on request.

**WIRING AND OUTLINE DIMENSIONS:**



panel cutout size : 92 x 89 mm

**Description:**

**Front face :**

- Liquid crystal display with extend temperature range  
3+1/2 digits ( 2000 points)
- single turn potentiometer for setpoint adjustment
- 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:**

- Box : 96x96mm DIN format, 139mm 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 )
- IP65 in option ( with protective cover)

Reverse polarity protected

Version and order code : [Request a quote](#)

**GAL96L** Display range to be define  
 Setpoint setting mode to be define

**SETPOINT GENERATOR standard dimension 144 x 72**  
**Current (4-20mA) or voltage (0-10V) output GAL144**



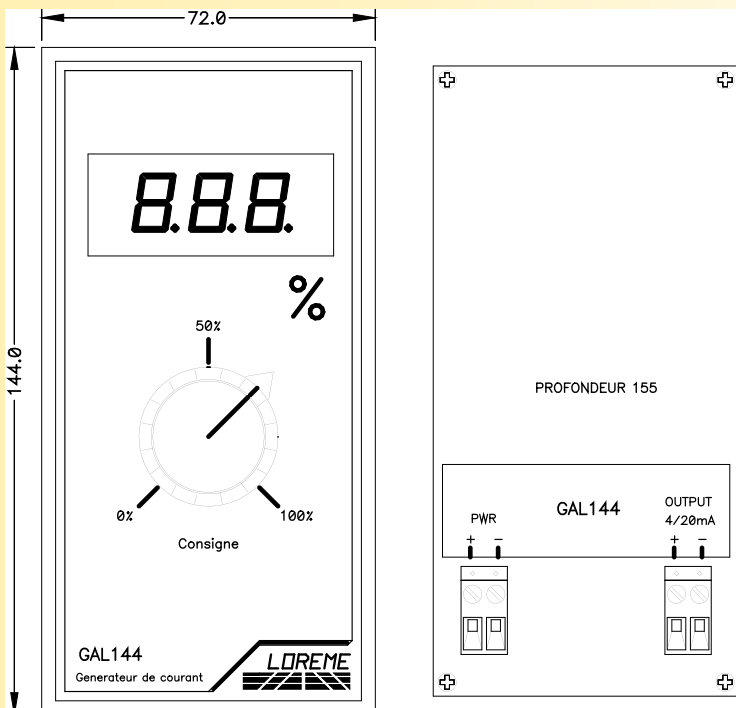
• **GAL144** DIN panel : standard format 72x144

- 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 on 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:**

- Box 72x144mm DIN format 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 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 :

[Request a quote](#)

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



# SETPOINT GENERATOR DIN rail mounted 4..20mA / 0..10V or frequency output

GNL35LA **LOREME**

## GNL35LA

4 digits display (LED matrix 10000 points)

Setpoint setting by pushbuttons under the front face

Display of setpoint

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

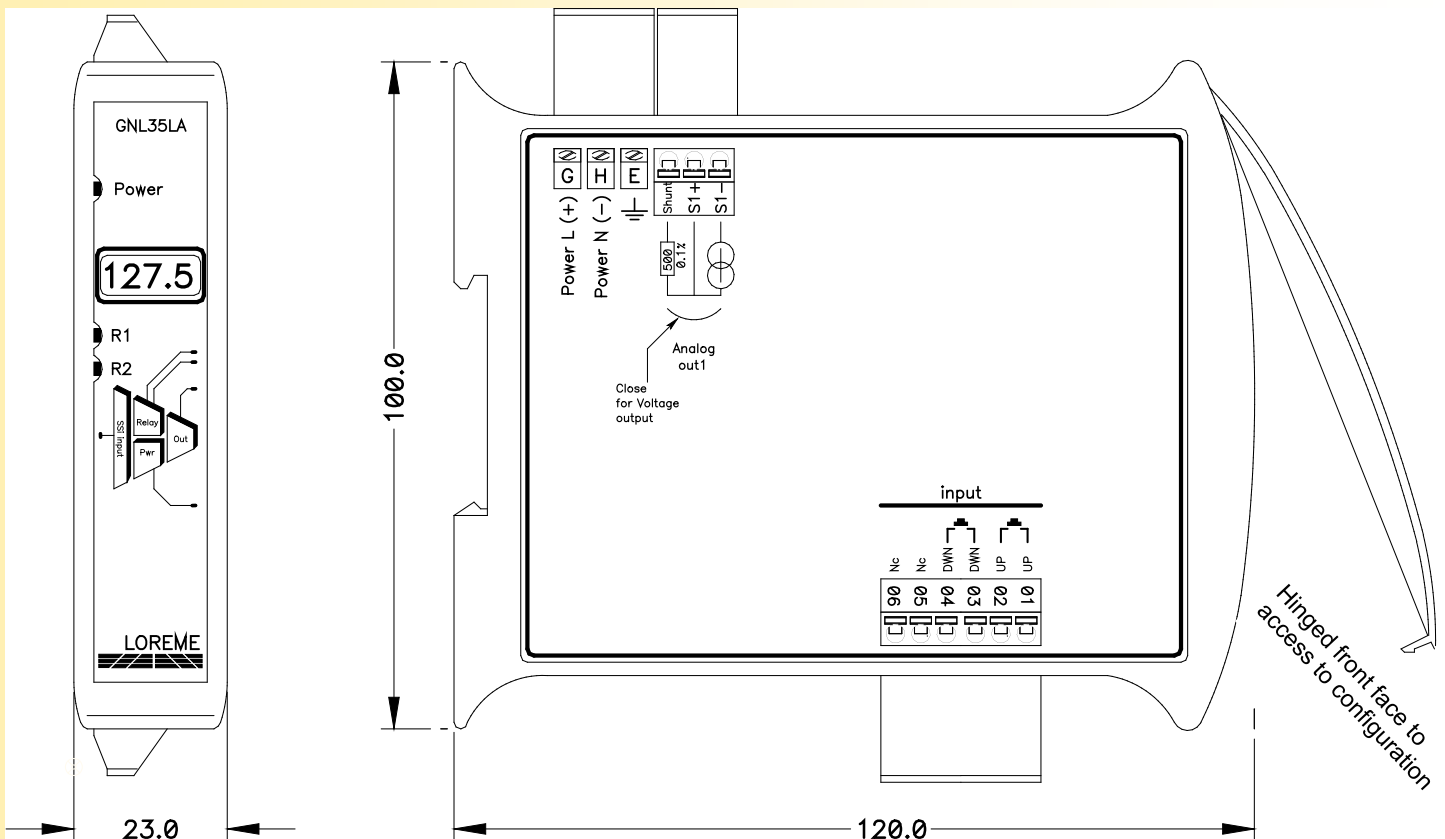
**GNL35LA/R** : watchdog relay output option

**GNL35LA-BPi** : external contact inputs for setpoint setting option

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



The GNL35LA is a DIN rail mounted setpoint generator with push buttons setting. Fully configurable by front face. Its universal 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 (limits for setting), the speed of setting, the starting value (output value after restart/Power On), starting speed 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 starting speed defined.

Version and order code:

[Request a quote](#)

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

**GNL35LA-BPi** option : external contact inputs for setpoint setting

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

**OPTION :**

**/R :** 1 watchdog relay. Normally close, indicates the correct operation of device

## Common characteristics

### analog OUTPUT

analog OUTPUT 12 bits resolution

Type	Range	Accuracy
Current	0 ... 4 ... 20 mA	+/- 20 $\mu$ A
Admissible load	0.....800 Ohms	

Voltage	0 ... 10 V	+/- 10 mV
Output impedance	500 Ohms ( 0.1% internal shunt)	

Response time (programmable): 100ms to 60s  
Other type of output on request

### External setpoint

Voltage	0 / 10 V
Current	0 / 20 mA or 4 / 20 mA
Other 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	-25 to +60 °C
Storage temperature	-25 to +85 °C
Thermal drift	< 20 PPM / °C
Humidity	85 % (non condensed)
Weight	~ 180 g
Protection	IP20
Dielectric strength	1500 Vrms continuous
MTBF (MIL HDBK 217F)	> 4 000 000 Hrs @ 25°C
Lifetime	> 200 000 Hrs @ 30°C
Protection rating	IP20, IP54 in option (or IP65 protective cover)

### Features

DIN rail enclosure  
Lateral fastening clamp  
Wiring 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 55011 group 1 class A
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	

