GasVisor

User Manual

Sensotran

More than 50 years of
experience in gas detection

Version 2.0
April 2024

READ THE MANUAL BEFORE USE

This manual should be carefully read by those who have or will have responsibility for the use, maintenance, or repair of the product.
This product will perform only if used, maintained, and repaired in accordance with the manufacturer's instructions.

NOTICE

This is not a contractual document. SENSOTRAN reserves the right to modify, without prior notice, the technical characteristics of this equipment in order to improve its performance.

SENSOTRAN, S.L. declines any responsibility in the operation of the equipment in the event of electrical installation not in accordance with current regulations or use other than that described in the following instructions. It is the user's responsibility to perform the necessary periodic tests to ensure the operation of each piece of equipment.

Content

1. INTRODUCTION

The GasVisor is a gas detection control panel with 3 alarm levels and a fault relay with independent potential-free contact. Optionally, you can add a ModBus relay expansion module, or a connectivity card that can include Ethernet output connection, 4 Modbus RS485 input channels, LoRA modem or NB-IoT LTE modem.

It also has a 4.7" color TFT to display detector reading, alarm status, to silence alarms, as well as to configure channels and select the alarms to be activated.

The measurement ranges are configurable in % of LEL, ppm or % Vol. Different sensors with different ranges can be mixed, and concentration in the units of the configured detectors will be displayed.

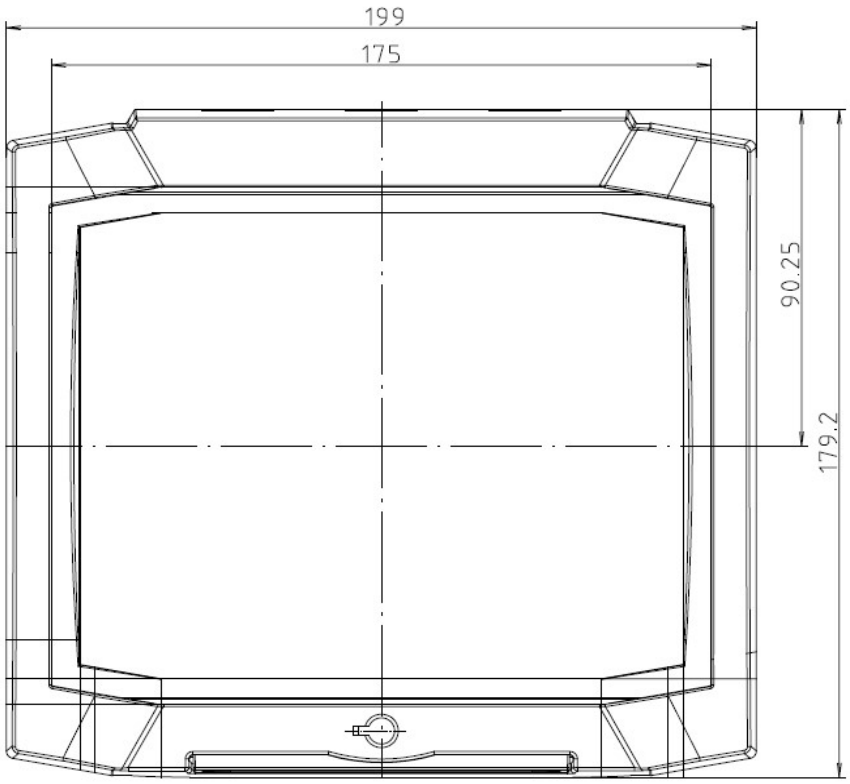
1.1 SPECIFICATIONS

Size	200 mm x 180 mm x 12 mm
Weight	1.5 Kg
Analog Inputs	4 or 8 4-20 mA inputs
Digital Inputs	up to 128 via RS485 (with expansion card)
Wireless Inputs	up to 128 via LoRa
Ingress Protecion	IP-54
Power Supply	110-230 Vac / 50-60 Hz
Output	4 relays normally open, 2A
Display	4.7" TFT with 480 x 272 resolution
User Interface	Capacitive Touch Screen
Temperature	-20 to 60ºC
Humidity	0 – 95% RH (non condensing)
Pressure	0.9 – 1.1 Atm
Relay Contacts	250 V, 2 A normally open

2. OPERATION

Prior to shipment, each GasVisor has been verified. However, the user should check the operation before the first use. Once the unit has been installed, it must be checked for proper operation.

2.1 Physical Description



2.2 Installation

Connect the power between 110 and 230 VAC / 50-60 Hz, at the JP2 connector as shown in Figure 1.

4-20 mA Analog sensors shall be connected to S1, S2, S3, S4, S5, S6, S7 and S8. Connect sensor for channel 1 at S1 and sensor for channel 8 at S8. Channels S5, S6, S7 and S8 are optional depending on the configuration purchased.

The outputs of the alarm relays will be connected to A1 for Alarm 1, A2 for Alarm 2, A3 for Alarm 3 and FA for the Fault relay.

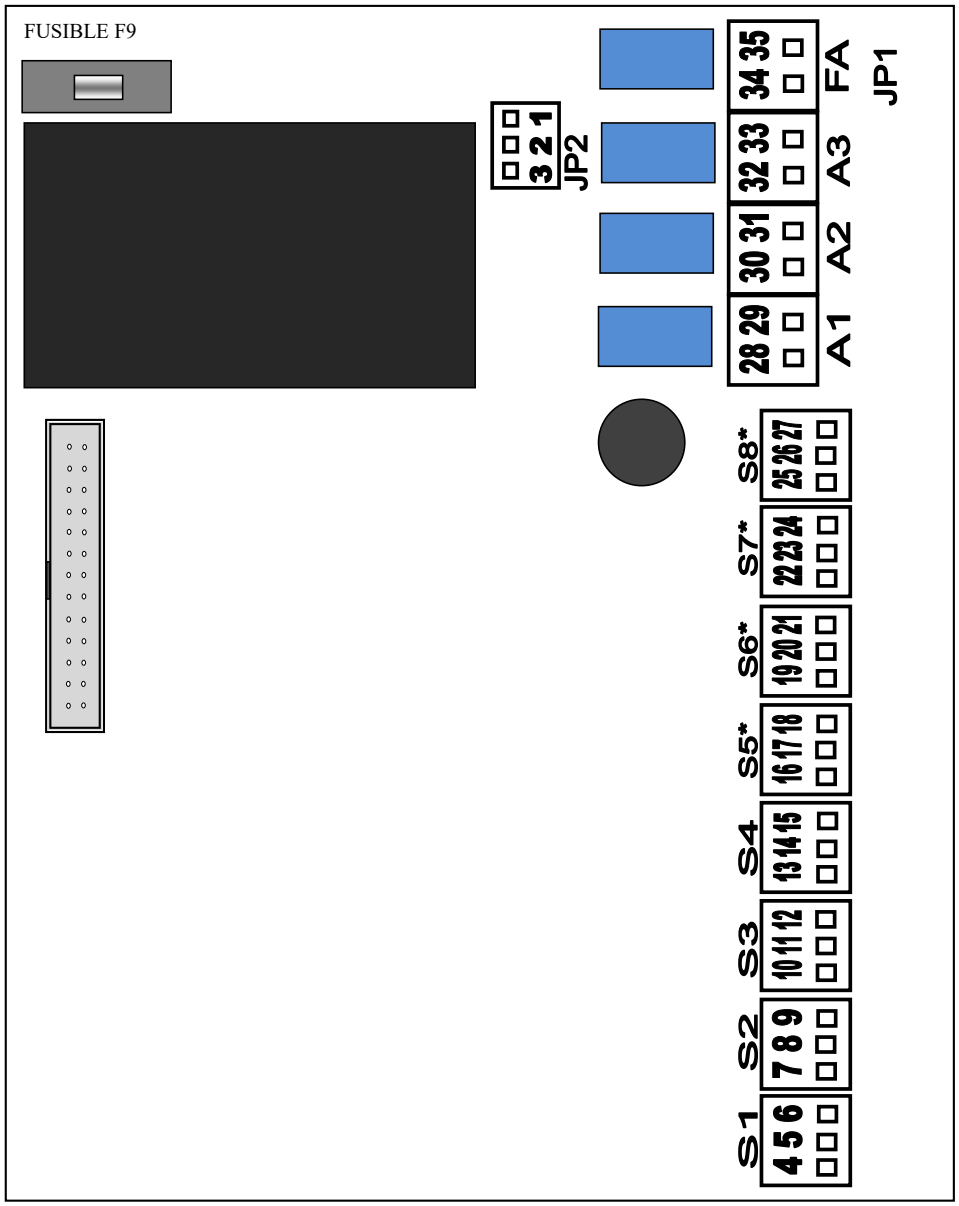


Figure 1

1	Grounding	19	Analog Sensor 6 (+)
2	Power supply (110-230 V, 50-60 Hz)	20	Analog Sensor 6 (-)
3	Power supply (110-230 V, 50-60 Hz)	21	Analog sensor 6 (4-20 mA)
4	Analog Sensor 1 (+)	22	Analog Sensor 7 (+)
5	Analog Sensor 1 (-)	23	Analog Sensor 7 (-)
6	Analog Sensor 1 (4-20 mA)	24	Analog sensor 7 (4-20 mA)
7	Analog Sensor 2 (+)	25	Analog Sensor 8 (+)
8	Analog Sensor 2 (-)	26	Analog Sensor 8 (-)
9	Analog sensor 2 (4-20 mA)	27	Analog sensor 8 (4-20 mA)
10	Analog Sensor 3 (+)	28	Relay Alarm 1 (N/O)
11	Analog Sensor 3 (-)	29	Relay Alarm 1 (N/O)
12	Analog sensor 3 (4-20 mA)	30	Relay Alarm 2 (N/O)
13	Analog Sensor 4 (+)	31	Relay Alarm 32 (N/O)
14	Analog Sensor 4 (-)	32	Relay Alarm 3 (N/O)
15	Analog sensor 4 (4-20 mA)	33	Relay Alarm 3 (N/O)
16	Analog Sensor 5 (+)	34	Fault relay (N/O)
17	Analog Sensor 5 (-)	35	Fault relay (N/O)
18	Analog sensor 5 (4-20 mA)		

3. GENERAL OPERATION OF THE SYSTEM

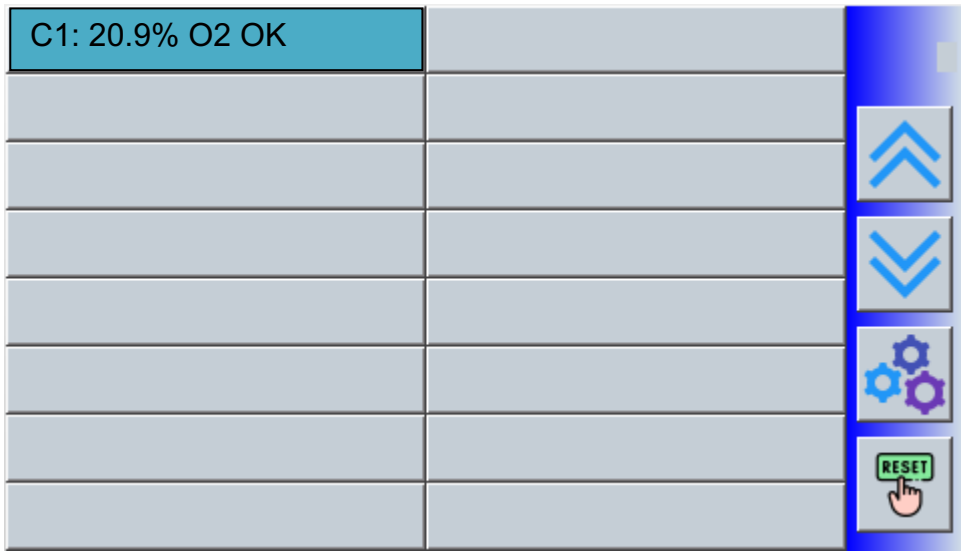
When the GasVisor alarm control panel is switched on, the system load the program and verify all parameters for approximately 1 minute. After this time, the system will be on operation.

By default, control panel is not configured, i.e. the channels are deactivated and the alarm values are not defined nor sensors are selected.

In normal mode, the control panel displays the information of each channel in a matrix of 2 x 2, 2 x 4 or 2 x 8 channels, depending on the supported channels where in each cell the channel reading is displayed

in case it is enabled. By clicking on each cell, you can access channel information.

3.1 User Interface



Once the control unit is set to normal status, the alarms are in operation and the instant reading of the sensors, the channel number and the units of measurement are displayed on the display.

The functions of the keys are as follows:

 or  increase or decrease the channel page (in groups of 16).

 access the settings menu.

silence the buzzer in the event of an alarm.

The different states of the configured sensors are displayed next to the channel number with a colored box, and can be:

Status - Ok (Normal Operation) Color: Blue.

Status - A1 (Alarm 1) Color: red.

Status - A2 (Alarm 2) Color: red.

Status - A3 (Alarm 3) Color: red.

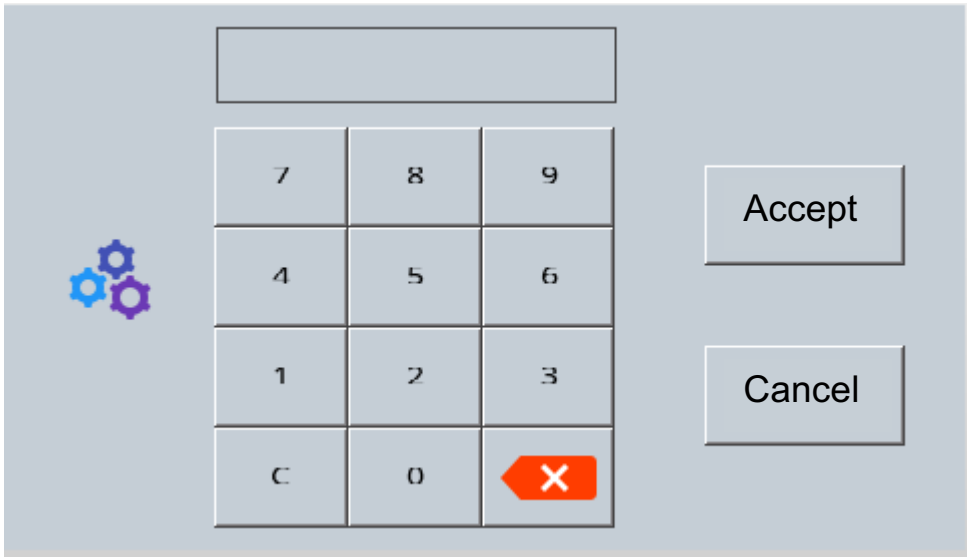
Status - FA (Sensor Failure) Yellow

4. SYSTEM CONFIGURATION MENU

To be able to enter the menu, click on any channel and then press 

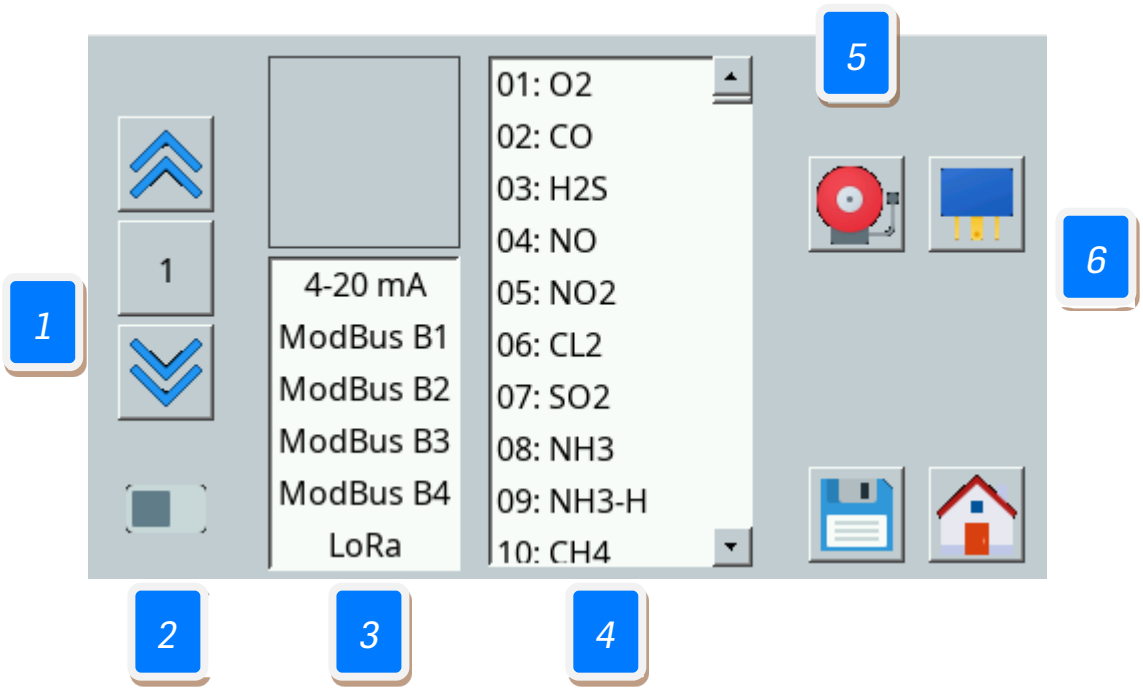
Then enter the access code **1250** and press the *Accept* button.

If the code entered is correct, you will be taken to the menu. If it is incorrect, it will return to normal operating mode.



4.1 Channel Configuration

In the menu, you can configure different parameters that affect the operation of each channel:



1. Select channel to configure
2. Turn the channel On and Off.
3. Channel configuration.
4. Gas configuration.
5. Alarm configuration.
6. Remote relay configuration (optional).

1 The channel input setting should be selected from 4-20 mA or LoRA (if you have the built-in wireless transmission option). For any other configuration, an optional communications card must be incorporated.

2 Slide the button to enable or disable the selected channel, regardless of the settings you have.

3 Configure the input of the selected channel. In the version without a communications card, you will only have the 4-20 mA option enabled. The LoRA version is available if the control panel is equipped with the optional wireless transmission modem.

4 Configure the gas type of the selected channel. The numbers correspond to the three central numbers of the references of the Sensotran devices, automatically configuring the ranges and alarms with the corresponding ones of the corresponding Sensotox, iSens or Sensotox C2.

5 Opens the Alarm Settings Menu, to configure Alarms 1, 2 and 3, allowing the adjustment of the setpoint, direction (up or down), delay, hysteresis and activated or deactivated.

6 Configuration of expansion relays. In addition to the individual parameters of each relay, each of the 8 available expansion cards must be selected to which of the 8 available expansion cards each of the relays corresponds.

Note: When you modify a parameter, a save icon appears with a floppy disk symbol. Press it to save the configuration.

5. GENERAL OPERATION OF ALARMS

The GasVisor control unit has 4 relays that are used to activate 4 different alarms. The first three are used as normal alarms and the fourth as a fault alarm.
If the alarm for any channel is triggered, it will be displayed in a different color, depending on the alarm that has been triggered, and a bell will appear in the channel box. The value reading will still be displayed.

Oxygen sensor alarms are automatically set as descending for sub-oxygenation levels (below 20.9%), and ascending for over-oxygenation levels (above 20.9%).

If for any reason the connection to the sensor is lost, the fault alarm will be triggered, and the display will display the text "FA". If this happens, the alarms for that channel cannot be triggered. When the connection is detected again, the alarm will automatically disappear and return to normal operating status.

- Set Point: Sets the alarm trigger threshold
- Hysteresis: Sets a hysteresis value between alarm activation and deactivation. For example, in an alarm with the set point at 10 ppm and a hysteresis of 2 ppm, the alarm will be triggered at 10 ppm and deactivated below 8 ppm.
- Delay: Sets the delay in triggering relays in the event of an alarm in seconds.

Rev.	Description of Changes	Date
1	Initial Release	01/02/2023
2	Menu Description Update	19/04/2024

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