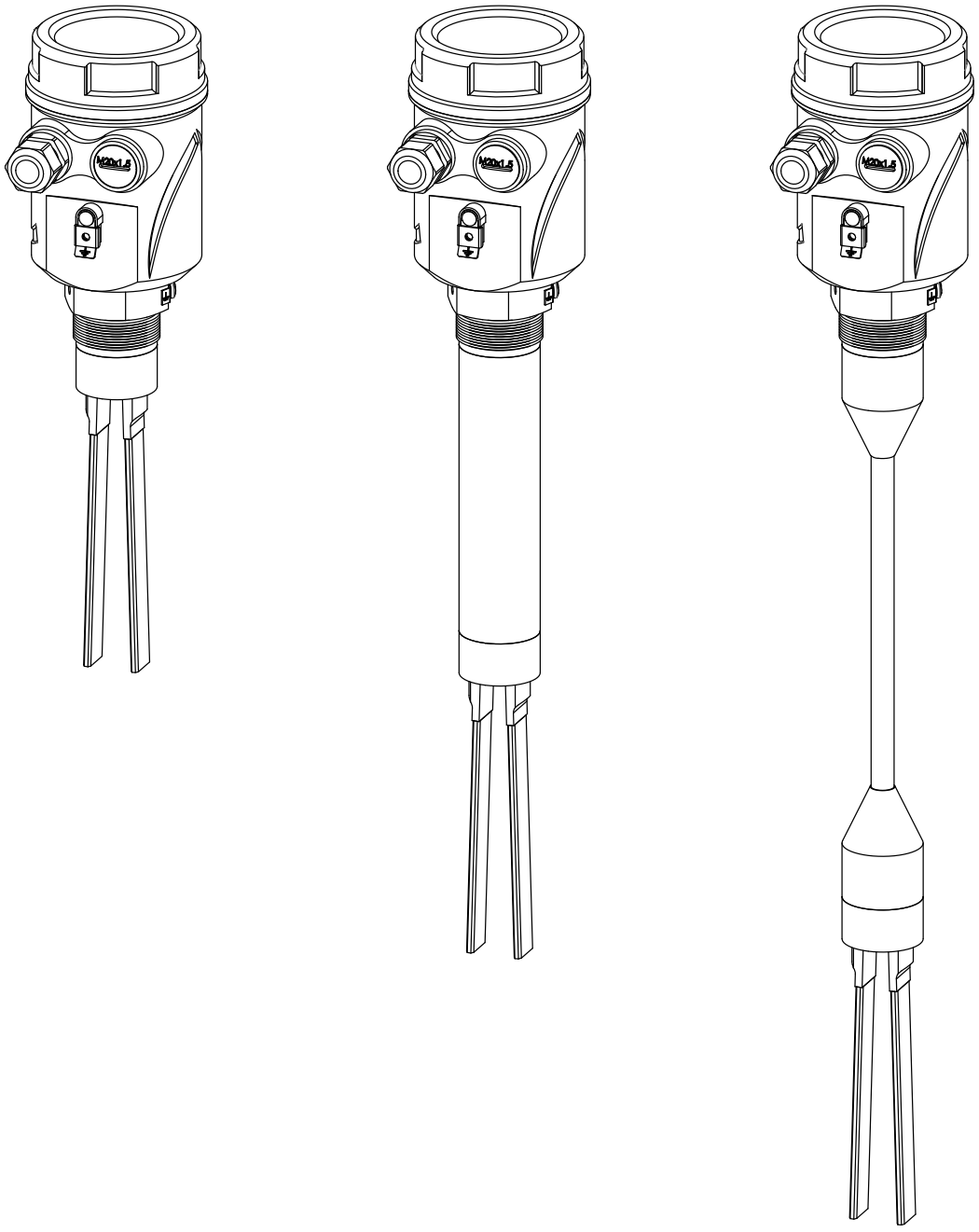
RSL200

vibration level switch, with rigid and semi-flexible extension for bulk solids and powders.



technical documentation EN Rev. of 05/12/2022

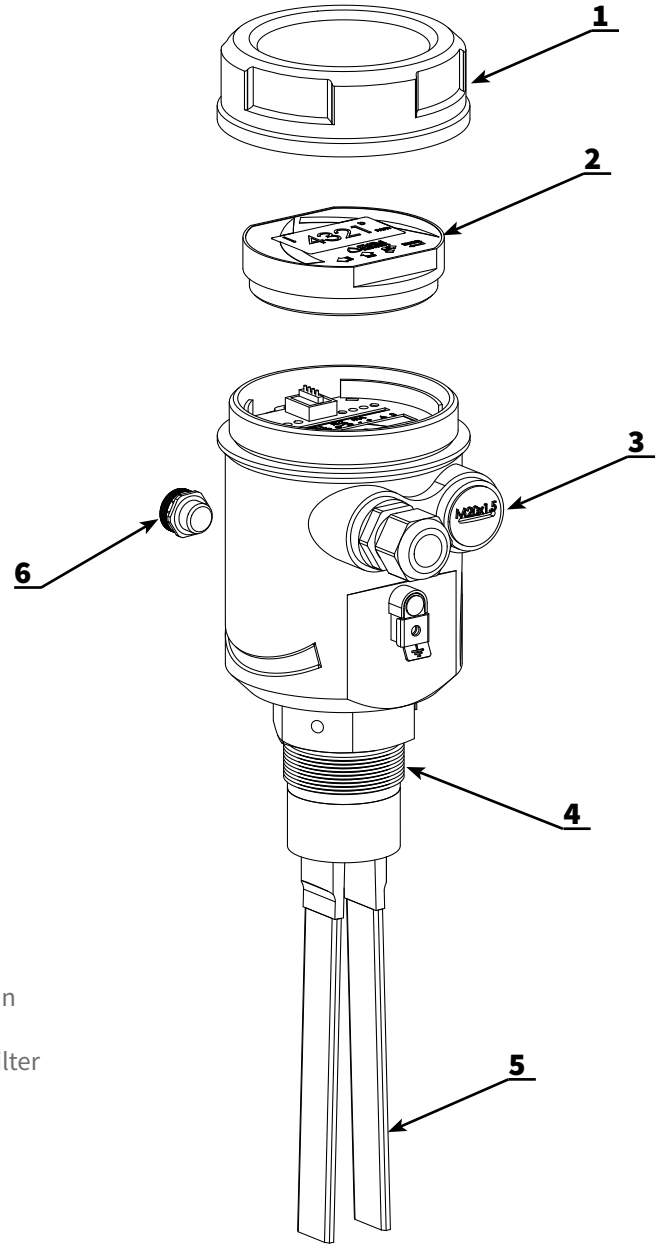
sgm lektra

CONTENTS

1-WARRANTY

Products supplied by SGM LEKTRA are guaranteed for a period of 12 (twelve) months from delivery date according to the conditions specified in our sale conditions document.
SGM LEKTRA can choose to repair or replace the Product.
If the Product is repaired it will maintain the original warranty terms, whereas if the Product is replaced it will have 12 (twelve) months of warranty.
The warranty will be null if the Client modifies, repair or uses the Products for other purposes than the normal conditions foreseen by instructions or Contract.
In no circumstances shall SGM LEKTRA be liable for direct, indirect or consequential or other loss or damage whether caused by negligence on the part of the company or its employees or otherwise howsoever arising out of defective goods

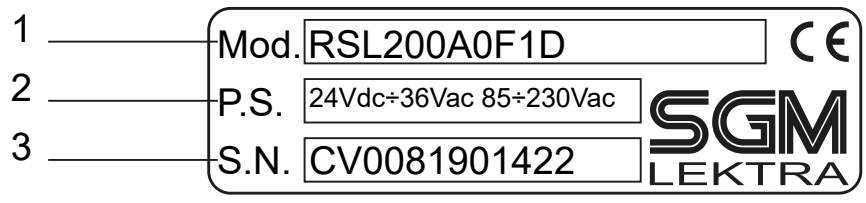
2- 2- PRODUCT



1. Cover
2. VL601 (opt.)
3. Skintop M20
4. Process connection
5. Forks
6. Anti-condensate filter

2.1 - IDENTIFICATION

Every instrument has an adhesive identification plate on which the main information about the meter is outlined.
The following image describes the information and data on the plate.



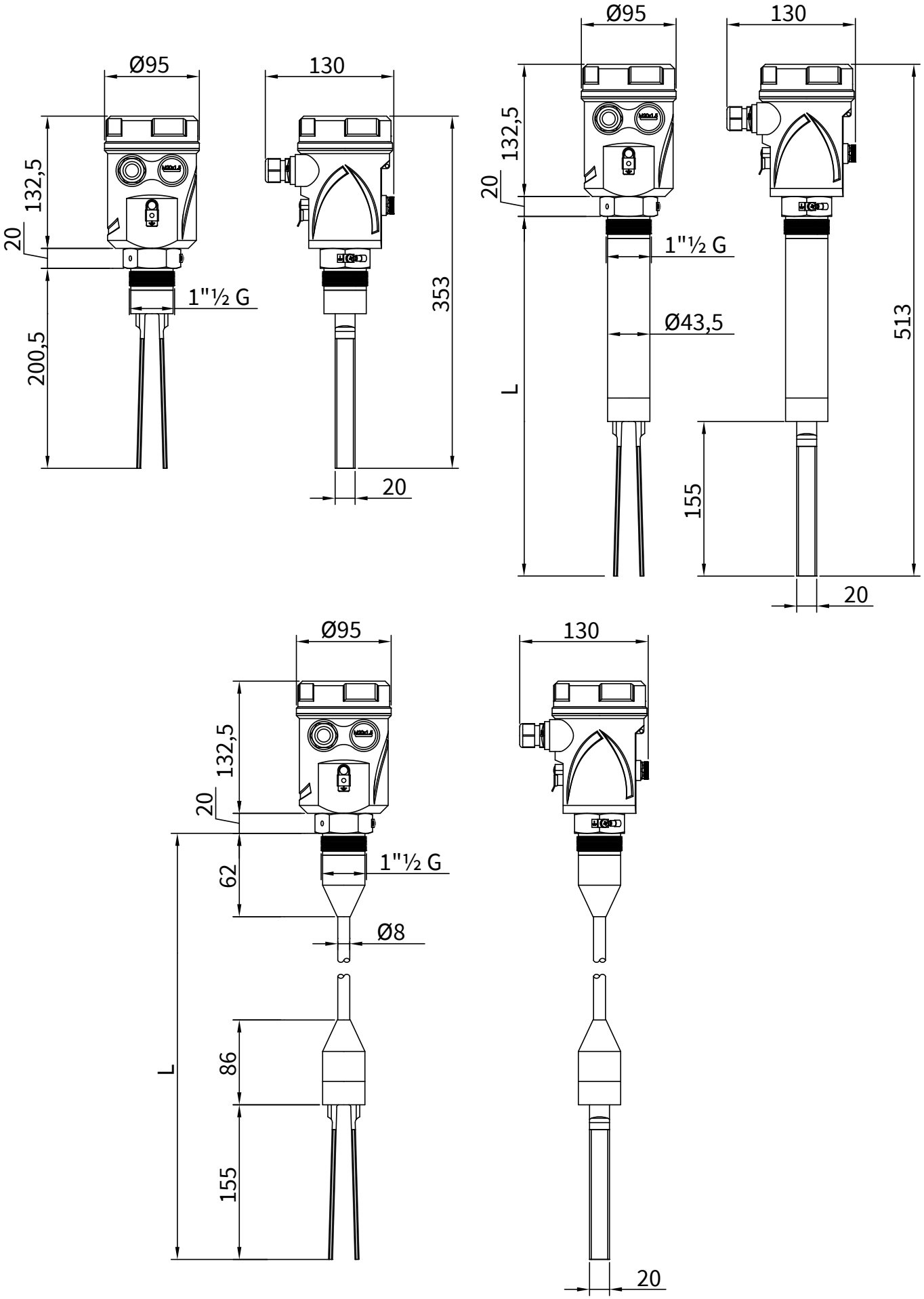
1. Product code
2. Power supply
3. Serial number

3-TECHNICAL SPECIFICATIONS

Casing material
PC/AL
Vibrating prong material
AISI316 (AISI304 for semi-flexible extension tube)
Protection rating
IP67/IP68 in process
Pressure
-1 ÷ +6bar
Ambient temperature
-20 to +60°C
Max. process temperature
150°C
Power supply
24Vdc/Vac ÷ 36Vac 50Hz; 85 ÷ 230Vac
Max. input power
1.5W
Cable glands
M20x1.5
Electrical connection
Plug-in terminal blocks
Relay output
3A 230Vac
Trigger mode
min. or max. level
Trigger delay
0÷30s (programmable)
Programming
Via extractable VL601 module
Trigger sensitivity and delay
configurable via VL601
Thermal stability
1 typical minute
Display
LCD display on extractable VL601-SGM module Green LED: power on
Red LED: relay status (on with relay energized)
Certification
ATEX II 1/2D Ex ta/tb IIIC T150°C Da/Db (opt.)

4-DIMENSIONS

5.1 - MECHANICAL DIMENSIONS



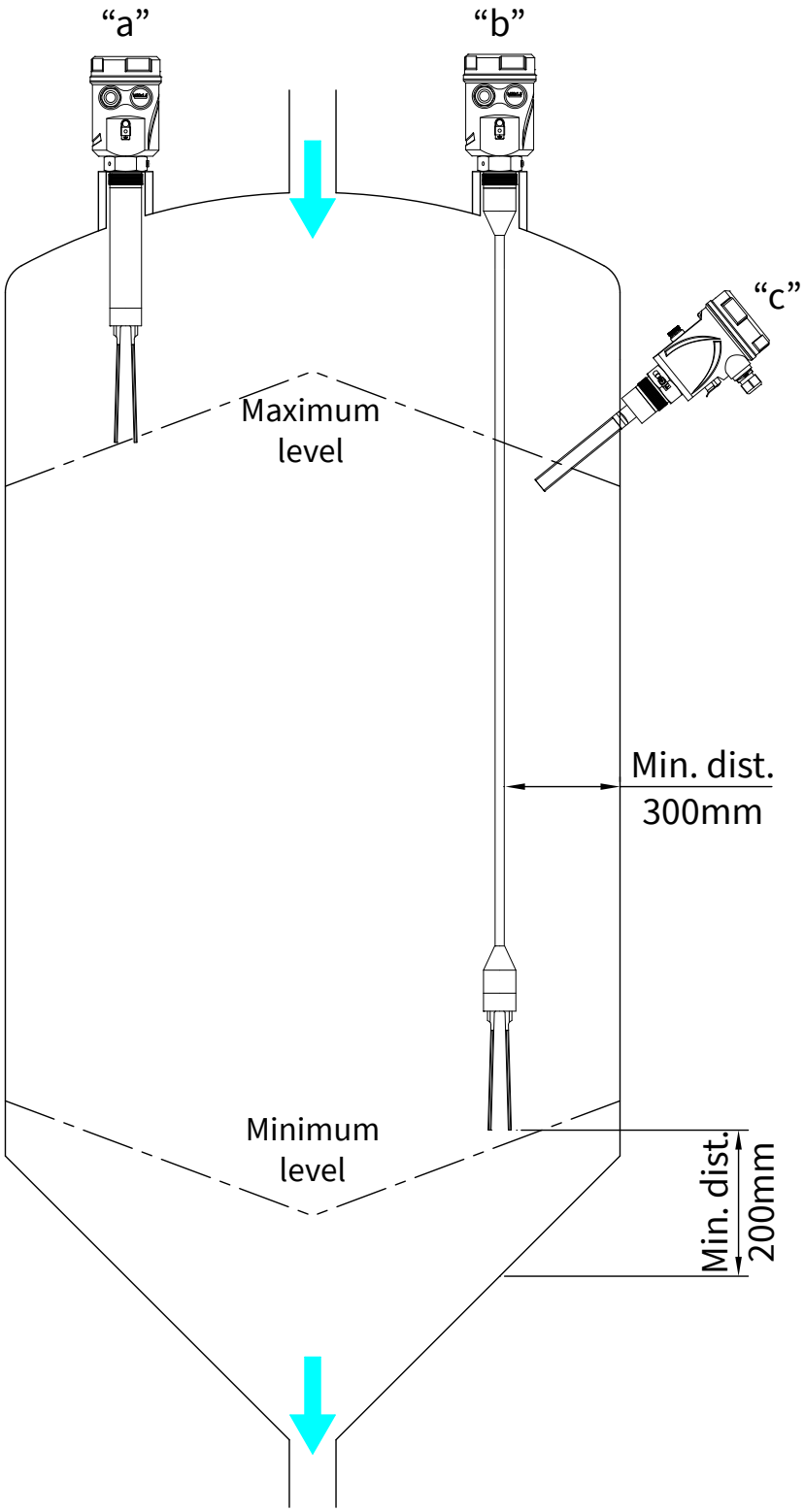
5-INSTALLATION

5.1 - PRECAUTIONS FOR INSTALLATION

5.1.1 - CORRECT INSTALLATION

Correct installation of RSL200 sensors to control a Max. level (“a” and “c”) and Min. level (b).
To avoid triggering problems, follow the instructions below:

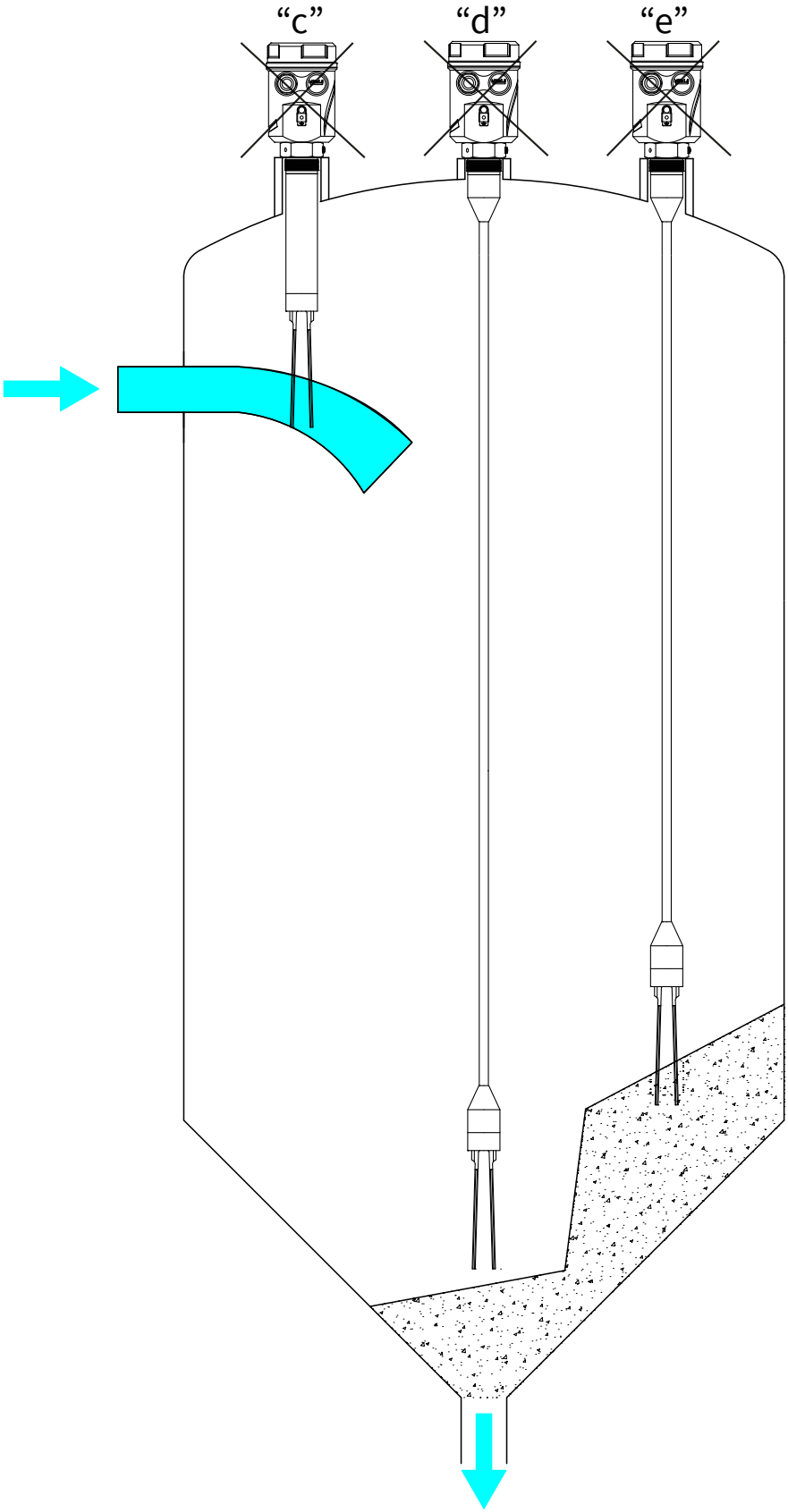
- Install away from loading zones and keep a minimum distance of 300mm from the walls of the tank.
- When placing the order, select the option for the extension length, allowing the sensitive element to be positioned at least 200 mm from the bottom of the tank.



5.1.2 - Incorrect installation

Incorrect installation of RSL200 sensors.

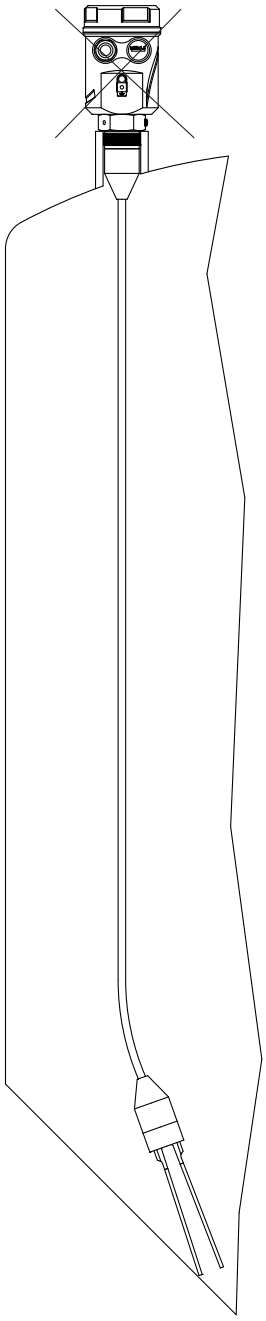
- do not install near loading zones (c); false alarm signals may be generated and the RSL200 sensors may be damaged by the pouring in of the material.
- do not install at the centre of the tank loading point (d); the RSL200 sensors and/or ceiling of the tank may be damaged and eventually break the RSL200 sensor, due to the elevated mechanical stress created in this point.
- do not install in points where accumulations of product may form (e); the RSL200 sensors might remain blocked in the ‘product present’ position: false max. level alarm or, vice versa, failed min. level alarm signal.



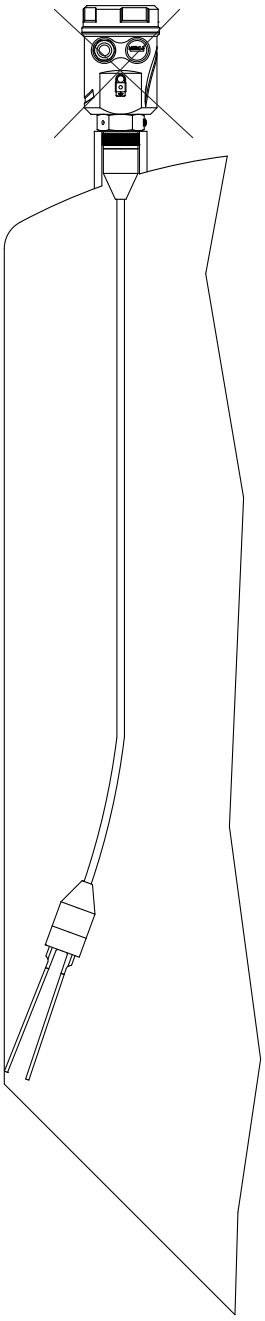
5.1.3 - Semiflex Extension

Bent extension (h) (g)
The extension must be straightened (i) to prevent the sensitive element from touching the wall of the tank and sending a false ‘product present’ signal: false max. level alarm or, vice versa, failed min. level alarm signal.

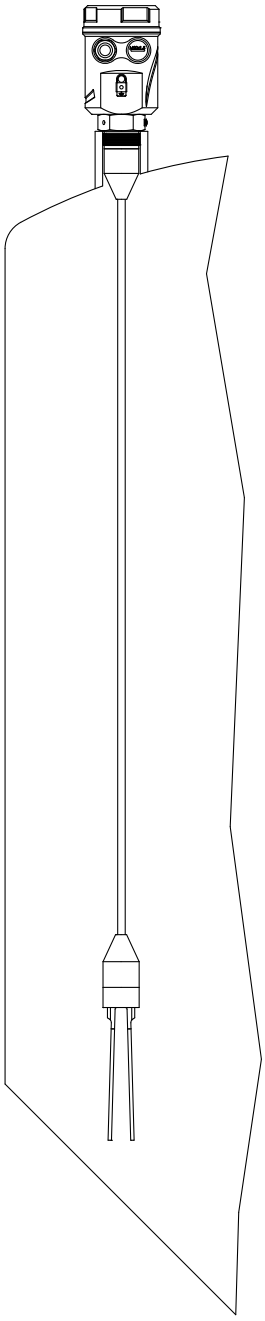
“g”



“h”



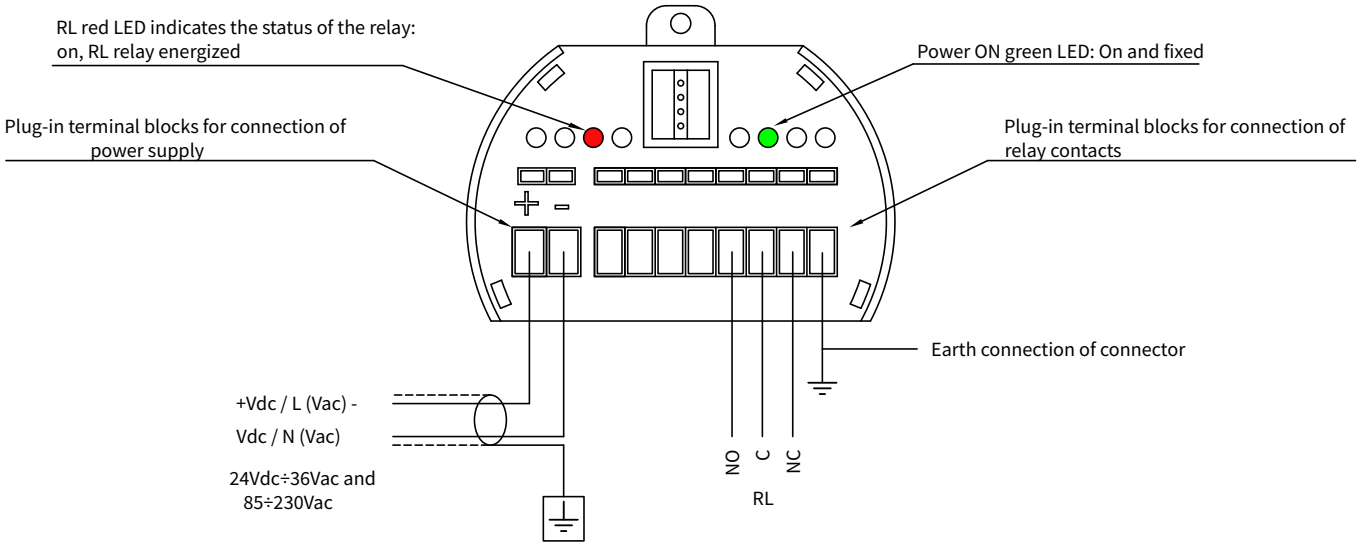
“i”



6-ELECTRICAL CONNECTION

6.1 - CONNECTIONS

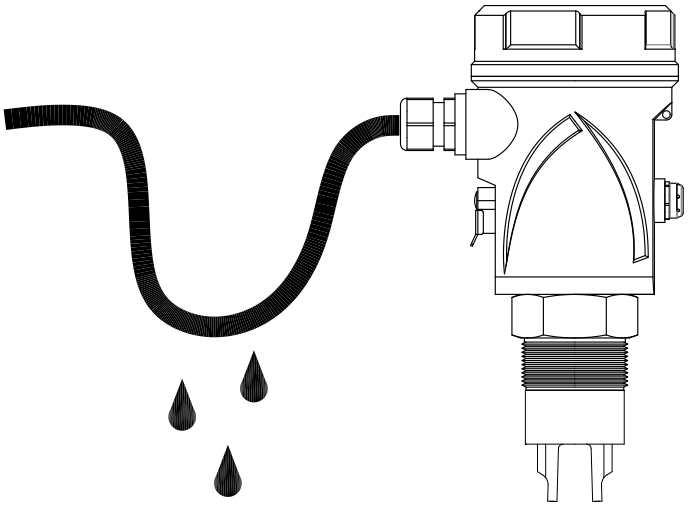
1) Before energizing this product, make sure all connections have been correctly made and that the mains voltage corresponds to that on the rating plate.
2) Tighten the cable glands and cover to ensure a protection rating of IP67.
3) To prevent the infiltration of water or humidity, which may damage the level sensor, do not remove the caps of unused cable glands.



6.2 - INFILTRATIONS OF HUMIDITY

To avoid infiltrations of humidity inside the cover, we recommend:

- Using a cable with an external diameter of 6÷12mm for the electrical connections and fully tightening the M20 cable gland
- Fully tighten the cover
- Position the cable in such a way as to form a downward curve in the output of the M20 cable gland; in this way condensation and/or rainwater will tend to drip from the bottom of the curve.



7-LOCAL OPERATOR INTERFACE (LOI) - VL601

The RSL200 vibration level checks are programmed and calibrated using the VL601 display module

7.1 - VL601 FEATURES

The VL601 programming module can be activated and deactivated on-board the RSL200 without affecting the unit's operation.

The VL601 module is equipped with an LCD dot-matrix display and allows simple and fast start-up using the 4 programming keys.

The symbol 

on the display indicates that the relay is energized, normal condition.

The symbol 

on the display indicates that the relay is de-energized, alarm condition.

1. From "RUN" mode: press  to select the parameter to be programmed.
2. Press  to confirm the selection.
3. To select the parameter option press  .
4. Press  to confirm and save the selection, press  to exit without saving.

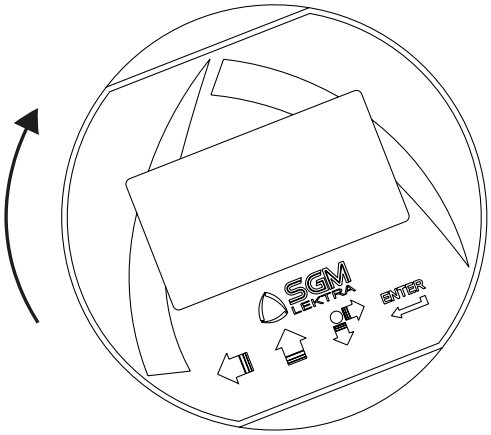
LEFT-HAND ARROW key:
- **Exit without saving**
- **When pressed with the ENTER key performs a void calibration**

UP ARROW key:
- **Parameter option selection**

SCROLL key:
- **Scroll parameters**

ENTER key:
- **Confirm parameter selection**
- **Save parameter setting**

By unscrewing the cover, it is possible to lock the VL601 module (by turning it clockwise until it clicks) or unlock it (by turning it anti-clockwise) as shown in the figure.



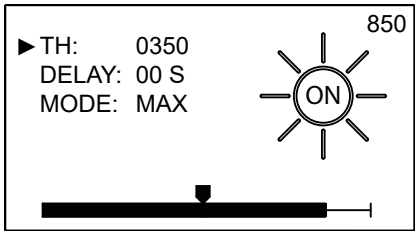
LOCK

UNLOCK

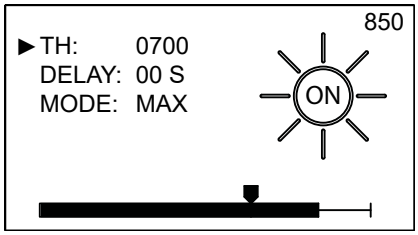
8-PARAMETER PROGRAMMING

8.1 - TH

Press ENTER to modify the programming.
Using the UP ARROW adjust the limit from 0 to 1000:
during programming a “transparent” cursor will be displayed, which indicates the new positioning of the level alarm limit.
Press ENTER to confirm.
NOTE: the TH value must always be less than the value shown in void conditions.

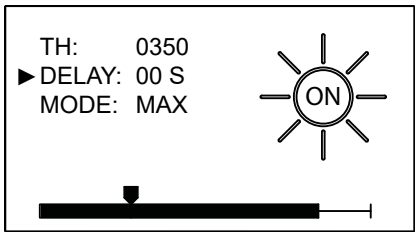


In the case of “light” products that tend not to completely block the vibrating forks, it may be necessary to set the TH value close to the free vibration value.



8.2 - DELAY

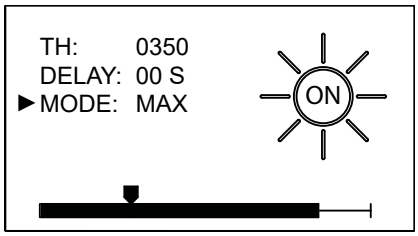
Press ENTER to modify the programming.
Using the UP ARROW, adjust the delay time from 0 to 30 seconds for the switching of the sensor from the normal state to the alarm state (for MAX alarm, relay de-energized in the presence of product; for MIN alarm, relay de-energized in the absence of product).
When the process ceases to be in alarm conditions, the sensor instantly switches without a delay, from the alarm state to the normal state (for MAX alarm, relay energized in absence of product; for MIN alarm, relay energized in presence of product).



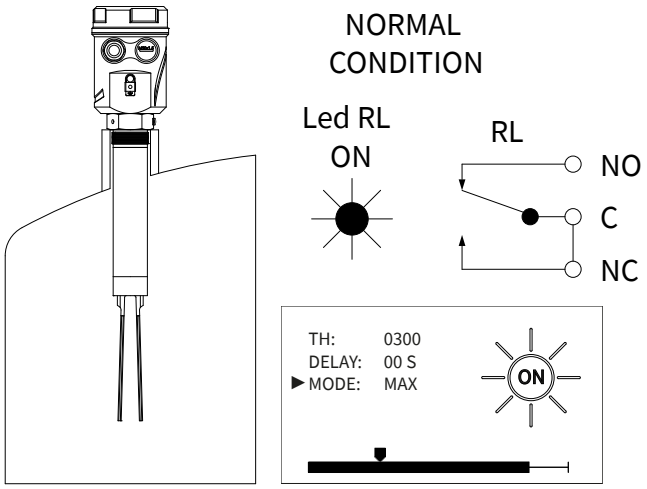
8.3 - MODE

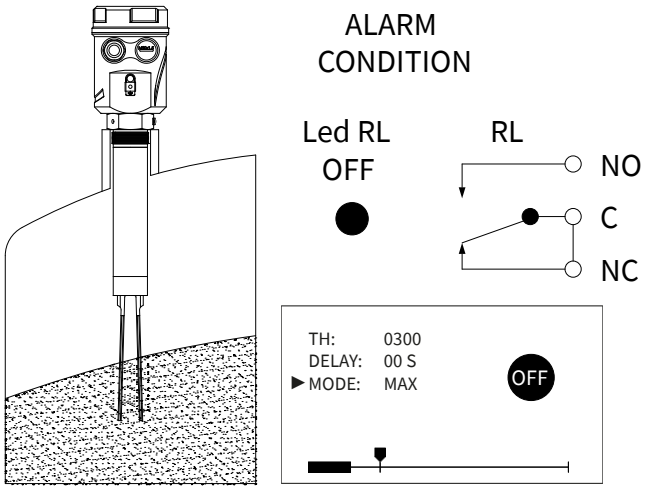
Press ENTER to modify the programming. Set the sensor alarm mode.

Use the UP ARROW to change the alarm mode, MAX or MIN, highlighted in negative.
Press ENTER to confirm.

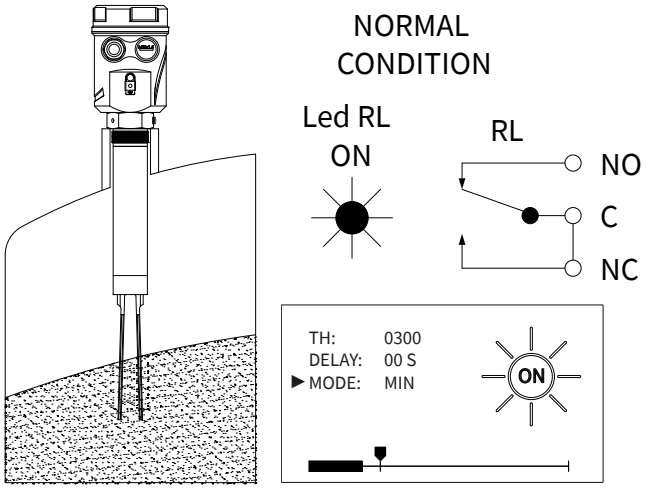


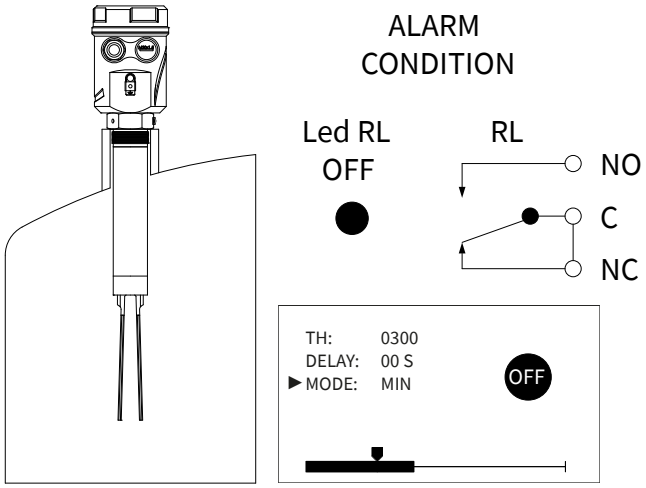
By setting the MODE parameter with the “MAX” option, the RSL200 sensors will work in maximum level alarm mode:
- normal condition; relay energized in absence of product.
- alarm condition; relay de-energized in presence of product.





By setting the MODE parameter with the “MIN” option, the RSL200 sensor will work in minimum level alarm mode:
- normal condition; relay energized in presence of product.
- alarm condition; relay de-energized in absence of product.





NOTES

10-FACTORY TEST AND QUALITY CERTIFICATE

CE

In conformity to the company and check procedures I certify that the equipment:

(Vibration probe)	(Electronic Unit)

is conform to the technical requirements on Technical Data and it is made in conformity to the procedure

Quality Control Manager: ..... Production and check date: .....

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