

RSL201

825B104A-Ex
12-9-2007

Powders and granulates vibrating level switches

TECHNICAL DATA

Power supply:	20÷36Vdc; 20÷255Vac 50/60Hz
Power consumption:	max. 0,5W (Vdc); max. 5 VA (Vac)
Housing material:	aluminium
Min. product density:	100g/dm ³
Protection:	IP66
Cable gland:	2 x M20x1,5
Terminals:	max.1,5mm ² wire cross-section
Mechanical installation:	G 1 1/2 SS316
Tuning fork:	SS316
Weight:	1,8Kg
Housing temperature range:	-20 ÷ +70 °C
Product temperature range:	-20 ÷ +90 °C
Storage temperature range:	-40 ÷ +70 °C
Operating pressure:	max. 25bar
Display leds:	output status detection mode
Switch mode:	max. or min. selectable
Delay time:	1 or 4s
Setting selection:	push buttons
Output relay rating:	250Vac 5A resistive max.
Open collector:	NPN or PNP; Max 24Vdc 10mA
Certification:	ATEX II 1/2D Ex Td A20/21 IP66 T 150°



- Powders and granulates vibrating rod switches
- Max. or Min. level control
- Relay SPTD or open collector output
- Universal AC/DC power supply unit

RSL201 Ordering code

RSL201	Code	Version
	A	Compact
	B	Rigid extension, price each 10cm
	C	Rope extension, price each m
		Code Certification
	2	ATEX II 1/2D tD A20/21 IP66 T 150°
		Code Output
	A	N. 1 SPDT relay
	B	Open collector

RSL201	A	2	A
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RSL201 General

The compact vibrating rod level switches RSL201 allow the threshold detection in powders and granulates. The vibrating rod fork is energized and vibrates at its resonance frequency. When the sensor is in contact with the product, the amplitude is damped. An integrated electronic system senses the damping and releases an operating command. When the product is no more in contact with the vibrating rod, the sensor automatically restores the normal amplitude.

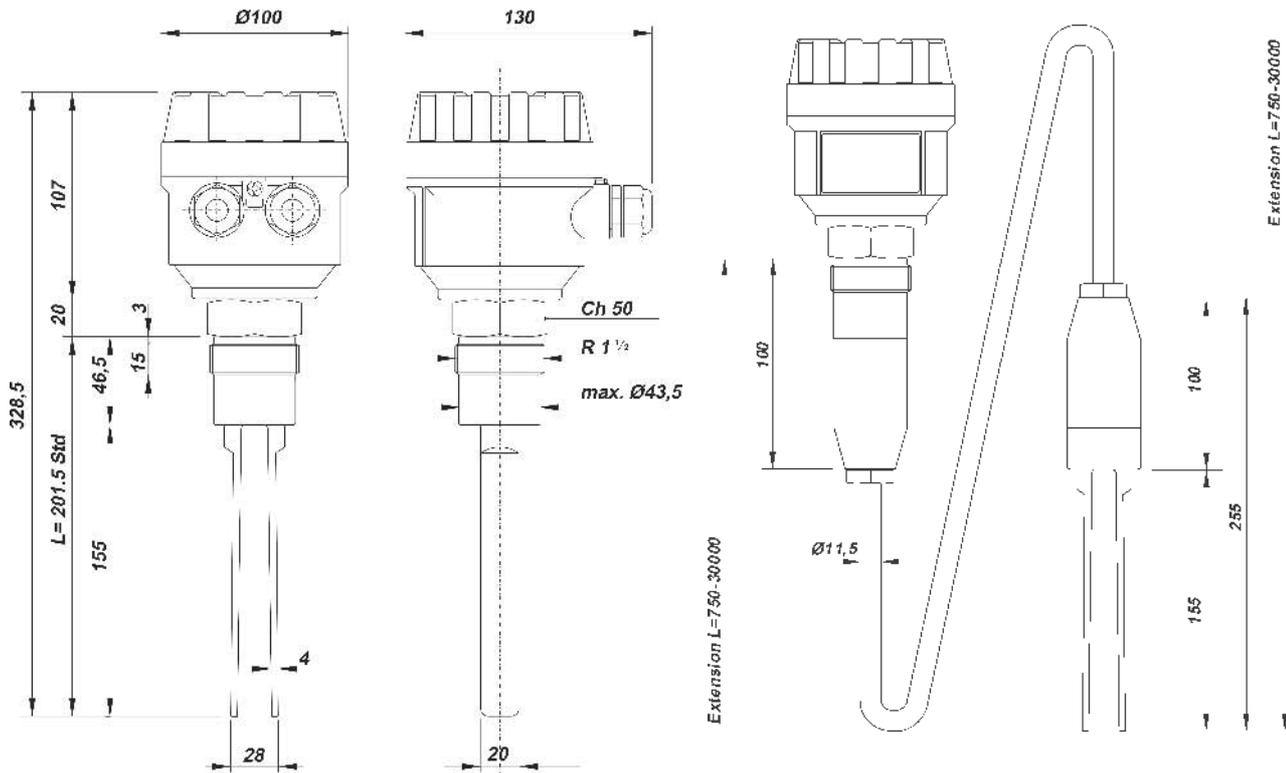
RSL201 Application

Typical applications are overfill and empty run protection systems, e.g. in flour, cereals, milk powder, sand, cement, organic granulate and plastic granules, polystyrene foam, feathers, also in hazardous areas.



applied solutions for the application

RSL200 Overall dimensions



RSL201 Electrical connections

Warning: connect only in the complete absence of line voltage.

Remove the connecting head cover, loosening the lock (grub screw M4).

The electrical connection must be done according to the incorporate electronic unit. Connect the power supply as indicated in fig. 2 and fig.3. Connect the sensor to tank ground, or to the other ground potential in case of plastic tank.

On one side of the process connection hexagonal head there is threaded hole (screw M4x5) for the ground terminal.

Relay output version (fig.2):

Power supply: 20÷255VAC, 50/60 Hz; 20÷36 Vdc

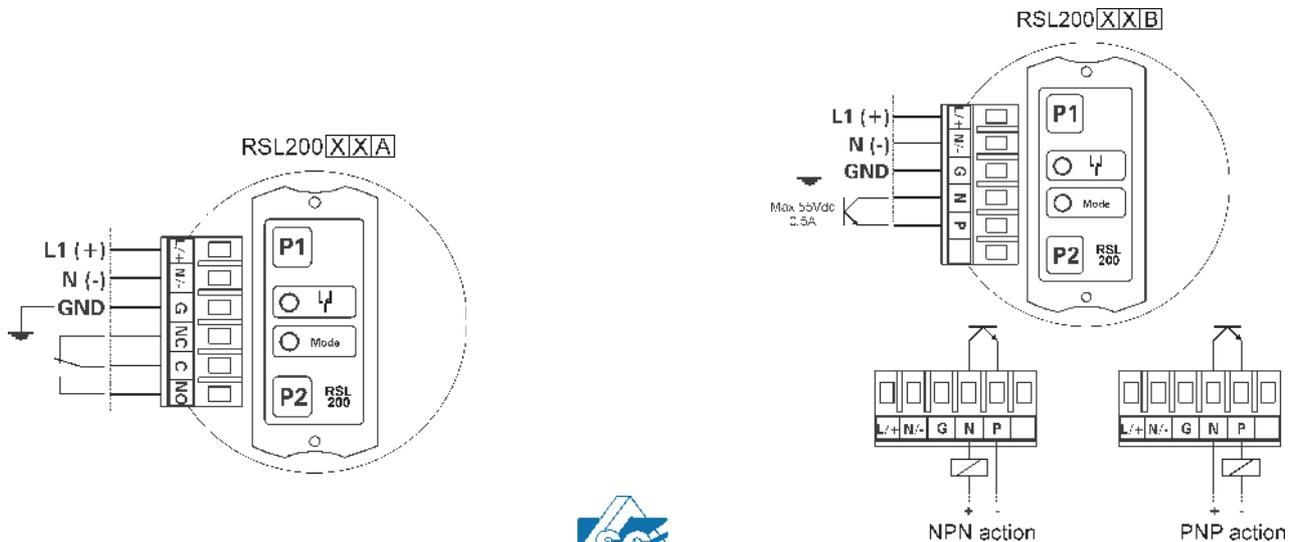
The contact exchange allows interventions on relays, remote control switches, electromagnetic valves, pilot lights, and on acoustic alarms through an external power supply.

Transistor output version (fig.3):

Power supply: 20÷255VAC, 50/60 Hz; 20÷36 Vdc

The transistor closes the circuit (open collector).

N.B. Electrical installation free form cables connection tractions, fixed installation.



RSL201 Installation

The **RSL201** can be installed in any position. The instrument must be installed in such a way that the vibrating elements are at the height of the requested switching point.

Fillers

Install the RSL200 in such a way that the vibration elements does not protrude directly into the filling stream, see fig.4.e. Should such an installation be necessary, mount a suitable baffle above or in front of the vibrating elements, see fig.4.c(1). In the case of abrasive solids control, the mounting showed in fig.4.c(2) is suggested, because a spoud is created in the concave baffle by which wear is avoided.

Horizontal installation

To achieve a very precise switching point, you can install the **RSL201** horizontally. In the case the switching point can have a tolerance of a few centimeters, we suggest to install the RSL200 approximately 20° down inclined (see fig.4.b), in order to avoid deposits. Use a CH50 wrench to tighten (fig. 5.b) and do not force the cover (fig. 5.c)

Deposits

Do not mount the sensor with fillers which have the length **b** greater than length **a** of the lower connector of the the probe (see fig. 4.f), in order to avoid deposits.

Pressure

If the tank pressure is too low or too high, the sealing proof can be reached by covering the thread with PTFE tape, hemp or similar, or by adding a sealing ring.

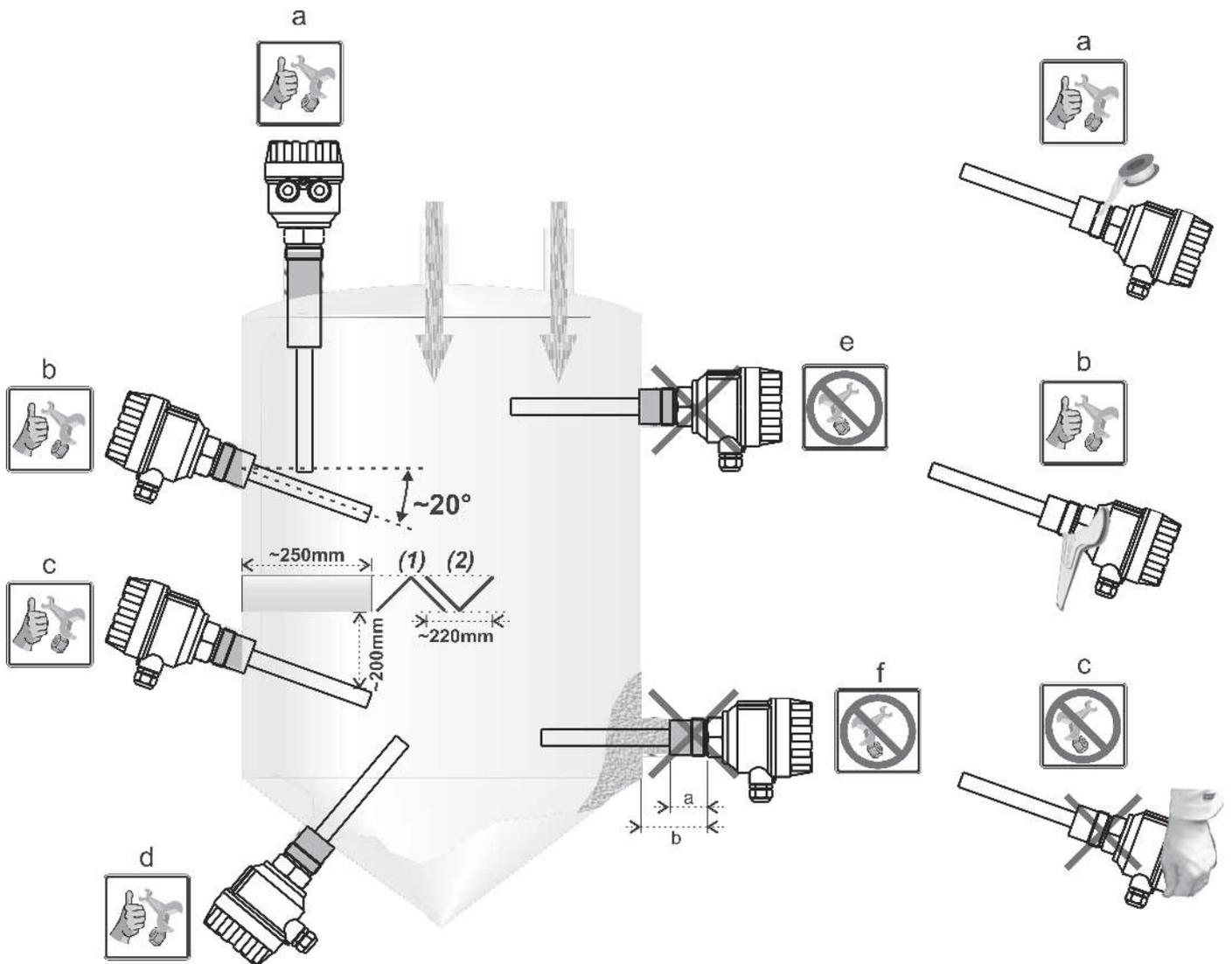


fig.4

fig.5

RSL201 Operating mode

- To set **MIN** level control mode (normally energized relay, LED on, with tuning fork covered by the product) press simultaneously P1 and P2, release them and verify that the MODE led will stay fix lightened. Press two times P1, release it and wait until the MODE led is single flashing (fig.6).
- To set **MAX** level control mode (normally energized relay, LED on, with tuning fork uncovered by the product) press simultaneously P1 and P2, release them and verify that the MODE led will stay fix lightened. Press two times P2, release it and wait until the MODE led is double flashing (fig.6).
- To change **delay alarm intervention time** press simultaneously P1 and P2, release them and verify that the MODE led will stay fix lightened, then Press P1 and P2. The selected delay alarm intervention time comes signalled in the following way: **1s**, relay led and buzzer stay ON for 1s; **4s**, relay led and buzzer stay ON for 4s.
- To change **sensor sensibility** press simultaneously P1 and P2, release them and verify that the MODE led will stay fix lightened, then Press P2 and P1. The selected delay alarm intervention time comes signalled in the following way: **Low**, relay led and buzzer stay ON for 1s, for high specific weight products; **High**, relay led and buzzer stay ON for 4s, for low specific weight products

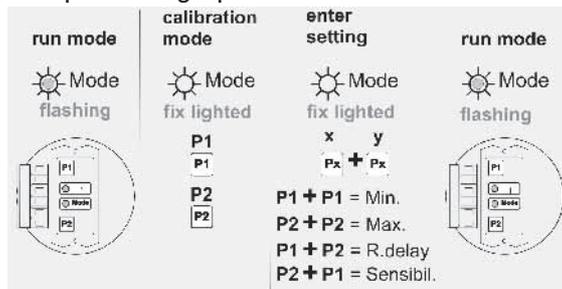


fig.6

RSL201 Use precautions and maintenance

The use of a blunt instrument, like a hammer, to remove the eventual incrustation is absolutely contra-indicated (fig.7.b), therefore it is recommended to use a suitable brush (fig.7.a). *Don't use* the tuning fork element as a step (fig.7.c).

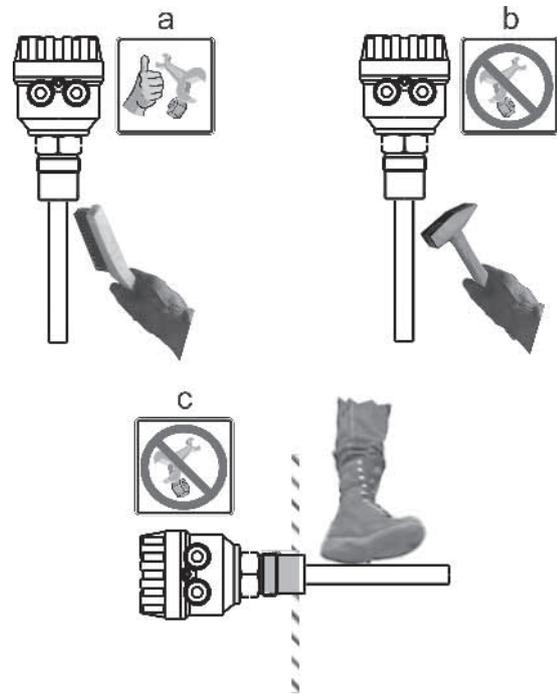


fig.7

RSL201Warranty

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 term of guarantee, whereas if the Product is replaced it will have 12 (twelve) months of guarantee. 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.

RL201 - Factory test certificate

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

RSL201 part nb.

is conform to the technical requirements on Technical Data and is made in compliance with the SGM-LEKTRA procedure

Quality Control Manager

Production and check date



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