



USER'S GUIDE

Installation, Operation, Maintenance Instructions



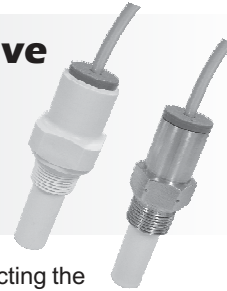
SC200 & RL202

Proximity Sensor Capacitive

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SC200 - Proximity Sensor Capacitive & RL202 - Relay controller



The Proximity Sensor Capacitive Sitron SC200 is capable of detecting the level without being in direct contact with the product. Can be detect the level of conductive or non-conductive products, various types of liquid, solid or granular substances such as acids, solvents, wood, coal, paper, glass, plastics, sugar, flour, solid aggregates, and fine filaments.

The SC200 is a compact sensor with process connection made of 316 Stainless Steel or Nylon 3/4 "BSP or NPT. It has insertion length of 60mm and 2,000 mm cable for electrical connection.

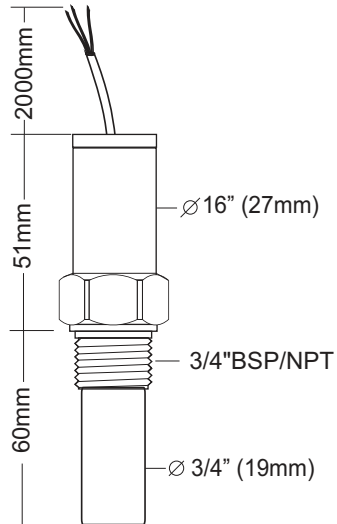
The SC200 is available for 12...30Vdc supply voltage with PNP output and can be used in conjunction with RL202 available in 110Vac or 220Vac, with NO + NC switch relay output.

Features

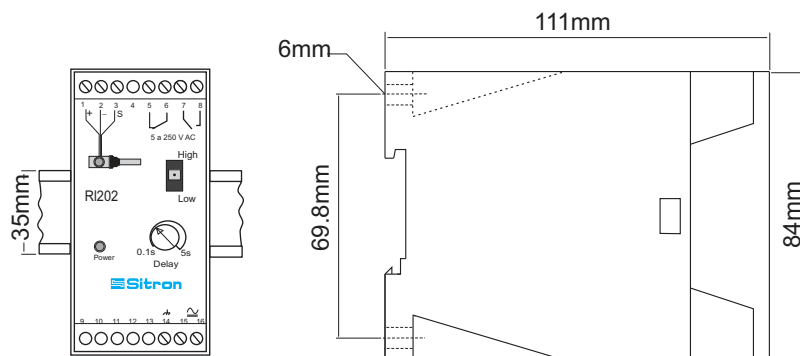
- Wide range of applications/industries:
I.e. water, oils, corrosives, solids, powders, grains, etc.
- Accurate and reliable measurement
- No moving parts - Rugged construction
- Functions on conductive as well as non-conductive medias

Models & Dimension

SC200 Standard

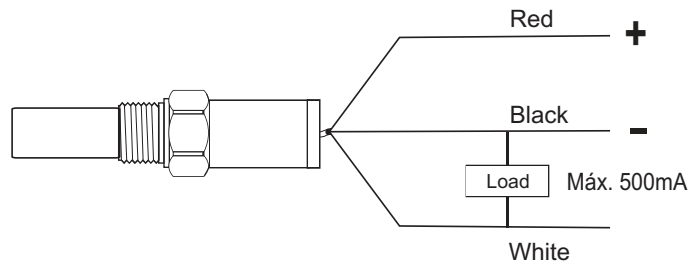


Relay Controller RL202

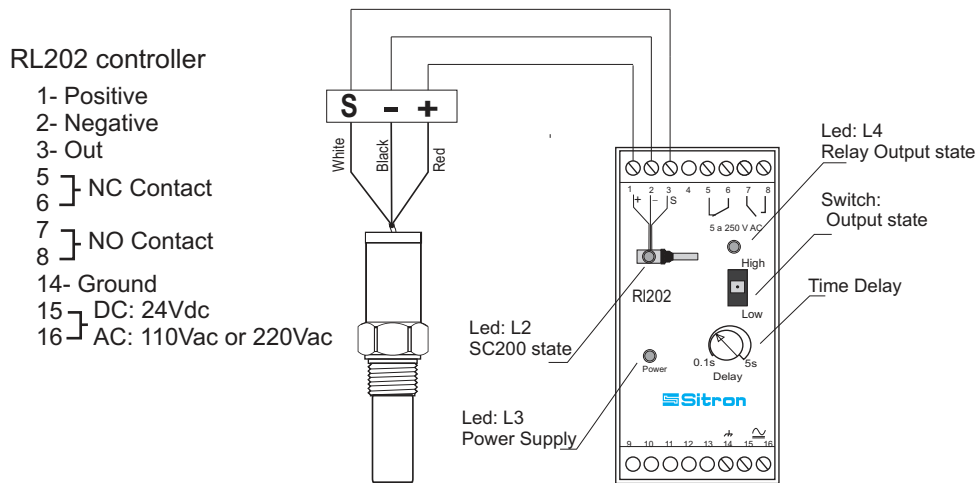


Wiring Diagram

SC200 with PNP Output



SC200 & RL202 Relay Output



Installation

Verify that the location the probe is to be mounted is clear from the stream of product (Fig. 1).

When installing more than one probe in your process, verify that they are separated by a minimum distance of 500mm (Fig. 1).

Material falling onto the probe can cause damage or switching errors. If this is unavoidable, it is recommended that a protective shield be installed above the probe to protect it. The shield is also recommended when the probe is used for a low level switch or in the outflow of the product (Fig. 2).

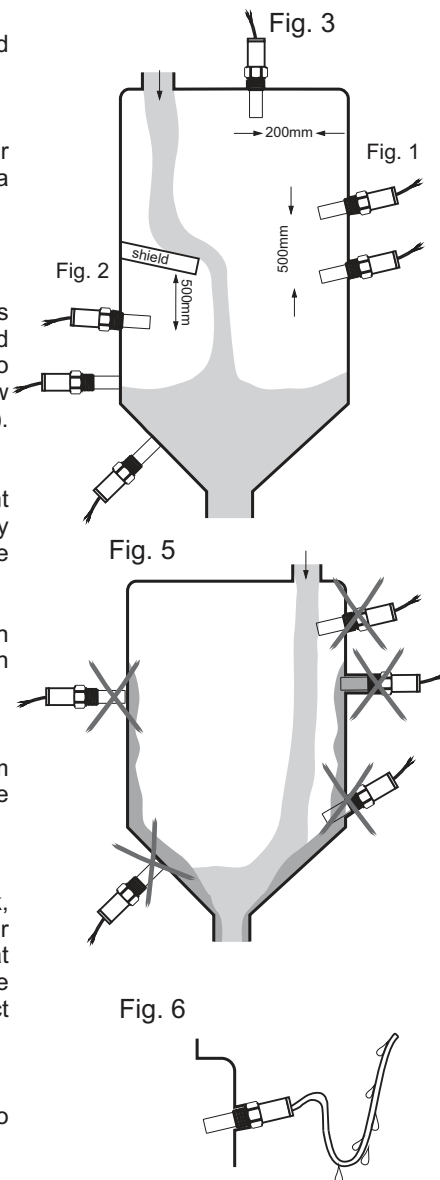
The tip of the probe should slightly point downward (when possible) so that if there are any excess of product it will easily slide from the probe (Fig. 2).

The SC200 model can be detected without being in contact with the product. For this type of detection the tank can't be metallic (Fig. 4).

When installing from the top of the tank confirm that the tip of the probe has cleared the side of the vessel at least 200mm (Fig. 3).

When installing the sensor directly to the tank, make sure that the rod extends beyond the inner wall of the tank, by as much as possible, so that internal build up or other debris does not interfere with the sensor's performance. (Fig. 2 correct Fig. 5 incorrect).

Ensure that the conduit is facing downward to avoid water from entering the housing (Fig. 6)



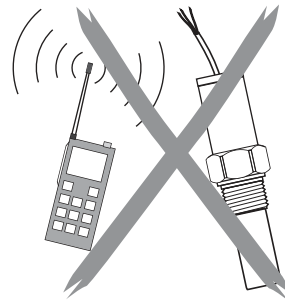
Mounting Notes

When making connections between the controller and the probe use reliability cables and make sure they are grounded.

Shielded cables prevent interference and changes in electronic

Improving and protecting against false measurements.

To avoid radio frequency interference and possible malfunction. When possible, keep hand held communication equipment away from the SC200 and RL202. If this unavoidable make a metal shield around the the flow switch and confirm that the unit has been properly grounded



Do not install the controller in harsh environments and humid. Respect class protection, working temperature and protect the same from rain and excessive heat.

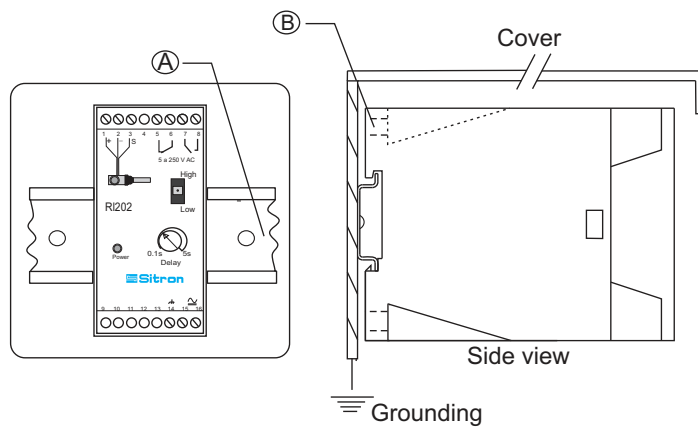
A stable Power Supply prevents burning and equipment malfunction.

Controller Mounting

Panel mounting with the protection cover

A- DIN rail (35mm)

B- Screws



Calibration

SC200 PNP Output:

:

1. Install the probe and power it on.
2. Fill the tank until the probe is in contact with the medium
3. If necessary turn the potentiometer (P1Sens.) counter-clockwise until the LED (L1) turn off (Fig.1)
4. Turn the potentiometer clockwise until the LED (L1) of the probe turn on (Fig.2).

Fig.1

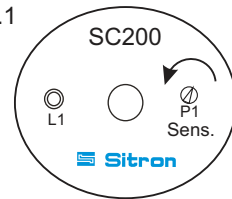
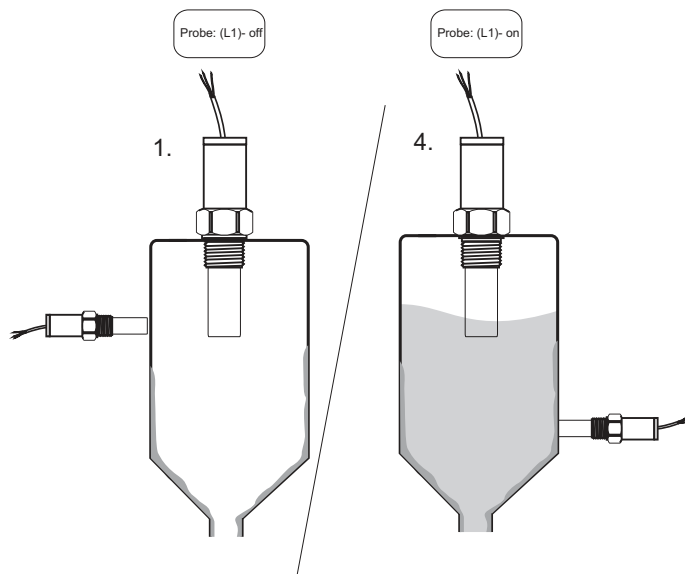
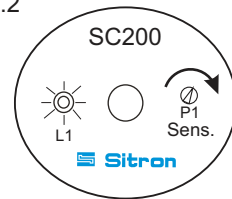


Fig.2



Calibration

SC200 & RL202 Relay Output:

1. Install the probe and power it on. The green LED (L3) on the controller should be On.
 2. Fill the tank until the probe is in contact with the medium
 3. If necessary turn the potentiometer (P1Sens.) counter-clockwise until the LED (L1) turn off (Fig.1)
 4. Turn the potentiometer clockwise until the LED (L1) of the probe and the red LED (L4) and (L3) Yellow in the controller turns On (Fig.2).
- Adjust the delay for hysteresis control.
 - Change the switch High / low to modify the sensor state

Fig.1

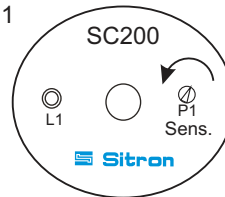
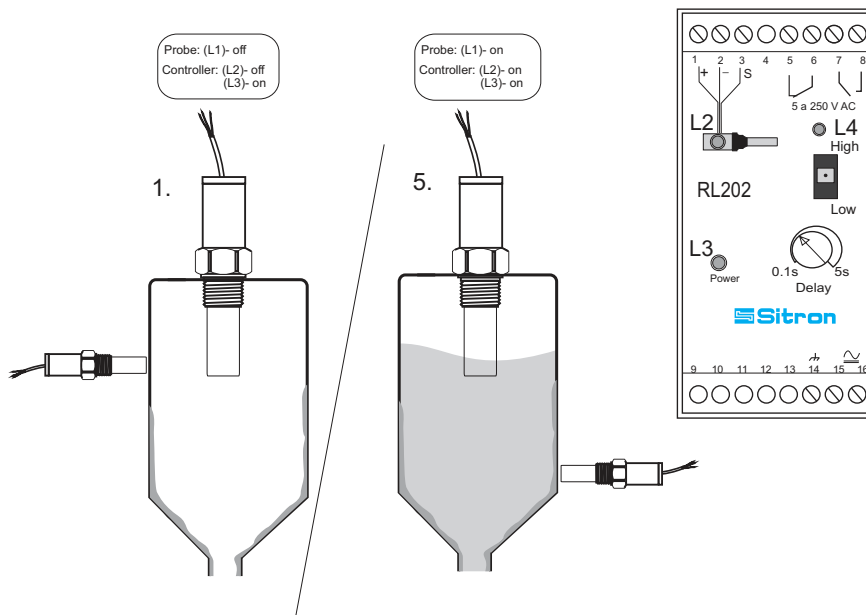
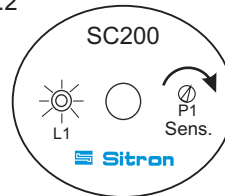


Fig.2

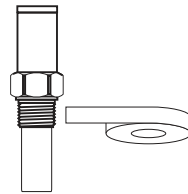


Handling & Maintenance

Probes:

Seal the thread with Teflon tape before installation (Fig. 1).

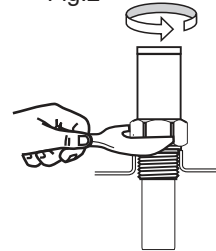
Fig. 1



Do not turn or handle by the housing.

When tightening the sensor, use only use the 316S.S. hexagon fitting to achieve a seal, do not twist with the body of the sensor. (Fig. 2)

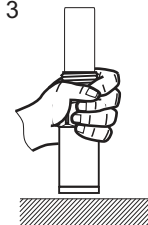
Fig.2



The probe should not be dropped or suffer any impact or fall that could damage the electronics or the coating of the probe (Fig. 3 and 4).

Periodic visual inspection of the probe is required to check for corrosion or deposit build-up. If deposits are found, clean the sensor to ensure optimum performance.

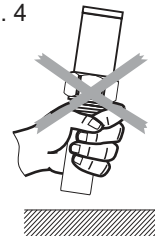
Fig. 3



Care should be taken when handling and installing probes with coated rods to avoid scratching them. Scratching the coating could interfere with the probe performance.

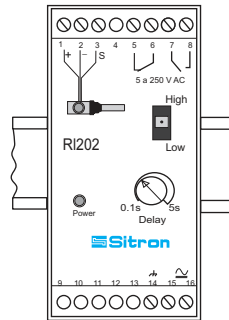
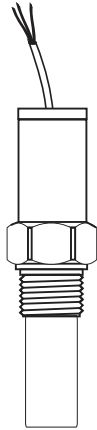
When cleaning the rod use a soft brush or any other similar object.

Fig. 4



Technical Specification

SC200 & RL202

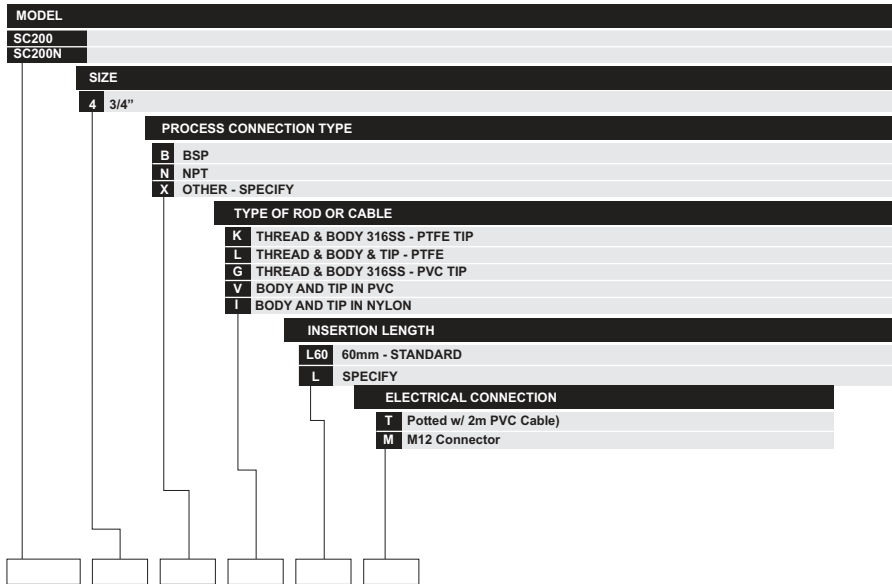


Application	Level switch for liquids and granular mediums
Operating Voltage	SC200: 12...30Vdc / RL202: 110 or 220Vac
Current Consumption	12mA
Output	SC200: PNP (3wires) / RL202: NA + NF
Adjustment	Sensibility
Frequency Oscillation	5MHz
Level Indication	LED status ON/OFF
Electrical Connection	Cable with 2000mm
Process Connection	3/4" BSP or NPT
Wetted Material	316 Stainless Steel with Nylon (Optional: Nylon all)
Operating Temperature	-10 to 80°C
Max Pressure	10 bar (25°C)
Class Protection	SC200: IP65 / RL202: IP40

Trouble Shooting

Fail	Cause	Solution
PNP Output does not work	SC200 or RL202 Off, without Power Supply	Check the Power Supply
Rele does not work	-Load is not connected, -Lack of signal from SC200	Verify the connections
	Low sensibility	Adjust sensibility by the SC200 potentiometer
PNP Output does not turn off	Coating on the probe is damaged	Send back to repair
Rele does not turn off	Material Build-up on the rod	Clear the rod

Ordering Information



MODELS	
RL202-11	115 VAC (50/60 Hz) 1 SPDT (5A-250 VAC)
RL202-23	230 VAC (50/60 Hz) 1 SPDT (5A-250 VAC)



NOTES:

1. The SC200 comes standard w/ PNP Transistor output
2. Nylon body and tip only available with an NPT connection.

Terms & Conditions

Sitron's TERMS & CONDITIONS

Design: Sitron reserves the right to make any alterations or changes necessary to improve the Products, correct defects or to make the Products safer, without prior notice or consent by Buyer.

Pricing: All stipulated amounts shall be in US dollars and all prices quoted are valid for thirty (30) days from date of offer, unless otherwise stated.

Safety and Instructions: The Buyer ensures that it and all its representatives and agents will observe all safety and technical instructions in Sitron's operating manuals, catalogs or other directions or instructions (either written or verbal).

Delivery and Freight: All goods are sold FOB point of shipment, Brasil. Transportation to the destination is the Buyer's responsibility and Buyer alone shall bear the cost of freight, optional or other shipping requirements, and or insurance. Sitron shall not be liable for loss or damage to the Products after said Products are delivered to or received by the shipper/carrier, and all risk of damage or loss shall immediately pass to Buyer.

Receiving, unloading and storing of Products will be the responsibility of the Buyer.

Buyer also accepts that courier may choose to return Products to Sitron if any local taxes or duties are not paid by Buyer at point of delivery. Buyer must make any and all claims for corrections or deductions within ten days of the delivery of the Products.

Shipment Delays: Sitron has no control over the length of time shipments may be held at customs, etc. For this reason, Sitron commits only to a "shipment date", not a "delivery date". Buyer shall not hold Sitron liable for claims resulting from delay in shipment except in cases where these terms are accepted in writing by Sitron. Acceptance of delivery of Products by Buyer shall constitute a waiver of all claims for delay.

Partial Deliveries: While Sitron strives to deliver all orders on time and complete, Sitron reserves the right to make partial deliveries when necessary.

Changes: Any changes initiated by the Buyer which affects the products specifications; quantities ordered; delivery schedule; method of shipment or packing; or delivery location, must be made in writing and signed by both parties.

In this case, Sitron reserves the right to adjust the pricing and or delivery of the order, which will be agreed to by both parties before further work is performed on the order. Any such requests will be priced according to the scope of changes and the status of the current order. Customer must sign and return or acknowledge approval of drawings along with any Purchase Order. If approval drawings are not returned with order, the delivery date may be held or pushed back until Customer has acknowledged approval.

Cancellation: Any cancellation of the Contract by the Buyer shall be effective only if made in writing and accepted, in writing by the Sitron. In such a case, Sitron is entitled to reasonable cancellation charges including but not limited to labor, material and other related expenses.

Termination Fee Schedule:

Order entered but not released for manufacturing	10%
Order in any stage of production	75%
Order complete and ready for shipment	100%

Warranty: Sitron warrants its product against manufacturing defects in material and workmanship, when installed in applications approved by Sitron, for a period of one year from the date of original shipment, unless otherwise stated in writing by Sitron.

Sitron is not responsible for damage to Sitron's Products or other equipment or products because of improper installation or misapplication of the Products by Buyer. Installation or startup of Sitron's equipment must be performed under the guidelines set forth in Sitron's instruction manuals, wiring diagrams, etc., or performed under the direct supervision of Sitron's field technicians or Sitron's authorized Sales Representatives, in order to be covered by Sitron's warranty.

Sitron shall be under no liability in respect to any defect from fair wear and tear, willful damage, negligence, abnormal working conditions, failure to follow Sitron's instructions (whether written or verbal), misuse, modification or alteration or attempted repair of the Goods without Sitron's approval.

Sitron shall not be liable under the above warranty (or any other warranty, condition or guarantee) if the total price for the Products or the payment of Services rendered has not been paid by the due date for payment.

The Buyer must make all tools, resources or personnel available to help Sitron to diagnose the defect without any back charge. In absence of Buyer's cooperation in this regard, there shall be no liability under the above Warranty.

Sitron's liability under this warranty shall be limited to repair or replacement at Sitron's option of such defective Products, FOB factory, upon proof of defect satisfactory to Sitron. Warranty does not include transport.

Return Goods: No goods may be returned without Sitron's permission and an RMA number. Sitron assumes no responsibility for return shipments made without permission. In issuing credit for such shipments, Sitron reserves the right to charge a restocking fee dependent on Sitron's ability to recondition and resell the returned equipment.

Insurance: The responsibility for insuring the Goods after the risk in them has passed to the Buyer shall be that of the Buyer.

Confidential Information: All drawings, specifications, and technical information provided by either Buyer or Sitron shall be treated as confidential and shall not be disclosed to anyone other than those who require it as part of the fulfillment of the order. Buyer agrees that the designs and/or any other related material provided are and remain Sitron's exclusive property and that the Buyer acquires no right, title or interest to this intellectual property, whether in whole or in part.

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Sitron - Brasil
R. Baronesa de Itu, 83
São Paulo - SP - 01231-001
T: (5511) 3825-2111
F: (5511) 3825-2171

Sitron - USA
1800 Prime Place
Hauppauge, NY 11788
PH: 516-935-8001
FX: 800-516-1656

www.sitron.com

BRASIL: vendas@sitron.com

USA / Other Countries: info@sitron.com