APG RPS Resistive Chain Probe Level Sensors User Manual

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IMPORTANT: RPE Sanitary Series RPS level sensor MUST be installed and cleaned according to 3-A Sanitary standards to meet listed approvals. Faulty installation will invalidate sanitary certification.

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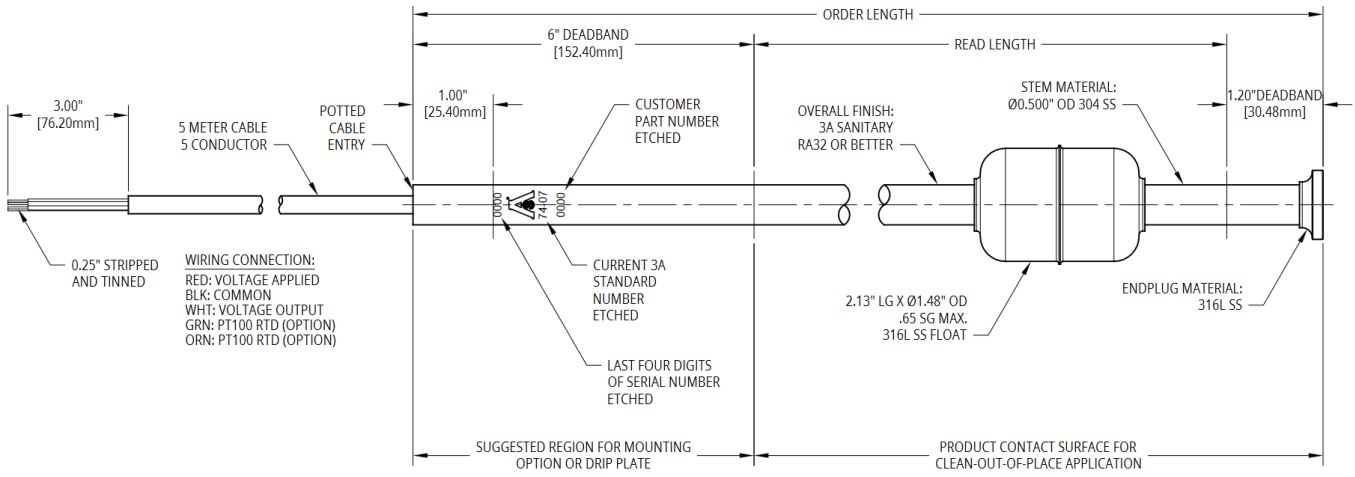
Warranty and Warranty Restrictions

This product is covered by APG's warranty to be free from defects in material and workmanship under normal use and service of the product for 24 months. For a full explanation of our Warranty, please visit www.apgsensors.com/resources/warranty-certifications/warranty-returns/. Contact Technical Support to receive a Return Material Authorization before shipping your product back.

Chapter 1: Specifications and Options

Dimensions

RPE Sanitary Series RPS Level Sensor and Float Dimensions



Specifications

Performance
Resolution ±0.25 in. (6.4 mm)

Accuracy ±0.12 in. (3 mm)
RTD – (Type PT100) Accuracy: ±1°C
Resolution: 1°C

Environmental
Process Temperature -18° – 93° C (0° – 200° F)

Electrical
Supply Voltage 5 – 30 VDC

Connectivity
Output 5-30 VDC Resistive chain

Materials of Construction
Stem 304 SS
Float 316L SS
Float Stop 316L SS
Cable 5-conductor, shielded, 22 AWG

Mechanical
Float Specific Gravity 0.65 maximum

Certifications
3-A Sanitary Compliance Standard 74-07

Model Number Configurator

Model Number: RPS - ___ - __S__ - __2__ - __C__ - ____
A B C D E

A. RTD, and Probe Mounting
□ **XX**▲ No mounting
□ **TXX** Stem RTD (1 in. from bottom of stem), No mounting

B. Stem Material
□ **S** 304 SS

C. Stem and Accessories Finish
□ **2** Sanitary

D. Float
□ **C** 2.13h x 1.48d in. Round 316 SS (0.65 SG max.)

E. Total Stem Length in Inches†
□ __ Up to 96 in. (244 cm) overall length††

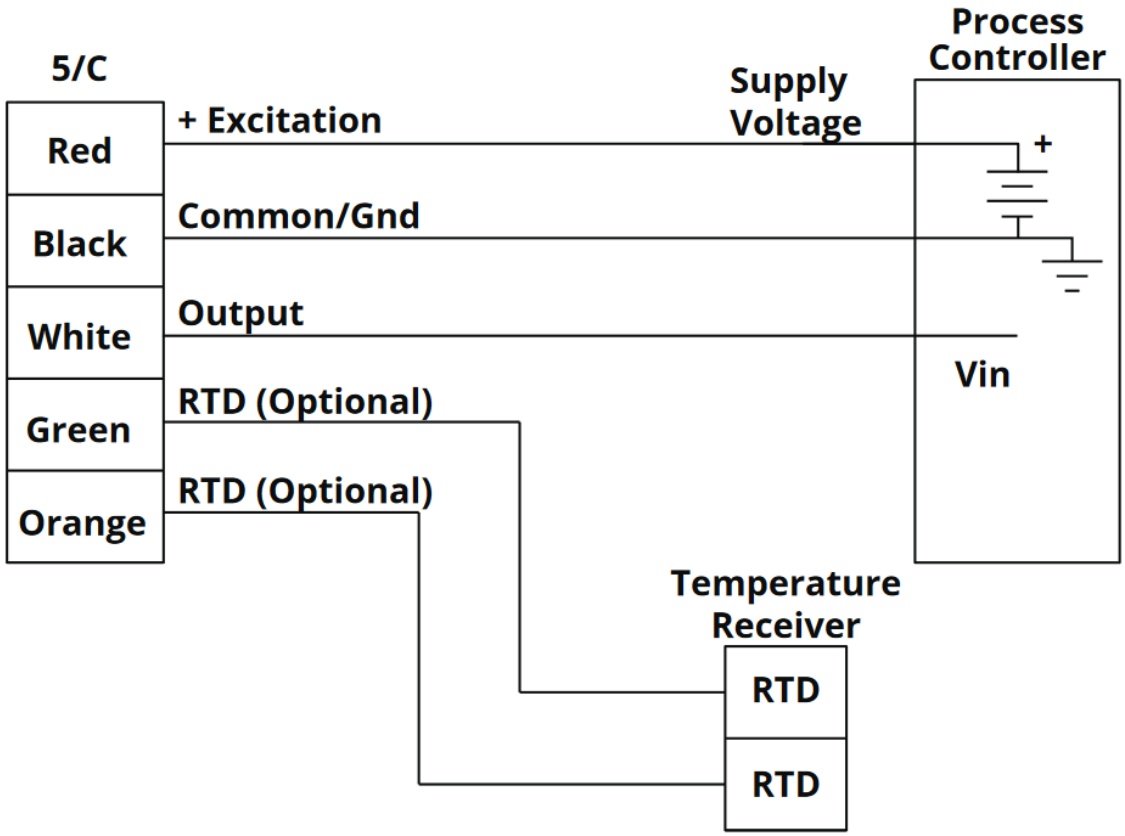
▲This option is standard
†Note: See dimensions on page 1 for Measurable vs Overall stem length.
††Note: Includes 5m of cable beyond top of probe.

Electrical Connections and Circuit Wiring Diagram

Pigtail	With RTD	Without RTD
Red	+ Power	+ Power
Black	Common	Common
White	Output	Output
Green	RTD	Not Used
Orange	RTD	Not Used
Shield	Earth Ground	Earth Ground

	With RTD	Without RTD
Power Supply	5-30 VDC	5-30 VDC

RPS Circuit with RTD



Chapter 2: Installation and Removal Procedures and Notes

Tools Needed

You will need the following tools to install your RPE Sanitary Series RPS level sensor:

- Tools for attaching drip plate or protective cover to RPS probe
- Tools for attaching drip plate or protective cover to tank/vessel

Physical Installation Notes

The RPS should be installed in an area–indoors or outdoors–which meets the following conditions:

- Ambient temperature between -18° and 93° C (0° – 200° F)
- Temperature of medium between -18° and 93° C (0° – 200° F)
- Relative humidity up to 100%
- Ample space for maintenance and inspection

Additional care must be taken to ensure:

- The probe is located away from strong magnetic fields, such as those produced by motors, transformers, solenoid valves, etc.
- The probe is not exposed to excessive vibration.
- The probe is located away from inlets or outlets.

Physical Installation Instructions

- Mount a drip plate or other protective cover on RPS probe to prevent contaminants above the sensor from entering the liquid.
- Ensure that the RPS probe is secured in an upright position, and that only the stem is in the liquid to be measured.
- Attach the drip plate or cover to the tank/vessel as required or provided.

Electrical Installation

- Connect wires from RPS probe to terminals of your control/measurement system.

See Electrical Connections and Circuit Wiring Diagram.

Removal Instructions

Removing your RPE Sanitary Series RPS level sensor from service should be done with care.

- Detach drip plate or other protective cover from the tank/vessel.
- Remove probe and protective cover from liquid. Ensure that any liquid on the probe is cleaned or contained in a safe and/or sanitary way, as required.
- Clean the stem and floats of any build up or debris and inspect for damage.
- Store your sensor in a dry place, at a temperature between -18° C and 93° C (0° F and 200° F).

Chapter 3: Maintenance

General Care

Your RPE Sanitary Series RPS level sensor is designed to be low maintenance. However, in general, you should:

- Regularly inspect your RPS to ensure the stem and float are free of any buildup that might impede the movement of the float or create an unsanitary condition.
- Ensure the drip plate or other protective cover is snuggly secured. If the cover becomes damaged or is misplaced, order a replacement immediately.

Cleaning

Your RPE Sanitary Series RPS level sensor is designed to be cleaned using “Clean-Out-of-Place” procedures:

- Follow the Removal Instructions on page 5 to remove the RPS probe.
- Follow on-site “Clean-Out-of-Place” procedures.
- Follow Physical Installation instructions on page 5 to reinstall the RPS probe.

Repair and Returns

Should your RPE Sanitary Series RPS level sensor require service, please contact the factory via phone, email, or online chat. We will issue you a Return Material Authorization (RMA) number with instructions.

- Phone: **888-525-7300**
- Email: **sales@apgsensors.com**
- Online chat at **www.apgsensors.com**

Please have your part number and serial number available. See Warranty and Warranty Restrictions for more information.

IMPORTANT: All repairs and adjustments of the RPE Sanitary Series RPS level sensor must be made by the factory. Modifying, disassembling, or altering the RPS probe on site is strictly prohibited and may jeopardize your probe’s sanitary rating.

Chapter 4: Sanitary Certificate

Sanitary Certificate

ISSUE DATE: April 22, 2009 CERTIFICATE AUTHORIZATION NUMBER: 1509

THIS IS TO CERTIFY THAT

Automation Products Group, Inc.
1025 West 1700 North, Logan, UT 84321

is hereby authorized to continue to apply the 3-A Symbol to the models of equipment, conforming to 3-A Sanitary Standards for:

Number 74-07
74-07 (Sensors and Sensor Fittings and Connections)

set forth below

COP Models: RPE Sanitary Series (RPS)

VALID THROUGH: **December 31, 2020**

Timothy R. Rugh
Executive Director
3-A Sanitary Standards, Inc.

The issuance of this authorization for the use of the 3-A Symbol is based upon the voluntary certification, by the applicant for it, that the equipment listed above complies fully with the 3-A Sanitary Standard(s) designated. Legal responsibility for compliance is solely that of the holder of this Certificate of Authorization, and 3-A Sanitary Standards, Inc. does not warrant that the holder of an authorization at all times complies with the provisions of the said 3-A Sanitary Standards. This in no way affects the responsibility of 3-A Sanitary Standards, Inc. to take appropriate action in such cases in which evidence of nonconformance has been established.

NEXT TPV INSPECTION/REPORT DUE: **December 2024**

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Documents / Resources

	APG RPS Resistive Chain Probe Level Sensors [pdf] User Manual RPS Resistive Chain Probe Level Sensors, RPS, Resistive Chain Probe Level Sensors, Chain Probe Level Sensors, Probe Level Sensors, Level Sensors, Sensors

References

- User Manual

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