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RACi Rationalization of Combustion Processes d.o.o.
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If you are interested in getting more details about the level switches applications in your process, please fill up the questionnaire given in this section and send it to us. We will be very pleased to help you.

CUSTOMER QUESTIONNAIRE

- Name of the company: _____
- Responsible person: _____
- Contact information
 Phone: _____
 E-mail: _____
 Address: _____
- Material Type: Liquid Solid Other: _____
 Material Shape: Powder Light material Sticky Other: _____
 The material is: Conductive Non conductive
- Type of application / Identification purpose: _____
- Tank / Vessel structure: Grounded Not grounded
 Tank's material: Plastic Concrete Metallic Other: _____
- Installation method: Upper Side Bottom
 Process connection / Connection type: _____
- Process conditions:
 Working Temperature: _____
 Working Pressure: _____
 Vibration: Yes No
 Corrosion: Yes No
 Stainless steel attack: Yes No
 Other: _____
- Special client requirements:



TAG Level switches suitable for any working conditions and all materials



TAG Level switches suitable for any working conditions and all materials

TAG LEVEL SWITCHES (TAG) are designed to detect the presence of different materials accrued in the surroundings of the electrode's position. Materials can be any fluids, semi-fluids, powders and granules, conductive or non-conductive.

HOW THE SYSTEM WORKS?

TAG operates on the basis of radio frequency (RF) absorption measurement in electrode environment.

- The electronic unit generates a continuous sinusoidal wave applied to the probe, creating a field around it.
- RF environment absorption changes (electrical loss) around the probe, are reflected on changes of the generator supply current.

PURPOSE AND APPLICATIONS

TAG level switches are designed to control (generate pumping commands) and/or signal the level of various materials in containers (i.e. grains in silos, water in reservoirs, feeding plastic raw materials to extruders, oils and chemicals in various containers).

- Indicate the presence of material at a fixed place.
- To enable material in container to reach a predetermined level.
- To prevent material in container to go lower than a predetermined level.
- To keep material within 2 fixed levels (i.e. liquid in tanks, material in bins, etc.).
- To prevent pumps from dry-running.
- Overflow protection in water pools, liquid containing tanks, etc.

Materials

- Pigments for the colour industry.
- Colours in containers and industrial processes.
- Glues and adhesives on watery and non watery basis (such as in paper industry, laminates, gluing metal films on plastic).
- Various chemicals in industrial processes and storage tanks.
- Impregnating materials in impregnation vessels.
- Cement, flour, etc. in tanks and tankers.
- Level of stones, sand, lime and aggregates in silos at quarries and in ready-concrete plants.
- Fly-ash and settled ash.
- Plastic raw material.
- Control of liquefied cryogenic gases (i.e. fluid nitrogen at -220 °C).
- Control of level in oil (mineral and organic) tanks and tankers.

Special conditions

- Very corrosive materials (i.e. bromines and compounds, hydrochloric acid, chlorine, etc.).
- Materials at high temperature of 250 °C (in reactors and furnaces).
- Pharmaceutical processes.
- Distinguish intrusion of oil in water / water in oil.
- Liquid – liquid interface separation.
- Keep water contents in material (such as water content in margarine).
- Control of compensating water.
- Foam detection and differentiation of foam from liquid.
- Detection of liquids in accurate point.



Two types of TLS sensing units are available:

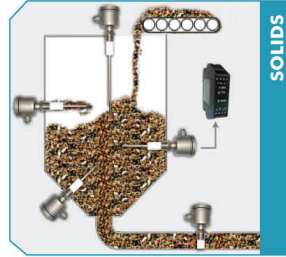
1. SENSING UNIT FOR NON-CONDUCTIVE MATERIALS

Sensing units of this type are used for indication of non-conductive materials. The stainless steel sensor may be without any cover or fully covered by PTFE (teflon).

All the sensing units can be fully covered by the materials they are working with (i.e. powder, grain, oil, etc.). Piling up or sticking of the material around the sensor will not disturb or alter its normal function (of the sensing unit).

Applied materials

- Cement, fly-ash, chalk, gypsum, lime, sand & aggregate, minerals, quarries.
- Flour, sugar, salt, oil, grains, seeds, pellets, fodders & meals.
- Plastic raw materials (PVC, PE, PP, etc.).
- Glue and paints (oil based).
- Thinner and solutions.
- Organic & inorganic oils.
- Detergents.
- Treated water.



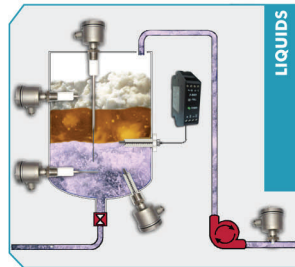
2. SENSING UNIT FOR CONDUCTIVE MATERIALS

Sensing units of this type are used for indication of conductive materials.

All the sensing units can be fully covered by the materials they are working with (i.e. juice, milk, conductive chemical etc.). Piling up of the material on the sensor will not disturb or make any change in its normal function (of the sensing unit).

Applied materials

- Juice & concentrates.
- Milk & products.
- Glue and paints (water based).
- Detergents.
- Caustic soda.
- Identification of foam (light, heavy).
- Identification of water in oil.
- Liquid / liquid interface.
- Condensation water.
- "Dirty" water (sewage, mud).



SPECIAL CLIENT REQUIREMENTS

For conductive and non-conductive liquids, powders and grains that require a full isolation from the sensor, TAG offers an addition of a separate sensor that is fully covered with teflon or with any other material upon request.

TECHNICAL SPECIFICATIONS

- Input Voltage: 24 VAC/DC.
- Frequency: 50/60 Hz.
- Working current: 0,04 A (max).
- Ambient temperature: -20 °C to + 80 °C.
- Working temperature: -20 °C to + 80 °C (PVC) / 150 °C (SS316) / 240 °C (PTFE).
- Operation pressure: -1 to 10 bar.
- Sensors for special operating conditions on request (e.g. temperature up to 900 °C)

*TLS Level switches suitable for
any working conditions
and all materials*

TAG

TLS LEVEL SWITCH SENSING UNITS MODELS

1. COMPACT UNIT

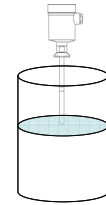
TLS 807 is designed to work with all non-conductive materials (solids, powders, liquids, etc.) or for conductive liquids when the probe is fully coated. In this case the vessel can be isolated.

TLS 902 is designed to work with all conductive liquids. In this case the vessel must be grounded.

TLS 909 is designed to work with low conductive liquids. In this case grounding is not necessary.

TLS 12/D is designed to work with conductive liquids, it can be used for one level or min/max level control.

TLS 807 / 902 / 909 / 12/D



Compact unit

2. SPLIT UNIT

TLS 807R/902R/909R are the remote versions of **TLS 807/902/909**. The remote unit must be connected to a control box.

The control box is connected to the remote unit with simple 2-wire. The distance between them is up to 1 km.

The control boxes are:

S-BOX is a DIN rail control box. It is used for a single remote unit.

S-BOX 12 is a DIN rail control box, it can be used for a single level or min/max system, it can be connected to one or two probes

S-Box

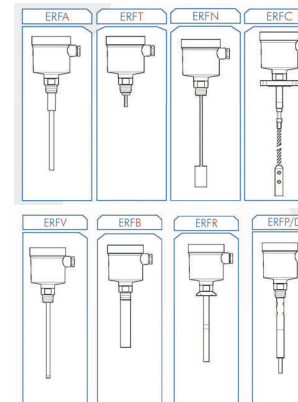


TLS 807R / 902R / 909R

Split unit

ELECTRODES

Various types of electrodes are available:



ERFA: standard for non-conductive or conductive materials.

ERFT: standard for non-conductive or conductive materials.

ERFN: for very light powders.

ERFC: for long deep detection.

ERFV: for aggressive materials.

ERFB: for aggressive materials.

ERFR: for food, pharmaceutical.

ERFP/D: high pressure, min & or max system.

*No maintenance required,
no moving parts
and easy installation*

TAG