

# Tuning Fork Level Switch

## RTF312 series



High / Low fail safe modes



Fast response time 0.6S



Adjustable sensitivity to fit versatile density of material



No mechanical moving parts, maintenance free

**Product  
Datasheet**

# ROCKSENSOR AT A GLANCE (ABOUT US)

Rocksensor is one of the global leaders specializing in Process Instrumentation, Research and Development and Designing of Industrial Automation Equipment. We provide highly precise pressure sensors and transmitters, flow metres, level transmitters and temperature transmitters with a prime focus to help our clients efficiently, safely and economically run complex industrial processes.

Rocksensor, headquartered in Switzerland, has its footprint in various geographical regions such as the US, Russia, South Korea, Italy, Germany, Singapore, Malaysia, Morocco, China, Taiwan, Australia, UAE, Brazil and India. Our clients come from some of the major industries such as Oil and Gas, Petrochemicals, Pharmaceuticals, FMCG, Automobiles, Water, Cement, Metal & Mining, and mainly from the Power Industry like Nuclear, Thermal, Hydro, and Solar.

Rocksensor deals in a wide range of highly accurate industrial automation instruments ensuring that even the complex industrial processes happen efficiently.

To fulfill the needs of our clients we make sure that our instruments work in even the harsh environmental conditions offering accurate recordings and communication.

We, at Rocksensor, believe in creating bonds that last a lifetime and create a success story for each and every client. Rocksensor aims to achieve a perfect fit in the global market landscape and establish our footprints across the globe.



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## KEY APPLICATION INDUSTRIES

- Chemicals and Fertilizers
- Power
- Water
- Pharmaceutical
- Fertilizer
- Cement
- Metal
- Pulp and Paper
- Agriculture
- Textiles

### 1. Salient Features

- AC&DC dual power supply design.
- High / Low fail safe modes.
- Adjustable sensitivity to fit versatile density of material.
- No mechanical moving parts, maintenance free.
- Unaffected by flow, foam, solids content, coating and properties variation of targeted media.
- Withstand static electricity.
- Fast response time 0.6s (adjustable).

### 2. Measuring Principle

The tuning fork level switch working principle based upon detecting the change in harmonic vibration frequency of the sensing element as a result of the presence of the target media. Tuning fork level switch operated by using two piezoelectric elements built in on vibration tube. The first piezoelectric element triggered by a pulse signal that created from circuit to transport vibration energy out and the other piezoelectric element receives the vibration and transmits it to output electric signal. When the probe comes into contact with the fluid, it will cause the frequency change of output signal and the vibration will hold and send out the relay on at the same time.



### 3. Applications

The tuning fork level switch has a wide range of applications. It can detect high/low level of both liquid and solid, such as coffee powder, tea, flour, sand casting, spices, peanuts, tobacco, animal food, granules, freeze-dried coffee, stearin, wood chips, plastic granules, gravel, coal, clay powder, powdered fiber, glass silicon powder, foaming material, soda, polystyrene powder, etc.

## 4. Specifications



Standard Version

Extension Version

	Standard Version	Extension Version
<b>Power Supply</b>	20 ~ 250VAC/VDC, 50/60HZ	
<b>Power</b>	Max. 10VA	
<b>Sensitivity</b>	High/ Low	
<b>Cable Entry</b>	1/2"NPTx2 holes	
<b>Process Connection</b>	G1" or 1"NPT	
<b>Process Pressure</b>	Vacuum ~ 20bar	
<b>Ambient Temperature</b>	(-)40°C ~ 70°C	
<b>Process Temperature</b>	(-)40°C ~ 130°C	
<b>Output</b>	Relay, SPDT, 2A/250VAC Max. or NPN/PNP or NAMUR	
<b>Delay</b>	0.6S action; 1s ~ 3s reset	
<b>Vibrational Frequency</b>	355Hz ~ 365Hz	
<b>Tine Material</b>	SS304/ 316	
<b>Fail Safe Modes</b>	High/ Low	
<b>Housing/ Protection</b>	Aluminium/IP65	
<b>Max. Vertical Bearing Force Of The Induction Rod</b>	20Nm	
<b>Min. Induction Density Of The Induction Rod</b>	Powder: 0.23g/cm <sup>3</sup> ; Liquid: 0.8g/cm <sup>3</sup>	

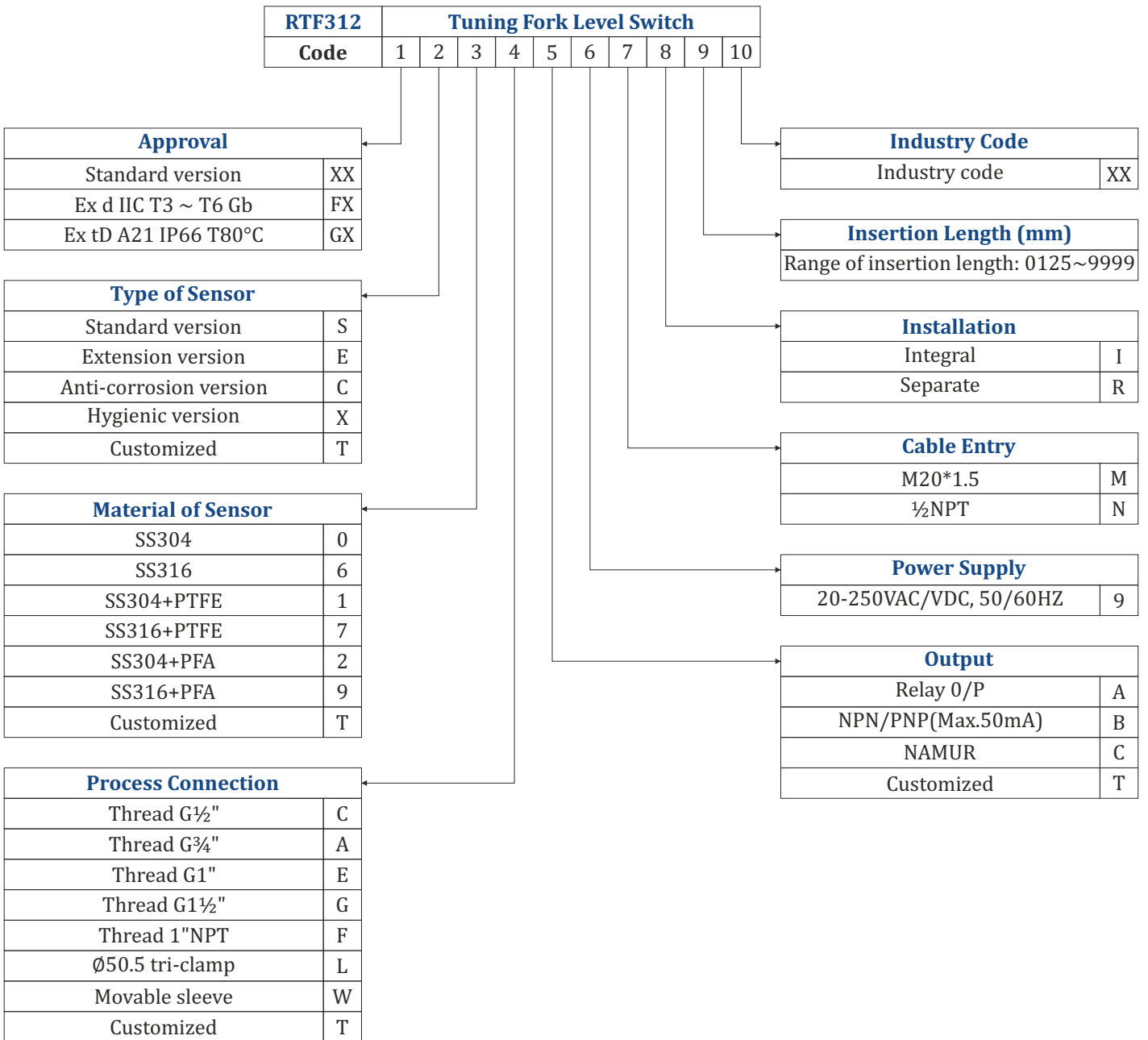


**Standard Version**

**Extension Version**

	<b>Standard Version</b>	<b>Extension Version</b>
<b>Power Supply</b>	20 ~ 250VAC/VDC, 50/60HZ	
<b>Power</b>	Max. 10VA	
<b>Sensitivity</b>	High/ Low	
<b>Cable Entry</b>	1/2"NPTx2 holes	
<b>Process Connection</b>	Flange Min.1"	Hygienic joint 2"
<b>Process Pressure</b>	Vacuum ~ 20bar	
<b>Ambient Temperature</b>	(-)40°C ~ 70°C	
<b>Process Temperature</b>	(-)40°C ~ 130°C	
<b>Output</b>	Relay, SPDT, 2A/250VAC Max. or NPN/PNP or NAMUR	
<b>Delay</b>	0.6S action; 1s ~ 3s reset	
<b>Vibrational Frequency</b>	355Hz ~ 365Hz	
<b>Tine Material</b>	SS304/316 covered with PTFE or PFA	SS304/316
<b>Fail Safe Modes</b>	High/ Low	
<b>Housing/ Protection</b>	Aluminium/IP65	
<b>Max. Vertical Bearing Force Of The Induction Rod</b>	177in.Lbs (20Nm)	
<b>Min. Induction Density Of The Induction Rod</b>	Powder: 0.23g/cm <sup>3</sup> ; Liquid: 0.8g/cm <sup>3</sup>	

## 5. Ordering Code



**Example:** RTF312-XXS6AB9I1000XX

XX - Approval: Standard

S - Type of Sensor: Standard version

6 - Material of Sensor: SS316

A - Process Connection: Thread G¾"

B - Output: NPN/PNP(Max.50mA)

9 - Power supply: 20-250VAC/VDC, 50/60HZ

M - Cable entry: M20\*1.5

I - Installation: Integral

1000 - Insertion length (mm): 1000mm

XX - Industry code

\*For any customisation, contact our sales team