

## Needle RS1N and RS1N ATEX Datasheet

### Description:

The RS1NLxxx sensors are ultrasound sensitive contact probes, available in standard and ATEX version.

A piezoelectric crystal glued on a mechanical resonant structure ensures the transduction from vibration to electric signal, through a needle of different lengths.



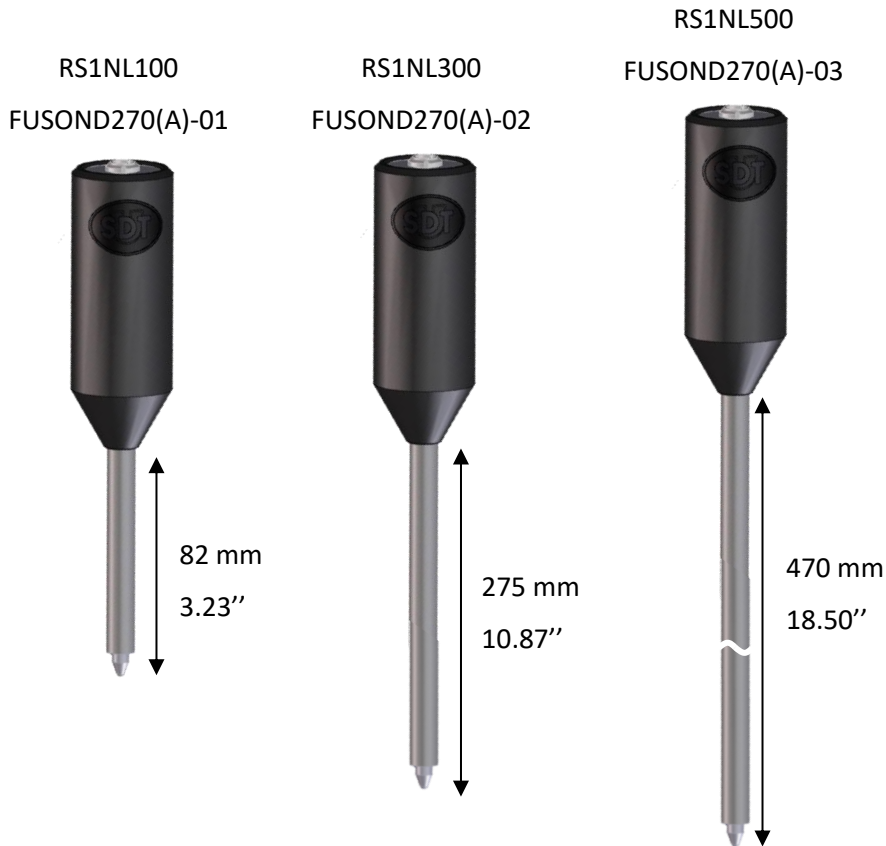
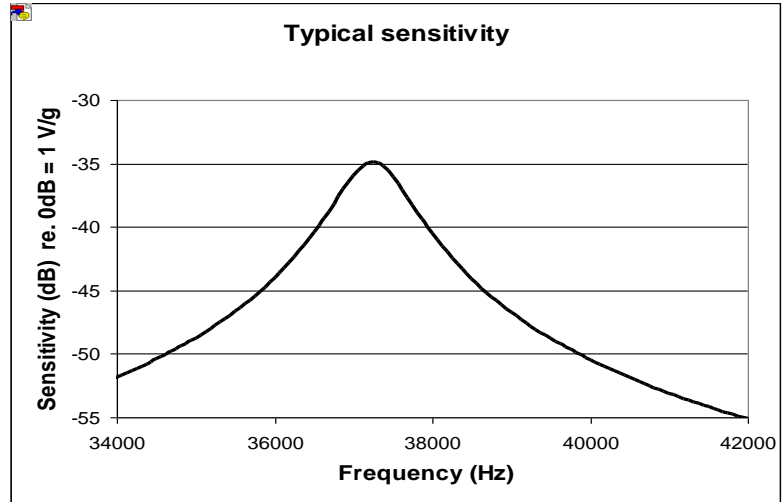
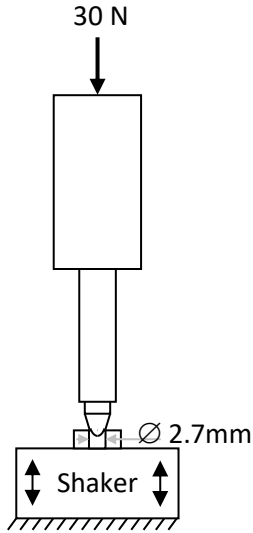
### Specifications:

General		
Function		Ultrasound contact resonant sensor
Model recognition		FUSOND270(A=Atex)-model length (01-02-03)
Certifications		EMC, ROHS, ATEX (see DoC)
Center frequency (at 20°C)	kHz	37.2 ± 0.5
Thermal deviation of the center frequency	Hz/°C	-12
Measurement bandwidth	kHz	4
RMS sensitivity within the bandwidth	mV/g	9.7 ± 2dB
Environmental		
Operating temperature range	°C (°F)	-10 to 40 (14 to 104)
IP rating		50
Specifications for ATEX version		II(1) G / Ex ia II C T3/T2 Ga
<b>To be used with SDT ATEX devices only</b>		
Mechanical		
Housing material		303 Stainless steel and Aluminum (connector)
Protection tube		Aluminium
Holster material		Nitrile Butadiene Rubber
Dimensions	mm (in)	∅36 mm (1.42") : x 82 (3.23) model RS1NL100(A) x 276 (10.87) model RS1NL300(A) x 571 (18.50) model RS1NL500(A)
Weight	g (oz)	205 (7.23) model RS1NL100(A) 265 (9.35) model RS1NL300(A) 325 (11.46) model RS1NL500(A)
Connector		LEMO 7 female
Recommended position		Perpendicular to the surface

**The needle is a part of the resonant structure, please do not disassemble it!**

NB: Additional specifications are available at the download section of SDT web site:  
[www.sdtultrasound.com](http://www.sdtultrasound.com)

**Test conditions**



The information herein is believed to be accurate to the best of our knowledge.  
 Due to continuous research and development, specifications are subject to change without prior notice.

## Safety recommendations:

- Do not expose the sensor to rough handling or heavy impacts.
- Always read and follow the user manual.
- Opening the housing of the sensor may result in hazardous mishandling and voids warranty.
- Do not use the sensor in areas where there is a risk for explosion.
- Do not expose the equipment to high humidity or direct contact with water.
- All repair work should be performed by SDT.
- Using the sensor with non-SDT instruments can cause internal damage.

3	CMA 27/01/2021	New layout + additional info, fusion ATEX-non-ATEX	CGR
2	-	Modified version-	-
1	-	Original version	-
<b>Ver.</b>	<b>Editor</b>	<b>Nature of modification</b>	<b>Verified</b>

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