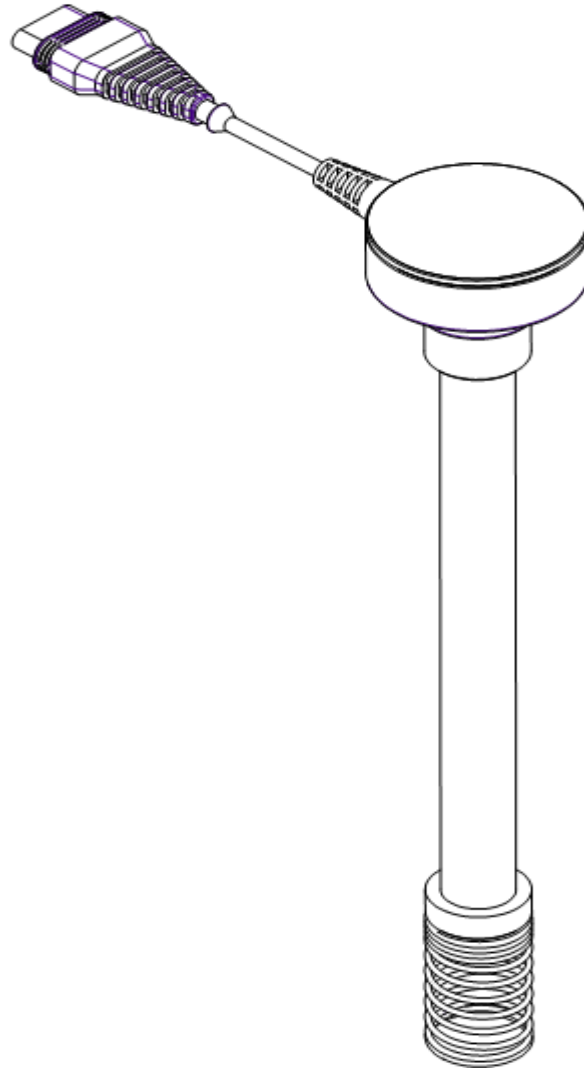


**SOJI-SERIES  
FUEL LEVEL SENSOR**

September 2015 - Revised december 2015

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**FUEL LEVEL SENSOR SOJI**

**Models: SOJI-A  
SOJI-R  
SOJI-F**

**REVISED DECEMBER 2015**

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**1. General description**

Fuel level sensor SOJI-Series is designed for measuring fuel consumption in Automotive, Industry, Transportation... with high accuracy up to 99.5%. Currently on the market there are some types of sensor used to measure the fuel level using various technologies, such as reed switches technology, ultrasonic technology and capacitive technology. The capacitive sensor technology is known as the most popular technology in this field.

**2. Features**

- ✓ Using capacitive technology.
- ✓ High accuracy up to 99.5%
- ✓ Wide temperature range -40°C – +85°C
- ✓ Automatic compensation base on ambient temperature
- ✓ Fast sampling
- ✓ Working well in vibration while moving and working
- ✓ IP67 water proof standard
- ✓ Output various: Analog 1..10VDC, frequency, pulse, RS232
- ✓ Length adjustable (cut out up to 50%)
- ✓ Easy to installtion.













**3. Applications**

- Manage fuel consumption of Truck, Excavator...
- Factory, industrial zone
- Manage fuel consumption of generator machines.

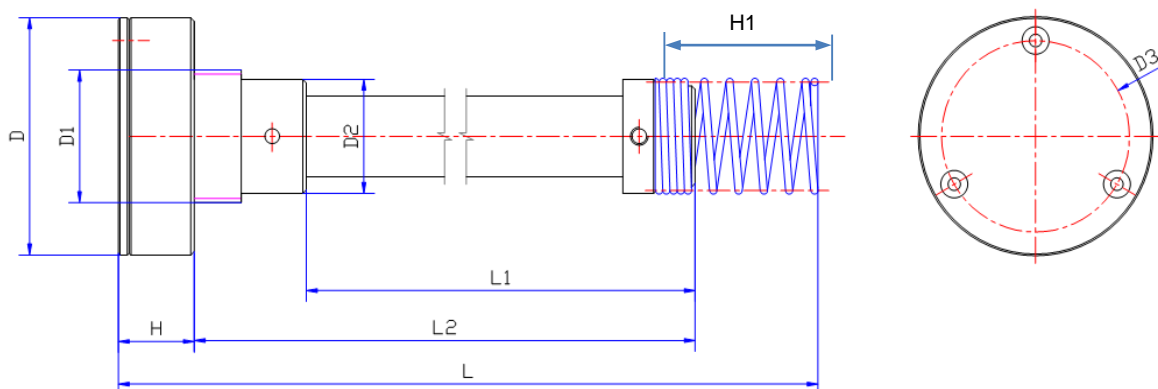
**4. Technical specifications**

Parameter		INPUT		
		MIN	MAX	UNIT
Input voltage		12 (18 for SOJI A10)	37	V
Power consumption		-	20	mA
Transient protection		-	100	V
Operating temperature range		-40	+85	°C
		OUTPUT		
		MIN	MAX	UNIT
Output signal	SOJI – A5	0	5	V
	SOJI – A10	0	10	V
	SOJI - F	0	5	V
	SOJI – R	0	5	V
Error of conversion		-	0.5	%
Time delay affter power up		-	3	S
Storage temperature		0	60	°C
Ingress protection		IP67		
Resolution		12 bit(4096 points over measurement range)		

**5. Cable connection**

Model	PIN	Wire color		Description
<b>SOJI -A5 SOJI -A10</b>	1	Black		GND (Groud)
	2	Yellow		Sensor output
	3	Red		VDD
	4	Blue		NC (not connect)
<b>SOJI-F</b>	1	Black		GND (Groud)
	2	Yellow		Sensor output
	3	Red		VDD
	4	Blue		NC (not connect)
<b>SOJI-R</b>	1	Black		GND (Groud)
	2	Yellow		TXD-RS232
	3	Red		VDD
	4	Blue		RXD-RS232

**6. Product dimensions**



Dimensions	Min	Typ	Max	Unit
D	64.8	65	65.2	mm
D1	35.8	36	36.2	mm
D2	30.8	31	31.2	mm
D3	51.8	52	52.2	mm
H	20.8	21	21.2	mm
H1	21.3	21.5	21.7	mm

Probe length stanndards					
Dimensions	Length standards	Min	Typ	Max	Unit
L1	500	482	485	488	mm
	700	682	685	688	mm
	1000	982	985	988	mm
	1200	1182	1185	1188	mm
	1400	1382	1385	1388	mm
	2000	1982	1985	1988	mm
L	-	L2+H+40	L2+H+41	L2+H+42	mm
L2	-	L1+31.5	L1+32	L1+32.5	mm

**7. Environmental testing and certification**

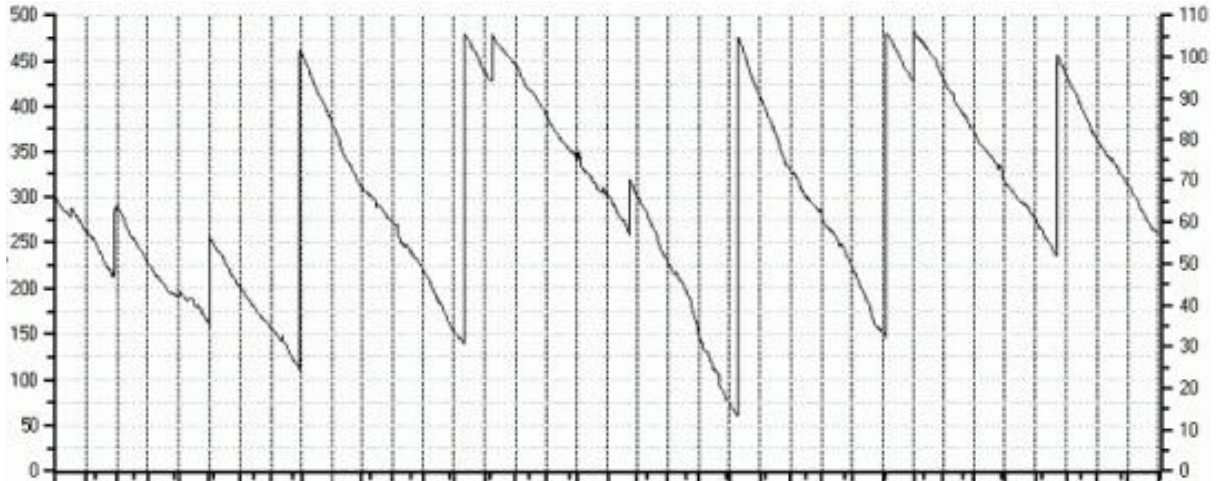
Aplied standard	Certification
Ingress protection	IP67

# SOJI-SERIES FUEL LEVEL SENSOR

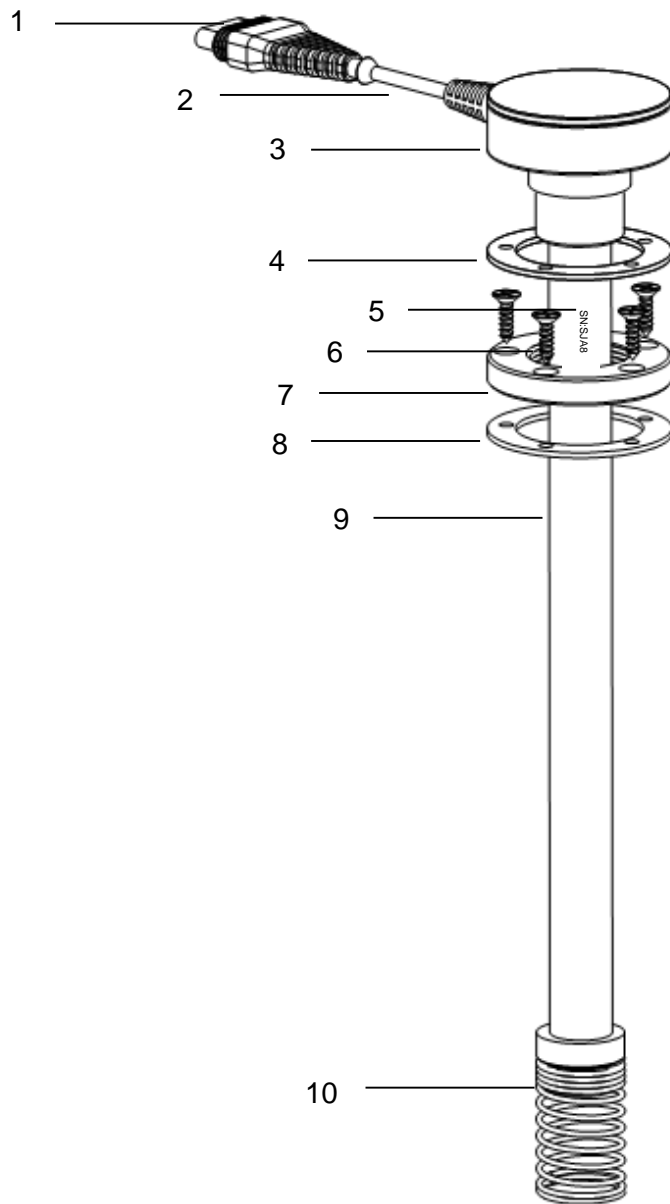
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Drop test	1m (in packing) on all 3 sides
Electrostatic discharges - ESD	TCVN7317:2003 clause 4.2.1
Electrical fast transients - EFT	TCVN7317:2003 clause 4.2.2
Continuous radio frequency disturbances	TCVN7317:2003 clause 4.2.3
Power-frequency magnetic fields	TCVN7317:2003 clause 4.2.4
Surges	TCVN7317:2003 clause 4.2.5

## 8. Fuel consumption chart



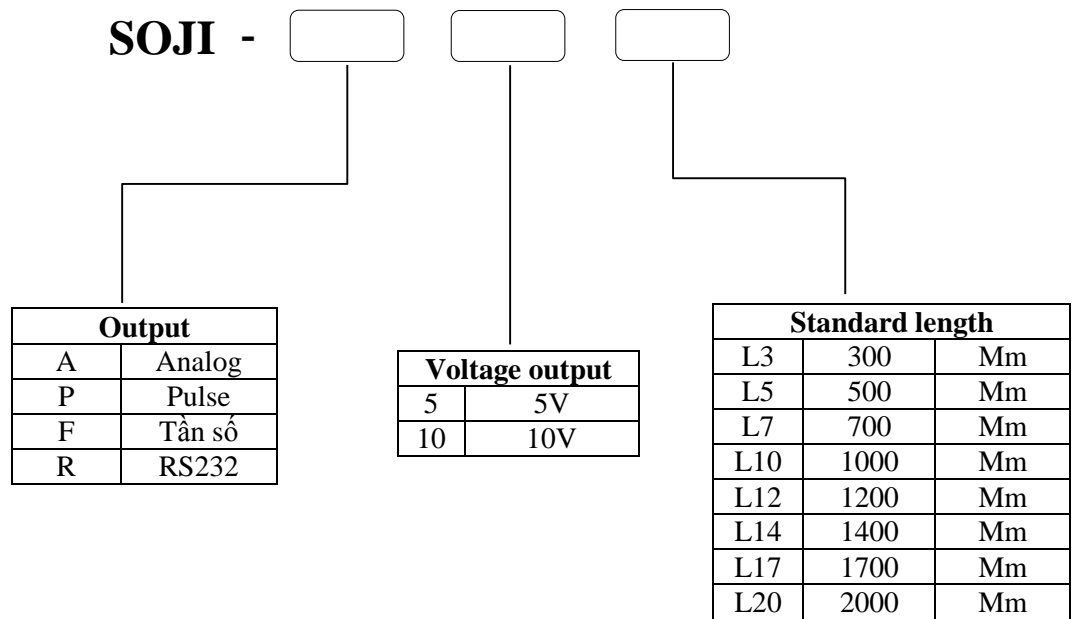
**9. Product and accessories**



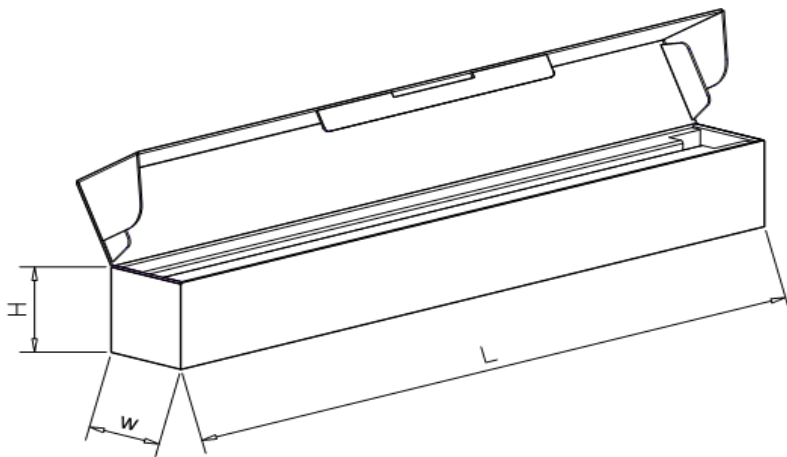
No	Description
1	Sensor output
2	Sensor cable
3	Sensor head
4	Rubber gasket (on top)
5	Serial number
6	Self-tapping screw M4x20
7	Plastic mouting plate Ø65
8	Rubber gasket (on bottom)
9	Sensor probe
10	Sensor stop

*Besides, accessories include a wrie with length is 8 meters*

**10. Product code**



**11. Packing**



Model	L (mm)	W (mm)	H (mm)
SOJI-XXL3	840	110	110
SOJI-XXL5	840	110	110
SOJI-XXL7	840	110	110
SOJI-XXL10	1140	110	110
SOJI-XXL12	1340	110	110
SOJI-XXL14	1540	110	110
SOJI-XXL17	1840	110	110
SOJI-XXL20	2140	110	110

**12. Recommendations**

- Do not put sensor probe to water.
- Do not use sensor with flameable fuel as gas, petrol. Manufacture does not respond when explosion occurs.
- The sensor needs installing far away with chemicals damaging to sensor.
- datasheet, user manual and other documents please download at: [www.sojielectronics.com](http://www.sojielectronics.com)

**13. Warranty conditions**

Products are warranted according to manufacture's policy with products that still have stamp and do not have any broken from outside. Warranty time of products is 24 months.



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The purpose of this manual is to provide accurate information in the handling, setting up and operating of the fuel level sensor SOJI- Series. Please feel free to send your comments regarding any errors or omissions you may have found, or any suggestions you may have for generally improving the manual. Data specification can change without notice.

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### **SOJI ELECTRONICS**

*26/16B1 Lang Viet Kieu Chau Au, Mo Lao, Ha Dong, Ha Noi, Viet Nam*

*Tel/Fax: [+84 4.354.00982](tel:+84435400982) / [+84 4.354.00982](tel:+84435400982)*

*Email: [contact@sojielelectronics.com](mailto:contact@sojielelectronics.com)*

*For more information visit us at: [www.sojielelectronics.com](http://www.sojielelectronics.com)*