

RSL51

Hall Effect Cylinder Sensor 50-400 mm

The SenseAI RSL51 cylinder sensor is the sixth generation in-cylinder position sensor designed for compact installation in various cylinder applications.

Leveraging many years of experience with cylinder sensors, combined with innovative AI-enhanced design and Hall effect technology, it delivers a robust, reliable, fast, and versatile sensor system.

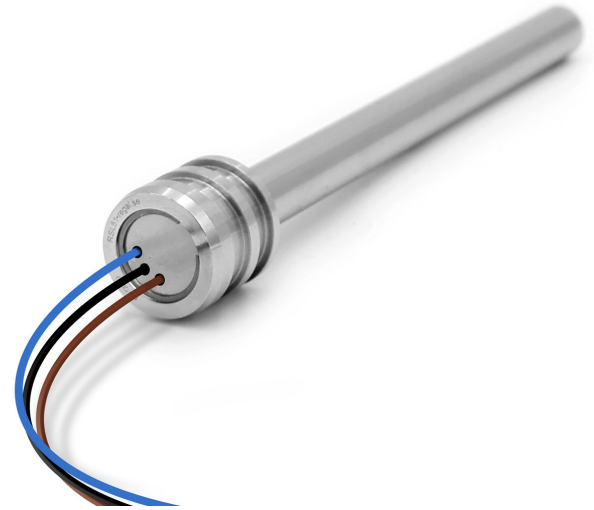
All electronics are integrated into this non-contact sensor; no external electronics for signal processing are required. The sensor features standard components, which ensure component availability and futureproofing.

Utilizing enhanced AI technologies the number of hall IC's can be minimized, saving resources and increase reliability.

The sensor chassis comprises of three stainless steel parts welded together to make one homogeneous body capable of an operating pressure of up to 35 MPa. It is mechanically backwards compatible with our PS6500, PS6300 and GYPMR sensor models.

The SenseAI RSL51 cylinder sensor is part of the Regasense® family. The technical solution of the RSL51 is patented, and the product is made in Sweden.

SenseAI is our brand; it is a platform that includes products with advanced AI technology.



- Compact design
- Easy to install
- Non-contact technology
- AI enhanced design

Electrical Connection	
Power Supply	9-32 VDC
Over Voltage	36V at 60 min
Reverse Polarity Protection	Up to 32 VDC
Current Consumption	< 30mA at 24VDC

Signal Specification	
Output	0.5-4.5 VDC
Alarm Output	LOW (< 0.3 VDC)
Output Update Frequency	650 Hz (up to 1500 Hz)
Linearity	< ±1.0 mm
Resolution	0.05 mm
Repeatability	±0.2 mm typical
Output Load	>10 kohm
Startup Time	200 ms

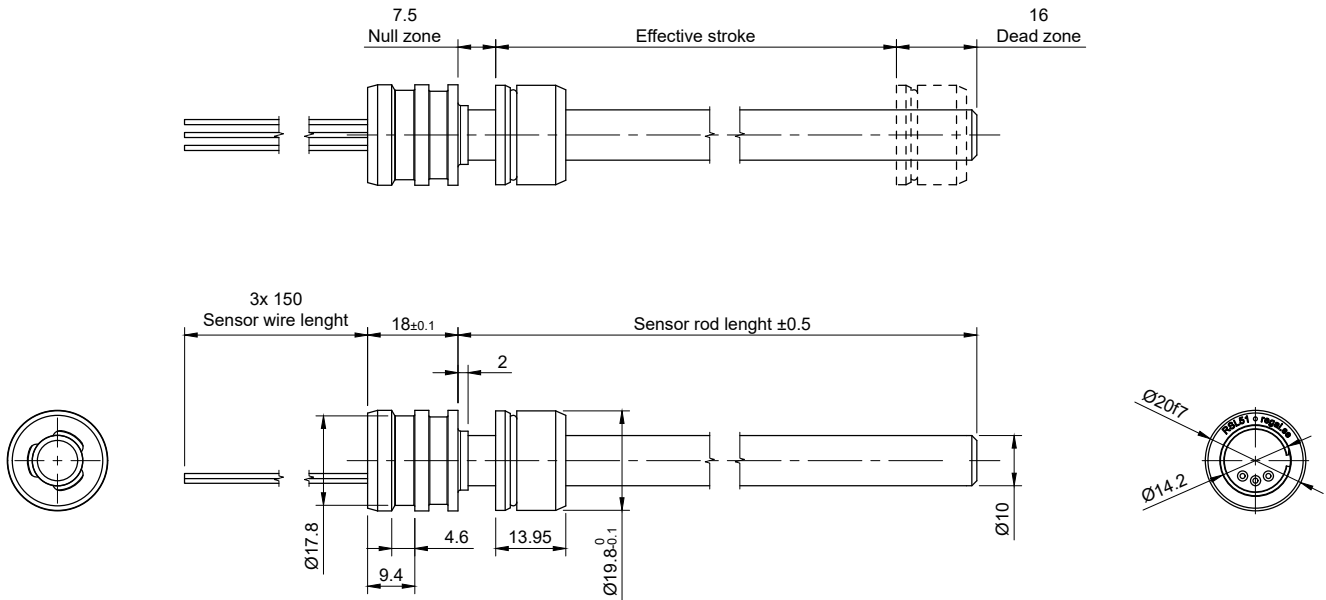
Operating Condition	
Operating Temperature	- 40... + 105°C
Operating Pressure	350 bar
Proof Pressure	460 bar
EMC	ISO 13766-1:2018 Earth-moving and building construction machinery. ISO 13766-2:2018 Earth-moving and building construction machinery. Additional EMC requirements for functional safety. ISO 14982:2009 Agricultural and forestry machinery.

Material	
Sensor Housing	Stainless steel (EN 1.4301 & EN 1.4404)
Magnet	POM
Magnet Cover	POM
Retaining Ring	Beryllium Copper
O-rings	NBR Sh70
Back-up Ring	PTFE
Sensor Wires	LiH-T 1x0.25 mm ²

RSL51

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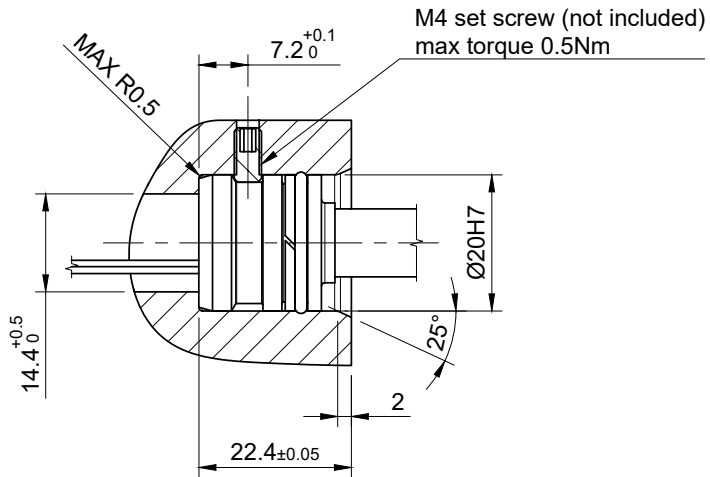
Sensor Probe Dimensions (mm)



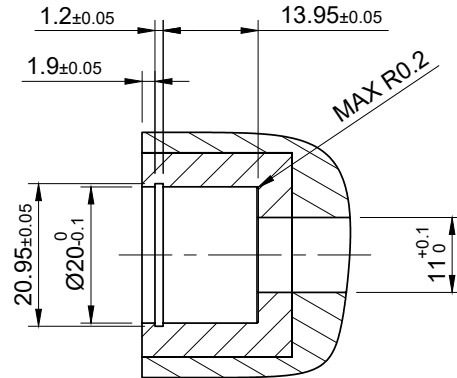
RSL51

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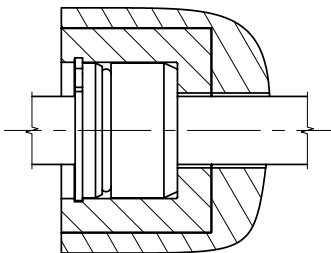
Installation Set Screw



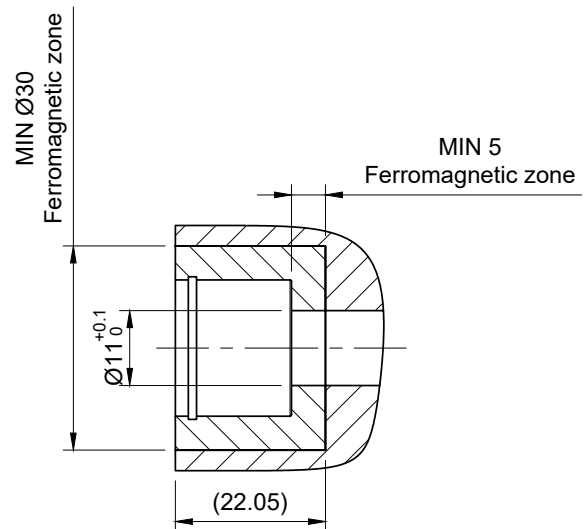
Magnet Assembly Mounting Geometry in Piston



Installed Magnet Assembly



Ferromagnetic Material Zone Considerations

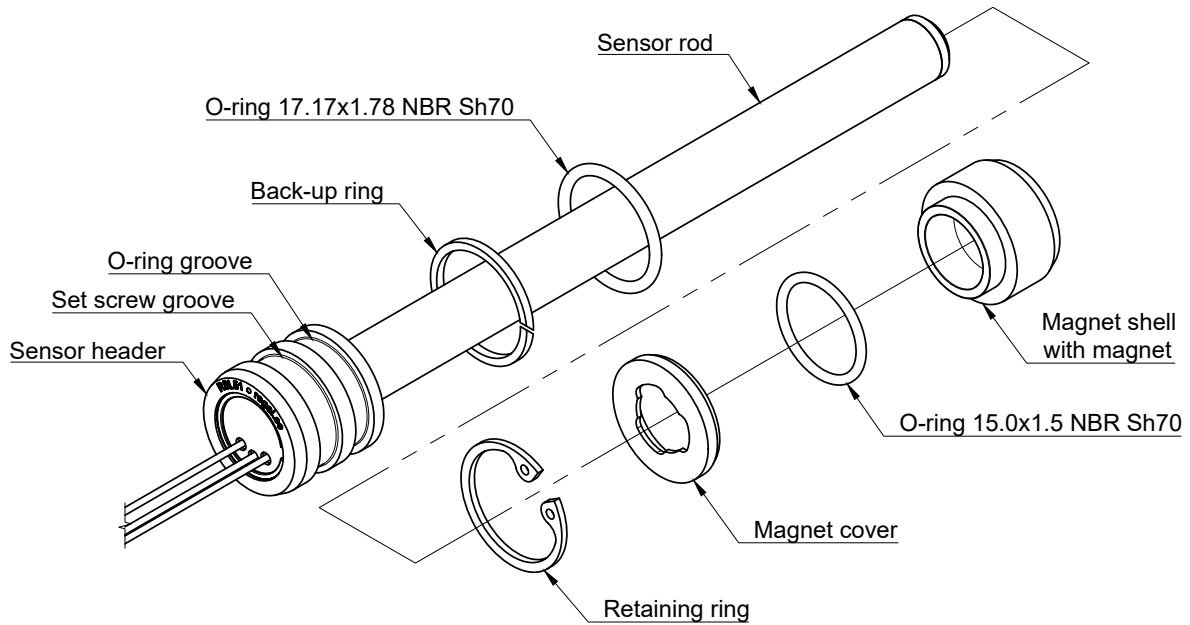


* Ferromagnetic zone must be according to above specification.

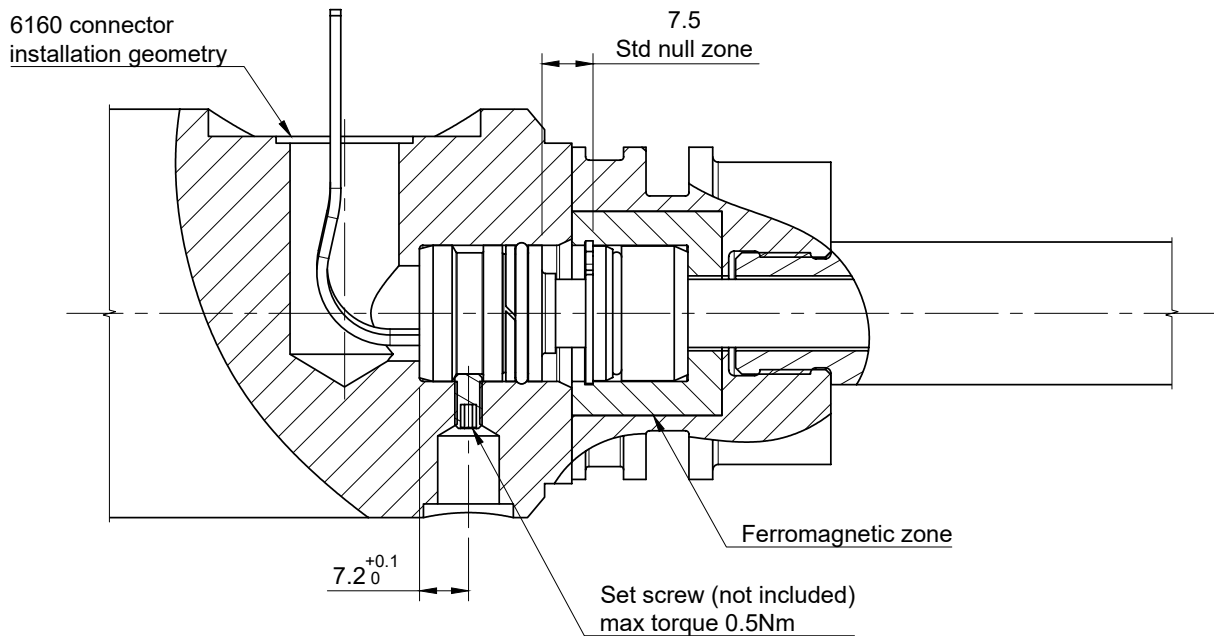
RSL51

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Exploded View of Sensor and Magnet Assembly



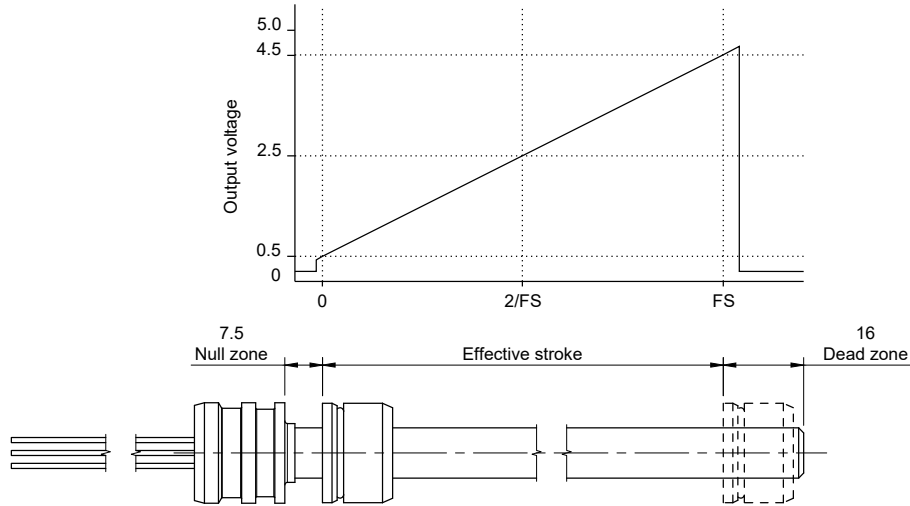
Example Cylinder Installation with Geometry for 6160 Connector



RSL51

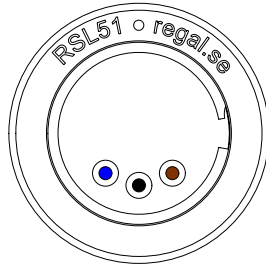
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Analog Output Signal Characteristics



Connection

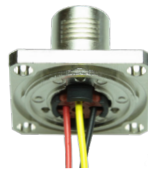
COLOR	FUNCTION
Brown	V+
Blue	GND
Black	Signal



Connectors

6160 (M12)

6160 is a flange connector that do not require soldering. The connector is IP67 and supplied with pins mounted on the sensor cable from factory.



See separate data sheet for further details.

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Configuration Code

RSL51-0000-V-B-08-16-L0150-X

1 2 3 4 5 6 7

1	STROKE LENGTH (MM)	50... 400	50 mm increments
2	VOLTAGE OUTPUT	V	0.5-4.5 VDC
3	OPERATING VOLTAGE	B	9-32 VDC
4	NULL ZONE	08	8 mm (STD)
5	DEAD ZONE	16	16 mm (STD)
6	WIRE LENGTH	L0150	Flying leads which are 150 mm long from sensor head to tip of lead (STD).
7	CONTACT	Blank A	STD, when left blank. Flying leads equipped with 6160 crimp contacts.

Example: RSL51-0050-V-B-08-16-L0150-A

