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**High Performance  
Gauge/ Absolute  
Pressure Transmitter  
RP1002/ 1003**

**Suitable to measure liquid, gas or steam flow as well as liquid level, density and pressure.**

### **Salient Features**

- High Stability Silicon Sensor
- Reference Accuracy up to 0.035%
- Excellent Performance for the Overload Protection
- Packaged Temperature Sensor inside
- Reverse Polarity Protection
- Surge Protection
- IP67 Grade Protection
- Integrated Push-button
- HART®, Foundation Fieldbus & Profibus Communication
- ATEX, CE, SIL Certified



**ATEX**



## RP1002/3 Gauge/ Absolute Pressure Transmitter

### Technical Parameters

Parameter	Specifications
Medium	Gas, Steam, Liquid
Range	0 – 600 Pa ~ 60 MPa
Reference Accuracy	0.035%, 0.06%, 0.1%
Ambient Temperature Effects	-25°~65° C: $\pm(0.075 \times TD + 0.025)\% \times \text{Span}$
Over Range Effects	0.05% x Span
Stability	0.15% / 10 years
Power Supply Effects	0.001%/ 10 V (12-36 VDC)
Zero Setting	Zero Point can be adjusted to any value within measuring range
Span & Range	Randomly adjusted between Upper Range and Lower Range
Mounting Position Effects	Tilting up to 90°, Zero shift <0.15 kPa. This can be adjusted
Output Options	2 Wire, 4-20 mA HART 7/ Profibus PA/ Foundation Fieldbus
Output Signal Limit	$I_{\min} = 3.9 \text{ mA}$ , $I_{\max} = 21 \text{ mA}$
Failure Alarm	NAMUR NE43 Compliant. Low Mode: 3.6 mA, High Mode: 21 mA
Response Time	Up to 100 ms; depends upon range & TD Ratio
Turn ON time	<5s
$T_{\text{Ambient}}$	-40° C ~ +85° C
	-20° C ~ +65° C (With LCD, Fluorine O-ring)
$T_{\text{Process}}$	-30° C ~ +120° C; Up to 600° C available as an option
$T_{\text{Storage/ Transportation}}$	-50° C ~ +85° C
	-25° C ~ +85° C (With LCD, Fluorine O-ring)
Pressure Limit	Vacuum to Upper Range Limit
Overload Limit	Up to 900 bar
Turn Down Ratio	Min. 10:1
	Max. 100:1
EMC	Compliant to IEC61326-1
Explosion Proof	ATEX/ IECEx/ NEPSI – Intrinsic Safety/ Flameproof
Power Supply	24 VDC (9-36 VDC)
Load	$R \leq (U_s - 12V) / I_{\max} \text{ k}\Omega$ , $I_{\max} = 23\text{mA}$
Overload Range for Digital Communication	230 ~ 600 $\Omega$
Electrical Connection	M20x1.5, suitable for wire cross-section up to 2.5 sq. mm
Process Connection	Standard 1/2" NPT Female Thread; Other options available <sup>‡</sup>
Isolating Diaphragm MOC	SS316L/ Hastelloy C/ Gold Plated/ Tantalum
Process Connection MOC	SS316L
Filling Fluid	Silicone Oil/ Fluorine Oil
Housing	Die Cast Aluminium with Epoxy Resin Coat
	Stainless Steel Housing available as an option
Housing Gasket	Perbunan (NBR), FKM, PTFE
Nameplate	SS304
Ingress Protection	IP67
Mounting Bracket	Stainless Steel/ Galvanized Carbon Steel
Surge Protection	Available
Display	LCD, Backlit Display, OLED
	5 1/2 Digit
Sensor	Piezoresistive
Reverse Polarity Protection	Yes
Configuration	Though in-built Push-button; Handheld HART Communicator; Software
Safety Integrity	SIL2/3 Certified
Weight	~1.6kg

‡ ) Vacuum connection DIN 28403 KF16 / ISO 2861 applies only to the ranges less than 2.5 bar.

### South Asia

#### Rocksensor India

#205, Tower A, Ithum, Plot  
A-40, Block A, Industrial  
Area, Sector 62, NOIDA,  
U.P., 201301, India  
[www.rocksensor.in](http://www.rocksensor.in)  
[info@rocksensor.in](mailto:info@rocksensor.in)  
Tel: +91 97 7289 5329

### Global HQ-R&D Centre

#### Rocksensor Sàrl

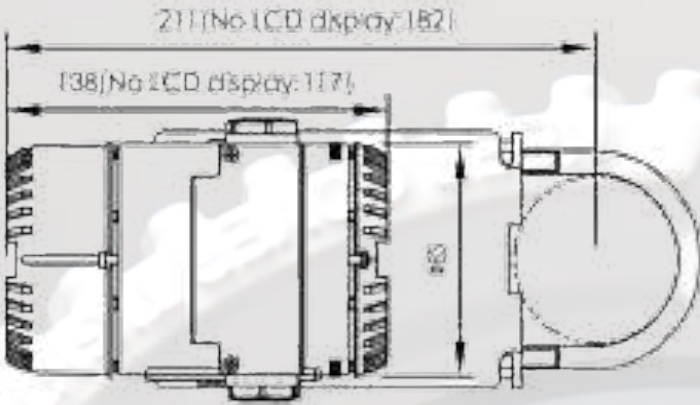
Parc Technologique du  
Neode Avenue du Mail 59  
2002 Nauchatel  
Switzerland  
[www.rocksensor.com](http://www.rocksensor.com)  
[info@rocksensor.com](mailto:info@rocksensor.com)  
Tel: +41 78 776 2218



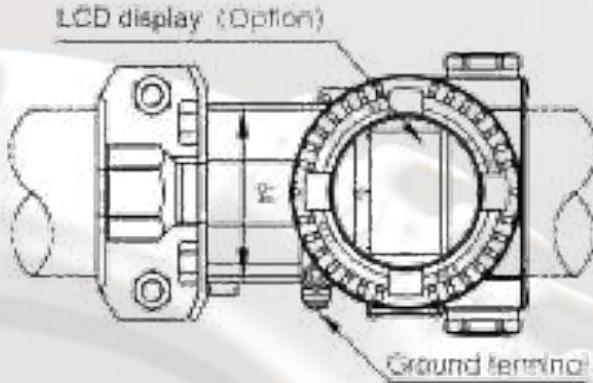
MODEL SELECTION TABLE	
<b>00</b>	<b>Pressure Type</b>
<b>RP1002</b>	Gauge Pressure Transmitter
<b>RP1003</b>	Absolute Pressure Transmitter
<b>10</b>	<b>Accuracy</b>
<b>A</b>	± 0.035% of span
<b>B</b>	± 0.06% of span (Std.)
<b>C</b>	± 0.1% of span
<b>20</b>	<b>Sensor Type</b>
<b>1</b>	Piezo-resistive Silicon Sensor
<b>30</b>	<b>Output</b>
<b>B</b>	4-20mA with HART7
<b>C</b>	Profibus-PA
<b>D</b>	Foundation Fieldbus
<b>40</b>	<b>Span</b>
<b>Gauge Pressure RP1002</b>	
<b>B</b>	0-600Pa~6kPa(0-20~600 mmH <sub>2</sub> O)/(0-2~60mbar)
<b>C</b>	0-2kPa ~ 40kPa / (0-200~4000 mmH <sub>2</sub> O)/ (0-20~400mbar)
<b>D</b>	0-2.5kPa~250kPa/ (0-0.25~25 mH <sub>2</sub> O)/ (0-25~2500mbar)
<b>E</b>	0-10kPa~1Mpa/ (0-1~100 mH <sub>2</sub> O)/ (0-0.1~10bar)
<b>F</b>	0-30kPa~3MPa/ (0-3~300 mH <sub>2</sub> O)/ (0-0.3~30bar)
<b>G</b>	0-0.1Mpa~10MPa/ (0-1~100bar)
<b>H</b>	0-0.21Mpa~21MPa/ (0-2.1~210 bar)
<b>I</b>	0-0.4Mpa~40Mpa/ (0-4~400 bar)
<b>J</b>	0-0.6Mpa~60MPa/ (0-6~600 bar)
<b>Absolute Pressure RP1003</b>	
<b>L</b>	0-2kPa~40kPa/ (0-200~4000 mmH <sub>2</sub> O)/ (0-20~400mbar) (not suitable for 0.05%)
<b>M</b>	0-2.5kPa~250kPa/ (0-25~2500mbar)
<b>O</b>	0-30kPa~3MPa / (0-0.3~30bar)
<b>50</b>	<b>Diaphragm Material</b>
<b>S</b>	316L Stainless Steel (Std.)
<b>H</b>	Hastelloy C
<b>G</b>	Gold plated on 316L
<b>T</b>	Tantalum, (Silicone oil)
<b>60</b>	<b>Filling Fluid</b>
<b>S</b>	Silicon oil (Std.)
<b>F</b>	Fluorine oil/ Inert Oil
<b>70</b>	<b>Process Connector Accessory</b>
<b>1</b>	1/2-NPT Female Thread (Std.)
<b>2</b>	1/2-NPT Male Thread (Containing 1/4-NPT Female Thread)
<b>3</b>	M20x1.5 Female Thread
<b>4</b>	G 1/2 Female Thread
<b>5</b>	Vacuum Connection DIN 28403 KF16 / ISO 2861[2]
<b>6</b>	1/4-NPT Male Thread
<b>7</b>	1/4-NPT Female Thread
<b>9</b>	High temperature heat dissipation connection, 1/2"NPT Female Thread
<b>L</b>	G 1 Threaded pulp connection seal
<b>M</b>	M44*1.25 Threaded pulp connection seal
<b>S</b>	ø25.8 Insert Pulp pulp connection seal
<b>R</b>	Remote Seal
<b>80</b>	<b>Gaskets (Sealing Material)</b>
<b>N</b>	Perbunan (NBR) (Std.)
<b>F</b>	Viton (FKM) Gasket
<b>P</b>	Teflon (PTFE) Gasket
<b>90</b>	<b>Special function</b>
<b>N</b>	None
<b>O</b>	Degrease cleansing treatment (Oxygen measurement must be with fluorinated oil filled capsule, Viton (FKM) gasket, <6MPa , <60°C)



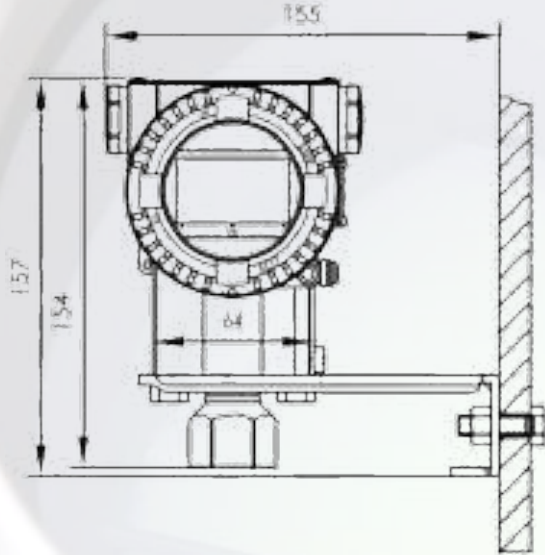
**Dimensions (mm) & Installations**



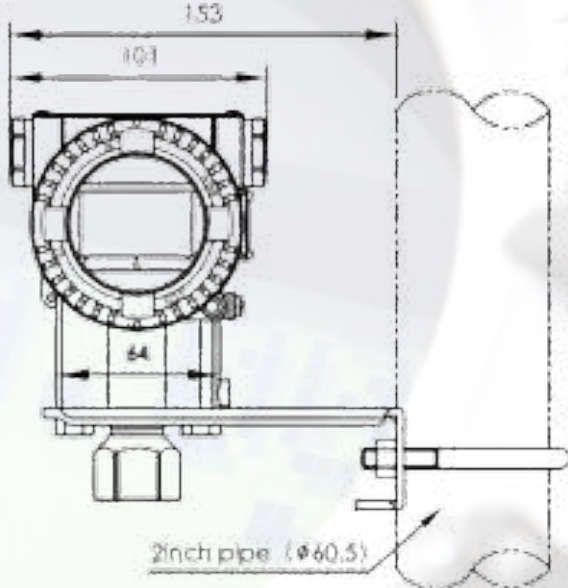
**Horizontal Piping Connection Type (Side)**



**Horizontal Piping Connection (Front)**

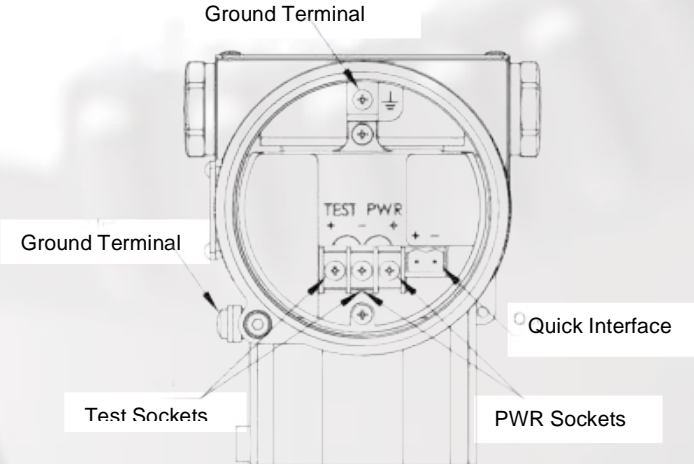


**Wall Mounting Connection Type**

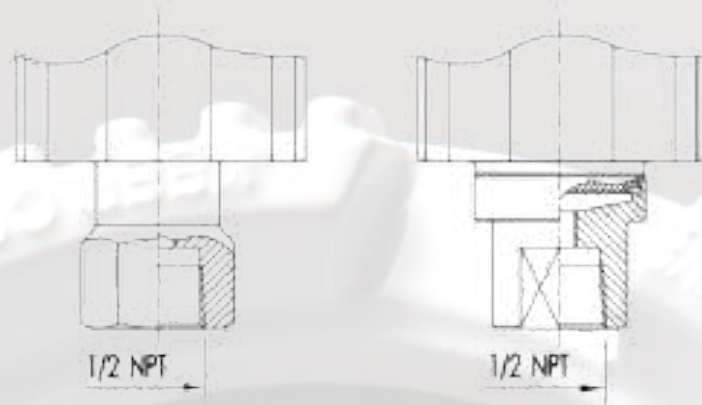


**Vertical Piping Connection Type**

**Terminal Configuration**



## Standard Process Connection



## EMC Performance Table

Sr. No.	Test Items	Basic Standard	Test Conditions	Performance Level
1	Radiated Interference (Housing)	IEC61000-4-20, EN61326-1	30MHz ~ 1000MHz	Qualified
2	Conducted Interference (DC power port)	CISPR:11:2009+A1, EN61326-1	0.15MHz ~ 30MHz	Qualified
3	Electrostatic Discharge (ESD) Immunity	IEC61000-4-2, EN61326-1	4kV(Line), 8kV(Air)	B
4	RF Electromagnetic Field Immunity	IEC61000-4-3, EN61326-1	10V/m (80MHz~1GHz)	A
5	Frequency Magnetic Field Immunity	IEC61000-4-8, EN61326-1	30A/m	A
6	Electrical Fast Transient Burst Immunity	IEC61000-4-4, EN61326-1	2kV (5/50ns, 5kHz)	B
7	Surge Immunity	IEC61000-4-5, EN61326-1	500V (line to line 1kV (line to ground, 1.2us/50us)	B
8	Conducted Interference Immunity induced by RF field	IEC61000-4-20, EN61326-1	3V (150KHz~80MHz)	A