

# MRV21

## Miniature Pressure Transducer

**MeasureX**

### Features

- Miniature Structure
- High Measuring Accuracy
- Pressure Measurement Range of 0.02 to 600bar
- Compact and Light Weight
- Wide Range of Media Compatibility
- Low Static and Thermal Errors



### Description

MRV21 miniature series with silicon diaphragm is a MEMS technology based pressure transducer. Outer diameter of this sensor is usually between 4mm to 12mm. Possibility of custom- design of this pressure transducer offers great flexibility to meet requirements of different applications with highly competitive pricing.

MRV21 is available in pressures ranges from 0.02bar (2kPa) to 600bar in both Gauge and Absolute versions with standard output of mV/V and option for 4/20mA. It is suitable for pressure measurement of gases & liquids compatible with stainless steel. While the standard precision is 1% FS, you can optionally get a precision of 0.5% FS and 0.25% FS. It finds applications in hydraulic and pneumatic systems among many others.

The robust construction of MRV21 with its high performance makes it ideal for demanding long term applications.

### Applications

- General industrial applications
- Pneumatics equipment
- Industrial Machineries
- Hydrodynamic and aerodynamic applications
- Research projects
- Hydraulic systems
- Construction equipment
- Environmental Research

### Technical Specifications

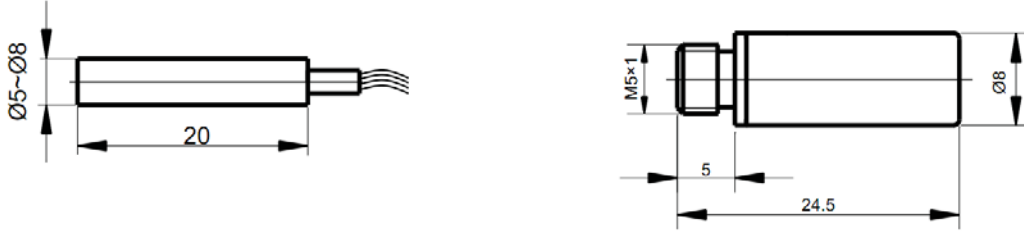
- **Pressure media:** gas or liquid compatible with stainless steel
- **Ranges:** 0.02...600bar
- **Overpressure rating:** 150% FS
- **Excitation:** 10VDC (standard) 1.5mA regulated
- **Output signals:**  $\geq 70\text{mV}$  (0~20kPa,  $\geq 50\text{mV}$ )
- **Precision:** 0.5% FS (standard), 0.25% FS, combined LRH errors
- **Zero offset:**  $\leq \pm 2\text{mV}$
- **Long term stability:**  $< 0.5\%$  FS/year
- **Protection Level:** IP65 and IP68 (optional)
- **Compensated temp range:** 0...+70°C
- **Operating temp range:** -10...+80°C
- **Temp coefficient of zero:** 0.03% FS /°C
- **Temp coefficient of span:** 0.02% FS /°C
- **Input resistance:** 1...6k $\Omega$
- **Output resistance:** 1...6k $\Omega$
- **Insulation resistance:** 100M $\Omega$  @ 50VDC
- **Frequency:** 40kHz
- **Process connection:** M5x or others
- **Case material:** SS321
- **Diaphragm material:** Silicon

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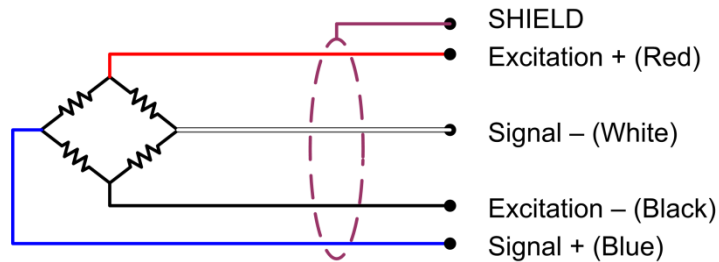
# MeasureX

### Dimensions



2 types of MRV21 with different port connector

### Connection Diagram



### Ordering Code

MRV21						
	<b>Range</b>	0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50, 100, 200, 400, 600 bar or equivalent ranges in psi				
		<b>Pressure Reference</b>				
		VG (vented gauge)	SG (sealed gauge)	Abs (absolute)		
		<b>Precision ±</b>				
		1% FS	0.5% FS	0.25% FS		
		<b>Excitation</b>				
		10V Voltage Excitation	1.5mA Current Excitation	Others		
		<b>Pressure Port</b>				
		M5x0.8	M6x1			
		Others				
		<b>Electrical Connection</b>				
		3m Cable	3m IP68 Cable			
		and others				
<b>MRV21</b>	<b>20bar</b>	<b>SG</b>	<b>1%</b>	<b>10V</b>	<b>M5x0.8</b>	<b>3m</b>

### Note:

All specifications are subject to change without prior notice

External amplifier with 0-5VDC, 0-10VDC and 4-20mA output is available as an option.

Ver. 5.5-17/02