

Custom systems

Model 9414 multi channel Pressure controller

09/2023

Applications

- High speed production testing of pressure sensors
- Controlling pressure in large volumes
- Ideal for manufacturing

Special features

- 2 or 4-channel control
- High speed pressure control
- Ranges to 300 psi
- Touchscreen user interface



Model 9414 - multi channel pressure controller

Description

The 9414 is optimized for controlling large volumes and constantly replenishing small amounts of air at a rapid rate. A 4-channel 9414 has two pressure supply ports for supply pressure, and two vacuum input ports to supply vacuum if sub-atmospheric pressure output is required. The maximum pressure is 300 psi. The unit has separate control output and measure ports for each channel.

Functionality

The Model 9414 comes with two or four regulating channels, depending on the configuration. Each channel is capable of independently controlling a pressure loop. Each channel utilizes a transducer with an uncertainty of 0.01%IS-50, or 0.01%FS. Additionally, the unit can be used on the desktop or configured to be mounted on a standard 19" rack. External remote transducers can communicate with the 9414 over RS-485 communications. Control of up to eight solenoid valves (12vdc at a maximum of 1 amp) can be done with the 9414 through the same 25-pin D-sub connector containing the RS-485 signals. The RS-485 port operates at 19200 Baud with 8 data bits, 1 stop bit, and no parity. Communications between the Model 9414 Quad Pressure Controller and the user's computer are on an RS-232 9-pin D-Sub connector at 57,600 Baud, 8 data bits, 1 stop bit, and no parity.

Unit setup

The Model 9414 should be installed on a level surface with adequate airflow. The supply pressure should be connected to the ports labeled as SUPPLY. The pressure should be approximately 110 % of range. For sub-atmospheric pressure control, a vacuum pump is required and should be connected to the pressure ports labeled EXHAUST. If only pressures above barometric pressure are required, no vacuum pump is needed and the EXHAUST port should be left open. Connect each port labeled MEASURE to the volume's pressures that are being measured. Connect each port labeled "Control" to the volume(s) whose pressures are desired to be regulated. Start up operation commences when power is applied. The internal normally open vent valve(s) should immediately energize to seal the system to prepare for operation. The processor and display should go through internal self tests and display the operating screen within approximately 45 seconds.

Maintenance

Depending upon the transducers selected, the calibration interval can be 365 or 180 days. Either the entire unit can be shipped to Mensor for calibration or the transducers can be removed from the unit and shipped by themselves to Mensor. Only qualified technicians should open up the Model 9414 housing and remove the transducers.

Each new unit has a 1-year warranty from the date of delivery.

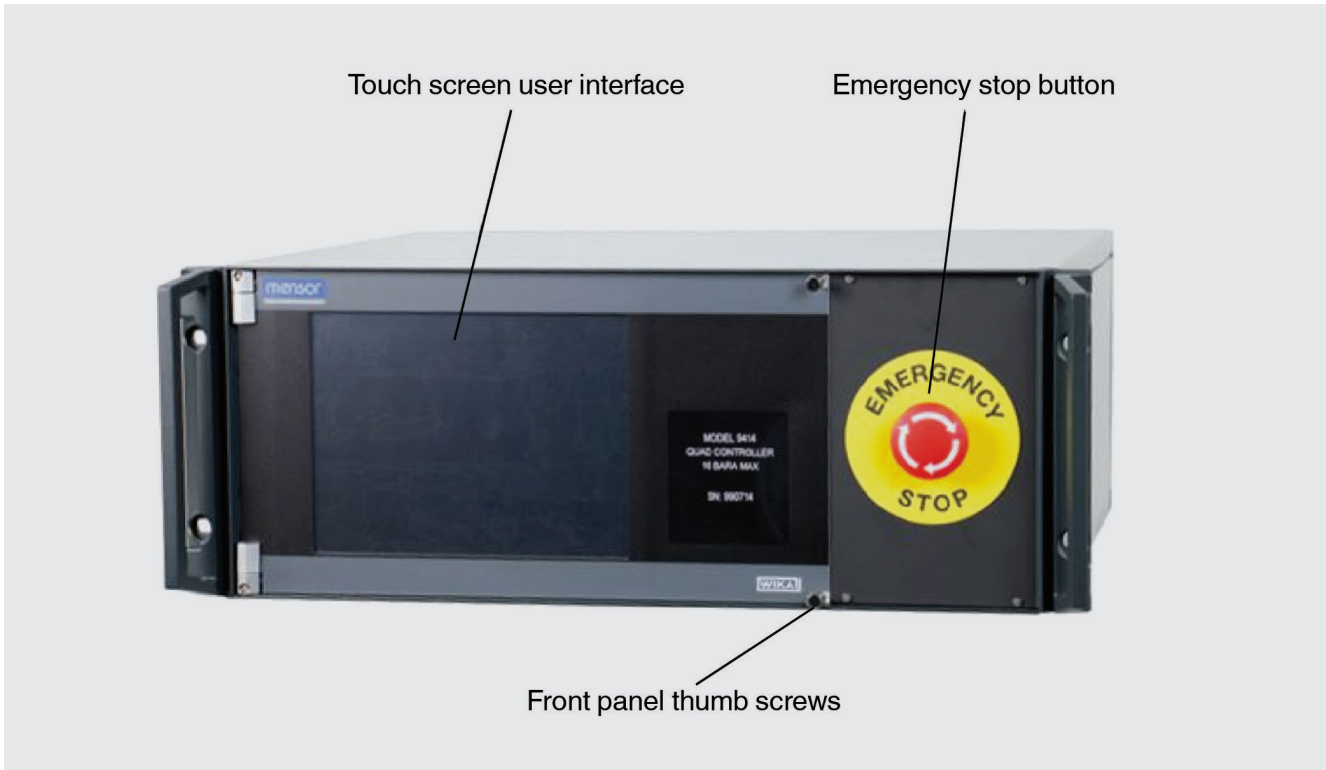
Configuration options: Model 9414

Basic instrument- Model 9414	
Number of channels	2 or 4
Pressure range	Up to a max of 300 PSI
Pneumatic interface	¼" Tube, 6mm tube, or 6mm push-to-connect tube fittings
Transducers uncertainty	0.01%IS-50, or 0.01%FS
Case configurations	Desktop or 19" rack mountable

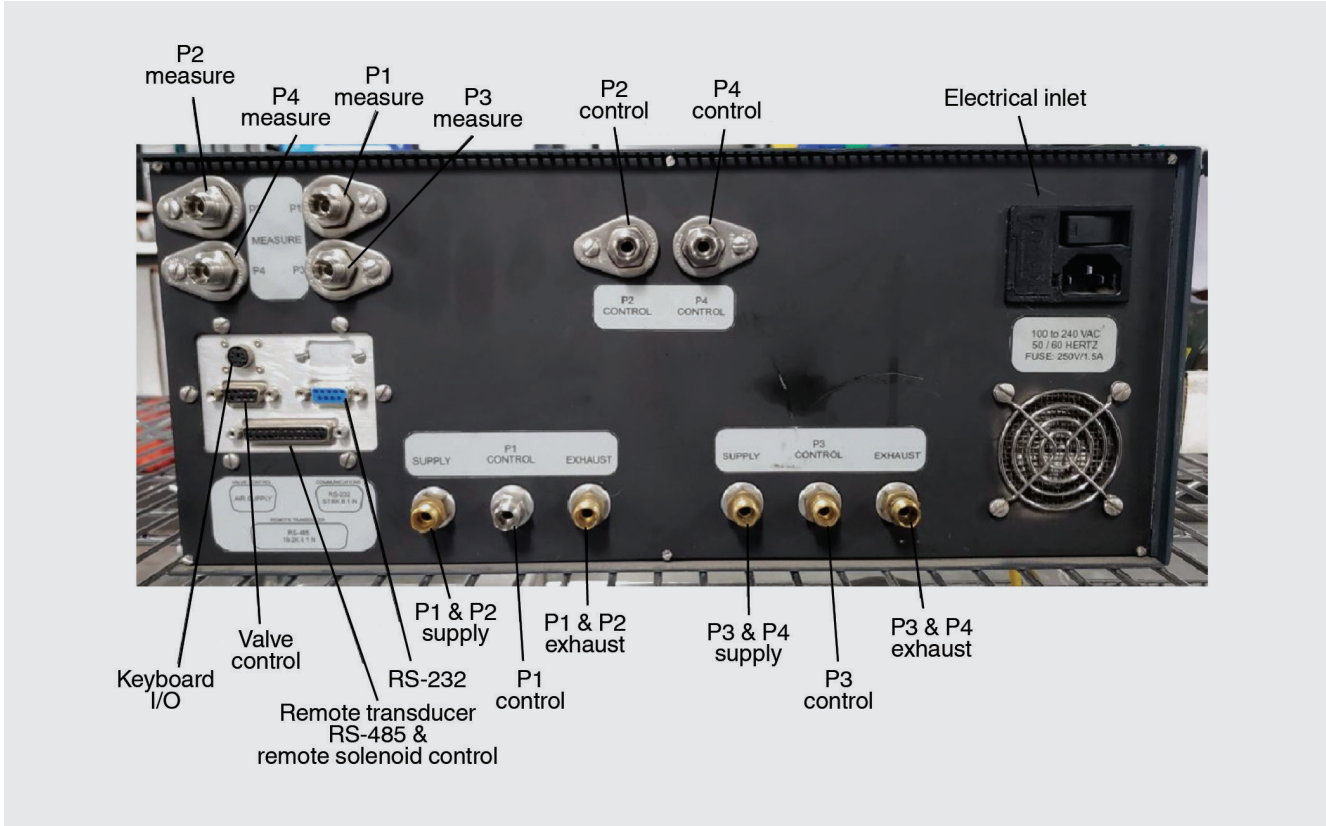
1) Transducer uncertainty options may vary depending on the desired pressure range.

Measuring element / measurement principle / sensor element	
Power	100-240 VAC, 47-63 Hz
Ambient operating temperature	15 to 45 C
Weight	≈ 51 lbs (23.13 kg)
Languages	English
Communications	RS-485 (External transducers & solenoid communication) RS-232(Computer communication)
Nominal dimensions	Width ≈18" (45.72 mm) Height ≈7" (17.78 mm) Depth ≈17"(43.18 mm)
Air supply recommendations	Quality class of 1.2.1 (ISO standard 8573.1)

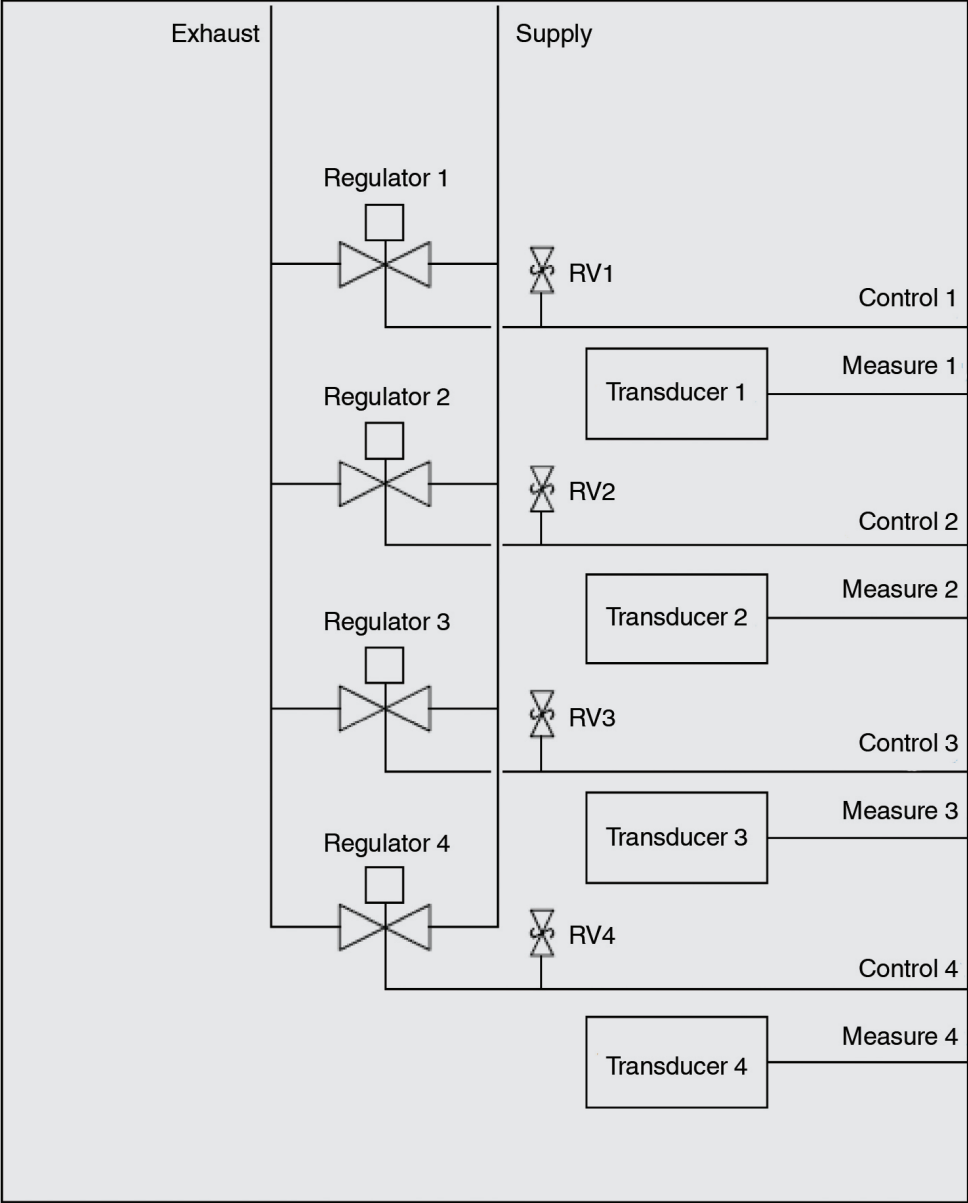
Front panel features



Rear panel features (4-channels)



Front panel features



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