Viatran Pressure Transducer Model 422 Provides Global Diesel Engine Emissions Test Cell Solutions

Worldwide Environmental Regulations

Aggressive worldwide environmental agency diesel engine emission regulations have initiated an urgent requirement to measure pressure at critical points within diesel engines. Engine sizes range from passenger vehicles, to highway and off-highway vehicles, to railroad locomotives, to ultra-large diesel engines used for power generation.

As emissions and performance standards have become more stringent, the need to measure pressure simultaneously at more locations within the test apparatus has increased dramatically. Twenty years ago test systems captured data from 15 to 20 pressure transducers. Today, it is not unusual to see data being captured from 60 to 100 transducers.

The ultimate goal is for the air coming out of the engine to be as clean as the air going in. That is a very high standard, but diesel engine manufacturers are up to the challenge, and so is Viatran. Viatran can deliver pressure transducers that allow engineers to capture more and better pressure information and do it faster.

Viatran Model 422

Major diesel engine manufacturers have selected the Viatran Model 422 due to its small size, standard linearity specification of better than +/ – 0.08%, the flexibility of gage configurations, absolute vacuum and compound range formats, and proven long-term stability.

Typical Measurements

Typical measurements taken on diesel engines using the Model 422 include fuel return pressure, crankcase pressure, exhaust recirculation pressure, coolant pressure, oil pressure, air box measurements, exhaust stack and lift, and combustion air supply.

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Benefits:

Compact for Placement Density: The Model 422's small size facilitates its placement in small junction boxes mounted over the diesel engine where the majority of pressure measurements are performed and the customer can maximize the number of pressure transducers per box.

Exceptional Response: The Model 422 is designed to be used on closed coupled direct mount measurements where response time is critical for the pressuremeasurement, (i.e. one millisecond range for analog voltage DC outputs). Fast response means that rapid spikes or drops in pressure, that might be missed or appear as transient blips with other transducers, are accurately recorded. This provides engineers with a higher resolution window for evaluating engine performance.

Accuracy and Repeatability: Whether you are concerned about the comparability of redundant transducer readings or the reliability of data taken from pressure ports that bounce from negative to positive and back again, the Model 422 always provides a fast, accurate and repeatable reading.

Long Life Expectancy: When operated between 10% and 90% of its range the Model 422 will provide millions of life cycles. The Model 422 has a full year's manufacturers warranty.

Viatran's Flexibility Gives You More Options: Do you need a special adapter, unique PIN configuration, pressure ranges that are not standard, an unusual output or transducers designed for special applications like barometric, differential or vacuum pressure (to name a few)? Viatran can provide you with transducers that best suit your application requirements.

Teams of Engineers: Pressure measurements supporting diesel engine emissions and performance R&D are not always straightforward. If need be, we can give you a team of engineers with the knowledge and experience to solve your problem. Starting with your Viatran distributor, regional sales manager, Viatran applications engineers and even going as far as our own manufacturing engineers, we will do what it takes to take the stress off your most difficult pressure measurement requirements.

Forward Looking: With nearly fifty years of experience behind us, Viatran is the leading provider of transducers used in diesel engine emissions and performance testing. We understand that test and measurement requirements will not be getting any easier. We are working with our customers and in our labs to develop the pressure sensing products of the future that will allow diesel engine manufacturers to meet their most challenging goals.

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