

## HIGH ACCURACY TEMPERATURE SENSORS FOR EXHAUST GAS RECIRCULATION SYSTEMS

### Background

In today's world it is of vital importance to regulate the pollutants released by automobiles and other powered vehicles, and it is also important to regulate emissions from industry, power plants, small equipment and diesel generators. Some of these systems use a technique called Engine Gas Recirculation (EGR) which allows them to have very low emission levels. This technique takes a portion of the exhaust gas, cools it and then recycles it into the combustion process.

Although EGR is used mainly in automotive systems its range of application is quite broad as it can be also found in Generator Sets, Oil and Gas Equipment, Chemical, Marine, Industrial Engines, and Boiler exhaust.

**5024 EGR sensors provide accurate and reliable temperature monitoring and early failure detection**

### Solution

The primary reason to implement EGR systems into automobiles is to meet ever stricter emission standards. EGR accomplishes this by cooling and then recirculating exhaust gas back into the combustion chamber (cylinders). The 5024 EGR temperature sensor signals the CPU in order to control coolant flow and exhaust gas flow that optimize the process. It also helps to protect the components of the system from overheating.

The use of a 5024 EGR sensor provides accurate and reliable temperature monitoring and allows the control system to:

- Detect for EGR cooler failure
- Close EGR valve to shut down cooler
- Monitor efficiency of cooler



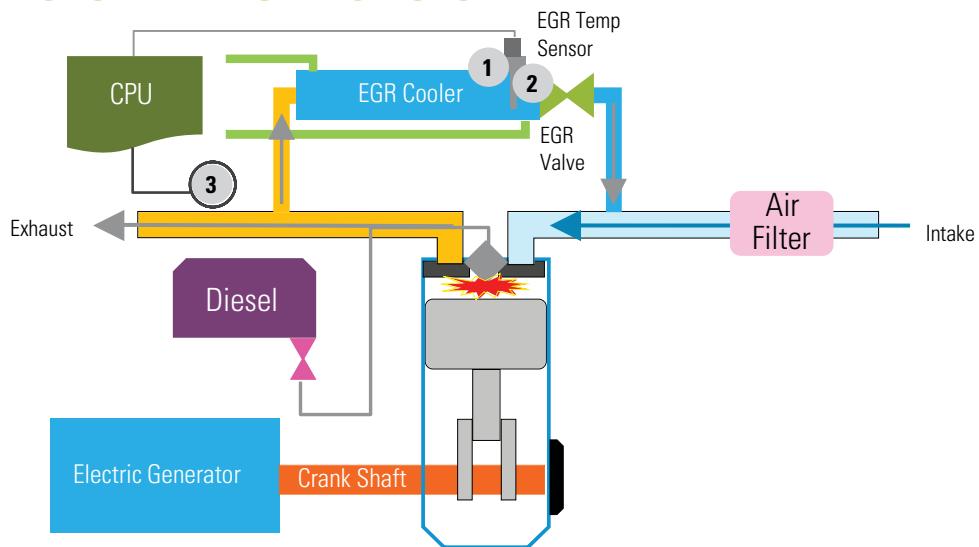


## RECOMMENDED PRODUCTS

Reference on Diagram	Product	Function	Features	Brand
<b>Temperature</b>				
1	5024 EGR SERIES	Low/High Pressure EGR Temperature Monitoring	<ul style="list-style-type: none"> <li>• 10KΩ NTC thermistor sense element</li> <li>• Peak temperature to 300°C</li> <li>• High accuracy over complete range</li> <li>• Fast response time</li> <li>• Stainless steel construction</li> </ul>	Sensata Technologies
2	DARTS	Low/High Pressure EGR Temperature Monitoring	<ul style="list-style-type: none"> <li>• 200Ω and 500Ω RTD sense element</li> <li>• Peak temperature to 850°C</li> <li>• High accuracy over complete range</li> <li>• Fast response time</li> <li>• Stainless/inconel construction</li> </ul>	Sensata Technologies
<b>Pressure Sensors &amp; Switches</b>				
3	60CP/70CP 81CP 100CP 35CP	Monitoring of Exhaust Back Pressure	<ul style="list-style-type: none"> <li>• Operating pressure range: 0-15 to 0-750 PSI (0-1 to 0-50 Bar)</li> <li>• Supply voltage: 5VDC ratiometric or 8-30VDC voltage regulated</li> <li>• Output: 0-4.5 VDC or 4-20 mA</li> </ul>	Sensata Technologies



## EXHAUST GAS RECIRCULATION SYSTEM



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Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

## CONTACT US

### Americas

Pressure Sensors and Switches  
+1 (800) 350 2727  
[sensors@sensata.com](mailto:sensors@sensata.com)  
[switches@sensata.com](mailto:switches@sensata.com)  
Temperature Sensors  
+1 (888) 438 2214  
[sensors@sensata.com](mailto:sensors@sensata.com)

### Europe, Middle East & Africa

Pressure Sensors and Switches  
+359 (2) 809 1826  
[pressure-info.eu@sensata.com](mailto:pressure-info.eu@sensata.com)  
Temperature Sensors  
+31 (74) 357 8156 (Klixon+Airpac)  
[temperature-info.eu@sensata.com](mailto:temperature-info.eu@sensata.com)

### Asia Pacific

[sales.isasia@list.sensata.com](mailto:sales.isasia@list.sensata.com)  
China +86 (21) 2306 1500  
Japan +81 (45) 277 7117  
Korea +82 (31) 601 2004  
India +91 (80) 67920890  
Rest of Asia +886 (2) 27602006  
ext 2808