

# Emissions, Safety and Comfort

automotive on-vehicle measurement solutions



**Amphenol**  
Advanced Sensors

# A global resource for your on-vehicle measurement needs

Engine management system

Cabin comfort

HVAC

Tire pressure monitoring

Safety system

## CABIN COMFORT

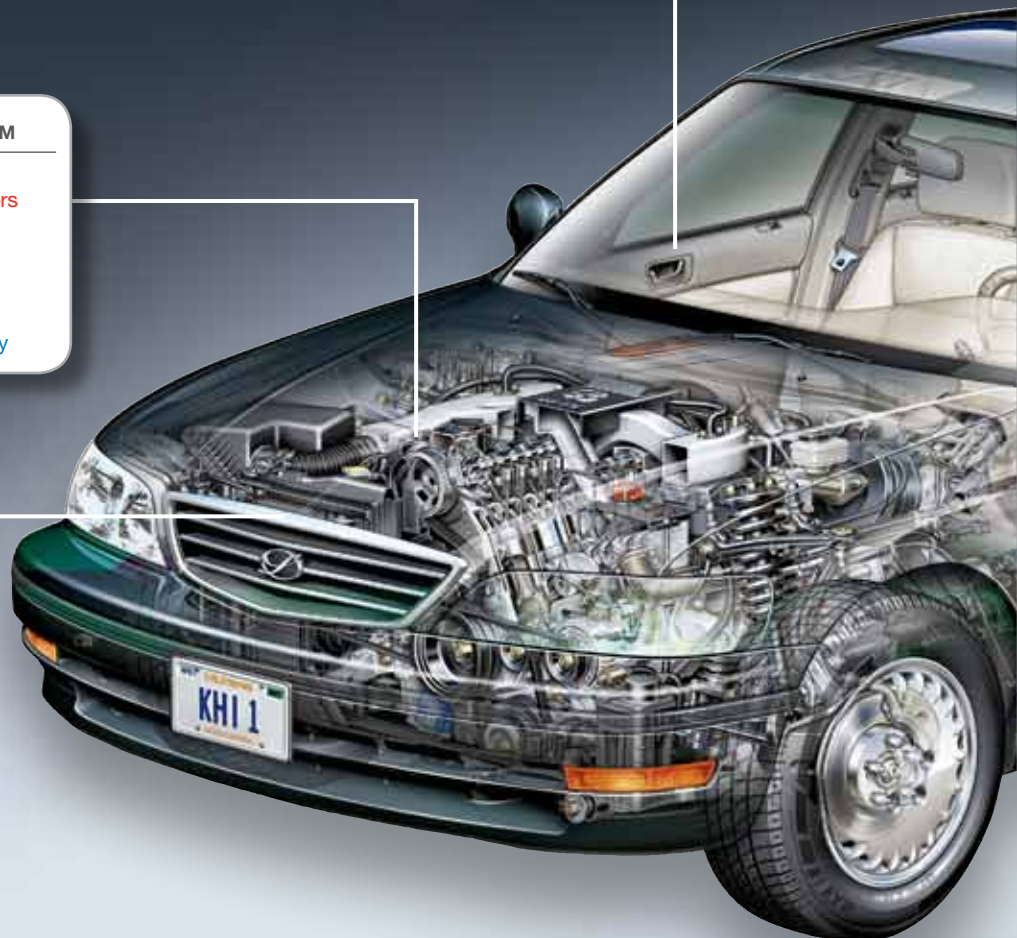
Cabin temperature sensors  
Windshield temperature sensors  
Seat temperature sensors  
Infrared non-contact sensors  
PTC in-cabin heaters  
Humidity sensors  
Air quality sensors  
Solar/twilight sensors

## ENGINE MANAGEMENT SYSTEM

Coolant temperature sensors  
Engine air intake temperature sensors  
EGR temperature sensors  
Exhaust gas temperature sensors  
Inlet air humidity sensors  
Air pressure sensors  
Pressure, Temperature and Humidity

## HVAC

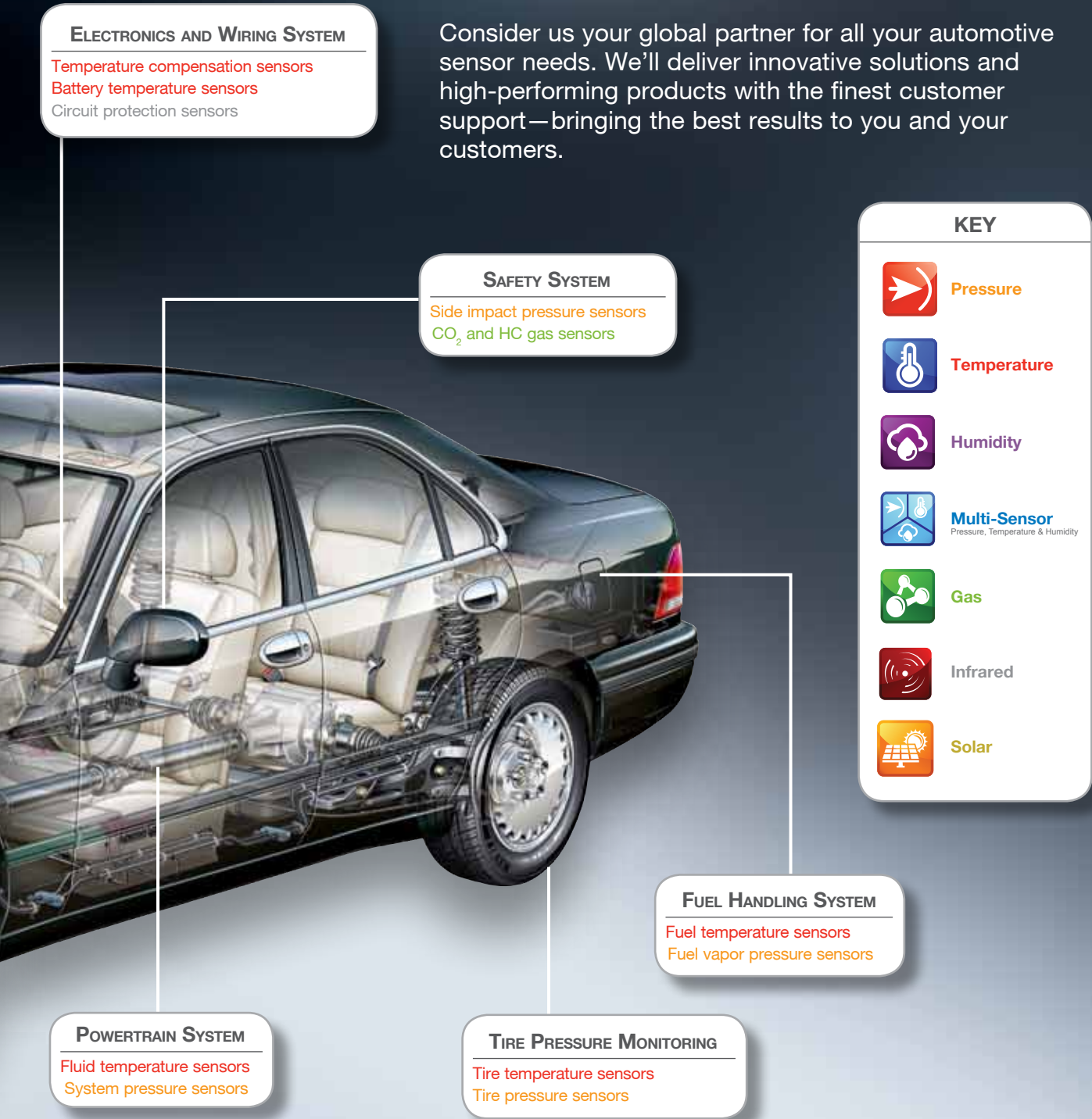
Outside air temperature sensors  
Evaporator temperature sensors  
Duct temperature sensors  
Refrigerant temperature sensors  
Refrigerant pressure sensors  
CO<sub>2</sub> and HC gas sensors



Amphenol Advanced Sensors is your best source for automotive sensors, offering the technology that brings your systems together—to protect the vehicle, its occupants and the environment.

Our sensors regulate the temperature and air quality of the cabin. They monitor engine temperature. They watch tire pressure for dangerous deflation that causes accidents. And they protect the environment from harmful emissions.

Consider us your global partner for all your automotive sensor needs. We'll deliver innovative solutions and high-performing products with the finest customer support—bringing the best results to you and your customers.





# Temperature Pressure Humidity Gas Infrared Solar and Twilight



## Temperature

Amphenol Advanced Sensors temperature sensors are suitable for numerous applications of Tier 1 and OEM products. We tailor sensing elements to your systems, with packaging customized for your platform's requirements.

The Thermometrics ambient sensor measures temperature outside the passenger compartment. It provides input to automatic HVAC systems for cabin temperature control and temperature readings to vehicle occupants.



## Pressure

With our own MEMS fabrication for piezo-resistive pressure die and our expertise in high-volume sensor packaging, we can meet all of your pressure needs.

The NovaSensor NPX1 tire pressure sensor combines both pressure and temperature capability in a single processor-based sensor, providing flexibility and cost effectiveness. The NPX2 adds motion sensing in a similar package. The NPP-301, with a 10-year track record and more than 30 million on the road, provides a smaller, non-calibrated package.



## Humidity

Our resistive-, capacitive- and silicon-based humidity sensing elements are used in sensors for such applications as air intake and cabin comfort.

Ideally suited for high-volume OEM applications, the humidity sensing polymer film of the Telaire G-CAP2 allows it to operate even in 100% RH condensing environments. The Thermometrics active in-car and humidity sensor indicates both the temperature and humidity within the cabin to help provide cabin comfort and reduce window fogging.





### Gas

We offer cabin air quality and exhaust gas sensors to provide a comfortable cabin while reducing the emissions level of the exhaust. A  $\text{NO}_x$  and  $\text{NH}_3$  sensor currently under development will help you comply with global regulations for pollution and exhaust emissions.

Our Telaire  $\text{CO}_2$  module provides a gas sensing solution for  $\text{CO}_2$ -based HVAC systems.



### Infrared

Our state-of-the-art silicone MEMS facility manufactures the IR thermopiles used in applications involving non-contacting temperature sensing. From driver and passenger temperature sensing for in-cabin comfort control to rotating part temperature measurement, we have small-to dual-sensor packages that meet your application requirements.

The ZTP range of products can also be used in conjunction with special filters for gas detection, meeting your requirements in the small TO-41, TO-46 or TO-5 packages.



### Solar and Twilight

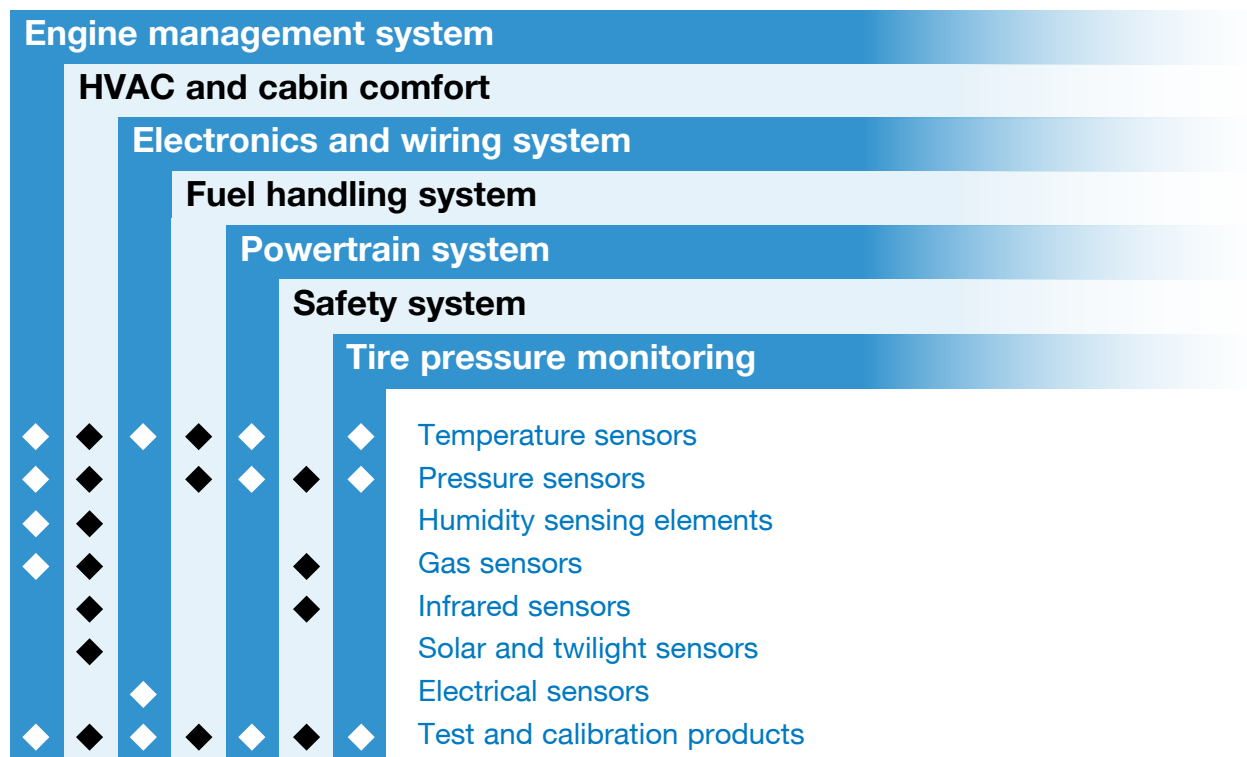
With the increased number of automatic climate control systems seen in vehicles today, we supply solar and twilight sensors for use with both HVAC and lighting systems.

The Thermometrics dual solar sensor provides solar readings that help control the HVAC system internal cabin temperature.

Twilight sensors provide readings of the light level, allowing for automatic headlight activation.



# Measuring what matters most for automotive on-vehicle applications



## Quality

Amphenol Advanced Sensors' global manufacturing facilities hold a variety of laboratory accreditations and certificates of approval for quality management systems including ISO 9001, ISO/TS 16949, QS-9000 and ISO 14001.

We supply the world's leading OEM and Tier 1 companies and we are committed to delivering quality products.



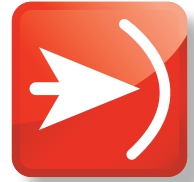
## ABOUT AMPHENOL ADVANCED SENSORS

Amphenol Advanced Sensors is a leading innovator in advanced sensing technologies and innovative embedded measurement solutions customized for regulatory and industry driven applications, creating value by providing critical information for real time data decisions.

Amphenol Advanced Sensors is a company of leading industry brands as Telaire, Kaye, Thermometrics, Modus Instruments, NovaSensor, and Protimeter are industry leaders for over 70 years.

Amphenol Advanced Sensors offers industry leading domain expertise, rapid customization, world-class manufacturing capability and lasting customer relationships to deliver the greatest value in cost of ownership to their customers.

*Pressure*



*Temperature*



*Humidity*



*Multi-Sensor*



*Gas*



*Solar*



*Infrared*



