



Automotive Vents

FOR ELECTRONIC CONTROL UNITS

The innovative solution for longer life, greater reliability and reduced cost

Today's high performance vehicles rely on increasingly sophisticated electronics to deliver advanced functionality. These critical components demand secure, reliable sealed enclosures to protect them from harsh conditions.

In the past, engineers have employed a variety of design approaches to reliably protect the electronics within control units. But these have failed to satisfactorily meet several challenges:

- Response to rapid temperature changes that result in over-pressurization or vacuum conditions
- Exposure to harsh conditions in under-the-hood environments
- Protection for barometric pressure sensors while maintaining access to ambient air
- Difficult assembly including long adhesive and seal cure times
- Increasing design, material and warranty costs

GORE® Automotive Vents for Electronic Control Units address all of these concerns and more.

VENT TO PROTECT

The unique characteristics of GORE® Automotive Vents allow rapid exchange of air in response to pressure changes — in other words, they allow the enclosure to breathe. By keeping the pressure differentials low, seal fatigue and housing stresses are minimized. The result — improved reliability and extended product life.

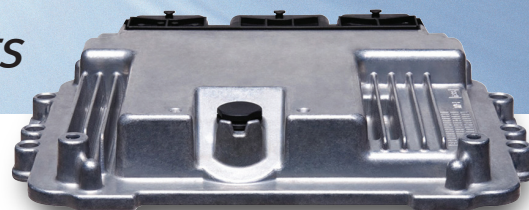
These vents also provide a reliable, long-lasting barrier from water, automotive fluids, dust and other contaminants to which control units are exposed in the harsh under-the-hood environment.

PROVEN PERFORMANCE — SUBSTANTIAL COST SAVINGS

Rugged, durable, long-lasting GORE® Automotive Vents have been tested and shown to perform over the normal 10 to 15 year product life cycle. They have met the strictest OEM and Tier 1 testing requirements, including some vents designed to withstand thermal shock, salt water immersion and IP6K9K challenges.

The superior performance and design of these vents can save you money at every stage of the design and manufacturing process:

- Design complexity is reduced for faster product development
- Less complex seal configurations result in lower tooling costs and reduction in housing materials
- Breathable design permits out-gassing and decreases assembly time
- Vented housings enable adhesive sealants to cure in place and alleviate wet seal bursting
- Dependable vent performance for the life of the product reduces warranty costs



REALIZE THE BENEFITS OF GORE® AUTOMOTIVE VENTS:

- **Improve electronic control unit quality and performance** by protecting from dirt, dust, water and automotive fluids while equalizing pressure
- **Extend product life** by decreasing wear on housing seals
- **Lower control unit cost** by reducing the need for complex seal designs, thicker housing materials and costly manufacturing processes
- **Technical partner** with more than a decade of application experience

RELY ON GORE EXPERTISE AND EXPERIENCE

Gore's vents are the automotive industry standard — tested and proven in electronics from the world's leading manufacturers. They are available in the industry's widest range of product forms, each designed and tested for use in a specific electronic control unit application. Gore can rapidly integrate a venting solution into your finished housing or work with you to create a custom solution.


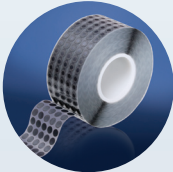

GORE® Automotive Vents are backed by more than a decade of in-depth expertise providing venting solutions for the world's leading automotive component manufacturers. With a global service organization and a reputation for the highest quality standards, Gore is ready to partner with you to address your critical electronic control unit issues.



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FOR ELECTRONIC CONTROL UNITS

A PRODUCT FOR YOUR SPECIFIC APPLICATION

YOUR CONTROL UNIT NEED	RECOMMENDED GORE® AUTOMOTIVE VENT	FEATURES AND BENEFITS
<ul style="list-style-type: none"> • Medium to large volume enclosures • Integrated mechanical protection from rocks and waterspray (IP6K9K) • Flexible manual installation or fast automated installation using pick and place equipment • Installation from the outside of the housing 	 <p>AVS 13 AVS 20 AVS 46</p>	<p>SNAP-FIT VENT</p> <ul style="list-style-type: none"> • Highly breathable, laminate construction with hydrophobic and oleophobic ePTFE membrane • Snap-fit design for fast, reliable attachment to any housing • Quick and easy installation • Protective cap that shields the membrane from direct impingement, yet does not clog with debris • 100% airflow tested
<p>SPECIALTY SOLUTIONS</p> <ul style="list-style-type: none"> • Medium to large volume enclosures • Flat profile for easy integration into housing design • Flexible manual installation or fast automated installation using pick and place equipment • Installation from the outside of the housing 	 <p>AVS 15 (12.70 mm OD) AVS 16 (19.05 mm OD)</p>	<p>ADHESIVE VENT</p> <ul style="list-style-type: none"> • 100% hydrophobic and oleophobic ePTFE membrane construction for long life • A range of sizes available for your specific application needs • Pressure sensitive adhesive for robust bonding to a variety of housing materials • Automated installation for reduced manufacturing costs
<ul style="list-style-type: none"> • Small volume enclosures or connectors • Flat profile for easy integration into housing design • Installation from the inside or outside of the housing • Manual or automated installation 	 <p>AVS 25, 26, 28, 29, 39 (OD from 5.20 up to 14mm)</p>	<p>WELDED VENT</p> <ul style="list-style-type: none"> • 100% hydrophobic and oleophobic ePTFE membrane construction for long life • A range of sizes available for your specific application needs • Designed to be heat sealed or ultrasonically welded in place in an automated process for reduced manufacturing costs • 100% airflow tested



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France	33.1.5695.6565	South America	55.11.5502.7800
Germany	49.89.4612.2211	Spain	34.93.480.6900
India	91.22.6768.7000	Taiwan	886.2.8771.7799
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