

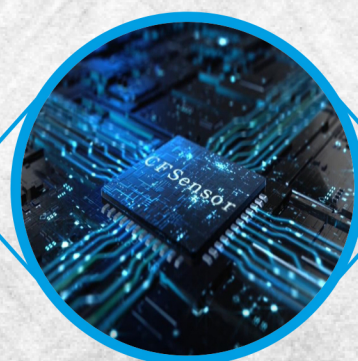


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## SENSOR & APPLICATION

Gas Engine Application

New Energy Application



Entire Vehicle Subsystem

Sensor & Solution

## GAS ENGINE APPLICATION



Gas Engine

### Electric Controlling System

Engine Oil Pressure Sensor  
Intake Pressure & Temp. Sensor  
Crankshaft Position Sensor  
Camshaft Position Sensor  
Temperature Sensor

### After-treatment System

DPF Sensor  
Urea Pressure Sensor

### EVAP System

EVAP Pressure Sensor



## NEW ENERGY APPLICATION I



New Energy

### Driving Motor

Revolution Sensor

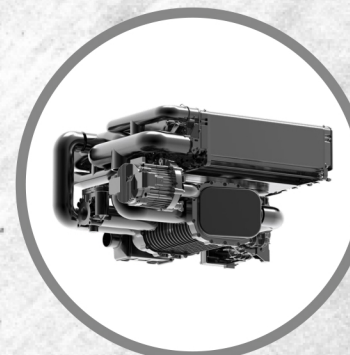
### Power Battery

Battery Pack Pressure Sensor  
Battery Pack Temp. Sensor  
Current Sensor



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## NEW ENERGY APPLICATION I



New Energy

### Hydrogen Cell

Temperature Humidity Sensor  
Hydrogen Pressure Sensor  
Water Pressure Sensor  
Hydrogen Temperature Sensor  
Water Temperature Sensor



## SUBSYSTEM APPLICATION



Entire Vehicle Subsystem

### Braking System

ABS Wheel Speed Sensor  
Braking Air Pressure Sensor

### Steering System

Steering Wheel Angle

### Chassis Intelligent System

Inclination Sensor

### Gearbox System

Gearbox Oil pressure Sensor  
Shift Position Sensor  
Input/output Revolution Speed Sensor

### Intelligent Seat System

MEMS Pressure Sensor



## SENSOR & SOLUTION

INTAKE  
PRESSURE

AS26A

AS78A

AS32A

ENGINE  
PRESSURE

AS46A

DPF  
PRESSURE

AS45A

REVOLUTION  
SPEED

AS91A

AS92A

EVAP

AS82A

COOLANT  
PRESSURE

ASPT11E

CURRENT

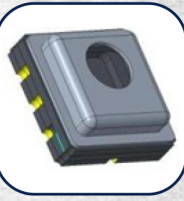

AS201



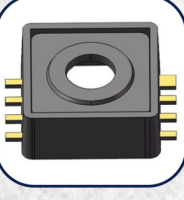


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## INTAKE PRESSURE & SOLUTION I

P/N	IMAGE	FEATURE	APPLICATION & SOLUTION
AS26A		<ul style="list-style-type: none"><li>Range: 0kPa ~100kPa...2500kPa</li><li>Absolute pressure type</li><li>Optional 3.3V or 5V power supply</li><li>Optional custom output curve</li><li>Optional custom pressure range</li><li>Ceramic base structure, gel filled</li></ul>	<p>SMT the sensor to PCB, then assemble PCB to housing as a finished products, which be assembled to Gas engine to measure the intake pressure.</p> <ul style="list-style-type: none"><li>Solution 1: Sensor as image</li><li>Solution 2: Sensor with PCBA</li></ul>
AS78A		<ul style="list-style-type: none"><li>Range: 0kPa ~100kPa...2500kPa</li><li>Absolute pressure type</li><li>Optional 3.3V or 5V power supply</li><li>Optional custom output curve</li><li>Optional custom pressure range</li><li>SMD package, gel filled</li></ul>	<ul style="list-style-type: none"><li>Solution 3: Finished Products</li></ul>

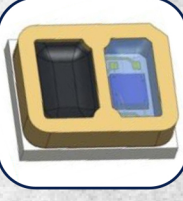
## INTAKE PRESSURE & SOLUTION II

P/N	IMAGE	FEATURE	APPLICATION & SOLUTION
AS32A		<ul style="list-style-type: none"><li>Silicon piezoresistive technology</li><li>Absolute pressure type</li><li>Optional custom pressure range (0~100kPa...700kPa...2000kPa)</li><li>Corrosion-resistant and high-temp-resistant materials, including housing and gel</li><li>Support over-voltage 28V protection</li><li>Support reverse-voltage -28V protection</li><li>PIN TO PIN as other brand</li><li>AEC-Q103 certificated</li></ul>	<p>SMT the sensor to PCB, then assemble PCB to housing as a finished products, which be assembled to Gas engine to measure the intake pressure.</p> <ul style="list-style-type: none"><li>Solution 1: Sensor as image</li><li>Solution 2: Sensor with PCBA</li><li>Solution 3: Finished Products</li></ul>

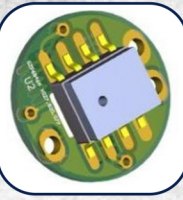
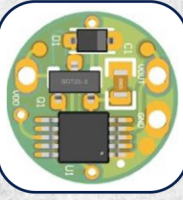


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## DPF PRESSURE & SOLUTION

P/N	IMAGE	FEATURE	APPLICATION & SOLUTION
AS45A		<ul style="list-style-type: none"><li>Silicon piezoresistive technology</li><li>Gage pressure type</li><li>Optional custom pressure range (-100...0kPa ~ 40kPa...200kPa)</li><li>Optional custom output range</li><li>Corrosion-resistant to vehicle exhaust</li><li>Ceramic base board package</li></ul>	<p>SMT the sensor to PCB, then assemble PCB to housing as a finished products, which be assembled to vehicle frame to measure differential pressure of DPF or GPF exhaust gas from gas engines to confirm if the after treatment equipment is clogged</p> <ul style="list-style-type: none"><li>Solution 1: Sensor as image</li><li>Solution 2: Sensor with PCBA</li><li>Solution 3: Finished Products</li></ul>

## ENGINE OIL PRESSURE & SOLUTION



P/N	IMAGE	FEATURE	APPLICATION & SOLUTION
AS46A	 	<ul style="list-style-type: none"><li>Silicon piezoresistive technology</li><li>Absolute pressure type</li><li>Optional custom pressure range (0~100kPa...700kPa...2000kPa)</li><li>Optional custom output range</li><li>Sensor on top side and others component on back side</li><li>High reliability</li><li>Optional custom PCBA module</li><li>Dimension <math>\phi 10</math>、<math>\phi 18</math>、<math>\phi 18.8</math>、<math>\phi 19</math></li></ul>	<p>This product is a PCBA module, PCB assembled into the shell to become a finished product, product assembly installed in the internal combustion engine (such as gasoline, diesel, natural gas as fuel engines) oil sump or oil main line for pressure detection, or for the entire vehicle brake air pressure detection</p> <ul style="list-style-type: none"><li>Solution 1: Sensor with PCBA as image</li><li>Solution 2: Finished Products</li></ul>






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## ROTATION SPEED & SOLUTION

P/N	IMAGE	FEATURE	APPLICATION & SOLUTION																																							
<div>AS91R</div> <div>Magneto- electric Solution</div>		<table><tr><th>Subject</th><th>Value</th><th>Unit</th></tr><tr><td>Resistance</td><td>860±86</td><td>Ω</td></tr><tr><td>Inductance</td><td>370±60</td><td>mH</td></tr><tr><td>Low speed performance</td><td>≥0.25</td><td>Vp</td></tr><tr><td>High speed performance</td><td>≤100</td><td>Vp</td></tr><tr><td>Protection Grade</td><td>IP67</td><td></td></tr><tr><td>Insulating resistance</td><td>≥10MΩ/500VDC</td><td>MΩ</td></tr><tr><td>Working Temp.</td><td>-40 ~ 150</td><td>℃</td></tr><tr><td>Store Temp.</td><td>-40 ~ 160</td><td>℃</td></tr></table>	Subject	Value	Unit	Resistance	860±86	Ω	Inductance	370±60	mH	Low speed performance	≥0.25	Vp	High speed performance	≤100	Vp	Protection Grade	IP67		Insulating resistance	≥10MΩ/500VDC	MΩ	Working Temp.	-40 ~ 150	℃	Store Temp.	-40 ~ 160	℃	<p>This product is mounted on the flywheel housing or gear chamber housing of internal combustion engines to test the engine crankshaft and camshaft speed, confirm the ignition starting angle of internal combustion engines, and keep the engine running under reasonable working conditions.</p> <ul style="list-style-type: none"><li>• Solution 1: Finished Products as image</li><li>• Solution 2: OEM</li></ul>												
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<div>AS92R</div> <div>Hall Solution</div>		<table><tr><th>Subject</th><th>Value</th><th>Unit</th></tr><tr><td>Working Voltage</td><td>4.75~5.25</td><td>V</td></tr><tr><td>Working Current</td><td>≤15</td><td>mA</td></tr><tr><td>Output High-level</td><td>≥4.5</td><td>V</td></tr><tr><td>Output Low-level</td><td>≤0.4</td><td>V</td></tr><tr><td>Rise Time</td><td>≤15</td><td>μs</td></tr><tr><td>Fall Time</td><td>≤3</td><td>μs</td></tr><tr><td>Working Air-Gap</td><td>0.3~2.0</td><td>mm</td></tr><tr><td>Working Frequency</td><td>0~5</td><td>KHz</td></tr><tr><td>Insulating Resistance</td><td>≥10MΩ/500VDC</td><td>MΩ</td></tr><tr><td>Protection Grade</td><td>IP69K</td><td></td></tr><tr><td>Working Temperature</td><td>-40 ~ 150</td><td>℃</td></tr><tr><td>Store Temperature</td><td>-40 ~ 160</td><td>℃</td></tr></table>	Subject	Value	Unit	Working Voltage	4.75~5.25	V	Working Current	≤15	mA	Output High-level	≥4.5	V	Output Low-level	≤0.4	V	Rise Time	≤15	μs	Fall Time	≤3	μs	Working Air-Gap	0.3~2.0	mm	Working Frequency	0~5	KHz	Insulating Resistance	≥10MΩ/500VDC	MΩ	Protection Grade	IP69K		Working Temperature	-40 ~ 150	℃	Store Temperature	-40 ~ 160	℃	
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## EVAP & SOLUTION

P/N	IMAGE	FEATURE	APPLICATION & SOLUTION																																							
AS82A		<table><tr><th>Subject</th><th>Value</th><th>Unit</th></tr><tr><td>Range</td><td>-3.75 ~ +1.25 (customized)</td><td>kPa</td></tr><tr><td>Output</td><td>4.5 ~ 0.5 (customized with ratio output or fixed output)</td><td>V</td></tr><tr><td>Accuracy</td><td>±1.5</td><td>%Span</td></tr><tr><td>Accuracy in Full Temp.Range</td><td>±3</td><td>%Span</td></tr><tr><td>Overload Pressure</td><td>68</td><td>KPa(G)</td></tr><tr><td>Burst Pressure</td><td>300</td><td>KPa(G)</td></tr><tr><td>Protection Grade</td><td>IP67</td><td></td></tr><tr><td>Response Time</td><td>≤2</td><td>ms</td></tr><tr><td>Clamp Vol (up&amp;down)</td><td>Customized as request.</td><td></td></tr><tr><td>Insulance</td><td>≥10MQ/500VDC</td><td>MQ</td></tr><tr><td>Working Temp.</td><td>-40 ~ 115</td><td>℃</td></tr><tr><td>Store Temp.</td><td>-40 ~ 130</td><td>℃</td></tr></table>	Subject	Value	Unit	Range	-3.75 ~ +1.25 (customized)	kPa	Output	4.5 ~ 0.5 (customized with ratio output or fixed output)	V	Accuracy	±1.5	%Span	Accuracy in Full Temp.Range	±3	%Span	Overload Pressure	68	KPa(G)	Burst Pressure	300	KPa(G)	Protection Grade	IP67		Response Time	≤2	ms	Clamp Vol (up&down)	Customized as request.		Insulance	≥10MQ/500VDC	MQ	Working Temp.	-40 ~ 115	℃	Store Temp.	-40 ~ 130	℃	<p>This product is installed on the fuel pump, activated carbon tank or fuel tank to detect the air pressure in the fuel tank and monitor the pressure change to determine whether there is fuel vapor leakage.</p> <ul style="list-style-type: none"><li>• Solution 1: Finished Products as image</li></ul>
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## COOLANT PRESSURE & SOLUTION

P/N	IMAGE	FEATURE	APPLICATION & SOLUTION
ASPT11E		<ul style="list-style-type: none"><li>• Measuring coolant line pressure in water cooling systems</li><li>• Silicon Piezoresistive MEMS Technology</li><li>• Accuracy: ±1%FS at room temperature, ±3%FS at full temperature range</li><li>• Stainless steel isolation diaphragm scheme design, good resistance to long time water corrosion performance</li><li>• Internal integrated waterproof hammer impact solution</li></ul>	<p>I: Water-cooled systems: For data centers, energy storage, battery management and other temperature control systems, this product is used in water-cooled systems to measure coolant pressure to evaluate the system's heat dissipation function.</p> <p>II: Air-cooling system and heat pump management system: Measure and monitor the pressure of the air conditioning duct, and send the signal back to the ECU, which adjusts the speed of the heat sink fan according to this voltage value to prevent the compressor from being damaged.</p> <ul style="list-style-type: none"><li>• Solution 1: Finished Products as image</li></ul>
AS201C		<ul style="list-style-type: none"><li>• ±0.5% typical linearity over full temperature range</li><li>• Fast output step response time: 1.8μs</li><li>• 240kHz signal bandwidth</li><li>• 5.0V DC power supply</li><li>• -40°C to 105°C operating temperature</li><li>• Rated current detection range: (bidirectional) -- ±10A~±120A</li><li>• Detects AC and DC current signals</li><li>• Power-independent fixed output mode</li><li>• Extremely stable quiescent output voltage</li><li>• Reference output on chip</li></ul>	<p>These products are installed on the energy storage controller PCB, such as photovoltaic, wind power industry inverter, inverter, sink box, DC\DC converter, motor controller, switching power supply, uninterruptible power supply, battery management system, traditional industry and other fields are applied, the current in the pathway to detect.</p> <ul style="list-style-type: none"><li>• Solution 1: Sensor with PCBA as image</li></ul>

## AARON INSTRUMENTS

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