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# BRIEF INFORMATION

## Air Mass Sensor

- OE quality applied for an exact fit
- Enhanced real time performance
- High flow measurement accuracy
- Continuous product line extension

## PRODUCT FEATURES



### Application

HELLA focuses on providing a wide range of applications for European, Japanese and North American manufacturers.

### Design and function

Air Mass Sensors usually use a compact housing design and measure engine intake air flow which is critical for real time adjustments of the air/fuel mixture. They operate in correlation with the main components that also manage the exhaust optimisation, like the EGR valves and oxygen sensors. The sensors have the crucial role of quantifying the exact amount of air that crosses the intake in a certain amount of time, the information provided being highly important for the engine's ECU.

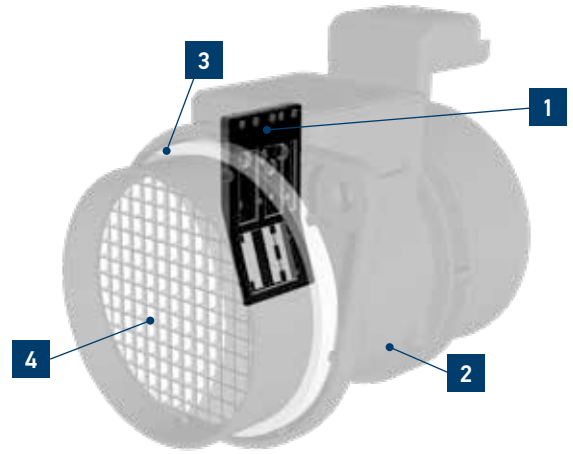
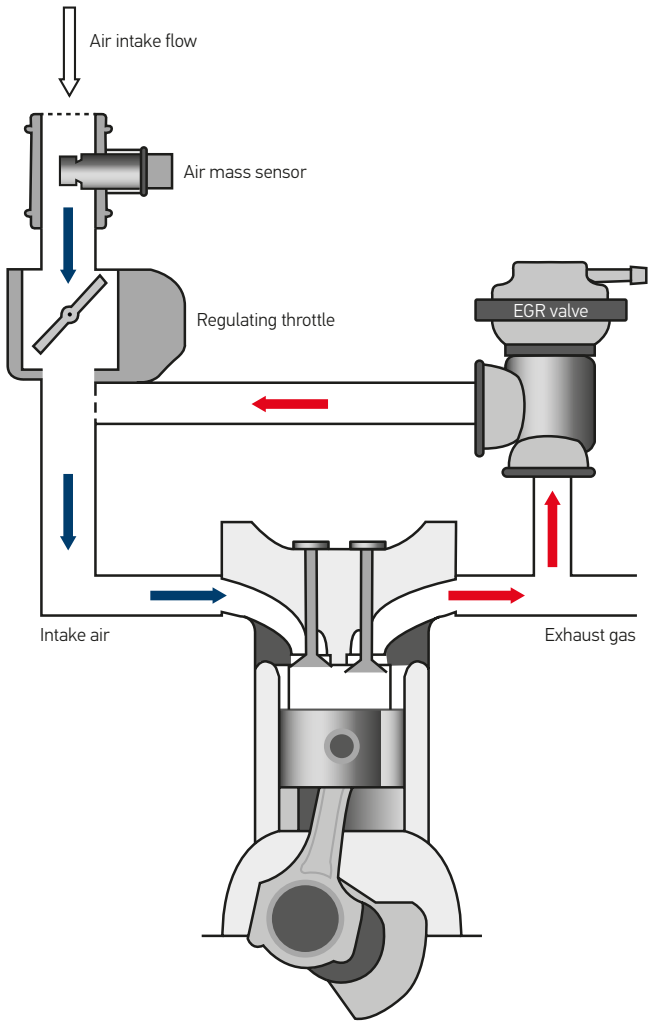
### Construction type

- Full Assembly – dedicated design housing with integrated sensor
- Sensor – singular sensor which fits the original housing of the vehicle

### Sensor technology type

- Hot-wire – output signal defined as voltage variation
- Hot-film – output signal analog or digital depending on version

# FUNCTIONAL DIAGRAM & FULL PRODUCT ASSEMBLY

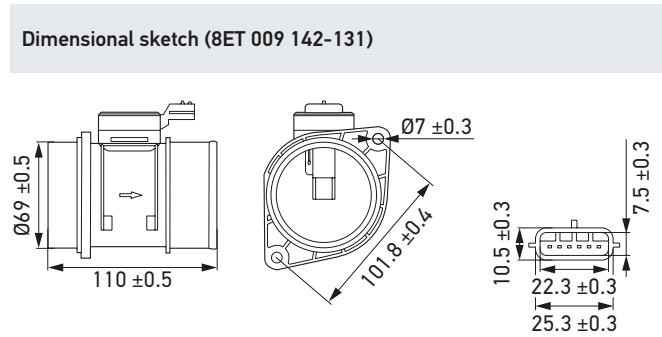


- [1] **Sensor:** Provides a stable and precise output signal used in determining engine intake air flow as well as temperature in most cases.
- [2] **Housing:** Precise fit, located after the air filter housing.
- [3] **Gasket:** Provides perfect seal between engine intake system and external environment.
- [4] **Honeycomb mesh:** Ensures protection from any unwanted large-scale debris reaching the sensor area.

The Air Mass Sensor is fitted in the intake pipe between the air filter housing and the intake manifold.

## TECHNICAL DETAILS

Technical data (8ET 009 142-131)	
Operating voltage	9 – 17 V
Rated voltage	12 V
Vibration resistance	Yes
Installation location	Engine



# PROGRAM OVERVIEW \*

Manufacturer	Part number	Manufacturer	Part number	Manufacturer	Part number		
Alfa Romeo	8ET 009 149-281	BMW	8ET 358 095-021	Ford	8ET 358 166-091		
	8ET 009 149-221		8ET 358 095-701		8ET 358 166-111		
	8ET 009 142-691		8ET 358 095-711		8ET 358 166-131		
	8ET 009 142-521		8ET 358 095-891		8ET 358 166-191		
	8ET 358 095-061		8ET 358 095-901		8ET 358 166-231		
	8ET 009 142-261		8ET 358 095-971		8ET 358 166-271		
	8ET 009 149-361		8ET 358 095-981		8ET 358 166-341		
	8ET 358 095-281		8ET 358 095-991		8ET 358 166-411		
	8ET 009 149-671		Buick		8ET 358 166-431		
	8ET 009 149-611		Cadillac		8ET 358 095-591		
	8ET 009 142-451		8ET 358 095-951		8ET 358 095-741		
	8ET 009 149-441		8ET 358 095-141		8ET 358 095-761		
	8ET 009 142-861		Chevrolet		8ET 009 149-451	8ET 358 095-791	
	8ET 009 149-591				8ET 358 166-071	8ET 358 095-841	
	8ET 009 142-791				8ET 358 095-931	8ET 358 166-161	
8ET 009 149-431	Chrysler	8ET 358 095-961	8ET 358 166-261				
8ET 009 149-181		8ET 009 149-501	8ET 358 095-721				
8ET 009 142-241		8ET 358 095-691	8ET 358 095-801				
Audi / VW / Seat / Skoda	8ET 009 149-031	Citroen	8ET 009 142-581	GM	8ET 358 095-811		
	8ET 009 149-661		8ET 009 149-561		8ET 358 095-821		
	8ET 009 149-581		8ET 009 142-141		8ET 358 095-861		
	8ET 009 149-051		8ET 009 142-391		8ET 358 095-881		
	8ET 358 095-051		8ET 009 142-111		8ET 009 149-321		
	8ET 358 095-291		8ET 009 142-421		8ET 009 149-491		
	8ET 009 142-711		8ET 009 142-321		8ET 358 166-351		
	8ET 009 142-251		8ET 358 095-641		8ET 358 095-581		
	8ET 009 149-521		8ET 358 095-651		8ET 358 095-601		
	8ET 009 149-001		Fiat		8ET 009 149-131	8ET 358 095-351	
	8ET 009 142-361				8ET 009 142-431	8ET 358 166-281	
	8ET 009 142-701				8ET 009 149-141	8ET 009 149-191	
	8ET 358 095-381		8ET 009 142-741		8ET 009 149-201	Hyundai / Kia	8ET 009 142-721
	8ET 358 095-401		8ET 358 095-191		8ET 009 149-401		8ET 009 142-441
	8ET 358 095-871		8ET 009 142-541		8ET 009 149-621		8ET 358 095-911
8ET 009 142-021	8ET 009 149-471	8ET 009 142-571	8ET 358 095-941	Isuzu	8ET 358 166-011		
8ET 009 142-341	8ET 009 142-571	8ET 009 142-821	Iveco		8ET 358 095-201		
8ET 009 142-641	8ET 009 142-281	8ET 009 142-281		8ET 009 142-051	Land Rover	8ET 358 095-631	
8ET 009 149-461	8ET 009 142-281	8ET 009 142-591	8ET 358 095-661	Lexus		8ET 358 095-501	
8ET 009 142-061	8ET 009 142-591	8ET 009 142-291	8ET 009 142-891		Mazda	8ET 358 166-041	
8ET 009 149-381	8ET 009 142-291	8ET 009 142-561	8ET 358 166-041	8ET 358 166-381			
8ET 009 149-531	8ET 009 142-561	8ET 009 142-171	8ET 358 166-051	8ET 358 166-391			
8ET 009 142-661	8ET 009 142-171	8ET 009 142-161	8ET 358 166-061				
8ET 009 142-631	8ET 009 142-161	8ET 358 095-081					
8ET 358 095-041	8ET 358 095-081	8ET 358 095-671					
8ET 009 149-161	8ET 358 095-671	8ET 358 095-411					
8ET 358 095-461	8ET 358 095-411	8ET 358 166-051					
8ET 009 149-041	8ET 358 166-051	8ET 358 166-061					
8ET 358 095-251	8ET 358 166-061						

\* You can get an up-to-date overview of the product range from HELLA PARTNER WORLD via QR code on top of the brief info or in TecDoc and your local catalogue.

# PROGRAM OVERVIEW \*

Manufacturer	Part number	Manufacturer	Part number	Manufacturer	Part number			
Mazda	8ET 358 166-421		8ET 009 142-081	Toyota	8ET 358 095-771			
	8ET 358 095-921		8ET 009 149-651		8ET 358 095-221			
	8ET 009 142-351		8ET 009 142-811		8ET 009 149-211			
	8ET 358 095-311		8ET 009 142-671		Volvo	8ET 009 149-371		
	8ET 009 142-331		8ET 009 149-551			8ET 009 142-991		
	8ET 358 095-111		8ET 009 149-151			8ET 358 095-491		
	8ET 358 095-271		8ET 358 095-071					
	8ET 358 095-321		8ET 009 142-981					
	Mercedes-Benz		8ET 358 095-161		Opel / Vauxhall	8ET 009 149-391		
			8ET 358 095-331			8ET 009 142-511		
8ET 009 149-121		8ET 009 149-411						
8ET 009 142-601		8ET 358 095-151						
8ET 009 149-061		8ET 358 095-541						
8ET 358 095-301		8ET 009 142-031						
8ET 009 149-171		8ET 358 095-341						
8ET 009 149-421		8ET 009 142-101						
8ET 358 095-681		8ET 358 095-211	Peugeot	8ET 358 095-451				
		8ET 358 095-451						
Mini	8ET 358 095-441		Porsche	8ET 358 095-781				
	8ET 358 095-391		8ET 009 142-001					
Mitsubishi	8ET 358 166-101		8ET 009 142-131					
	8ET 358 166-171		8ET 009 142-651					
	8ET 358 166-291		8ET 009 142-311	Renault	8ET 358 095-131			
	8ET 358 166-311		8ET 358 095-131		8ET 009 142-551			
	8ET 358 166-331		8ET 009 142-551		8ET 358 095-181			
	8ET 358 095-561		8ET 358 095-181		8ET 009 142-971			
	8ET 009 142-761		8ET 009 142-971		8ET 009 142-121			
	8ET 358 095-011		8ET 009 142-121	8ET 009 142-041				
	8ET 009 142-771		8ET 009 142-041	Saab	8ET 358 166-151			
	8ET 009 142-751		8ET 358 166-151		8ET 358 095-851			
8ET 358 095-521	8ET 358 095-521	Subaru	8ET 009 142-911					
8ET 358 095-531	8ET 358 095-531		8ET 009 149-511					
8ET 358 166-021	8ET 358 166-021		8ET 358 095-551					
8ET 358 166-031	8ET 358 166-031		8ET 358 095-481					
8ET 358 166-081	8ET 358 166-081		Suzuki	8ET 358 166-221				
Nissan	8ET 358 166-121			8ET 358 166-241				
	8ET 358 166-141		8ET 009 142-901					
	8ET 358 166-181		8ET 009 142-921					
	8ET 358 166-201		8ET 009 142-921					
	8ET 358 166-211		8ET 009 149-311					
	8ET 358 166-361		8ET 358 095-241	Toyota	8ET 009 142-961			
	8ET 358 166-401		8ET 009 142-961		8ET 009 142-951			
	8ET 358 095-731		8ET 009 142-961		8ET 358 095-101			
	8ET 358 095-751		8ET 009 142-941		8ET 009 142-941			
	8ET 358 095-831		8ET 358 166-251		8ET 358 166-251			
8ET 358 095-571	8ET 009 142-731		8ET 358 166-371					
Opel / Vauxhall	8ET 358 095-611							
	8ET 009 142-731							

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# Q&A

## – Air Mass Sensor –



**Why is preciseness in operation across the whole lifespan of the product so important in an Air Mass Sensor?**

Intake airflow and temperature represent important parameters in the ECU's ability to manage modern injection systems. Even small deviations in Air Mass Sensor readings can lead to a loss in injection process accuracy, easily affecting overall engine efficiency and performance.

**What are the first symptoms of a faulty Air Mass Sensor?**

Knocking noise from the engine, black smoke, poor engine acceleration response, check engine warning light, stalling in certain start-up conditions, erratic idling and high fuel consumption are a few signs to look out in a faulty Air Mass Sensor.

**Can the overall performance of the Air Mass Sensor decrease without showing obvious signs?**

Yes, although the Air Mass Sensor can have multiple common signs when not working properly, sometimes the driver will not be able to detect slight deviations in air flow readings.

**Can driving with a faulty Air Mass Sensor affect the lifespan of other vehicle components not related to electrics and electronics?**

Yes, the ECU will not be able to achieve 100% fuel injection performance in the case of a faulty Air Mass Sensor, so driving with a defective Air Mass Sensor can consequently lead to several costly problems like the DPF or even engine failure due to imprecise injection management.

**What is the main external factor that can influence the correct operating of the Air Mass Sensor on a vehicle?**

The main external factor which can directly affect Air Mass Sensor performance and operation is represented by contaminated air with dust or emission particles that pass through the air cleaner, directly reaching the sensor location. In order to prevent this happening, checking and changing the air filter within well-defined intervals is a simple and cost-effective way of prolonging the life of the Air Mass Sensor.