



## BRIEF INFORMATION

### Air quality sensor – measurement of air properties

- Greater driving comfort due to continual optimisation of the interior air quality in the inside of the vehicle
- The intelligent software automatically provides pre-processed information for the air conditioning system while taking into account the respective environmental conditions (e.g. city traffic, cross-country drive, motorway)

## PRODUCT FEATURES

### Application

The air quality levels are evaluated based on the recorded changes in CO and NO<sub>2</sub> concentration and classified from 0 to 4. In order to give consideration to the environmental conditions, as they are present e.g. in the city compared to country areas, the air quality monitor has an autonomous sensitivity adjustment for different gas concentrations and occurrences.

Example: With an increasing number of gas occurrences (air quality level  $\geq 2$ ) recorded, the sensitivity of the device is lowered to reach an average rate of 0.25 event recordings per minute.

### Design and functions

During the trip the AQM air quality monitor from HELLA records all occurrences that could have an effect on the air quality in the inside of the vehicle (e.g. driving through a tunnel or driving past vehicles with high exhaust emissions).

The AQM is installed in the vehicle in a location where the outdoor air quality can quickly be recorded in all driving situations. A possible installation location could be the water tank, for example.

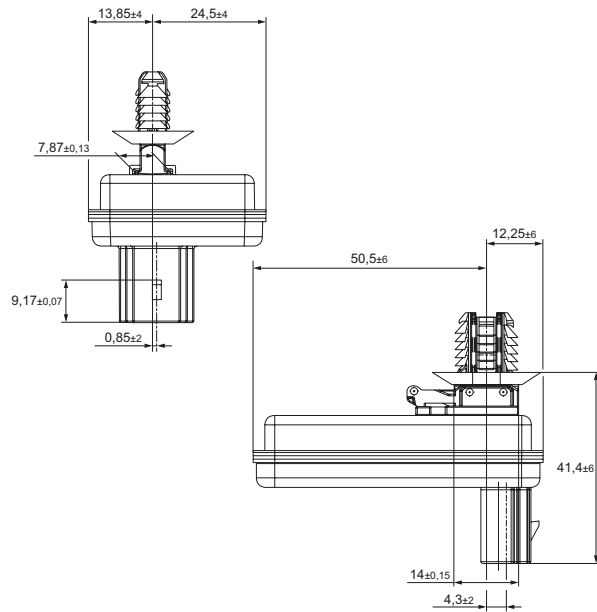
The AQM activates the air-conditioning system which in turn automatically regulates the recirculation air function based on the outdoor air quality. If there is a high exhaust concentration around the vehicle, it switches automatically to air circulation mode. This prevents exhaust emissions from entering the vehicle.

# TECHNICAL DETAILS

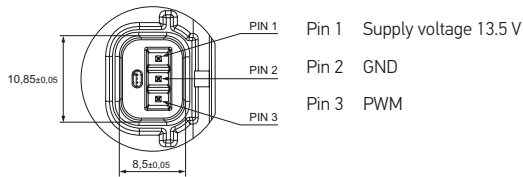
## Technical Data

Rated voltage	9 – 16 V
Detectable gases	CO, NO <sub>2</sub>
Min. detectable change in concentration	CO: 7ppm, NO <sub>2</sub> : 75ppb
Response time	CO: 5s, NO <sub>2</sub> : 10s
Chemical resistance	Typical automotive media
Operating temperature	-40°C bis +85°C
Storage temperature	-40°C bis +95°C
Protection rating	IP 26 (with sealed connector: IP 5K9K)
Service life	241,350 km (150,000 miles), 10 years
Material	Housing: PA 66 GF25, diaphragm: PTFE
Contact pin material	C19010
Contact pin coat	Ni 1 – 2 µm, electrogalvanised pin, 5 ± 2.5 µm matt finish plating, Sn on Ni
Electric connector	EWCAP no. 064-S-003-1-Z01 (option A)
Mechanical interface	Delphi clip receptacle
Adjustment during assembly	Connector and air inlet point downwards
Weight	21 g

## Technical drawing




## Pin assignment



## PWM duty cycle

Unit	Minimum	Typical	Maximum	Signal content / comment
%	0	–	5	No operation, not ready
%	7	12,5	18	Not in use
%	22	27,5	33	Air quality level 4
%	37	42,5	48	Air quality level 3
%	52	57,5	63	Air quality level 2
%	67	72,5	78	Air quality level 1
%	82	87,5	93	Air quality level 0
%	95	–	100	No operation, not ready

# RANGE OVERVIEW

Product Image	Description	Part number
	Air quality sensor	available on request