

# Technical specifications:

## G999C / G999M / G999E / G999P



<b>Type designations</b>	G999C (with slot for a catalytic combustion sensor CC) G999M (with slot for a catalytic combustion sensor CC) G999E (with slot for a fourth electrochemical sensor EC) G999P (with slot for a photoionization sensor PID)								
<b>Measuring principle</b>	Electrochemical (EC): for toxic gases and oxygen Photoionization (PID): for toxic flammable gases and vapors Catalytic combustion (CC): for flammable gases and vapors (up to 100%LEL) Infrared (IR): for flammable gases and vapors and carbon dioxide								
<b>Measuring ranges</b>	sensor dependent								
<b>Response time</b>	sensor dependent								
<b>Expected average life of the sensor</b>	sensor dependent								
<b>Measuring gas supply</b>	via the diffusion opening while the pump is switched off or via the suction opening during the pump operation (sensor cover closed)								
<b>Pump capacity</b>	0,5...0,6slpm @0kPa / 0,30slpm @-4kPa / 0,0slpm@-10kPa max. 100 m hose length (depending on the measuring gas and hose)								
<b>Display</b>	illuminated LCD full graphics display, automatic size setting for optimum reading, displays the battery capacity, gas concentration as current value and peak value								
<b>Alerting</b>	depending on the gas type 3 or 2 momentary value and 2 exposure level alarms, battery alarm with visual and acoustical signaling as well as display on the screen, color of the display depending on the alarm state (orange/red). Horn: 103 dB(A) (can be reduced to 90 dB(A))								
<b>Zero point and sensitivity adjustment</b>	manual or automatic with an adjustment program, if necessary, test gas supply via the "SMART CAP" with 0.5...0.6slpm								
<b>Radio</b>	optional 868MHz for EU; range approx. 700 m (free field) optional 915MHz for USA; range approx. 300 m (free field)								
<b>Power supply</b>	NiMH battery module; 5,2V 2100mAh; rechargeable								
<b>Operating time (*1)</b>	<table border="0"> <tr> <td>without radio:</td> <td>approx. 26h (EC+CC<sub>ps</sub>+IR) approx. 42h (EC+CC<sub>ps</sub>) approx. 52h (EC+PID) approx. 130h (EC)</td> <td>approx. 18h (EC+CC+IR) approx. 25h (EC+CC) approx. 30h (EC+PID+IR) approx. 47h (EC+IR)</td> <td>approx. 11h (EC+CC+IR+Pmp) approx. 13h (EC+CC+Pmp) approx. 14h (EC+PID+IR+Pmp) approx. 17h (EC+IR+Pmp)</td> </tr> <tr> <td>with radio:</td> <td>approx. 20h (EC+CC<sub>ps</sub>+IR) approx. 28h (EC+CC<sub>ps</sub>) approx. 33h (EC+PID) approx. 52h (EC)</td> <td>approx. 15h (EC+CC+IR) approx. 19h (EC+CC) approx. 22h (EC+PID+IR) approx. 30h (EC+IR)</td> <td>approx. 10h (EC+CC+IR+Pmp) approx. 11h (EC+CC+Pmp) approx. 12h (EC+PID+IR+Pmp) approx. 14h (EC+IR+Pmp)</td> </tr> </table>	without radio:	approx. 26h (EC+CC <sub>ps</sub> +IR) approx. 42h (EC+CC <sub>ps</sub> ) approx. 52h (EC+PID) approx. 130h (EC)	approx. 18h (EC+CC+IR) approx. 25h (EC+CC) approx. 30h (EC+PID+IR) approx. 47h (EC+IR)	approx. 11h (EC+CC+IR+Pmp) approx. 13h (EC+CC+Pmp) approx. 14h (EC+PID+IR+Pmp) approx. 17h (EC+IR+Pmp)	with radio:	approx. 20h (EC+CC <sub>ps</sub> +IR) approx. 28h (EC+CC <sub>ps</sub> ) approx. 33h (EC+PID) approx. 52h (EC)	approx. 15h (EC+CC+IR) approx. 19h (EC+CC) approx. 22h (EC+PID+IR) approx. 30h (EC+IR)	approx. 10h (EC+CC+IR+Pmp) approx. 11h (EC+CC+Pmp) approx. 12h (EC+PID+IR+Pmp) approx. 14h (EC+IR+Pmp)
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<b>Climatic conditions</b>	for operation: -20...+50°C   5...95%r.h.   70...130kPa for storage: -25...+55°C   5...95%r.h.   70...130kPa (recommended 0...+30°C)								
<b>Housing</b>	Material: rubberized polycarbonate Dimensions: 68 x 136 x 39 mm (W x H x D) Weight: up to 395 g (depending on sensor configuration) Protection class: IP67								

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## Approvals / Tests

Markings and ignition protection types:	G999C	⊕ I M2 Ex ia db I Mb	⊕ II 2G Ex ia db IIC T4 Gb	-20°C ≤ Ta ≤ +50°C
	G999M	⊕ I M2 Ex ia db I Mb	⊕ II 2G Ex ia db IIC T4 Gb	-20°C ≤ Ta ≤ +50°C
		⊕ I M1 Ex ia da I Ma	⊕ II 1G Ex ia da IIC T4 Ga	-20°C ≤ Ta ≤ +40°C
	G999E	⊕ I M1 Ex ia I Ma	⊕ II 1G Ex ia IIC T4 Ga	-20°C ≤ Ta ≤ +50°C
	G999P	⊕ I M1 Ex ia I Ma	⊕ II 1G Ex ia IIC T4 Ga	-20°C ≤ Ta ≤ +50°C
EU Type Examination Certificate:	BVS 15 ATEX E 064 X			
IECEX Certificate of Conformity:	IECEX BVS 15.0056 X			
Electromagnetic compatibility:	DIN EN 50270:2015		Interference emission: Type class I	Interference immunity: Type class II

to (\*1): The service life is indicated for new battery modules at operating temperatures of +20°C. It will be reduced by pressing buttons (display lighting & lamp), by using the pump and by gas alarms. It is reduced with the age of the battery module, with the number of the charging / discharging cycles, by longer storage of the gas measurement device in the charging tray and the lazy battery effect.  
CC<sub>ps</sub> = Catalytic sensor with activated PowerSave mode if a reading of 0%LEL is detected.  
This energy saving mode can only be activated for certain measuring ranges.