

MK91-1 Heat tone sensor for combustible gases and vapours

Measurement range / resolution	0...100 % LEL / 05 % LEL		or 0...4 Vol.% NH ₃ / 0.05 Vol.% NH ₃	
Setting time	t ₅₀ :	≤ 5s (CH ₄), ≤ 5s (C ₃ H ₈), *1	with wind protection: ≤ 8s (CH ₄), ≤ 8s (C ₃ H ₈), *1	
	t ₉₀ :	≤ 9s (CH ₄), ≤10s (C ₃ H ₈),*1	with wind protection: ≤15s (CH ₄), ≤17s (C ₃ H ₈), *1	
Pressure influence	80...110 kPa:	max. ±3% of the measurement range or ±7% of the display (in terms of 100kPaC) *3		
Humidity influence	5%...90% relative h	max. ±5% of the measurement range or ±10% of the display (in terms of 50% relative humidity and 40°C) *3		
Temperature influence	-25...+55°C:	max. ±5% of the measurement range or ±15% of the display (in terms of 20°C) *3		
Cross-sensitivity factors		<u>Methane – measurement range</u>	<u>Propane – measurement range</u>	<u>Nonane – measurement range</u>
	at 50% LEL:	(#)*2.	*2.	(#)*2.
		2.20 Vol.% CH ₄ : =100%	0.85 Vol.% C ₃ H ₈ : = 100%	0.35 Vol.% C ₉ H ₂₀ : = 100%
		2.00 Vol.% H ₂ : approx. 131%	2.00 Vol.% H ₂ : approx. 160%	2.00 Vol.% H ₂ : approx. 328%
		1.25 Vol.% C ₃ H ₆ O: approx. 97%	1.25 Vol.% C ₃ H ₆ O: approx. 111%	1.25 Vol.% C ₃ H ₆ O: approx. 231%
		1.15 Vol.% C ₂ H ₄ : approx. 96%	2.20 Vol.% CH ₄ : approx. 107%	2.20 Vol.% CH ₄ : approx. 224%
		0.85 Vol.% C ₃ H ₈ : approx. 96%	1.15 Vol.% C ₂ H ₄ : approx. 101%	1.15 Vol.% C ₂ H ₄ : approx. 213%
		1.10 Vol.% C ₄ H ₈ O ₂ : approx. 92%	1.10 Vol.% C ₄ H ₈ O ₂ : approx. 95%	0.85 Vol.% C ₃ H ₈ : approx. 210%
		1.00 Vol.% C ₃ H ₈ O: approx. 87%	1.00 Vol.% C ₃ H ₈ O: approx. 93%	1.10 Vol.% C ₄ H ₈ O ₂ : approx. 201%
		0.85 Vol.% C ₄ H ₁₀ O: approx. 87%	0.85 Vol.% C ₄ H ₁₀ O: approx. 87%	1.00 Vol.% C ₃ H ₈ O: approx. 193%
		0.50 Vol.% C ₆ H ₁₄ : approx. 74%	0.50 Vol.% C ₆ H ₁₄ : approx. 69%	0.85 Vol.% C ₄ H ₁₀ O: approx. 180%
		0.55 Vol.% C ₇ H ₈ : approx. 72%	0.55 Vol.% C ₇ H ₈ : approx. 67%	0.50 Vol.% C ₆ H ₁₄ : approx. 143%
	at 2 Vol.% NH ₃ :	0.35 Vol.% C ₉ H ₂₀ : approx. 57%	0.35 Vol.% C ₉ H ₂₀ : approx. 49%	0.55 Vol.% C ₇ H ₈ : approx. 132%
		2.00 Vol.% NH ₃ : approx. 57%	2.00 Vol.% NH ₃ : approx. 49%	2.00 Vol.% NH ₃ : approx. 100%
Special features:	This sensor is not suitable for the measurement of hydrogen or use in an environment containing hydrogen. Naturally, the sensor reacts to hydrogen but is only suitable for warning purposes in terms of this gas. A constantly increasing signal should be assumed in the event of continuous gas application with hydrogen.			
Expected service life:	5 years			

Explanation:

Regarding *1: Longer setting times apply for other gases, especially for nonane.

Regarding *2: The cross-sensitivities can significantly vary from sensor to sensor and depend upon the gas concentration as well as the

age of the sensor. Other combustible gases that are not listed also lead to a display increase.

Regarding *3: This specification applies to methane and propane.