Configurations and measurement ranges

Table of measurement ranges

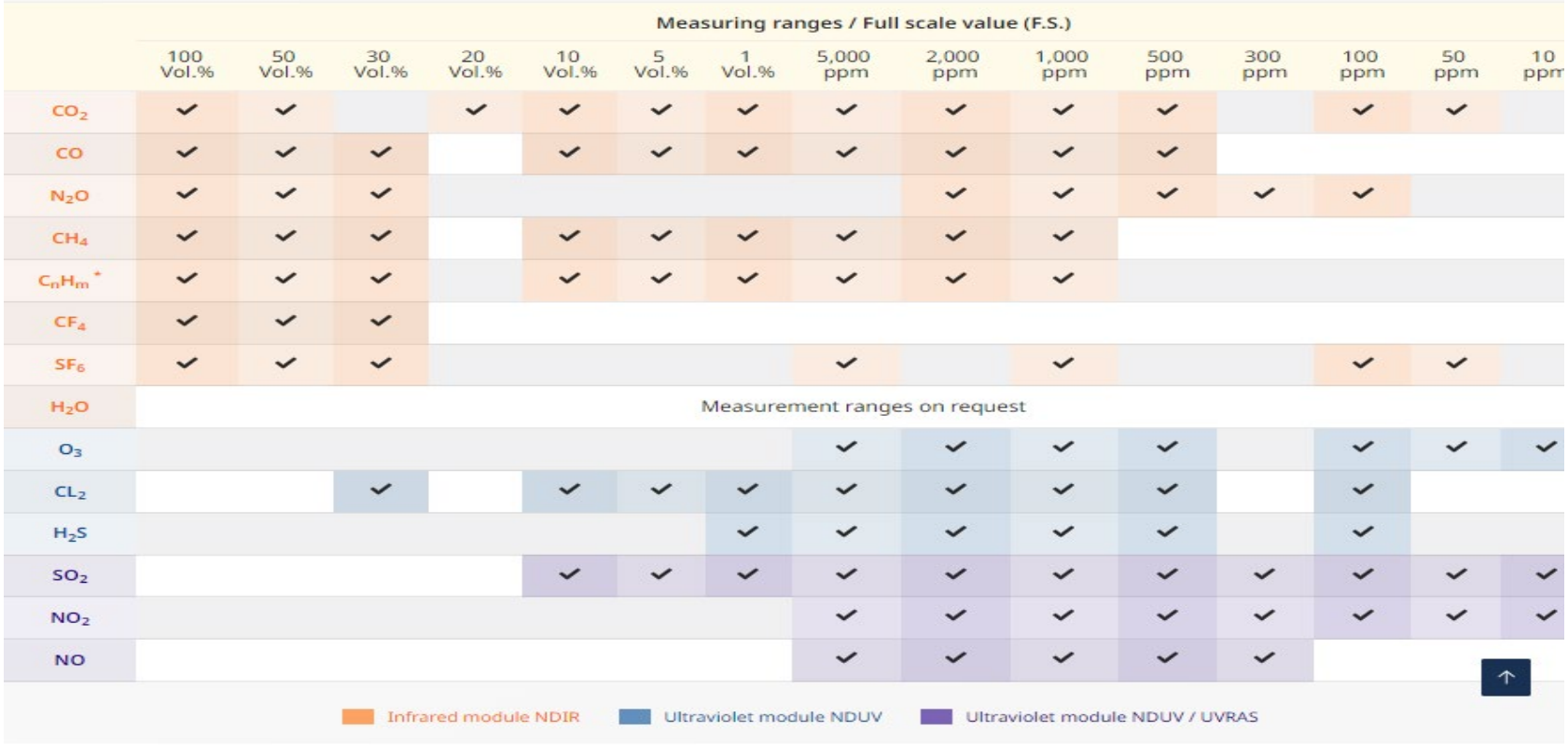

Table of Detection Limits

Infrared module NDIR Ultraviolet module NDUV Ultraviolet module NDUV / UVRAS* Calibration with Propane

Definition of Detection Limit. The Detection Limit is the smallest measurement value which can be obtained with a specific uncertainty. This uncertainty includes the resolution, noise, and stability of the gas sensor for a specific gas and specific measurement range. For evaluation of the detection limit value, several single measurements are taken at the identical measurement conditions. With the obtained single measurement results the standard deviation

“Sigma” (σ) is calculated. The values given in the table equal the triple amount of Sigma.

List of standard measurement ranges *1 (and detection limits *2)

	Standard Measuring Ranges with respective Detection Limits (% of F.S. *3)															
	100 Vol.%	50 Vol.%	30 Vol.%	20 Vol.%	10 Vol.%	5 Vol.%	1 Vol.%	5,000 ppm	2,000 ppm	1,000 ppm	500 ppm	300 ppm	100 ppm	50 ppm	10 ppm	1 ppm
CO_2	✓ (< 0.1%)	✓ (< 0.1%)		✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓	✓ (< 0.3%)	✓ (< 0.3%)		
CO	✓ (< 0.2%)	✓ (< 0.2%)	✓ (< 0.2%)		✓ (< 0.2%)	✓ (< 0.2%)	✓ (< 0.2%)	✓ (< 0.2%)	✓ (< 0.3%)	✓ (< 0.5%)	✓ (< 0.5%)					
N_2O	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓	✓			✓	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.3%)			
C_nH_m *4	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓	✓ (< 0.2%)	✓ (< 0.2%)	✓ (< 0.2%)	✓ (< 0.2%)	✓ (< 0.5%)	✓ (< 0.5%)						
CH_4	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.3%)	✓ (< 0.5%)						
CF_4	✓ (< 0.2%)	✓ (< 0.2%)	✓ (< 0.2%)					✓ (< 0.02%)	✓ (< 0.05%)							
SF_6	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)					✓ (< 0.2%)	✓	✓ (< 0.5%)			✓ (< 0.3%)	✓ (< 0.3%)		
H_2O						✓	✓	✓								
O_3								✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.2%)		✓ (< 0.5%)	✓ (< 0.5%)	✓ (< 0.5%)	✓
CL_2	✓		✓ (< 0.1%)	✓	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.2%)	✓	✓ (< 0.5%)			
SO_2					✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.5%)	✓ (< 0.5%)	✓ (< 0.5%)	
H_2S							✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.2%)	✓	✓ (< 0.5%)			
NO_2								✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.2%)	✓ (< 0.2%)	✓ (< 0.5%)	✓ (< 0.5%)	✓ (< 0.5%)	
NO								✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.1%)	✓ (< 0.2%)	✓ (< 0.2%)				

*1 A standard measurement range is defined by ✓ / *2 (= 3 σ) in Percent of Full Scale / *3 F.S. = Full Scale / *4 Calibration with Propane

Infrared module NDIR Ultraviolet module NDUV

Available arrangements

Arrangement		Sensor 1 (*)	Sensor 2 (*)	Sensor 3 (*)	Options / Addiotional sensors (*	
MultiGas *mono* **1 Sensor** + options	1.1	CO_2 CO N_2O CH_4 C_nH_m* CF_4 SF_6 H_2O			O_2	P H
	1.2	O_3 CL_2 H_2S SO_2 NO_2			O_2	P H
MultiGas *duo* **2 Sensors** + options	2.1	CO_2 CO N_2O CH_4 C_nH_m* CF_4 SF_6 H_2O	CO_2 CO N_2O CH_4 C_nH_m* CF_4 SF_6 H_2O		O_2	P H
	2.2	O_3 CL_2 H_2S SO_2 NO_2	O_3 CL_2 SO_2 NO_2		O_2	P H
	2.3	CO_2 CO N_2O CH_4 C_nH_m* CF_4 SF_6 H_2O	O_3 CL_2 SO_2 NO_2		O_2	P H
MultiGas *trio* **3 Sensors** + options	3.1	CO_2 CO N_2O CH_4 C_nH_m* CF_4 SF_6 H_2O	CO_2 CO N_2O CH_4 C_nH_m* CF_4 SF_6 H_2O	CO_2 CO N_2O CH_4 C_nH_m* CF_4 SF_6 H_2O	O_2	P H
	3.2	CO_2 CO N_2O CH_4 C_nH_m* CF_4 SF_6 H_2O	O_3 CL_2 SO_2 NO_2	O_3 CL_2 SO_2 NO_2	O_2	P H
	3.3	SO_2	NO_2	NO	O_2	P H

(*) Only one gas selectable per sensor

(**) P = pressure, H = humidity