

AWT – Methane Analyser for OEM-applications

General Specifications

Environmental conditions

Parameter	Unit	Value / Range
Operating temperature range	°C	10 ... +50
Operating humidity	% r.H.	0 ... 99, non-condensing
Operating pressure	mbar	500 ... 1100
Storage temperature	°C	-40 ... +80
Storage humidity	% r.H.	0 ... 99, non-condensing

Measurement performance

The stated measurement performance is valid for the above given environmental conditions.

Parameter	Unit	Value / Range
Target Gas	-	Methane CH ₄
Measurement Range	ppm	0 ... 100.000 (consider explosion limit for high concentrations!)
Limit of Detection	ppm	≤ 2
Accuracy		± 2 ppm or ± 2 % of reading (larger value applies) (Valid for specified operating conditions)
Precision 2σ		≤ 0,1 ppm
T90 Time	s	≤ 5 at 1 l/min (flow-dependent)
Cross Interference		Gas matrix dependent, gas-specific information on request
Update rate	Hz	≤ 1

Limit of Detection is defined as the lowest concentration level that can be quantified with sufficient certainty.

Precision is defined as two times the standard deviation σ of a 2 min measurement at stable ambient conditions with a filter (exponential moving average) with $\tau = 1$ s. Precision can be improved by increasing the filter depth.

Mechanical characteristics

Parameter	Unit	Value / Range
Measurement cell	-	Flow-through set-up
Cell volume	ml	< 100
Gas flow (min - max)	ml/min	100 – 3.000
Dimensions of sensor module (with baseplate)	mm	L: 314 mm B: 100 mm H: 54 mm See technical drawing for detailed dimensions.
Approx. weight sensor module	g	≤ 2.000

Electrical characteristics

Parameter	Unit	Value / Range
Voltage supply with interface board; min.-max.	VDC	24 ± 10%
Power consumption (heater deactivated)	W	≤ 2 (in measurement mode)
Power consumption (heater activated)	W	≤ 35 (during heating up) ≤ 10 (@50°C cell temperature and 25°C ambient in thermo-box)
Start-up time	s	≤ 10 (accuracy reached only after stabilized heating)

Data interface

Parameter	Unit	Value / Range
Data Interface (all electrically isolated) (configurable)		Ethernet CAN RS232 RS485 Others on request
Protocol		ModBus RTU / ModBus TCP Others on request