

Datasheet

AQUATRACE® Portable Moisture Analyzer

0-500 ppm_v | 0-20.000 ppb_v | with optional FlowControl

Continuous measurement of trace moisture in inert and combustible gases.



Applications

- Non corrosive gases
- Construction sites
- Medical Oxygen
- Universities, research institutes
- Protective and forming gas monitoring
- Solder gas monitoring
- Industrial furnaces

Features / Benefits

- Portable Analyzer with lithium ion accumulator
- 7" IPS high sensitive touch screen
- Built in digital flow meter
- Pressure Regulator (optional)
- P₂O₅ Cermic sensor technology
- Easy maintenance
- Data logging
- Easy Data export (moisture / flow)
- Comment function via Touch-Screen
- ppm_v, ppb_v, Dewpoint
- IP 67 Box

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What distinguishes our AQUATRACE® Portable Moisture Analyzer?

- Quick and convenient configuration of the measurement system
- 7" color IPS touch screen
- Built-in flow monitor (optional)
- Real-time data curve display for humidity and flow
- Data logging with comment function via Touch-Screen
- Expert calibration function
- Pressure Regulator (optional)
- Robust hard case, IP67
- Simple operation, start measurement by turning on
- Simple data export
- Integrated lithium ion accumulator, Ready to go
- AQUATRACE®: usual easy maintenance of the sensor
- No follow up costs
- No drift
- No cross sensitivity (except alkaline gases)

AQUATRACE® V Portable

0,01 - 500ppm_v | 1 - 20.000 ppb_v

7" Touchscreen | digital flow meter

Data logging | WiFi-Hotspot | Easy to use



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Measuring principle

Phosphorus pentoxide (P₂O₅) has a high affinity to absorb water to convert to tetrametaphosphoric acid. It is an extremely hygroscopic salt. This makes it ideal for building a moisture-sensitive sensor. The process goes back to the KEIDEL measuring cell developed in 1956. A decomposition voltage of more than 2V is applied to two Pt-electrodes, which electrolyzes the metaphosphoric acid. In the process, hydrogen and oxygen are released and the phosphorus pentoxide is available again for the absorption of water molecules. The P₂O₅ thus acts as a kind of catalyst for the electrolysis of water molecules. The resulting hydrogen and oxygen are removed from the system by the gas flow. According to Faraday's law, the measured decomposition current I_M is a direct measure of the humidity. The volume flow must be kept constant for a precise measurement.

The method is not suitable for moisture determination in alkaline gases, such as ammonia gas.

Technical data

Display	7" color IPS touch screen, high sensitive
Accuracy	0,02ppm or 2% of measuring value(0-500ppm) 10ppb or 2% of measuring value(0-20,000ppb)
Resolution	0,01ppm (ppm measuring range) or 1ppb (ppb measuring range)
Reaction time	< 1 s
Action time T90 (dry ==> wet)	< 5 s
Action time T90 (wet ==> dry))	< 15 min
diagnostic function	Flow monitoring, sensor and controller self-diagnostics
Data logging	Internal data base
Analog output	4-20mA, maximum load 500Ω (galvanically isolated) , optional
Calibration / Adjustment	Expert calibration function, multi-point calibration function up to 9 points
Power	80-264V AC,1A or 19-28V DC,3A
Ambient Temperature	-15 ~ 60°C
storage and transport temperature	-25 ~ 70°C
Gas flow	20NI/h
Process pressure (max.)	200mbar
Sample gas temperature	5~65°C
Conformity	CE, EN 61000-4-2 EN 61000-4-3, EN 61000-4-4, EN 55011, EN ISO 12100

Technical data hard case

Weight:	8,5 kg
Dimensions:	385 x 265 x 168 (15.2 x 10.4 x 6.5 inch)
Color:	Yellow
Material:	Extremely stable case: shell made of polypropylene (PP)

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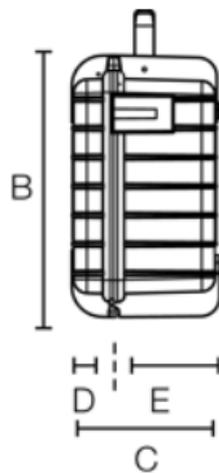
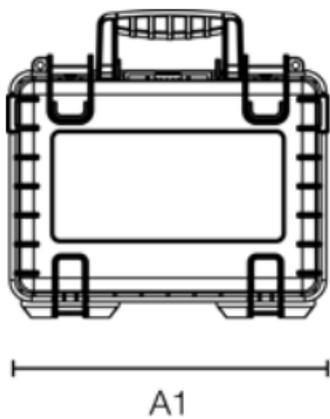
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Order-Code

PMA	X	X	X	X	
	N	Neddle valve			
	NP	Pressure Regulator (max. 150 bar) + Neddle valve			
		QC	Quick coupling		
		6M	Compression fitting 6mm		
		14	Compression fitting 1/4"		
			FM	Digital flow meter	
			N	none	
				X	Customer special on request

Dimensions



A (A1): **16.54 inch** / 420mm

B: **12.8 inch** / 325mm

C: **7.09 inch** / 180mm

A (A1) inside: **15.16 inch** / 385mm

B inside: **10.43 inch** / 265mm

C inside: **6.5 inch** / 165mm

D (lid) inside: **1.77 inch** / 45mm

E (bottom) inside: **4.72 inch** / 120mm

Properties



two eyelets for padlocks (Ø 0.3 inch)



dustproof



waterproof (IP67 certified)



extremely robust



rubberized handle



easy-open locks



temperature stable

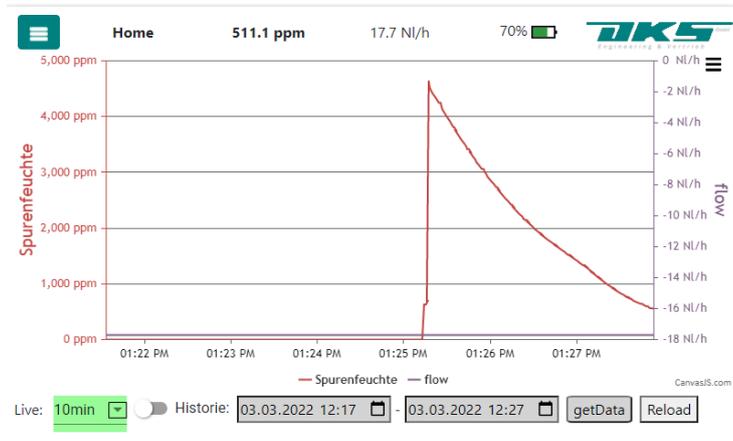


airworthy

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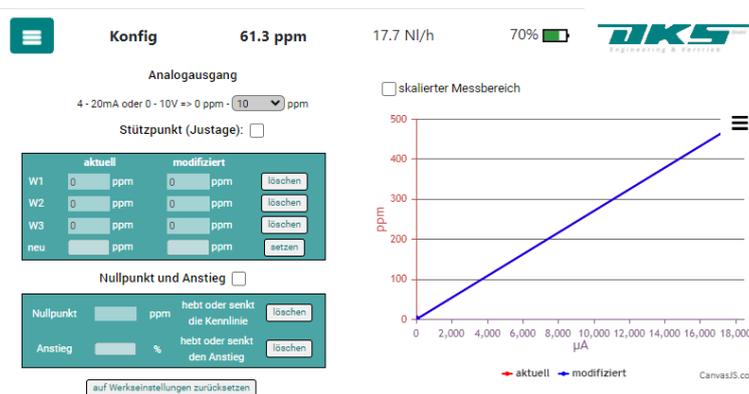
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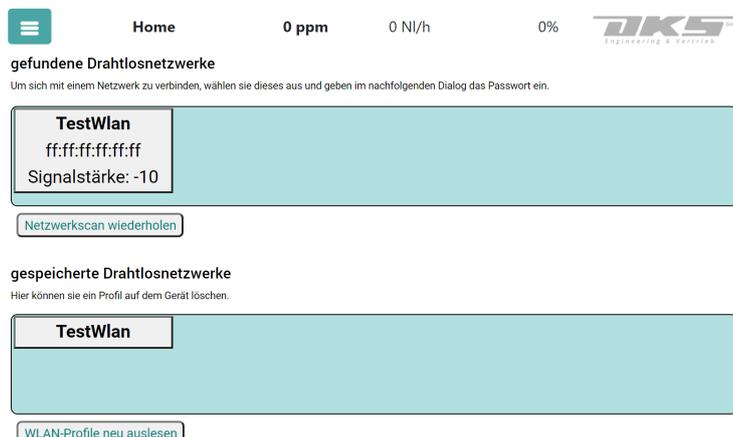
Start-Screen:

- Left y axis: trace moisture in ppm
- Right y axis: Flow in NI/h
- Bottom x axis: live time scale up to 1h
- current ppm value
- current flow value
- Data export from data base



Config-Screen

- Adjustment analog-output range
- Set-points for adjust characteristic curve
- Zero Offset
- Gradient set
- Changes are displayed as a second red curve in relation to the blue standard curve for better understanding what's happen.



Network-Config

- Shows the signal strenght
- Network selection